

# Complement Clauses in Portuguese

*Syntax and acquisition*

Edited by Ana Lúcia Santos  
and Anabela Gonçalves

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## Complement Clauses in Portuguese

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## **Volume 17**

Complement Clauses in Portuguese. Syntax and acquisition  
Edited by Ana Lúcia Santos and Anabela Gonçalves

# Complement Clauses in Portuguese

Syntax and acquisition

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# Complement clauses in Portuguese

## Some facts and open questions

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Complement clauses and complementation in general have been central in the generative syntax literature and are an important research topic at the intersection of syntax, semantics and the lexicon (for European Portuguese, see the seminal works by Ambar, 1992, and Raposo, 1987). The diversity of complement clauses is well illustrated in Portuguese, which may be considered a particularly rich language with respect to complementation. We can identify three major aspects contributing to this richness: (i) the contrast between finite indicative and finite subjunctive clauses (1) as well as the contrast between inflected and uninflected infinitival clauses (2); (ii) the fact that the same verb occurs in different complement structures (see (3) for the multiple structures of perception verbs); (iii) the difference between national varieties of Portuguese, which affects several aspects of complementation – see (4) for the difference between European Portuguese (EP) and Mozambican Portuguese (MozP), in this case, affecting the choice of the complementizer (for MozP, see Gonçalves & Maciel, 1998; Issak, 1998).

- (1) a. Os meninos queriam que os pais {comprassem  
the children wanted that the parents buy.SBJV/  
\*compraram} um carro novo.  
buy.IND a car new  
'The children wanted their parents to buy a new car.'
- b. Os meninos afirmaram que os pais {\*comprassem/  
the children said that the parents buy.SBJV/  
compraram} um carro novo.  
buy.IND a car new  
'The children said that their parents bought a new car.'
- (2) a. Os pais do Pedro quiseram {comprar/ \*comprarem} um  
the parents of.the Pedro wanted {buy.INF/ buy.INF.3PL} a  
carro novo.  
ca new  
'Pedro's parents wanted to buy a new car.'



- b. O Pedro convenceu os pais a {comprar/ comprarem} um  
 the Pedro convinced the parents to {buy.INF/ buy.INF.3PL} a  
 carro novo.  
 car new  
 'Pedro convinced his parents to buy a new car.'
- (3) a. A Maria ouviu que os passarinhos cantavam.  
 the Maria heard that the birdies sing.IND.IPFV  
 Maria heard that the birdies were singing.'
- b. A Maria ouviu os passarinhos cantarem.  
 the Maria heard the birdies sing.INF.3PL  
 'Maria heard the birdies sing(ing).'
- c. A Maria ouviu os passarinhos a {cantar/ cantarem}.  
 the Maria heard the birdies PREP {sing.INF/ sing.INF.3PL}  
 'Maria heard the birdies sing(ing).'
- d. A Maria ouviu os passarinhos cantar.  
 the Maria heard the birdies sing.INF  
 'Maria heard the birdies sing(ing).'
- e. A Maria ouviu cantar os passarinhos.  
 the Maria heard sing.INF the birdies  
 'Maria heard the birdies sing(ing).'
- (4) a. Acompanhou-me até à dactilógrafa e ordenou *para*  
 accompanied.CL.ACC till to.the typist and ordered for  
*que* fizesse o documento.  
 that made the document  
 '(S)He walked with me to the typist and made her type the document.'  
 (MozP; Issak, 1998, p. 69)
- b. Acompanhou-me até à dactilógrafa e ordenou *que*  
 accompanied.CL.ACC till to.the typist and ordered that  
 fizesse o documento. (EP)  
 made the document  
 '(S)He walked with me to the typist and made her type the document.'

This diversity of Portuguese complementation cannot be adequately expressed within the few pages of this introductory chapter, nor even in the pages of this volume. Nevertheless, it will be our aim to show that some of the problems raised by complement clauses in Portuguese are especially relevant to explore core syntactic research questions and questions at the syntax-semantics interface. For the same reason, these topics are particularly relevant to acquisition research, in terms that we will make explicit.

We will start with one of the issues previously mentioned: the indicative / subjunctive contrast in finite complement clauses. One of the central issues involving

finite complement clauses regards mood selection. This question has been frequently discussed in the literature and has been the focus of both syntactically and semantically oriented approaches.

From a syntactic point of view, most analyses resort to the central concept of tense dependence (see a.o. Ambar, 1992, 2007; Meireles & Raposo, 1983; Raposo, 1985, for EP; Luján, 1993; Picallo, 1984, for Spanish). The main claim of these analyses is that in subjunctive clauses, C is defective (or unspecified) for tense features, and thus the complement domain is temporally dependent on the matrix clause; in contrast, in indicative clauses, C is specified for tense features, and thus the embedded CP is independent from the matrix clause. Empirical arguments for this type of analysis mostly come from the sequence-of-tense phenomenon, as illustrated by the examples in (5)–(7):

- (5) Ele quer que a Ana esteja / \*estivesse em casa.  
 he want.PRS that the Ana {be.SBJV.PRS/ be.SBJV.PST} at home  
 ‘He wants Ana to be home.’

- (6) Ele quis que a Ana {\*esteja / estivesse} em casa.  
 he want.PST that the Ana {be.SBJV.PRS / be.SBJV.PST} at home  
 ‘He wanted Ana to be home.’

- (7) Ele {diz/disse} que a Ana {está/  
 he {say.PRS/say.PST} that the Ana {be.IND.PRS/  
 estava/estive/estará} em casa.  
 be.IND.PST/IPFV/be.IND.PST.PRF /be.IND.FUT} at home  
 ‘He {says / said} that Ana {is / was / will be} home.’

(Marques, Silvano, Gonçalves, & Santos, 2015, p. 70)

As noted by Marques et al. (2015), such approaches lead to the prediction that restrictions on sequences of tenses are observed only in structures with subjunctive complements, while indicative complements remain free. However, authors such as Kempchinsky (1990) and Luján (1993) for Spanish, as well as Marques et al. (2015) and Silvano (2002) for Portuguese, show that associating mood distribution to sequence of tenses is not accurate. In fact, verbs selecting for indicative clausal complements may impose restrictions on the sequence of tenses as observed in (8), a case in which the main verb, *decidir* ‘to decide,’ selects for indicative complements even though it constrains the verb tense of the embedded domain (Marques et al., 2015, p. 72):

- (8) Ele decidiu que {fazia/faz/fará/\*fez/} \*tinha feito}  
 he decided that do.PST/IPFV/do.PRS/do.FUT/do.PST.PRF do.PST.PFV  
 o trabalho.  
 the task  
 ‘He decided that he would do/does/will do the work.’

On the other hand, a verb such as *pedir* ‘to ask’ selects for subjunctive complements but allows for any tense in these complements (Marques et al., 2015, p. 73):

- (9) O João pediu que a irmã {fosse/vá} ao cinema  
 the João ask.PST that the sister go.PST/go.PRS to.the cinema  
 com ele.  
 with him

‘João asked his sister to go to the cinema with him.’

(Marques et al., 2015, p. 73)

These few examples show that mood selection and restrictions on the combinations of tenses in complement structures are independent issues, so even if a revised definition of tense dependence is assumed, mood selection is not captured. In fact, as Marques et al. (2015) remark, tense dependence is not exclusively lexically conditioned, but it

exists or doesn’t exist depending on whether the embedded tense is deictic (i.e., takes  $t_0$  as its temporal perspective point (TPpt)) or anaphoric, in which case its TPpt may be given by the main clause and temporal dependence obtains.

(Marques et al., 2015, p. 72)

In this sense, the same verb can occur in dependent tense structures (10a) and in independent tense structures (10b), a fact also noticed by Kempchinsky (1990) regarding Spanish:

- (10) a. Ele decidiu que ia ao cinema com a Rita.  
 he decide.PST that go.IND.PST.IPFV to.the cinema with the Rita  
 ‘He decided that he would go to the cinema with Rita.’  
 b. Ele decidiu que vai/irá ao cinema com  
 he decide.PST that go.IND.PRS/go.IND.FUT to.the cinema with  
 a Rita.  
 the Rita

‘He decided that he will go to the cinema with Rita.’

(examples from Marques et al., 2015, p. 72)

Interestingly, this observation applies both to indicative complements (10) and to subjunctive complements – see the examples in (11) with the matrix verb *lamentar* ‘to regret’:

- (11) a. Ele lamentou que  
 he regret.IND.PST that  
 estivéssemos atrasados. (dependent tense complement)  
 be.SBJV.PST late  
 ‘He regretted that we were late.’

- ‘He regretted that we are late.’

Subjunctive complementation raises another well-known issue: subject obviation. It is a classical observation that subjects of (most) subjunctive complements must be disjointed from the matrix subject (12), contrary to what happens to subjects of indicative complements, which may co-refer with the matrix subject; this is indeed the preferred interpretation of null subjects in indicative complement clauses, as exemplified in (13):<sup>1</sup>

See Barbosa (2013) and Marques (this volume).

- (12) O João<sub>i</sub> quer que [pro]<sub>\*i/j</sub> vá ao cinema.  
 the João wants that go.SBVJ to.the cinema
- (13) O João<sub>i</sub> pensa que [pro]<sub>i</sub> vai ao cinema.  
 the João thinks that go.IND to.the cinema  
 'João thinks that he will go to the cinema.'

Most syntactic accounts of this contrast are based on tense dependence analyses of the subjunctive (see discussion above), as well as on Binding Theory (e.g. Ambar, 1992; Raposo, 1985, for Portuguese; Picallo, 1984, for Spanish). The main idea put forward in these analyses is that since subjunctive complements lack tense features and qualify as a temporal domain dependent from the matrix clause, the main and embedded clause count as a single domain for binding. Therefore, pronominal subjects in the embedded clause cannot be bound by the matrix subject, in accordance with principle B of Binding Theory. Nevertheless, as Marques (this volume) remarks, this approach raises some questions: Tense dependence, which in this type of approach is the source of obviation effects, is not a specificity of the subjunctive *per se* (see examples in (10) and (11)); in addition, some indicative complements exhibit restrictions on the sequence of tenses even though no obviation effects are visible (10). In the same vein, Marques (this volume) explores exceptions to obviation in cases of subjunctive complement clauses that raise major problems to an explanation of obviation as a consequence of a general property of subjunctive clauses (such as tense dependence).

A fact that is commonly highlighted in the literature is that subject obviation is restricted to subjunctive complements selected by three classes of predicates: volition verbs, directives and causatives. Based on the notion of veridicality by Giannakidou (1998) and subsequent work, Marques (2014, this volume) suggests a semantic explanation for obviation – which, contrary to very general claims, only occurs in a subset of subjunctive complements. Marques (this volume) suggests that the subject of verbs giving rise to obviation effects either tries to bring into existence the embedded eventuality (this is the case of *try* and *manage*) or desires that the embedded eventuality come into existence (the case of *want*). He shows that considering worlds where the eventuality does not come into existence (p-worlds, in his words) is also necessary to account for the subjunctive and therefore for subject obviation. If Marques's analysis is on the right track, the study of subject obviation should then combine a syntactic and a semantic perspective.

In addition, even though most literature centered on the interpretation of embedded subjects considers the effects of mood contrasts in canonical null subject languages such as EP, there are new challenges if one integrates into this view the behavior of partial null subject languages, namely BP. In this case, the interpretation of 3rd person null subjects in embedded indicative complement

clauses becomes a particularly relevant issue: Whereas EP null subjects of indicative complement clauses clearly behave as *pro*, there is discussion concerning the interpretation (and therefore the nature) of null subjects in the same contexts in BP (see, a.o., Duarte & Figueiredo Silva, 2016; Figueiredo Silva, 1996; Modesto, 2010; Nunes, 2008). Duarte (this volume) and Modesto (this volume) both mention the problem.

The two issues mentioned before – distribution of mood and subject interpretation, particularly obviation in subjunctive complement clauses – have been considered before in the acquisition literature, although not thoroughly. Blake (1983) suggested that the subjunctive in Spanish is not stabilized for speakers until the age of 10. More recently, Jesus (2014), assuming Marques's (1995, 2013) approach to the distribution of subjunctives in EP, tested 4- to 9-year-old children with an elicited production task. She shows that the distribution of the subjunctive is not stabilized even in the case of the older children who were tested. The same study shows that the types of context that Marques associates with epistemic contexts expressing negative belief (e.g., complement clauses selected by *duvidar* 'to doubt') are particularly late in acquisition; on the contrary, the first type of context in which the subjunctive seems to be systematically produced is the complement of *querer* 'want' (a non-epistemic context) – in more than 90% of the cases, 5-year-olds produced subjunctives under the verbs *querer* 'want' and *mandar* 'order'.<sup>2</sup> The very early occurrence of a subjunctive complement clause under *querer* can be confirmed by searching a child's spontaneous speech *corpus* available for EP (Santos, 2009; Santos, Génereux, Cardoso, Agostinho, & Abalada, 2014): subjunctive complement clauses selected by *querer* emerge around the age of 3.

- (14) TOM: queres que eu jogue? (2;11.12)  
           want that I play.SBJV.PRS.1SG  
           'Do you want me to play?'

Very recently, Flores, Santos, Jesus, and Marques (2016) replicated Jesus's study with heritage speakers of Portuguese living in a German-dominant environment. The results show that heritage speakers follow the same acquisition path as monolinguals but exhibit a protracted development, especially in the case of those speakers with less exposure to Portuguese at home. Again, non-epistemic contexts, particularly the finite complement of *querer* 'want', were the contexts in which the speakers achieved a stabilized knowledge earlier.

---

2. Espada (2008) had already shown that the verb *duvidar* 'to doubt' is still problematic at age 15. In a test of elicited production in which subjects should select the appropriate mood for the complement clauses of a set of verbs, there were 40% incorrect answers with that verb.

Establishing children's early ability to produce subjunctives in the complements to *querer* 'want' is particularly relevant. First, it shows that there is early morphological knowledge of the subjunctive forms. Second, the complement of *querer* 'want' may be used as a case in point to evaluate knowledge of obviation. If 5-year-old children, who arguably recognize the finite complement of *querer* as a subjunctive clause, show uneven behavior with respect to obviation, this unevenness cannot be explained by lack of knowledge of the subjunctive. Silva (this volume) pursues this line of research, investigating obviation readings under *querer* 'want' and *pedir* 'ask'. Although the results she obtains with *querer* are better than the results obtained with *pedir*, the author shows that obviation is, in general, not stabilized early. This is an interesting result since it weakens any explanation of the obviation phenomenon as depending on a general property of the subjunctive associated with its distribution, namely, "tense dependence." In this sense, this observation goes along with the relevancy of recognizing the several exceptions to the obviation reading of the subject of complement clauses. As already referenced, Marques (this volume) presents an interesting alternative to explaining the distribution of obviation.

Previous work on the acquisition of obviation has assumed the classic binding analysis of obviation. To this extent, the study of obviation in acquisition has been developed as part of a research program interested in the availability of Universal Grammar, namely availability of Principle B in the child grammar. One well-known example of this type of work is Avrutin and Wexler (2000) for Russian. Although these authors recognize that the child's performance is not equivalent to the adult performance in all obviation contexts (see also Goodluck, Terzi, & Díaz, 2001; Padilla, 1990), they suggest that the child's performance is not due to lack of knowledge of Principle B; instead, they suggest that the child's poor performance in obviation contexts with potential R-expression antecedents should be understood as a problem with the index-reference relation, and thus at the syntax-discourse/pragmatics interface. Silva (this volume) further explores the relevancy of the syntax-pragmatics interface – in this case, she compares the child's interpretation of null and overt pronominal subjects of subjunctive complements (obviation contexts) and indicative complements (non-obviation contexts) and considers the effects in the interpretation of the availability of a closer antecedent (the indirect object of *pedir* 'ask').

Apart from finite complements, which exhibit an indicative / subjunctive contrast, Portuguese also displays infinitival complements. As mentioned in the beginning, this particular subset of complement clauses exhibits a rare contrast: the contrast between inflected and non-inflected infinitives.

By itself, the study of infinitival complementation pertains to the particularly recent and lively debate on the nature of control structures. In the late 1990s,

Hornstein proposed that control is movement (Hornstein, 1999), reducing it to NP-movement, thus rejecting Chomsky's (1981, 1986) base-generated PRO analysis, which underlies several analyses up to the present. This approach brings control closer to raising, the difference being that in the first case the NP-chain bears two theta-roles. This line of research has been further explored in Boeckx and Hornstein (2003, 2004), Boeckx, Hornstein, and Nunes (2010) and Hornstein (2001), among others. The major arguments for a theory of control as movement are, among others: (i) the elimination of PRO, a category that was simultaneously anaphoric and pronominal and called for different specific modules and principles of grammar (such as government theory, binding theory, control theory, and the PRO theorem); (ii) the consequent abandonment of null case, conceptually elegant since it was assigned by only one head (a certain non-finite T) to only one category (PRO); (iii) the explanation of locality effects (and of the Minimal Distance Principle) in terms of more general restrictions on A-movement; and (iv) the possibility of accounting for backward control, in which case the controller occurs in the embedded clause.

However, Chomsky's original idea that control is distinct from raising has been preserved in several recent accounts of control phenomena (Culicover & Jackendoff, 2001; Gonçalves, Santos, & Duarte, 2014; Landau, 2000, 2004, 2013, 2015, a.o.), although some changes have been introduced in the general framework. Landau's works, for instance, maintain the PRO analysis, but propose the abandonment of null case. In this sense, PRO values a lexical case, its distribution being determined by the values of [T] and [Agr] features in T and C heads. Within this approach, obligatory control implies an Agree relation between a matrix functional head (T or  $\nu$ ) and PRO/T-AGR in the embedded domain (Landau, 2000, p. 14). Thus, the distribution of PRO is driven by feature checking, a fact that also dispenses with the aforementioned specific modules of grammar.

The discussion on control and on the nature of a controlled subject of an uninflected infinitive assumes the unavailability of nominative Case and DP licensing in this environment. To this extent, the possibility of overt subjects in uninflected infinitival domains (15) in null subject languages has raised particular interest (see Belletti, 2005; Cyrino, 2010; Duarte, 1993; Szabolcsi, 2009; Torrego, 1996, a.o.). This is also discussed by Barbosa (this volume).

- (15) Decidiu ir ele ao mercado.  
 decided go.INF he to.the market  
 'He decided for it to be the case that he would be the one to go to the market.'  
 (Barbosa, this volume, (7))

EP data show that the possibility of emphatic pronouns in the uninflected infinitival domain is not reduced to control structures and is also observed in



raising structures (16), even though in the latter not only pronouns but also DPs can occur:

- (16) O João acabou por resolver *ele* o problema.  
 the João ended up to solve.INF he the problem  
 'John ended up solving the problem himself.' (Barbosa, this volume, (27b))

The debate around emphatic pronouns emphasizes their nature. Indeed, opinions differ on how to characterize them: real subjects in postverbal position (Barbosa, 1995, this volume; Rigau, 1987) or non-real subjects (adjunct anaphors or the phonetic realization of a trace). For a more detailed description and discussion, see Barbosa (this volume).

Up to this point, we have briefly shown that infinitives in general have recently regained importance due to the debate on the nature of control. However, inflected infinitives, in particular, have been especially relevant for the discussion. We will focus on two of the main interesting questions raised by the inflected infinitive clauses: (i) its distribution and (ii) the realization and interpretation of the embedded subject. Both aspects have equally justified a growing body of acquisition research.

As is well-known, inflected infinitives are severely restricted in languages: In general, the literature reduces the possibility of inflected infinitives to Portuguese and Galician.<sup>3</sup> From a diachronic point of view, the emergence of the inflected infinitive is well identified as a trait of Modern Portuguese, both under verbs also allowing control complements or under verbs also selecting raising complements, and in the complement of causative and perception verbs (Martins, 2006, this volume).

For EP, the distribution of inflected infinitives is clearly identified (Barbosa & Raposo, 2013; Duarte, Santos, & Gonçalves, 2016; Madeira, 1994; Raposo, 1987, a.o.):

- a. In non-obligatory control contexts (subject (17) and adverbial (18) clauses).
- b. In the complement of (a) declarative, epistemic, and factive verbs (19); (b) the raising verb *parecer* 'to seem' (20); (c) perception (21) and causative verbs (22);
- c. In object control structures, in free variation with the uninflected infinitive (23).

- (17) É impossível [(nós) chegarmos tarde].  
 is impossible (we) arrive.INF.1PL late  
 'It is impossible that we arrive late.'

---

3. Other languages also have a verb form akin to the inflected infinitive. This is the case of Sardinian, for instance. However, in this language, the inflected infinitive is restricted to prepositional clauses and the overt (nominative) subject is obligatorily postverbal (see Jones, 1993, and Mensching, 2000, among others).

- (18) O Pedro saiu [depois de (nós) chegarmos].  
 the Pedro left after of (we) arrive.INF.1PL  
 'Pedro left after we arrived.'
- (19) Os pais<sub>i</sub> lamentaram [terem {[<sub>i</sub>/ os meninos} mentido].  
 the parents regretted have.INF.3PL the children lied  
 'The parents regretted that the children lied.'
- (20) Parece [estarem todos felizes].  
 seems be.INF.3PL all happy  
 'It seems that everybody is happy.'
- (21) a. Os meninos ouviram os passarinhos cantarem.  
 the children heard the birdies sing.INF.3PL  
 'The children heard the birdies sing(ing).'
- b. Os meninos ouviram os passarinhos a cantarem.  
 the children heard the birdies to sing.INF.3PL  
 'The children heard the birdies sing(ing).'
- (22) Os pais fizeram os meninos comerem a sopa.  
 the parents made the children eat.INF.3PL the soup  
 'The parents made the children eat the soup.'
- (23) Os Pais convenceram os meninos<sub>i</sub> [a [<sub>i</sub> sair/ saírem].  
 the Parents convinced the children to leave.INF/ leave.INF.3PL  
 'The parents convinced the children to leave.'

Although the inflected infinitive is displayed in all the contexts illustrated in (17)–(23), they differ as to the realization and the interpretation of the subject. In the specific case of complement structures, in most contexts, null subjects alternate with overt subjects (19), the difference being the possibility of coreference with the matrix subject; in other cases (such as in the complement of causative and perception verbs, (21) and (22)), the embedded subject is obligatorily disjointed from the matrix one; and in other cases (such as in object control structures), the interpretation of the embedded subject is always controlled by a constituent in the matrix clause, regardless of the type of infinitive.

Syntactic approaches to inflected infinitives often resort to the concept of tense/temporal dependence, which we have shown plays a role in the discussion of subjunctive contexts. This is the case of the seminal work by Raposo (1987), who claims that the inflected infinitive in complement structures is lexically determined: It occurs if and only if the matrix predicate selects a tensed CP, the uninflected infinitive complements corresponding to untensed CPs, an approach that has also been undertaken by several authors (e.g. Ambar, 1992, 2007). This view on the inflected infinitive is not shared by Duarte et al. (2016), Gonçalves et al. (2014) and Madeira (1994). The problem has its source in the definition

of tense (in)dependence itself, as we have already mentioned. In fact, structures with verbs that select CP complements may differ in tense (in)dependence (see the contrast between (24a), a case of a tense-independent complement, and (24b), a case of a tense-dependent complement, in line with Gonçalves, Cunha, & Silvano, 2010); neither in (24a) nor in (24b) is inflected infinitive possible in standard Portuguese.

- (24) a. Ontem, o João decidiu acabar o  
 yesterday the João decide.IND.PST finish.INF the  
 trabalho amanhã.  
 task tomorrow  
 ‘Yesterday João decided to finish the task tomorrow.’
- b. \*Ontem, o João quis acabar o  
 yesterday the João want.IND.PST finish.INF the  
 trabalho amanhã.  
 task tomorrow

Additionally, if tense (in)dependence was a purely lexical property of matrix predicates, one would not expect to find a correlation between such a property and specific syntactic configurations. For instance, it would not be expected that the same verb select for a tense-dependent complement in infinitival contexts and a tense-independent one in finite contexts, as we can infer from the contrast between (24b) and (25):

- (25) Ontem, o João quis que a Maria acabasse o  
 yesterday the João want.IND.PST that the Maria finish.SBJV.PST the  
 trabalho amanhã.  
 task tomorrow  
 ‘Yesterday João wanted Maria to finish the task tomorrow.’

The revised notion of tense independence from Gonçalves et al. (2010) implies that the embedded clause also takes the utterance time as its TP<sub>pt</sub>, thus constituting an independent temporal domain (Declerck, 1991); this means that the matrix and the embedded clauses form two distinct temporal domains (see also Silvano, 2002). On the contrary, tense dependence obtains when the TP<sub>pt</sub> of the embedded clause may be given by the matrix clause, a case in which the embedded and matrix clauses share the same temporal domain. However, this is not sufficient to account for the distribution of the inflected infinitive: both *decidir* ‘to decide’ (24a) and *afirmar* ‘to say’ (26) select for independent tense complements, but only the latter allows for inflected infinitive in standard Portuguese (see the contrast between (26) and (27)).

- (26) Os pais afirmaram [terem {-}/os meninos]  
 the parents say.IND.PRS have.INF.3PL the children  
 mentido ontem].  
 lied yesterday  
 ‘The parents said that the children lied yesterday.’
- (27) \*Os pais decidiram {-}/os meninos} irem  
 the parents decide.IND.PST the children go.INF.3PL  
 ao cinema.  
 to.the cinema

To account for the distribution of inflected infinitives in complement clauses, Gonçalves et al. (2014) propose the concept of temporal orientation as a lexical property of matrix verbs that determines the temporal location of the situation described in the embedded sentence: anteriority, posteriority or overlapping. In this sense, the authors show that inflected infinitives in standard Portuguese are only allowed when the matrix verb is unspecified for temporal orientation (see (28); examples from Gonçalves et al., 2014, p. 169); otherwise, only the uninflected infinitive occurs and the embedded subject is obligatorily controlled, regardless of temporal (in)dependence (see the case of *decidir* ‘to decide’ in (27)).

- (28) a. O João afirmou votar nesses  
 the João said vote.INF in.those  
 candidatos amanhã. (posteriority)  
 candidates tomorrow  
 ‘João said he will vote for those candidates tomorrow.’
- b. O João afirmou ter votado  
 the João said have.INF voted  
 nesses candidatos. (anteriority)  
 in.those candidates  
 ‘João said he had voted for those candidates.’
- c. O João afirmou confiar nesses candidatos. (overlapping)  
 the João said trust.INF in.those candidates  
 ‘João said he trusts those candidates.’

However, this general correlation between temporal orientation and availability of inflected infinitive in standard EP may be challenged if we consider data from other varieties, such as non-standard EP, BP and MozP. In fact, Modesto (2010, 2011) for BP, Gonçalves et al. (2014) and Sheehan (2012, 2014) for EP, and Duarte, Gonçalves, Miguel, and Mota (1999) for MozP present some examples of inflected infinitives in subject obligatory control structures, a context that should block this

type of form. This is also discussed by Modesto (this volume) and Sheehan (this volume) (see (29)).

- (29) a. Eu<sub>i</sub> decidi [PRO<sub>i+</sub> ir(%mos) ao cinema].  
 I decide.IND.PST.1SG go.INF(1PL) to.the cinema  
 'I decided that we would go to the cinema.'
- b. O João<sub>i</sub> preferia [PRO<sub>i+</sub> reunir(%em)-se  
 the João preferred.IND.PST.3SG meet.INF(3PL)-SE.3  
 mais tarde].  
 more late  
 'John would prefer to meet later on.' (Sheehan, this volume, (18))

The occurrence of these controlled inflected infinitives has been assigned to tense independence (Gonçalves et al., 2014, and to a certain extent Sheehan, this volume): out of the set of subject control verbs only those that enter in tense-independent contexts (such as *decidir* 'to decide', *preferir* 'to prefer') cooccur with inflected infinitival complements in non-standard varieties. Plus, speakers that allow (even marginally) these sentences tend to assign a partial control (PC) reading to PRO, e.g., in the sentences in (29), the embedded subject is anaphorically dependent on the matrix subject, but it is not exhaustively controlled by it (its reference includes the matrix subject and another individual). The results from Modesto's works on BP, including the one published in this volume, also argue for the correlation between controlled inflected infinitives and the partial control reading; the author even considers that, in BP, the structure is obligatory to mark this type of reading.

The existence of controlled inflected infinitives with partial control readings has been used as an argument against Hornstein's (1999) movement theory of control. Opponents to this approach consider that if movement was involved it would be difficult to account for these cases, in which the matrix subject and PRO do not share the same morphological features (namely, number features, as remarked by Sheehan, 2012, this volume). However, as Sheehan (2012, this volume), a.o., remarks, controlled inflected infinitives of the type presented in (29) are also problematic under a theory of control as Agree, as proposed in Landau (2000, 2004, 2013, 2015): if PRO is always unspecified for phi-features, which are valued by Agree, one expects the phi-features of PRO to match the phi-features of the controller. For Landau (2004, 2013), this is not truly problematic if number agreement is merely semantic, which would explain the fact that number mismatch is more easily accepted than person mismatch. This hypothesis is disputable, as Sheehan (this volume) notices: the author suggests that both movement theory of control and control as failed movement (Cinque, 2006; Grano, 2012) are necessary to account for the distribution of inflected and uninflected infinitives in control structures.

The brief picture we have just drawn shows that the research on inflected infinitives in Portuguese is at the core of the discussion of the complex relations between finiteness and control. In a sense, standard Portuguese inflected infinitives are the counterpart of Balkan subjunctives: the first show that infinitives may license nominative subjects, the latter that finite clauses may provide context for control (see the discussion in Landau, 2004).

In a somewhat related way, other types of data are able to challenge the classic clear-cut distinction between finite and non-finite clauses. Raising is classically described as restricted to a particular subset of non-finite clauses. However, works on BP (Ferreira, 2004; Martins & Nunes, 2005, 2009, 2010; Nunes, 2008, 2016; Rodrigues, 2002, 2004) have shown that in colloquial contexts, the embedded subject of a finite complement clause selected by some raising verbs (*parecer* ‘to seem’, *perigar* ‘to be in danger’, *acabar que* ‘to end up’) can raise to the matrix subject position, a grammatical option in other languages, such as Moroccan Arabic and Bhojpuri (Ura, 1994). This structure, dubbed hyper-raising, is exemplified in (30), from Nunes (2008, p. 99):

- (30) a. [Os meninos]<sub>i</sub> parecem que *t<sub>i</sub>* fizeram a tarefa.  
           the boys       seem.3PL that    did.3PL the homework  
           ‘The boys seem to have done their homework.’
- b. [Aqueles funcionários]<sub>i</sub> perigam que *t<sub>i</sub>* vão  
           those       employees   are in danger that   go.3PL  
           ser demitidos.  
           be fired  
           ‘Those employees are in danger of being fired.’
- c. [Os estudantes]<sub>i</sub> acabaram que *t<sub>i</sub>* viajaram mais cedo.  
           the students   finished that   traveled.3PL more early  
           ‘The students ended up traveling earlier.’

Nunes (2008), drawing on Ferreira (2004), suggests that the possibility of hyper-raising results from specific properties of finite embedded Ts in BP, namely its defectiveness regarding [person]. In this sense, this head is specified only for [number] features as it enters the numeration, a fact that the author relates to the well-known verbal morphology impoverishment that affects BP. Being defective, T is not a case assigner, and thus, the embedded subject remains active for movement and checks nominative in the matrix clause. Martins and Nunes (2005) and Nunes (2008) argue that the absence of hyper-raising in EP naturally results from the fact that in this variety, finite T is always an active Case assigner.

The analysis of hyper-raising is currently the subject of a very interesting discussion. Thus, for instance, the defective-T analysis in finite complements is by

no means easy to agree with (see Modesto, 2010, this volume), and the idea that sentences such as (30a) are specific to BP has been challenged to a certain extent by EP data (see Costa, 2011; Costa & Rooryck, 1995; Rooryck, 2000, for a structure they call pseudo-raising, which does not involve subject movement out of the tensed CP). However, more work on EP is necessary to (i) determine the extension of this phenomenon and (ii), if it exists, determine the exact nature of the structure (namely, the raising / non-raising debate). Pires and Nediger (this volume) compare BP hyper-raising to a Spanish phenomenon similar to hyper-raising, in the sense that a subject DP raises out of a tensed embedded clause, but differing from it since agreement with the matrix T is impossible. The authors call this structure further-raising, in line with Fernández-Salgueiro (2005).

The discussion on hyper-raising raises a very interesting issue, since in this case, the data show that finite clauses may be a context for (hyper-) raising, which is parallel to data showing that finite clauses may be a context for control.

Infinitives, and inflected infinitives in particular, have also been central to some acquisition debates and have also drawn increasing interest in light of recent theoretical developments, particularly with regard to the analysis of control. Part of this acquisition research is centered on the acquisition of control, which is also in contrast with the acquisition of raising.

A quick search in a child-adult interaction corpus shows that non-inflected infinitival (control) complements of *querer* ‘want’ are one of the earliest types of complement clauses emerging in child spontaneous speech (see (31), Santos, 2009; Santos et al., 2014). This is in line with observations that are already found in Limber (1973) for English.

- (31) INI: qué [: quero] do(r)mi(r). (2;1.10)  
           want                   sleep.INF  
           ‘I want to sleep.’

This does not mean that all configurations of control are acquired equally early. The interpretation of subject control in complements of verbs of the type of *querer* ‘want’ seems to be unproblematic from the earliest ages tested (see Agostinho, 2014; Agostinho, Santos, & Duarte, this volume, a.o.). Nevertheless, different authors, starting with C. Chomsky (1969) for English, have shown that in the case of verbs with two internal arguments, there is a clear asymmetry between an earlier knowledge of object control and a protracted acquisition of subject control (with *promise*-type verbs): in general, children interpret the complements of *promise*-type verbs as object control contexts. Agostinho et al. (this volume) replicate this finding for EP; however, they also find a new result revealing that the younger children tested also give a relevant amount of subject control answers in object control contexts. The same paper discusses the

relevancy of the acquisition research for the discussion concerning movement vs. agreement approaches to control.

Some acquisition literature has considered control phenomena as part of a debate opposing the acquisition of raising to the acquisition of control – a debate that must be reframed if one assumes that control is itself a case of raising, as in the case of the analysis of control as movement. Non-finite complement clauses that are cases of raising structures have been of particular interest to evaluate the acquisition of A-movement, particularly in light of the initial proposal, now several times revised, that the formation of A-chains may be subject to maturation (see Borer & Wexler, 1987). If A-movement is somehow problematic in acquisition, raising should be delayed as opposed to control (assuming a classic approach to control). Indeed, different authors suggest a delayed acquisition of (some) raising structures (Hirsch, Orfitelli, & Wexler, 2008; Hirsch & Wexler, 2007; Landau & Thornton, 2011; Orfitelli, 2012, a.o.), with other authors suggesting early ability to deal with raising structures (Becker, 2005; Kirby, 2011). Santos, Gonçalves, and Hyams (2016) do not directly compare control and raising, but based on an elicited production task applied to EP-speaking children, they suggest that children avoid Raising-to-Object (RtO) structures under causative and perception verbs (see (3d)), a fact that they interpret as the effect of a tendency to prefer complement clauses whose subject values its structural Case feature through agreement with a probe inside the clause, i.e., a “complete functional complement” (the Complete Functional Complement Hypothesis, CFC). Gonçalves, Santos, Duarte, and Justino (this volume) replicate the same task with MP-speaking children. Based on children’s answers to items requiring the completion of a sentence with a matrix causative verb, they confirm avoidance of RtO and a contrasting preservation of inflected infinitives. This allows for a discussion of the role of universal biases in language change and therefore in the formation of new varieties (as it is the case of MozP).

Both Gonçalves et al. (this volume) and Santos et al. (2016) explore cases in which a matrix verb may select different types of complements. This is the multiple frames problem, already mentioned at the beginning of this chapter and illustrated by the examples in (3). By looking at what children produce in these contexts, in which there are multiple choices, we can collect evidence for early preferences and possibly infer, based on these preferences, what is easiest for children. Both works suggest that the younger children tested (3-year-olds) produce inflected infinitives. This is in line with previous work (Santos, Rothman, Pires, & Duarte, 2013), who showed early spontaneous production of inflected infinitives, although not in complement clauses (see (32)).

- (32) INI: it [//] # <é p> [//] # é para) comerés. (2;2.1)  
           is                   is for   eat.INF.2SG

(Santos et al., 2013, p. 75)



In fact, EP data have shown that inflected infinitives are produced early, even though this is a cross-linguistically rare structure. This fact has been established based on the production of infinitives with overt inflection (see (32)) and 1st and 3rd singular forms of the infinitive that do not take overt inflection but occur with nominative pronouns (see (33)).

- (33) TOM: pó [: para o] u(r)so come(r). (1;11.12)  
fo(r) [:for the] bear eat.INF.3SG

(Santos et al, 2013, p. 75)

Santos et al. (2013) have identified inflected infinitives in the spontaneous speech of EP children, starting at 1;11, although they are initially restrained to purpose clauses introduced by *para* ‘for’. Only Santos et al. (2016), based on experimental evidence, could establish frequent production of inflected infinitives under causatives, perception verbs (in this case, in the Prepositional Infinitival Construction, see (3c)) and also under object control verbs (an exceptional case in which the subject of the inflected infinitive has an obligatory control reading). These results could suggest that inflected infinitive structures do not present difficulties to pre-school children. However, the description above makes clear that (i) we do not have a complete picture of children’s knowledge of the distribution of inflected infinitives (we do not know when children recognize the restrictions on the distribution of inflected infinitives in complement clauses, namely, those that can be attributed to temporal orientation, see Gonçalves et al., 2014) and (ii) we have not mentioned results on children’s interpretation of inflected infinitives as non-obligatory control contexts.

The only work performed so far that assesses EP children’s interpretation of null subjects of inflected infinitives is Pires, Rothman, and Santos (2011). This work shows that, even though at 6–7 years of age EP children demonstrate knowledge of the morphological and distributional properties of inflected infinitives, the same children do not show full knowledge of the syntax-semantic properties (non-obligatory control properties) of these infinitives. In any case, EP-speaking children demonstrate knowledge of inflected infinitives years before BP-speaking children, who only reach this competence at 13–15 years of age (Pires & Rothman, 2009). Pires and Rothman (2009) interpret these results as an effect of the loss of inflected infinitives in the grammar of colloquial varieties of BP, which instead seem to have developed personal infinitives (infinitives with no overt inflection but licensing nominative subjects) – see Rothman, Duarte, Pires, and Santos (2013). Regarding BP, the debate on the inflected infinitive is on the agenda, and there is no consensus on whether this form is part of the grammar of speakers (Modesto, this volume) or not (Rodrigues & Hornstein, 2013). In contrast, Duarte et al. (1999) suggests the maintenance of inflected infinitives in MozP, thus predicting early acquisition of inflected infinitives in this new national variety of

Portuguese. The results obtained with MozP pre-school children by Gonçalves et al. (this volume) are in agreement with this prediction, since they suggest the early productivity of inflected infinitives, even though only data concerning the complements of causatives are considered here.

Inflected infinitives are also an especially interesting subject in the case of L2 acquisition. First, they are cross-linguistically rare, precluding the possibility of transfer in most language combinations. Second, the complexity of their properties, both morpho-syntactic and related interpretative properties, makes them a particularly interesting topic in the domain of L2 acquisition. Madeira (this volume) explores exactly this problem, assessing both grammaticality judgments and interpretation and adapting, in the case of one of the tasks, an original task of Pires and Rothman (2009). Her results suggest that in the case of L2, as previously suggested in the case of an L1 (namely for EP by Pires et al., 2011), knowledge of the morphology and of the distributional properties of inflected infinitives does not ensure complete target performance in the domain of the interpretation.

The wide variety of questions raised by the different types of complement clauses in Portuguese, especially in light of the current syntactic debate, justifies the present volume. As we have shown, complementation in Portuguese makes a huge contribution to the debate of a considerable amount of syntactic, semantic and lexical questions. Regarding finite complements, the well-known contrast between finite indicative and finite subjunctive is on the basis of mood selection, tied to semantic interpretation, and subject obviation. As for infinitival complements, the contrast between inflected and uninflected infinitive, tied to tense independence, contributes to the larger discussion on control and raising. We will consider that this volume has attained its goals if it contributes a few answers to the debate but also increases the number of questions being asked.

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# Syntax papers



# Control of inflected infinitives in European Portuguese

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This chapter considers the distribution of inflected infinitives in European Portuguese (EP), with a particular emphasis on (exhaustive and partial) obligatory control (OC) contexts. It is shown, by means of large-scale survey data, that all EP speakers accept both inflected and uninflected infinitives in OC contexts but with substantial micro-parametric variation. An analysis is proposed whereby there are two distinct kinds of OC in EP, one derived via movement (Hornstein, 1999) and one resulting from Agree plus failed movement. Points of micro-parametric variation concern: the kind of non-finite clause selected for by various matrix predicates, patterns of obviation, and the precise way in which the thematic feature [D: ] is valued.

**Keywords:** partial control; exhaustive control; obviation; agree; phases

## 1. Introduction

European Portuguese (EP) like Mirandese, Galician, Sardinian, Old Leonese and Old Neapolitan has both inflected (I-infinitives) and uninflected infinitives (U-infinitives), something which is rare outside the Romance language family (Scida, 2004). The suffixes used to mark person and number with the I-infinitive are identical to those used to express the future subjunctive in EP. With regular verbs, the infinitive is used as a stem in both cases and so the morphological form of the I-infinitive in EP is identical to the future subjunctive. There are a number of high frequency verbs, however, which have a stem change with the future subjunctive but not the I-infinitive, making the two forms distinct (e.g. *ser* ‘to be’, *fazer* ‘to do/make’, *ter* ‘to have’, *ir* ‘to go’, *vir* ‘to come’):

- (1) a. U-infinitive: *ser* ‘to be’  
b. I-Infinitive: *ser* (1SG), *seres* (2SG), *ser* (3SG), *sermos* (1PL), *serem* (2PL/3PL)  
c. Future subjunctive: *for* (1SG), *fores* (2SG), *for* (3SG), *formos* (1PL), *forem* (2PL/3PL)

The I-infinitive and U-infinitive partially overlap in usage but there are contexts where speakers agree that inflection is banned as well as contexts where it is obligatory. Very generally, unlike Spanish, Catalan and Italian, EP does not permit overt referential subjects to surface with a U-infinitive (cf. Rigau, 1995, on Catalan; Torrego, 1998, on Spanish; Modesto, this volume, on Brazilian Portuguese; and Ledgeway, 1998, for a pan-Romance perspective):

- (2) \*Será difícil [eles aprovar a proposta].  
 be.FUT.3SG difficult they approve.INF the proposal  
 (EP, Raposo, 1987, p. 86)

Also unlike Spanish and Catalan, but like Italian, EP lacks ‘personal infinitives’: U-infinitives cannot license referential *pro*, even where its phi-features would be recoverable from the context. Compare (3) with (4) from Spanish:

- (3) \*Apesar de te sentir mal, a Maria começou a gritar.  
 despite of SE.2SG=feel.INF bad, the Maria began to shout  
 ‘Despite your not feeling well, Maria started shouting.’ (EP)
- (4) Al desmayarte empezaron a chillar.  
 A.the faint.INF=SE.2SG began to shout  
 ‘Upon your fainting, they began to shout.’ (Spanish, Torrego, 1998, p. 212)

I-infinitives, however, *can* surface with overt/null referential subjects in EP in certain complement domains as well as in subject/adjunct clauses (see Ambar, 1994; Madeira, 1994; Raposo, 1987; Scida, 2004; Sitaridou, 2002):

- (5) Será difícil [(eles) aprovarem a proposta].  
 be.FUT.3SG difficult they approve.INF.3PL the proposal  
 ‘It will be difficult for them to approve the proposal.’  
 (EP, adapted from Raposo, 1987, p. 86)
- (6) Eu lamento [terem (os deputados) trabalhado pouco].  
 I regret.1SG have.INF.3PL he MPs worked little  
 ‘I believe/regret the MPs to have/having worked very little.’  
 (EP, adapted from Raposo, 1987, p. 87)

I-infinitives are also observed in instances of non-obligatory control in EP (Pires, 2006):

- (7) Os professores<sub>i</sub> disseram aos alunos<sub>j</sub> que era  
 the teachers said.3PL to.the students that was  
 preciso [*pro*<sub>i/j</sub> trabalharem]  
 necessary work.INF.3PL  
 ‘The teachers told the students that it was necessary to work.’

I-infinitives are also possible in adjuncts with co-referential subjects, which also look like they might involve control:

- (8) Os professores<sub>i</sub> chegaram cedo [para PRO<sub>i</sub> se reunirem antes  
the teachers arrived.3PL early for SE.3= meet.INF.3PL before  
da entrevista].  
of.the interview  
'The teachers arrived early in order to meet before the interview.'

In this context, though, the null subject of the I-infinitive does not have the properties of Obligatory Control (OC). Firstly, the subject of the I-infinitive can be an overt referential subject:

- (9) O candidato chegou mais tarde [para os entrevistadores se  
the candidate arrived more late for the interviewers SE.3=  
reunirem antes da entrevista].  
meet.INF.3PL before of.the interview  
'The candidate arrived later on so that the interviewers could meet before the interview.'

Secondly, the 'controller' need not be local (in the next clause up):

- (10) O Pedro<sub>i</sub> queria que eu chegasse mais tarde [para  
the Pedro wanted.3SG that I arrived.SUBJ.1SG more late for  
se reunirem antes da entrevista].  
SE.3= meet.INF.3PL before the interview  
'Pedro wanted me to arrive later on so that they could meet before the interview.'

In fact, even where an antecedent is available in the next clause up, it need not control the subject of the I-infinitive if this is pragmatically unlikely or blocked for independent reasons:

- (11) [A chefe do João]<sub>j</sub> chegou mais tarde [para se reunirem  
the boss of.the João arrived more late for SE.3 =meet.INF.3PL  
sem ela<sub>j</sub> antes da entrevista].  
without her before of.the interview  
'João's (female) boss arrived later so as for them to meet without her before the interview.'

As such, inflected infinitives in adjunct clauses appear to permit optional co-reference rather than control.

One context in which speakers uniformly reject I-infinitives is in instances of exhaustive local subject control with any kind of matrix predicate (see

Landau, 2004, p. 850; Pires, 2006, Chapter 4; but see also Gonçalves, Santos, & Duarte, 2014, for production errors of this kind in EP):

- (12) Preferias/conseguiste chegar(\*es) a tempo.  
 preferred.2SG/managed.2SG arrive.INF(.2SG) at time  
 'You would prefer/managed to arrive on time.'

Interestingly, though, although I-infinitives are clearly banned in exhaustive local subject control, I-infinitives *do* seem to occur in what look like other OC contexts, apparently optionally (see Madeira, 1994; Maurer Júnior, 1968; Raposo, 1989; Sitaridou, 2002, on European Portuguese; Modesto, 2010, this volume; Rabelo, 2010, on Brazilian Portuguese):

- (13) a. Eu obriguei/persuadi os meninos a ler(em) esse livro.  
 I forced/persuaded the kids A read.INF(.3PL) that book  
 'I forced/persuaded the kids to read that book'  
 (EP, adapted from Raposo, 1989, p. 277)
- b. Prometemos à Maria comprar(mos)-lhe um presente.  
 promised.1PL to.the Maria buy.INF(.1PL)=her.DAT a present  
 'We promised Maria to buy her a present.'  
 (EP, adapted from Madeira, 1994, p. 181)

Moreover, as Modesto (2010) notes, for some Brazilian speakers, I-infinitives *are* possible in instances of local subject control in BP where it is *partial*:

- (14) O presidente<sub>i</sub> preferiu PRO<sub>i+</sub> se reunirem às 6.  
 the chair preferred.3SG SE.3= meet.INF.3PL at.the 6  
 'The chair preferred to gather at 6:00.' (BP, Modesto, 2010, p. 85)

This is also possible in EP for some speakers and with some restrictions. While speakers almost unanimously reject inflected infinitives even with a partial control reading under restructuring verbs such as *querer* 'to want', around half those speakers surveyed consistently accept inflection in this context under non-restructuring verbs such as *esperar* 'to hope' and *preferir* 'to prefer', which are otherwise reported to disallow inflected infinitival complements:

- (15) a. \*O Pedro queria reunirem-se mais tarde.  
 the Pedro wanted meet.INF.3PL=SE.3 more late  
 (\* = 91%, ? = 3%, ✓ = 9%, *n* = 33)
- b. \*O Pedro queria-se reunirem mais tarde.  
 the Pedro wanted=SE.3 meet.INF.3PL more late  
 (\* = 100%, ? = 0%, ✓ = 0%, *n* = 33)
- (16) %O Pedro<sub>i</sub> espera [PRO<sub>i+</sub> reunirem-se mais cedo amanhã.]  
 the Pedro hopes meet.INF.3PL=SE.3 more early tomorrow  
 'Pedro hopes to meet earlier tomorrow.'  
 (\* = 35%, ? = 22%, ✓ = 43%, *n* = 37)

The aim of this chapter is to report the findings of a number of online questionnaires investigating the acceptability of inflection in complement control contexts, to show that these examples do indeed involve OC and to provide a theoretical account of the facts which accommodates a number of points of micro-parametric variation. Section 2 describes the distribution of I-infinitives across subject and object control with partial and exhaustive readings. Section 3 argues that controlled I-infinitives instantiate OC of the familiar kind. Section 4 discusses the challenges that these facts raise for existing theories of OC. Section 5 provides an alternative analysis of the facts and Section 6 concludes and mentions some areas of ongoing research.

## 2. The distribution of inflection in control contexts

In instances of exhaustive local subject control, survey data confirms the widely reported fact that inflection is very generally not possible for EP speakers. Where a partial control reading is at stake, however, inflection consistently becomes optional for just under half those surveyed:

- (17) EP exhaustive local subject control (*uninflected* 100%; inflected 4%,  $n = 68$ )<sup>1</sup>  
 Preferíamos receber(\*mos) um salário maior.  
 prefer.1PL receive.INF(1PL) a salary higher  
 ‘We would prefer to get a higher salary.’
- (18) EP partial local subject control (*uninflected* 83%; inflected 42%,  $n = 24$ )  
 O João<sub>i</sub> preferia [PRO<sub>i</sub>+ reunir(%em)-se mais tarde].  
 the João preferred.3SG meet.INF(3PL=SE.3 more late  
 ‘John would prefer to meet later on.’

A different pattern is observed with verbs like *promise/vow/threaten*, which permit non-local subject control across a matrix object. In instances of exhaustive control, all EP speakers surveyed accepted U-infinitives, whereas again just under half accepted I-infinitives. With partial non-local subject control, the vast majority of speakers accept either I-infinitives or U-infinitives, with some displaying a preference for inflection:

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1. The reason that the percentages do not add up to 100 is that many speakers accept both forms in the same contexts. Participants were presented with the two options separately and asked to judge their acceptability in the context of a larger survey. See Sheehan (2014b) for a comparison of the EP facts with Russian.



- (19) EP exhaustive non-local subject control (uninflected 100%, *n* = 37; inflected 47%, *n* = 68)  
Prometemos à professor chegar(%mos) a tempo.  
promised to.the teacher arrive.INF(1PL) at time  
‘We promised the teacher to arrive on time.’
- (20) EP partial non-local subject control (uninflected 70%; inflected 95%, *n* = 37)  
O Pedro prometeu à Ana reunir(em)-se em Braga.  
the Pedro promised to.the Ana meet.INF(3PL)=SE.3 in Braga  
‘Pedro promised Ana to meet in Braga.’

Turning to object control, we see that, with an exhaustive reading, both U-infinitives and I-infinitives are acceptable for the majority of speakers, with some expressing a preference for one or the other form. With a partial control reading, almost all speakers accept I-infinitives but U-infinitives also remain acceptable for the majority of speakers:

- (21) EP exhaustive object control (uninflected 70%; inflected 70%, *n* = 44)  
O professor persuadiu os alunos a fazer(em) o trabalho.  
the teacher persuaded the pupils A do.INF(3PL) the work  
‘The teacher persuaded the pupils to do the work.’
- (22) EP partial object control (uninflected 68%; inflected 97%, *n* = 37)  
Os professores persuadiram o diretor a reunir(em)-se  
the teachers persuaded the headteacher A meet.INF(3PL)=SE.3  
mais tarde.  
more late  
‘The teachers persuaded the headteacher to meet later on.’

The patterns are summarised in Table 1, where parentheses indicate less widely accepted forms:

Table 1. Distribution of inflection in EP obligatory control contexts

Control context	EP
Exhaustive local subject Control	uninflected
Partial local subject Control	(inflected) / uninflected
Exhaustive non-local subject Control	(inflected) / uninflected
Partial non-local subject Control	inflected / (uninflected)
Exhaustive object Control	inflected / uninflected
Partial object Control	inflected / (uninflected)

What is interesting about these results is that (i) it is only in instances of exhaustive local subject control that all speakers consistently reject I-infinitives and (ii) while inflection often becomes more acceptable with partial control and less acceptable with exhaustive control, it is not the case either that partial control requires inflection or that inflection implies partial control. In the following section we provide evidence that these apparent instances of controlled I-infinitives do indeed involve OC in the familiar sense, before discussing the theoretical implications of the patterns in Sections 4 and 5.

### 3. But is this really obligatory control?

Applying the amalgamated diagnostics from Hornstein (1999), Landau (2000) and Williams (1980) to EP suggests that control of I-infinitives is OC, at least for some speakers. In this section, we consider these diagnostics one by one, with data mainly from native speakers who accept controlled I-infinitives, backed up in some cases by surveys.

- i. No alternation with an overt DP in OC

In his discussion of BP, Modesto (2010), following Williams (1980), uses diagnostic (i), though this has become controversial given that in many languages PRO *does* seem to alternate with an overt DP under some matrix predicates (Landau, 2000; McFadden & Sundaresan, 2014; Sundaresan, 2014; Sundaresan & McFadden, 2009).<sup>2</sup> The diagnostic holds only in one direction, therefore: failure to alternate with an overt referential subject indicates OC but not vice versa. Modesto (2010) shows that this diagnostic holds of controlled inflected infinitives in his dialect of spoken BP (see also Modesto, this volume):

- (23) \*O presidente decidiu/preferiu/quis os membros  
the chair decided/preferred/wanted.3SG the members  
se reunirem.  
SE.3 meet.INF.3PL  
Lit. 'The chair decided/preferred/wanted the members to meet.'  
(BP, Modesto, 2010, p. 87)

2. Barbosa (2009), building on Szabolcsi (2009), notes that overt pronominal subjects are possible in instances of OC in EP with an uninflected infinitive, where they are focused. We leave this complication to one side here for reasons of space, but note, as she does, that in all cases these pronouns must be co-referential with the controller.

In EP, matters are complicated by the more general possibility of I-infinitives with referential subjects (discussed above). I-infinitives can surface with referential overt/null subjects as the complements of factive and declarative/epistemic verbs (Raposo, 1987). Survey data reveal I-infinitives to be more widely accepted in factive than epistemic contexts, with what appears to be an effect of age: older speakers accepted (24) more readily than younger speakers (though the relatively small numbers make statistical analysis impossible and this warrants further investigation):

- (24) %Acredito [terem os ministros chegou a um acordo].  
 believe.1s have.INF.3PL the ministers arrived at an agreement  
 'I believe the ministers to arrived at an agreement.'  
 (\* = 30%, ? = 38%, ✓ = 32%, *n* = 37)
- (25) *pro*<sub>i</sub> lamento [*pro*<sub>j</sub> teres vindo].  
 regret.1PL have.INF.2s come  
 'I regret your having come.'  
 (\* = 14%, ? = 4%, ✓ = 82%, *n* = 67)

For those speakers who accept I-infinitives in the complements of epistemic/factive predicates, these clauses clearly permit overt/covert referential subjects. Desiderative predicates, however, do not generally permit inflected infinitival complements with referential overt/null subjects (Raposo, 1987, p. 98):

- (26) a. \*O Manel desejava [os amigos terem levado  
 the Manel wished.3SG the friends have.INF.3PL taken  
 o livro].  
 the book
- b. \*O Manel desejava [terem os amigos levado  
 the Manel wished.3SG have.INF.3PL the friends taken  
 o livro].  
 the book
- c. \*O Manel desejava [terem levado o livro].  
 the Manel wished.3SG have.INF.3PL taken the book  
 Lit. 'Manel<sub>i</sub> wished them<sub>j</sub> to have taken the book.'

In partial control contexts, where I-infinitives are permitted under these predicates (for a subset of speakers, as discussed above), overt referential subjects do not seem to be possible:

- (27) %O João preferia/espera {\*os meninos} reunirem-se {\*os  
 the João preferred/hopes.3SG the boys meet.INF.3PL=SE.3 the  
 meninos} mais tarde.  
 boys more late  
 'João<sub>i</sub> preferred/would prefer for the kids to meet later on.'

The same holds of object control, where inflection is more widely accepted:

- (28) \*O Pedro convenceu a Maria a os meninos  
the Pedro convinced.3SG the Maria A the boys  
viajarem amanhã.  
travel.INF.3PL tomorrow
- (29) \*O Pedro convenceu a Maria a viajarem os  
the Pedro convinced.3SG the Maria A travel.INF.3PL the  
meninos amanhã.  
boys tomorrow

As such, at least some cases of both subject and object control of an I-infinitive pass this OC diagnostic.

ii. Obligatory co-reference in OC

Modesto (2010), following Hornstein (1999), Landau (2000) and Williams (1980), further cites (ii) as a diagnostic for OC. This can be revealed in numerous ways not least by the inclusion of a pronoun in the embedded clause co-referential with the matrix subject (Landau, 2000). In instances of OC, this triggers ungrammaticality as a violation of Condition B.

- (30) \*O presidente<sub>i</sub> detestou PRO<sub>2+</sub> serem entrevistados  
the chair hated.3SG be.INF.3PL interviewed.MPL  
sem ele<sub>i</sub>.  
without him
- (BP, Modesto, 2010, p. 92)

The results for this diagnostic in our surveys suggest that we are dealing with multiple EP grammars. In an initial survey of 24 younger speakers, the results closely follow those from BP. Of the 42% of people who fully or marginally accepted (31) nobody fully accepted (32), though 12% reported it to be marginally possible. Despite a certain amount of noise in these results, the clear indication is that obligatory co-reference seems to be required in such contexts for those speakers who accepted (31):

- (31) %O João preferia reunirem-se mais tarde.  
the João preferred.3SG meet.INF.3PL=SE.3 more late  
'João<sub>i</sub> preferred/would prefer to meet later on.'  
(\* = 58%, ? = 8%, ✓ = 34%, *n* = 24)
- (32) \*O João<sub>i</sub> preferia reunirem-se sem ele<sub>i</sub>.  
the João preferred.3SG meet.INF.3PL=SE.3 without him  
Lit. 'João<sub>i</sub> preferred/would prefer to meet without him<sub>i</sub>.'  
(\* = 88%, ? = 12%, ✓ = 0%, *n* = 24)

In a later survey, however, with 68 respondents of different ages, the results are less clear (see also Landau, 2016). Firstly fewer people found the baseline

example in (33) fully grammatical and only 35% in total found it either marginally or fully acceptable. Secondly, the inclusion of a co-referential pronoun in (34) actually seemed to make the example slightly more acceptable for this sample of speakers:

- (33) %O João preferia reunirem-se amanhã.  
 the João preferred.3SG meet.INF.3PL=SE.3 tomorrow  
 'João preferred/would prefer to meet tomorrow.'  
 (\* = 65%, ? = 20%, ✓ = 15%, *n* = 68)

- (34) %O João<sub>i</sub> preferia reunirem-se sem ele<sub>i</sub> amanhã.  
 the João preferred.3SG meet.INF.3PL=SE.3 without him tomorrow  
 'João<sub>i</sub> preferred/would prefer to meet without him<sub>i</sub> tomorrow.'  
 (\* = 57% ? = 19% ✓ = 24%, *n* = 68)

A closer consideration of individual speakers reveals that we seem to have two distinct patterns of grammaticality, here. All those speakers who accept (33) reject or find marginal (34) and vice versa (with only two exceptions). That is to say that speakers who accept (33) do so only on an OC reading. Other speakers, however, reject control of inflected infinitives but marginally permit I-infinitives with referential subjects with the verb *preferir* (making it patterned with factive/epistemic matrix predicates). This raises the question why speakers who permit I-infinitives with referential subjects under *preferir* would accept (34) but not (33). One possibility is that these speakers have a competition-based obviation effect (Bouchard, 1984; Schlenker, 2005): I-infinitives are ruled out in (33) precisely because U-infinitives are possible in this context:

- (35) O João preferia reunir-se às 6.  
 the João preferred.3SG meet.INF=SE.3 at.the 6  
 'João preferred/would prefer to meet at 6.'  
 (\* = 17%, ? = 4%, ✓ = 79%, *n* = 24)

If this is the case, then the presence of 'sem ele' in (34) forces a disjoint reference interpretation rendering it grammatical for those speakers who reject (33) because of obviation.

These results therefore indicate the existence of three distinct groups of EP speakers:

- a. those who consistently reject I-infinitives as complements of *preferir* (25 speakers);
- b. those who permit only partial OC of I-infinitives under *preferir* (16 speakers);

- c. those who permit only disjoint reference I-infinitives under *preferir* (25 speakers) (the properties of which still need to be investigated).

Interestingly, though, (36), another test for obligatory co-reference, is more consistently rejected by the same sample of 68 speakers. In (36) the phi-features of the I-infinitive show it to be 2nd/3rd person plural and so incompatible with a 1st person controller. The fact that 88% of those surveyed outright rejected this example suggests that these speakers require obligatory co-reference, something which is not possible in (36):

- (36) \*Eu preferia reunirem-se mais cedo. (EP)  
 I preferred.1SG meet.INF.3PL/2PL=SE.3/2PL more early  
 (\* = 88%, ? = 4%, ✓ = 7%, *n* = 68)

Note that 6 of the 8 speakers who accepted or marginally accepted (36) are group c. speakers (who allow referential I-infinitives under *preferir*), whereas all group b. speakers rejected (36), as expected. While it remains unclear why the other group c. speakers do not accept (36), we can nonetheless conclude that, for a subset of speakers, controlled I-infinitives also display this property of OC.

Object control of I-infinitives also seems to require obligatory co-reference for some speakers, though somewhat surprisingly not for all the speakers surveyed:

- (37) a. O Pedro convenceu a Maria a viajarem amanhã.  
 the Pedro convinced.3SG the Maria A travel.INF.3PL tomorrow  
 'Pedro convinced Maria for them to travel tomorrow.'  
 (\* = 0%, ? = 0%, ✓ = 100%, *n* = 24)
- b. %O Pedro convenceu a Maria<sub>i</sub> a viajarem amanhã  
 the Pedro convinced.3SG the Maria A travel.INF.3PL tomorrow  
 sem ela<sub>i</sub>.  
 without her  
 'Pedro convinced Maria for them to travel tomorrow without her.'  
 (\* = 38%, ? = 8%, ✓ = 54%, *n* = 24)

While for 46% of speakers the presence of a pronoun co-referential with the matrix object leads to ungrammaticality or more marginal acceptability, 54% of speakers report no contrast between (37a,b). Again, this requires further investigation, but for around half the speakers at least, object control of an I-infinitive passes this OC diagnostic.

- iii. Long-distance control of PRO is impossible in OC

Another OC diagnostic discussed by both Hornstein (1999) and Landau (2000) is (iii). This can be tested by making the inflection on the I-infinitive

incompatible with the potential controller in the next clause up, but compatible with a DP in a higher clause:

- (38) \*O Pedro acha que eu preferia reunirem-se  
 the Pedro believe.3SG that I preferred meet.INF.3PL=SE.3  
 mais cedo. (EP)  
 more early  
 Lit. 'Pedro believes that I would prefer for them to meet earlier on.'

Those speakers who allow only controlled I-infinitives with *preferir* reject (38) but this has not been tested via a survey and it is predicted that some of the group c. speakers discussed above will accept comparable examples.

iv. Strict reading of PRO is impossible in OC

Again Hornstein (1999) and Landau (2000) agree that (iv) is a core diagnostic for OC. As EP, unlike many other Romance varieties, has VP-ellipsis, it is possible to test the strict/sloppy interpretation of the controlled subject of an I-infinitive under this kind of ellipsis. Possibly because the example was provided in the survey out of context, only 8 speakers accepted the base-line example in (39). Of these 8 speakers, 6 found it less acceptable with a pronoun co-referential with *Maria*, suggesting that they require a sloppy reading:

- (39) %O João preferia reunirem-se de manhã, e a  
 the João preferred.3SG meet.INF.3PL=SE.3 of morning and the  
 Maria também preferia (\*mas sem ela).  
 Maria also preferred.3SG but without her  
 'João would prefer to meet in the morning and Maria would too (but without her).'

v. The Controller in OC must be c-commanding

Hornstein (1999) suggest that (v) also holds, though see Landau (2000) for some apparent counterexamples. There is suggestive (though somewhat inconclusive) evidence of a c-command requirement on controlled I-infinitives in EP. Of the 16 speakers who reported a contrast between (40a,b), 75% found (40b) substantially worse than (40a), whereas only 25% reported the opposite judgement. Crucially, the data therefore go in the right direction, though are not as categorical as one would expect, possibly because of the additional confound introduced by the fact of João's boss being female:

- (40) a. %[A chefe do João]<sub>i</sub> preferia reunirem-se  
 the boss of.the João preferred.3SG meet.INF.3PL=SE.3  
 sem ele.<sub>i</sub>  
 without him  
 'João's (female) boss would prefer to meet without him.'

- b. \*[A chefe do João]<sub>i,j</sub> preferia reunirem-se  
 the boss of.the João preferred.3SG meet.INF.3PL=SE.3  
 sem ela<sub>j</sub>.  
 without her  
 'João's (female) boss would prefer to meet without her.'

In non-local subject OC and object OC contexts, the same effect holds. In the case of object OC, of the 16 people who reported a contrast between (41a,b), 63% reported (41a) to be substantially better than (41b), whereas only 37% reported the opposite:

- (41) a. %Persuadi [a chefe do João]<sub>i,j</sub> a reunirem-se  
 persuadaded.1SG the boss of.the João A meet.INF.3PL=SE.3  
 sem ele<sub>i</sub>.  
 without him  
 'I persuaded João's female boss to meet without him.'
- b. \*Persuadi [a chefe do João]<sub>i,j</sub> a reunirem-se  
 persuadaded.1SG the boss of.the João A meet.INF.3PL=SE.3  
 sem ela<sub>j</sub>.  
 without her  
 Lit. 'I persuaded João's female boss to meet without her.'

In the case of non-local subject OC, of the 12 people who reported a contrast, 83% found (42a) substantially better than (42b), whereas only 17% reported the opposite judgement:

- (42) a. %[A chefe do João]<sub>i</sub> prometeu aos colegas  
 the boss of.the João promised.3SG to.the colleagues  
 reunirem-se sem ele<sub>i</sub>.  
 meet.INF.3PL=SE.3 without him  
 'João's female boss promised his colleagues to meet without him.'
- b. \*[A chefe do João]<sub>j</sub> prometeu aos colegas  
 the boss of.the João promised.3SG to.the colleagues  
 reunirem-se sem ela<sub>j</sub>.  
 meet.INF.3PL=SE without her  
 Lit. 'João's female boss promised his colleagues to meet without her.'

In all kinds of OC, then, there is evidence that the controller must c-command PRO at least for some speakers, though the data are not as uniform as one would expect.

#### vi. De se reading

Work with native informants suggests that controlled I-infinitives have only the *de se* reading, a diagnostic for OC according to both Hornstein (1999) and Landau (2000). The following sentence, for example, is deemed felicitous only



in the context where an amnesiac is due to be reunited with his wife after an accident and has a preference about where this meeting should take place. It is not compatible with the reading where he holds this belief about the man who he sees in the mirror who he takes to be a total stranger, due to be reunited with his (respective) wife:

- (43) %O amnésico preferia reunirem-se no hospital (*de se* only)  
 the amnesiac preferred meet.INF.3PL=SE.3 in.the hospital  
 'The amnesiac would prefer/preferred to meet in the hospital.'

vii. Bound variable reading

Finally, consider (vii), which is argued to be an OC diagnostic by both Hornstein (1999) and Landau (2000). Again, work with native informants suggests that here too, the diagnostic rules in favour of OC. Consider the following example:

- (44) Só o diretor preferia reunirem-se fora no  
 only the headmaster preferred.3SG meet.INF.3PL=SE outside in.the  
 caso de um incêndio.  
 case of a fire  
 'Only the headteacher wanted to meet outside in the event of a fire.'

This example is only felicitous in a situation in which no other teacher would prefer to gather outside with his/her class in the event of a fire, i.e. where all the other teachers think it is too cold for that and would prefer to gather in the school gym over the road instead. It could be the case then that many other teachers would also prefer for the head master and his class to gather outside (because they dislike him) but they would prefer for their own classes to gather inside in the warm. The example is *not* compatible with a reading where the headmaster is the only person who has the preference for him and his class to gather outside, i.e. where all the other teachers are worried about his health and want him and his class to gather in the gym but he gallantly resists.

In sum, although there is substantial noise in the results, possibly stemming from confounds in the data and/or micro-syntactic variation across speaker populations, there is evidence from all the diagnostics that at least for some speakers controlled I-infinitives instantiate OC. In the following section I discuss the problems that this fact raises for existing theories of OC before providing an alternative account in Section 5.

#### 4. Challenges for existing theories of control

Many approaches to OC in both Government and Binding and Minimalism derive the distribution of PRO from Case, with Landau (2000, et seq.) a notable exception.

According to the PRO Theorem, PRO must be ungoverned, to avoid the inherent contradiction in its specification as both [+anaphoric, +pronominal] (Chomsky, 1981). Under the Movement Theory of Control (MTC), OC PRO is assimilated to A-trace, with the OC relation resulting from movement and being possible only from caseless positions (see Boeckx & Hornstein, 2004, 2006; Boeckx, Hornstein, & Nunes, 2010; Hornstein, 1999). In both approaches, the strong prediction is that OC PRO (descriptively speaking) will lack Case.

There has been much discussion of the challenge posed by languages like Russian, Icelandic and Ancient Greek in the literature on Control, as these languages provide evidence that PRO has Case (see Andrews, 1971, 1976, and Bobaljik & Landau, 2009; Sigurðsson, 2008, for recent discussion). The challenge from controlled I-infinitives in Portuguese, which is of the same kind but more serious, has not been much discussed (though see Raposo, 1989; Sitaridou, 2007, on EP; Modesto, 2010, this volume; Rodrigues & Hornstein, 2013, on BP). In relation to the MTC, in particular, OC of an I-infinitive fails to look like movement in several crucial respects, as Modesto (2010) also notes. Firstly, PRO does not look like a copy/trace of its controller as the two can differ in number (see above) and even person features, even for those speakers who only permit OC in such contexts. The numerical results for (45b), for example, come from the group b. speakers who only allow I-infinitives under *preferir* on a control reading:

- (45) a. %O João preferia reunirmo-nos mais tarde.  
           the João preferred.3SG meet.INF.1PL=SE.1PL more late.  
           ‘João<sub>i</sub> would prefer PRO<sub>i+speaker</sub> to meet later on.’  
       b. %Preferias reunirmo-nos mais tarde?  
           preferred.2SG meet.INF.1PL=SE.1PL more late  
           ‘Would you<sub>i</sub> prefer PRO<sub>i+speaker</sub> to meet later on?’  
           (\* = 62%, ? = 6%, ✓ = 32%, *n* = 16)

As Landau (2016) points out, not all speakers who permit OC with I-infinitives allow such examples, but a minority do. In any case, differences in number between the Controller and ‘PRO’ are equally problematic for the MTC (see Rodrigues, 2007, for a possible solution; and Sheehan, 2012, for some objections to this, which we omit here for reasons of space; see also Landau, 2013; and Modesto, this volume).

Moreover, raising is not possible from I-infinitives (Quicoli, 1996, p. 59; Raposo, 1989, p. 297) and the phenomenon of partial A-movement does not exist elsewhere in the language:

- (46) a. *pro*<sub>i</sub> parecem [*t*<sub>i</sub> ter razão]  
           seem.3PL have.INF reason  
       b. EXPL parece [*pro* terem razão]  
           seem.PRS.3SG have.INF.3PL reason  
           ‘They seem to be right.’

- c. \**pro* parecem [t<sub>i</sub>  
seem.3PL  
terem razão] (see Raposo, 1989, p. 297; Quicoli, 1996, p. 59)  
have.INF.3PL reason

- (47) a. \*O Pedro parece terem-se reunido  
the Pedro seem.3SG have.INF.3PL=SE.3 met  
b. \*O Pedro foi reunido ontem.  
the Pedro was reunited yesterday  
Lit. 'Pedro was reunited yesterday'

The EP data thus pose considerable challenges for the MTC.

In a sense, the data support Landau's contention that there are two flavours of OC, but also raise some potential issues for his approach. Simplifying somewhat, Landau (2000, 2004, 2008) claims that partial control is possible because where C mediates the OC relation, PRO can differ from its controller in its mereological (+/–MER) specification, which is distinct, crucially, from its syntactic number specification. Predicates like 'meet', in EP, as in English, require only a *semantically* plural +MER subject:

- (48) O comitê/\*o Manel reúne-se todos os dias.  
the committee/the Manel meets.3SG=SE.3 all the days  
Lit. 'The committee/\*Manel meets every day'

As C is not specified for +/–MER, this fact allows for mismatches, giving rise to partial OC:

- (49) Controller<sub>–MER</sub>...[C PRO<sub>+MER</sub>...]

This analysis does not extend straightforwardly to partial OC in EP, however: in such contexts, controlled *pro* appears to differ from its controller in its *syntactic* feature specification (for both number and, for some speakers, person). For some speakers, then, the condition appears to be a semantic one: the controller must be a potential subset of the referent of *pro*. Responding to these facts, Landau (2016) proposes that the person and number features of controlled *pro* are shifted in EP "in accordance with the features of the group obtained by an A[ssociative] M[arker]". But controlled *pro* appears to be syntactically plural and possible with predicates which require a syntactically plural subject, so this cannot be the whole story:

- (50) \*O comitê é amigos.  
the committee is friends  
(51) %Preferia ser\*(*mos*) amigos do que sócios.  
preferred.1SG be.INF(1PL) friends of.the than partners  
'I'd prefer to be friends than partners.'

The contrast in (50)–(51) shows that partially controlled *pro* is actually syntactically plural and this cannot be attributed to the presence of an associative marker.

The fact that we see clear evidence for two distinct patterns of control in EP is also partially in line with Cinque's (2006) view of OC. In his terms (see also Grano, 2012), exhaustive OC is the result of restructuring whereas cases permitting a partial OC reading involve PRO. It is certainly true that restructuring predicates seem not to permit I-infinitive complements in EP whether or not clitic climbing has actually taken place (see Example (15) repeated here):

- (52) a. \*O Pedro queria reunirem-se mais tarde.  
           the Pedro wanted meet.INF.3PL=SE.3 more late  
       b. \*O Pedro queria-se reunirem mais tarde.  
           the Pedro wanted=SE.3 meet.INF.3PL more late

Moreover, in line with microparametric variation with the equivalent verbs in Italian and Spanish (cf. Cinque, 2006, fn 27), 6/32 EP speakers in one survey permitted clitic climbing with *preferir* but not in the presence of an I-infinitive complement. This provides support for Cinque's contention that there is an incompatibility between restructuring and PRO- (or rather *pro*) control (more on how this relates to partial control readings below). Crucially, though, the correlation holds in only one direction. Martins (2000, p. 184) notes that object OC predicates *never* permit clitic climbing in EP (cf. Spanish, Luján, 1978; Suñer, 1980):

- (53) a. \*Aconselhou-mo a comprar (EP, Martins, 2000, p. 184)  
           advised=me.it A buy.INF  
       b. \*Permitiu-mo comprar  
           permitted=me.it buy.INF

However, as we have seen above they permit OC of both U-infinitives and I-infinitives, so OC of U-infinitives cannot be reduced to restructuring. Fiéis and Madeira (2012) further show that non-local subject control verbs like *prometer* 'promise' do not permit clitic climbing. Interestingly, this appears to be the case whether or not a matrix object is present, according to my informants:

- (54) a. Prometeu(-me) fazê-lo.  
           promised(=me) do.INF=it  
       b. \*Prometeu-mo/o fazer.  
           promised=me.it/it do.INF

And yet these non-restructuring predicates also permit OC of U-infinitives as well as I-infinitives, as discussed above. In short, while it is true then that restructuring predicates do not permit OC of an I-infinitive in EP, non-restructuring predicates *do* permit OC of a U-infinitive. This is apparently contrary to Cinque's/Grano's

expectations, or at least not explained by their approach. In addition to restructuring, we appear to have two additional OC mechanisms in EP.

## 5. Towards an analysis

### 5.1 The proposal

The data clearly show that there are two distinct kinds of OC in EP: with U-infinitives and I-infinitives (in addition to restructuring). In this section I propose that whereas OC of a U-infinitive results from movement and so does not involve *pro*, OC of an I-infinitive is the result of failed movement and so involves *pro* (see Cinque, 2006; and Grano, 2012, discussed above, as well as van Urk, 2010, for variants of the claim that some but not all OC involves movement).

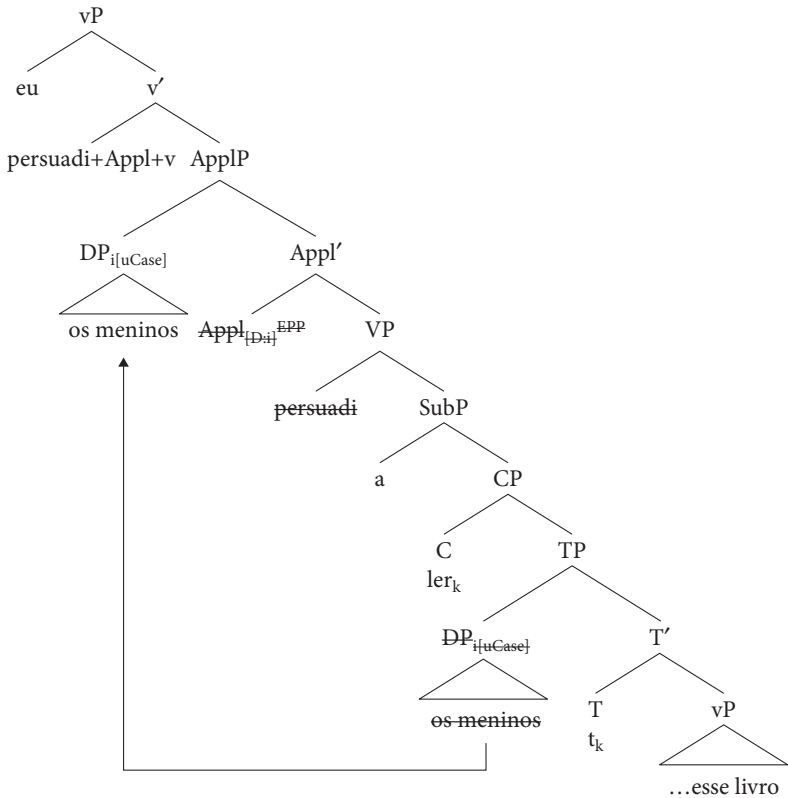
Let us first consider OC of a U-infinitive. I assume, building on Pylkänen (2008), that the animate argument of *persuadir* ‘to persuade’ receives its theta-role from an Appl(icative) head. Appl, like all thematic heads, bears a [D: ]<sup>EPP</sup> feature which is intended to attract a DP argument to its specifier. In order to make movement from what is presumably a CP complement to spec ApplP possible, we are forced to assume that non-finite CPs which fail to assign nominative Case are non-phasal. Formalising Hornstein’s (1999) MTC in terms of Chomsky’s (2000, 2001) Agree we arrive at the following derivation. First, matrix Appl probes for a DP to value its [D: ] feature with a referential index. For this reason, Appl agrees with DP<sub>i</sub>, and its feature is valued as [D:i]. As Appl also bears an EPP feature (movement trigger), DP<sub>i</sub> is then attracted to spec ApplP to satisfy this feature. The derivation converges as long as DP<sub>i</sub> can get Case by some means. As DP<sub>i</sub> occupies two theta-positions, it receives two distinct theta-roles (taking theta-roles to be configurationally determined in the spirit of Baker, 1988, 1997). This is essentially a notational variant of the MTC as proposed by Hornstein (1999):

- (55) Exhaustive object OC of a U-infinitive = movement, CP lacks phi-features and so is not a phase<sup>3</sup>

Eu persuadi os meninos<sub>i</sub> [a t<sub>i</sub> ler esse livro].  
 I persuaded.1SG the kids A read.INF that book  
 ‘I persuaded the kids to read that book.’

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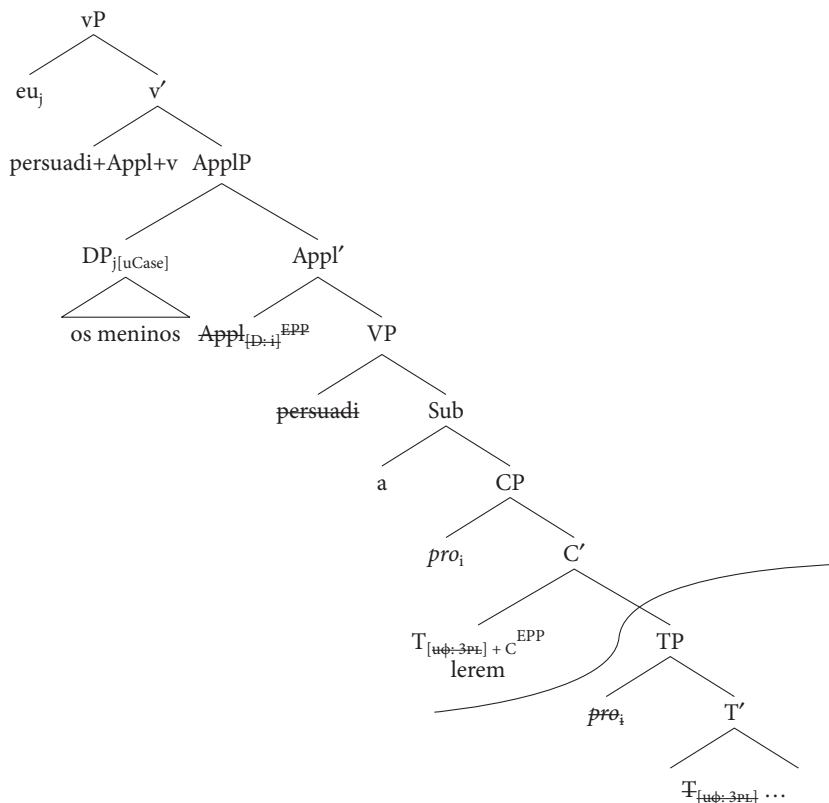
3. A reviewer asks me to clarify the status of A in this structure. It does not behave like either C or P in that it is compatible with enclisis rather than proclisis. If enclisis results from verb movement to C, as Madeira (1994) proposes (as discussed below), then it follows that A cannot occupy the C position. As such, I assume that A has the status of a subordinator above C, akin to the subordinators present in those Scandinavian languages which permit



Now consider a different scenario where a thematic head (Appl) probes for a potential argument and comes across a DP with Case. Assuming that Case domains constitute phases, the only way for this to be possible is for the DP in question to occupy the lower phase edge. While Appl is free to agree with the DP in question, valuing its [D: ] feature, the latter cannot raise to Appl's specifier as this would constitute improper movement. For this reason, a distinct DP must be externally merged with Appl to satisfy its EPP feature. More concretely, consider the derivation of (56). Matrix Appl probes for a DP to value its [D: ] feature and agrees with *pro<sub>i</sub>*, resulting in the value [D:i]. *pro<sub>i</sub>* cannot move to spec ApplP due to the ban on improper movement (as it occupies the phase edge, an A-bar position) and so DP<sub>j</sub> is externally merged with Appl, meaning that it will receive Appl's theta-role configurationally. As Appl bears a valued thematic feature [D:i], however, by hypothesis, the referential index of the DP that gets Appl's theta-role (j) must be non-distinct from i. The derivation converges as long as DP<sub>j</sub> gets Case.

embedded V2 in the presence of an overt 'complementiser', unlike German and Dutch (see Andersson, 1975).

- (56) Partial/exhaustive object OC of an I-infinitive = failed movement, CP has phi-features and so is a phase  
 Eu persuadi os meninos [a *pro* lerem esse livro].  
 I persuaded.1SG the kids A read.INF.3PL that book  
 'I persuaded the kids to read that book.'



As sketched in (56), the partial/exhaustive OC ambiguity arises from the non-distinctness requirement: either  $j = i$  (yielding exhaustive OC); or  $j \subset i$  (yielding partial OC). Essentially then, partial control results from failed movement, whereby one DP values a thematic head's  $[D: ]$  feature and another receives its theta-role. The requirement that the reference of these two DPs partly overlap is a means of resolving this conflict. Consider by way of a parallel, the case of expletives which must be non-distinct in person features from their associate, but can differ in number.

There is independent support for such an approach from the fact that the presence of some other phrase in spec CP blocks OC into an I-infinitive in EP, plausibly because the *wh*-phrase blocks movement of the embedded subject to

the phase edge, or at least interferes with the Agree relation which results in the controlled reading:

- (57) \*O Pedro não sabe quando se reunirem.  
the Pedro not knows when SE.3= meet.INF.3PL

This is also true of successive cyclic movement, giving rise to the following minimal pair:

- (58) a. O Pedro prefere reunirem-se na sala.  
the Pedro prefer.3SG meet.INF.3PL=SE.3 in.the room  
'Pedro prefers to meet in the room.'
- b. \*Onde é que o Pedro prefere [<sub>CP</sub> t<sub>wh</sub> reunirem-se].  
where is that the Pedro prefers meet.INF.3PL=SE.3

There is also independent evidence that overt subjects in I-infinitive clauses can occupy a very high position, plausibly spec CP. Consider, for example, subject clauses where the most natural pattern is that subjects precede the verb even in instances of enclisis where the verb is presumably in C (Madeira, 1994):

- (59) a. Será difícil [eles reunirem-se amanhã].  
be.FUT.3SG difficult them meet.INF.3PL=SE.3 tomorrow  
'It will be difficult for them to meet tomorrow.'  
(\* = 9%, ? = 12%, ✓ = 79%, *n* = 68)
- b. %Será difícil [eles se reunirem amanhã].  
be.FUT.3SG difficult them SE.3= meet.INF.3PL tomorrow  
'It will be difficult for them to meet tomorrow.'  
(\* = 41%, ? = 22%, ✓ = 37%, *n* = 68)

Famously, where I-infinitives surface as the complements of epistemic predicates, however, overt subjects are only possible in a low post-verbal position (the so-called Aux-to-Comp construction, see Raposo, 1987; Rizzi, 1982). With factives, matters are a little more complex but the Aux-to-Comp pattern is also possible (Raposo, 1987):

- (60) Eu penso/lamento [terem (os deputados) trabalhado pouco].  
I think/regret.1SG have.INF.3PL the deputies worked little  
'I believe/regret the deputies to have worked very little.'  
(EP, adapted from Raposo, 1987, p. 87)

These patterns follow if subjects in spec CP are vulnerable for theta-probing only where their host clause is a complement CP. Overt/null subjects in spec TP are not exposed to thematic probing, hence where an I-infinitive surfaces as a complement with a referential subject, that subject must occur in a low position. Where an I-infinitive surfaces in a non-complement position, however, a



subject in spec CP is not subject to thematic probing, hence legitimate, as in the following schema:

- (61) a. Appl/v<sub>[D:]</sub> [C pro<sub>ref</sub> T...]  
 b. \*Appl/v<sub>[D:]</sub> [pro<sub>ref</sub> C T...]  
 c. [pro<sub>ref</sub> C T...] T

The difference between verbs like *pensar/lamentar* on the one hand, and *preferir/esperar/persuadir* on the other is merely that the latter select a 'V2' complement, in which the subject obligatorily occupies spec CP (at least for some speakers). For this reason *preferir/esperar/persuadir* permit only OC for these speakers, as the only kinds of subjects permitted in spec CP are controlled pronouns, which in a consistent null subject language like EP are null in instances of co-reference (but see Barbosa, 2009). The pattern observed with *pensar/lamentar* is different. For many speakers, these verbs select only a non-V2 complement, where the subject remains low and hence is referential, though for some speakers (who show no obviation effect) Controlled V2 complements also seem to be possible.

While this analysis captures the existence of the two kinds of OC in EP and provides a unified account of them, there are two things which are yet to be explained by it. First, U-infinitives can apparently have *partial* as well as *exhaustive* readings, contrary to what is predicted if they always involve movement. Second, where local subject OC is concerned, inflected infinitives are only possible at all under a partial control reading and even then only for a subset of speakers. In the following two subsections I tie up these remaining loose ends.

## 5.2 Covert comitatives

As mentioned above, the vast majority of EP speakers fully accept a U-infinitive in instances of partial control, somewhat surprisingly, given what has been proposed above. In instances of local subject control, U-infinitives are actually more widely accepted with a partial control reading than I-infinitives (the data in (18), (20) and (22) are repeated here for ease of reference):

- (62) EP partial local subject control (uninflected 83%; inflected 42%,  $n = 24$ )  
 O João<sub>i</sub> preferia [PRO<sub>i+</sub> reunir(%em)-se mais tarde].  
 the João preferred.3SG meet.INF(3PL)=SE.3 more late  
 'John would prefer to meet later on.'
- (63) EP partial non-local subject control (uninflected 70%; inflected 95%,  $n = 37$ )  
 O Pedro prometeu à Ana reunir(em)-se em Braga.  
 the Pedro promised to.the Ana meet.INF(3PL)=SE.3 in Braga  
 'Pedro promised Ana to meet in Braga.'

- (64) EP partial object control (uninflected 68%; inflected 97%,  $n = 37$ )  
 Os professores persuadiram o diretor a reunir(em)-se  
 the teachers persuaded the headteacher A meet.INF(3PL)=SE.3  
 mais tarde.  
 more late  
 ‘The teachers persuaded the headteacher to meet later on.’

Sheehan (2014a) provides an analysis of this in terms of covert comitatives, following Boeckx et al. (2010). The idea is that these examples really involve exhaustive control but that a covert comitative object (*with X*), which functions as the object of the embedded verb, gives rise to an apparent partial control reading, as in the following schematic representation:

- (65) The teachers persuaded the headmaster<sub>i</sub> A [<sub>CP</sub> t<sub>i</sub> meet.INF *pro*<sub>comitative</sub> later on]

There is evidence for this approach from the fact that in such contexts, the embedded subject shares all its features with its controller, as evidenced by the morphological form of the pronominal SE clitic. In such cases, the clitic is always singular and can never be plural, contrary to what we saw with partial control of an I-infinitive:

- (66) a. Preferias reunir-te mais tarde?  
 prefer.2SG meet.INF=SE.2SG more late  
 ‘Would you prefer to meet later on?’  
 (\* = 9%, ? = 13%, ✓ = 78%,  $n = 32$ )  
 b. \*Preferias reunir-se amanhã ou na sexta?  
 prefer.2SG meet.INF=SE.2PL/3 tomorrow or on.the Friday  
 (\* = 94%, ? = 3%, ✓ = 3%,  $n = 32$ )
- (67) a. Eu preferia reunir-me mais tarde.  
 I preferred.1SG meet.INF=SE.1SG more late  
 ‘I preferred/would prefer to meet later.’  
 (\* = 3%, ? = 9%, ✓ = 88%,  $n = 32$ )  
 b. \*Eu preferia reunir-nos às 3.<sup>4</sup>  
 I preferred.1SG meet.INF=SE.1PL at.the 3  
 c. \*Eu preferia reunir-se mais tarde.  
 I preferred.1SG meet.INF=SE.3 more late

As Sheehan (2014a) notes, Spanish, French and Italian also permit partial control readings with uninflected infinitives (though somewhat marginally) (see also Landau, 2000). In all four languages, there is a close correspondence between those verbs which can surface with an overt comitative and those permitting partial

4. Ungrammatical under the relevant partial control reading.

control with an uninflected infinitive, though the class of comitative verbs varies substantially from language to language. Thus in EP, *beijar-se/abraçar-se* are not comitative and so disallow an apparent partial control reading with a U-infinitive:

- (68) \*Há uma semana que o Pedro anda com a Maria e  
 have.3SG a week that the Pedro go.3SG with the Maria and  
 queria beijar-se/abraçar-se (com ela) agora.  
 wanted.3SG kiss.INF=SE.3/embrace.INF=SE.3 (with her) now  
 Intended 'Pedro has been seeing Mary for a week and he would like to kiss/  
 cuddle now.'

Where such verbs occur in OC with an I-infinitive, however, they permit partial control for around half those speakers surveyed, indicating that no covert comitative is involved:

- (69) %Adoro a Maria mas preferia não nos beijarmos  
 adore.1SG the Maria but preferred.1SG not SE.1PL kiss.INF.1PL  
 em público.  
 in public  
 'I adore Mary but I'd prefer not to kiss in public.'

More generally, the pattern with uninflected infinitives appears to be that those predicates which can surface with an overt comitative permit apparent partial control readings where uninflected, whereas those that cannot do not.<sup>5</sup> Once we have factored in the possibility of covert comitatives in EP, we get a clear division between movement-derived OC which gives rise to an exhaustive reading and *pro*-derived OC (failed movement) which is ambiguous between partial/exhaustive readings (see Sheehan, 2014a, for further discussion of this account).

### 5.3 Obviation

This leaves us with one remaining problem: the fact that exhaustive local subject control is special. Whilst in all other contexts, both I-infinitives and U-infinitives are possible to some degree, in instances of local subject control, inflection is uniformly banned. This is the same pattern observed with Romance obviation: exhaustive co-reference with the matrix subject is banned in subjunctive complements of desiderative/factive verbs (but partial co-reference is permitted) (Constantini, 2005; Schlenker, 2005; Suárez, 1986):

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5. Other comitative verbs include *reunir-se* 'to meet', *envolver-se* 'to get involved', and noncomitatives are *beijar-se* 'to kiss', *abraçar-se* 'to hug', *corresponder-se* 'to correspond', *falar-se* 'to speak', *escrever-se* 'to write to each other' and *perceber-se* 'to understand each other'.

- (70) a. \*Tu voudras que tu te rases à 7h.  
 you.SG want.FUT.2SG that you.SG SE.2S shave.SBJV.2SG at 7am  
 b. Tu voudras que vous vous rasez à 7h.  
 you.SG want.FUT.2SG that you.PL SE.2PL shave.SBJV.2PL at 7am  
 Lit. 'You will want that you shave at 7am.'

(French, Schlenker, 2005, p. 288)

Note also that exhaustive co-reference with a matrix object is possible in subjunctive contexts just as it is with I-infinitives. I-infinitives behave exactly like subjunctive complements in this respect. This is also an area of further micro-parametric variation. The attested pattern suggests that some speakers also have an obviation effect with non-local subject control hence the fact that I-infinitives were also only accepted by around half those surveyed.

As Schlenker (2005) notes, the fact that partial co-reference is possible in obviation contexts renders Binding Theory-approaches to it problematic (Piccolo, 1985; Raposo, 1985; Tsoulas, 1996), as condition B also rules out partial co-reference in other contexts:

- (71) #Tu vous admireras. (French, Schlenker, 2005, p. 288)  
 you.SG you.PL admire.FUT.2SG

See Kempchinsky (2009) for an alternative approach that could be adapted to cover I-infinitives. The key aspect of her proposal is that subjunctives are equivalent to embedded imperatives. Just as imperatives have an 'anyone but the speaker' requirement, subjunctives have an 'anyone but the matrix subject' requirement.

We can thus summarise a number of micro-parameters determining the distribution of inflected infinitives in complement OC in EP:

- (72) Micro-parameters of variation  
 Parameter 1: desiderative predicates do/do not select for  $C_{\phi i}$   
 Parameter 2:  $C_{\phi i}$  does/does not have an EPP requiring subject movement to spec CP  
 Parameter 3: The  $C_{\phi i}$  complements of *promise*-type verbs pattern with subject/object Control in terms of obviation.

Finally recall that while some speakers require the controller of *pro* with an OC I-infinitive to be only non-distinct in reference, the more common pattern seems to be a slightly more stringent requirement for *pro* and its controller to be non-distinct in person features. In order to account for this further micro-parametric difference it is necessarily to parameterise the way the [D: ] feature on the thematic probe is valued. Where the *pro* goal is 1st or 2nd person, I propose that [D: ] is valued as [D:1st] or [D:2nd] respectively rather than via a referential index for the

majority of speakers. This accounts for the fact that, for these speakers, there is a contrast of the following kind (see also Landau, 2016):

- (73) Eu preferia            reunirmo-nos            mais tarde.  
I preferred.1SG meet.INF.1PL=SE.1PL more late
- (74) \*O João preferia            reunirmo-nos  
the João preferred.3SG meet.INF.1PL=SE.1PL  
mais tarde. (restricted group)  
more late
- ‘João<sub>i</sub> would prefer for us<sub>i+speaker+</sub> to meet later on.’

For these speakers the 1PL feature imposes a requirement for the controller to also be 1st person, and likewise where *pro* is 2PL. This gives us one more micro-parameter for the list:

- (75) Parameter 4: Where the goal is 1st/2nd person [D: ] is valued as 1st/2nd or with the referential index of the goal.

## 6. Conclusions

In this chapter we have seen that I-infinitives are possible in some instances of OC for some speakers. This provides strong evidence that there are two kinds of OC in EP (and more generally). It has been proposed that if the non-finite complement of a control predicate is non-phasal, OC is derived via movement, as an embedded argument is attracted to a second thematic position by a matrix thematic probe. If, however, the non-finite complement of a control predicate is phasal, an embedded pronominal will be visible for theta-probing only if it raises to the phase edge (spec CP). From this position, the pronominal in question can agree with the matrix thematic probe but cannot move to a thematic position, resulting in ambiguous exhaustive/partial control. Complications to this simple picture come from (i) the availability of covert comitatives with U-infinitives, (ii) obviation effects and (iii) substantial micro-parametric variation. The latter concerns (i) which verbs select for an I-infinitive, (ii) the position of the subject of an I-infinitive, (iii) whether non-local subject control patterns with subject or object control in terms of obviation and (iv) whether the thematic probe’s [D: ] feature is valued with 1st/2nd person features or merely a referential index. Many issues, of course, remain to be investigated, not least the sociolinguistic status of this variation. Is this use of I-infinitives an innovation or a conservative feature of the language? How is the use of I-infinitives changing across generations of speakers? What is the status of attested examples of I-infinitives in instances of exhaustive local subject control, discussed by Gonçalves et al. (2014)? I take up these matters in ongoing research.

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# Inflected infinitives in Brazilian Portuguese and the theory of Control

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In this chapter, we describe the distribution of inflected infinitives in Brazilian Portuguese (BP); discuss the possible interpretations of their subjects when null and address the debate between Modesto (2010) and proponents of the movement theory of Control (MTC, particularly Boeckx & Hornstein, 2006; Rodrigues & Hornstein, 2013) as to whether inflected infinitives constitute a serious argument against the MTC. Data were experimentally tested using a grammaticality judgment task, presented here. Results indicate that inflected infinitives are perfectly grammatical in obligatory Control contexts for BP speakers; but its grammaticality is uncertain in non-control contexts, supporting Modesto's claims.

**Keywords:** minimalism; inflected infinitives; Brazilian Portuguese; Movement theory of Control; Two-tiered Theory

## 1. Introduction

The interpretation and distribution of inflected infinitives in Brazilian Portuguese (BP) have not been fully nor properly described; probably due to two factors. The first factor is in fact a rumor: that inflected infinitives would have been “lost”, so they would not belong to BP grammar, when considered as an I-language (Rodrigues & Hornstein, 2013). RH are only half-correct. It is indeed a fact that some BP speakers will only be exposed to inflected infinitives at school, when they (hopefully) come in contact with literature and are taught what is considered to be “standard BP”.<sup>1</sup> Other speakers, however, deal

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1. The term “standard BP” is used here meaning the “language” taught at school in Brazil, which is similar to European Portuguese. We will not discuss “standard BP” here (and did not in Modesto, 2010); we will discuss the language spoken by inflecting speakers of BP, which is also the variant with most social prestige in Brazil. I insist with the nomenclature because that may have been the source of misunderstanding by Rodrigues and Hornstein

with inflected infinitives since birth because their parents use inflected infinitives at home. RH are wrong if claiming that no BP speaker use inflected infinitives at home, because that would mean that no BP speaker uses the variant with most social prestige, colloquially.<sup>2</sup> RH's claim about inflected infinitives

(2013). RH seem to contrast, as Pires (2006) does, "standard BP" with "colloquial BP", but that is a mistake. On one hand, "Standard BP" is most likely not an I-language, it is not spoken by anyone in Brazil; on the other hand, the term "colloquial BP" is meaningless, because all varieties, inflecting and non-inflecting, are spoken colloquially. I will argue here that the correct division is between inflecting speakers, those who inflect verbal forms more often than do not, and non-inflecting speakers, who use inflection less often (specially in nonfinite domains).

2. It is quite clear that the spoken norm in Brazil is to spell out subject-verb agreement (people who do not pronounce subject-verb agreement are discriminated against, unfortunately). This is valid for both finite and nonfinite contexts. Examples (ia,c) below are equally frowned upon (although they characterize the speech of a big portion of Brazilian speakers). Examples (ib,d) enjoy social prestige. The point here is that example (ic) could not be frowned upon if there were no alternative (no infl infs in the internalized grammar).

- (i) a. Os meninos não vai lá.  
the boys not go.PRS-Ø there
- b. Os meninos não vão lá.  
the boys not go.PRS.3PL there  
'The boys do not go there.'
- c. Eu fico contente de vocês vir aqui.  
I stay happy of you.PL come.INF.Ø here
- d. Eu fico contente de vocês virem aqui.  
I stay happy of you.PL come.INF.PL here  
'I like when you guys come here.'

A comparison will make my point clearer. Third person accusative clitics (the norm in European Portuguese) are not used in BP, although they are taught at school and their use enjoys social prestige. The use of accusative clitics in Brazil is clearly below the acquisition threshold and people only acquire them through reading and schooling (a lot like what RH are claiming for infl infs). However, (iia) below is not frowned upon, it is in fact the spoken norm; and (iib) is felt as bookish in most contexts. This clearly shows that infl infs are not like accusative clitics, since infl infs have not disappeared from colloquial speech as accusative clitics have.

- (ii) a. Eu quero ver ela agora.  
I want see.INF she now
- b. Eu quero vê-la agora.  
I want see.INF-CL.3SG.F now

Even if infl infs were like accusative clitics in BP, it is not certain that they could not reveal anything "about the basic operations of the grammar", only because they are acquired in

not belonging to BP I-grammar seems to confuse the spoken dialect that has social prestige with the “standard” language taught at school. No one speaks “standard BP”; however, there are speakers in Brazil who still have subject-verb agreement obligatorily and, for some such speakers, subject-verb agreement is overtly marked in nonfinite clauses as well (in the plural, since all singular persons receive a zero morpheme in nonfinite paradigms in BP).<sup>3</sup> Those inflecting speakers do use inflected infinitives (infl infs from now on), sometimes in contexts not sanctioned by normative grammar (which shows clearly that they are not applying the rules of “standard BP” to their speech). In other words, the dialects with social prestige in Brazil (spoken in big cities like Rio, São Paulo and Salvador), which are inflecting variants, are not equal to “standard BP” (the language taught in schools in order to pass university exams). This is crucial because infl infs in BP have not been studied due to a misunderstanding. Inflecting speakers tend to have more years of formal education because, for historical reasons, they also tend to be wealthier (Gorski, 2000; Lucchesi, 2012; Oushiro, 2015); however, it is not the case that they inflect their infinitives because they went to school – as RH claim – more likely the other way around, in fact, the school teaches infl infs because those people still use them). Of course, that is only a sociolinguistic tendency; there are many educated and wealthy non-inflecting speakers. In fact, the rumor that BP has lost infl infs probably started because many influential Brazilian linguists are non-inflecting speakers. A few contexts of use of infl infs are sanctioned (and required) by normative grammar and inflecting speakers, who also tend to be schooled speakers, tend to use infl infs obligatorily in such contexts. The contexts are: in the presence of an overt subject (1a,b) and in object-control structures (1c).<sup>4</sup>

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school. I will not pursue this digression any longer here, since it seems clear that at least some BP speakers do acquire infl infs from their parents.

3. For the verb *cantar* ‘to sing’, the inflected forms would be *cantar* for all singular forms, *cantarmos* for 1st p. pl. and *cantarem* for 2nd and 3rd pl.

4. In (1a) the infl inf is in a factive complement clause and in (1b) it is in a subject clause. There are many other contexts in which infl infs appear and license overt subjects in BP (see Section 5). Not many complement nonfinite clauses are used in spoken BP, because there is a general preference to use finite complements with propositional verbs (epistemic, factive or desiderative) (cf. Negrão, 1986, and Section 5). Negrão (1986) treated (1c) as a context of obligatory inflection. I will follow Rabelo (2010) in taking all contexts of nonfinite inflection as optional, because of the interaction between inflecting and non-inflecting speakers.

- (1) a. Eu lamento muito os jogadores do teu time estarem  
 I regret much the players of.the your team be.INF.PL  
 todos machucados.  
 all injured  
 'I'm very sorry about your team's players being all injured.'
- b. É importante os jogadores estarem em boa forma.  
 is importante the players be.INF.PL in good shape  
 'It is important that the players are in good shape.'
- c. Eu convenci os jogadores a usarem capacete.  
 I convinced the players to wear.INF.PL helmet  
 'I convinced the players to wear helmets.'

The second factor that led to *infl inf* use in Brazil not to be fully described so far was the interference from written language (the normative pressure) and the generative *modus operandi* based on intuitions. Since innovative uses of *infl infs* go against normative grammar, there is a tendency for Brazilians, even inflecting speakers, not to accept the data. The problem of data collection is well known by Brazilian linguists, who had to weed out the influence of written language when describing the use of null subjects in finite clauses in BP. In writing, BP is a pro-drop language just like European Portuguese (EP), so the problem, there, was reverse: much data that “sounds ok” was shown to be ungrammatical in BP. It actually took a lot of work (including sociolinguistic quantitative work) from several Brazilian linguists for us to arrive at the conclusions we take for granted today (that BP is not a Romance-type pro-drop language, as discussed in Section 2 below). The same effort now has to be applied to nonfinite contexts, but in reverse: structures that were thought to be ungrammatical are in fact used by speakers and should have their grammaticality pointed out. In describing the usage of *infl infs* here, I will correct some judgments in Modesto (2010) (since I was not free of prejudice towards *infl infs* myself, and data collection in the last five years sometimes surprised me). Almost all examples in here are either taken or adapted from Internet data.<sup>5</sup>

Besides the rumor that *infl infs* have disappeared in BP, and the normative pressure, there is a general impression (another rumor) that *infl inf* use in Brazil is related to formality. Example (2) below, taken from the Internet, shows that this is not the case. Modesto's (2010) intuition that *infl infs* are used in Partial

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5. Besides the experiment discussed in Section 3 below, I have been using the Internet as a tool to gather data. Although easily searchable Internet data is written (spoken Internet data is harder to collect), many written material on the Internet actually count as unmonitored, informal speech.

Control (PC) contexts in BP is confirmed by (2) below, and the example makes it clear that *infl inf* use is not related to formality. The example was taken from a web site where people (usually very young) post questions to be answered. In this particular example, a boy asked how to get a girl to kiss him, and then somebody replied (2), from <http://br.asking.com/115233/como-pedir-para-uma-mina-ficar-com-voc%C3%AA> (last seen on June 2nd 2014).

- (2) Chega nela, *espera* *ficarem* a sós e diz que  
 arrive.IMP at.her wait.IMP.3SG stay.INF.PL at alone and say.IMP that  
 gosta dela, vai chegando junto e tchum.  
 like her, go.IMP arriving together and bam  
 ‘Go to her, wait until you are all alone and tell her that you like her, get  
 closer and bam.’

The stretch of discourse above presents several aspects of unmonitored informal speech. In fact, (2) could have been uttered in any informal situation exactly as it is given here. However, it includes an example of PC induced by the use of an *infl inf*. The presence of an *infl inf* in (2) hardly seems the result of social pressure to use the educated norm, especially in such a discourse context. Also importantly, (2) does not abide to written BP norms. In written BP and EP, structures like (2) are considered substandard (cf. Duarte, Gonçalves, & Santos, 2012). Normally, EP (and BP normative grammar) does not license *infl infs* in the complement of volitional or desiderative predicates (cf. Raposo, 1987, and the work cited immediately above), so it is very unlikely that the author of (2) would be guiding himself by something learnt in school. This and many other examples show that *infl infs* are truly part of everyday oral and virtual exchanges (at least for some Brazilians), *pace* Rodrigues and Hornstein (2013).

This chapter, then, will defend that *infl inf* use in BP is a scientifically interesting object of study, since it is part of the language spoken by communities of speakers (mostly in big cities), contra RH's claims. It will describe the contexts of use of *infl infs* and discuss what that data implies for theories of control. It will show that inflecting variants of BP can be explained using most recent linguistic apparatus (especially Landau, 2015). I will assume that, having only a number specification (but no person feature), T in BP is almost inert: it does not license referential null subjects (finite or nonfinite) and it does not interfere with Control. Before getting to business, however, still a few points must be made in this (lengthy) introduction.

That the linguistic community in Brazil is polarized in two groups (one that uses *infl infs* in normal speech, characterized here as the inflecting variant; and one group who do not use *infl infs*, the non-inflecting variants) has been noticed by Lightfoot (1991) and has been most forcefully argued by Lucchesi (2001, 2004)

and Lucchesi, Baxter, and Ribeiro (2009). In a series of work, Lucchesi details the historical relationship between

the process of irregular linguistic transmission created by the abrupt and massive contact between languages, which comprises a precarious acquisition of Portuguese by part of indigenous Brazilians and African slaves, the socialization of that Portuguese between those groups and its nativization, departing from defective models, by the endogamous descendants of those Indians and African slaves (Lucchesi et al., 2009, p. 51)

and the sociolinguistic polarization in Brazil. By reading Lucchesi's work and the references therein, it is abundantly clear that there are two BPs (at least). One, usually called "popular" BP (to which I refer here as the non-inflecting variants) is in many ways descendant from the Portuguese of the slaves and Indigenous people and it dominates rural areas (mostly). Another Portuguese, spoken mainly in urban contexts (at all times in Brazilian history) is in many ways a continuation of the language spoken by the Portuguese colonizers. The two variants of BP, of course, have been mixed and influence one another, as also discussed by Lucchesi, in the passage below, producing mixed varieties (as also noted by Lightfoot, 1991).

The transition [from slavery] to paid-work was strongly pushed forward by the arrival in Brazil of more than 3 million immigrants from Europe and Asia, between the end of the 19th and beginning of the 20th centuries. Those immigrants, in their majority, entered the base of the Brazilian social pyramid, going to work as rural labor. In those circumstances, the most accessible acquisition model to them was the one from farm supervisors and other field workers, who in their majority were former slaves or their endogamous descendants; that is to say, the Portuguese that those immigrants – Italians, Japanese, Germans, etc. – learnt, when arrived in Brazil, was the popular Portuguese, with its deep changes caused by the process of irregular linguistic transmission that that Portuguese had been through. However, because of their cultural background, those immigrants quickly ascended the social structure, bringing to the heart of the cultured norm some of the structures of popular origin that they acquired in their initial contact with Portuguese. (Lucchesi et al., 2009, p. 53, my translation)

Influence also occurs in the opposite direction: during the 20th century, mass communication media and education became more available to more people (a process that is still in its course in Brazil), mixing up the two varieties of BP. The result of these processes is a 21st century BP that is a homogeneous syntactic system, in most respects, but one with a lot of variation with respect to agreement. However, agreement (subject-verb agreement in finite and nonfinite contexts) has recently been shown by sociolinguistic work to be on the rise toward the socially approved inflecting variant by all social classes (Lucchesi, 2012; Oushiro, 2015;

Scherre & Naro, 2006). Therefore, it is inaccurate to say even that BP is marching towards a language with no agreement (in finite and nonfinite contexts).

The correct description of infl infs in BP is important since it relates to the ongoing debate in the generative literature about the correct analysis of control structures. Hornstein (1999, *et seq.*) argues that controllers are raised from an embedded subject position, passing through a second thematic position, ending up in a Case position of an immediate higher clause. Such movement theory of Control (MTC) has faced a lot of criticism (Barbosa, 2009; Bobaljik & Landau, 2009; Culicover & Jakendoff, 2001, 2006; Landau, 2003, 2004, 2007, 2013; Modesto, 2010; Ndayiaragije, 2012; Sheehan, 2012, 2014; Wood, 2012). BP data like (2) above shows that, in PC structures, the controlee may trigger plural nonfinite agreement even when the controller is singular. Such a fact shows clearly that control structures do not involve movement of the controller from the embedded nonfinite clause (see Section 3).

The MTC has also been used to analyze *finite* null subjects in BP (cf. Nunes, 2008; Rodrigues, 2004), which are alleged to be controlled subjects – though in finite contexts. Such analyses have been shown untenable in Modesto (2007a, 2011). The analyses of null finite subjects will be tangentially relevant here, when we discuss RH's work, in Section 3, so Section 2 discusses verbal agreement and the pro-drop status of BP. Section 3 also presents the results of a pilot experiment on the interpretation of infl infs, to test one of the claims in Rodrigues and Hornstein (2013). Section 4 describes the distribution of infl infs in BP and, finally, in Section 5, we discuss how such a distribution can be explained by current linguistic theory. Section 6 offers a conclusion.

## 2. BP inflection and pro-drop

The broad scenario of this discussion is that BP is *not* a pro-drop language like European Portuguese (EP) or Italian. Whereas in EP and Italian null subjects are freely used in most contexts, null subjects are much more restricted in BP, as seen in (3) below (see also Duarte, 1995, for quantitative data on null subjects in BP, and Modesto, 2011, for discussion on the differences between null subjects in BP and EP). In (3b), the BP 2nd person pronoun *você* used to be a “treatment form” (something like “your grace” in English, which takes third person agreement, but can be applied to common people). Since *você* substituted the pronoun *tu* (2nd person singular in EP) in the majority of BP dialects, the nonfinite verb in (3b) is inflected with the zero morpheme characteristic of 3rd person and the pronoun has to be pronounced. In (3a), since EP still uses the pronoun *tu*, the nonfinite verb carries 2nd person agreement and the pronoun is usually null. The verbal



paradigms used in Portugal and Brazil are given in (4). Inflecting speakers of BP use the paradigm BP<sup>i</sup>. BP<sup>p</sup> speakers have some residual morphology but overt agreement is never required (in any person). Obviously, no BP<sup>p</sup> speaker uses infl infs, and only some BP<sup>i</sup> speakers do.

(3) *European Portuguese*

- a. Fico contente por *ec* teres gostado do presente.  
 stay.1SG happy for have.INF.2SG enjoyed the gift  
 'I am happy that you enjoyed the gift.'

*Brazilian Portuguese*

- b. (Eu) fico contente de \*(você) ter gostado do presente.  
 (I) stay happy of you have.INF.Ø enjoyed the gift  
 'I am happy that you enjoyed the gift.'

(4) Verbal paradigm in the present for *cantar* 'to sing'

	EP	BP <sup>i</sup>	BP <sup>p</sup>	infinitive
1SG	canto	canto	canto/canta	cantar
2SG	cantas	canta	canta	cantar
3SG	canta	canta	canta	cantar
1PL	cantamos	cantamos/canta	canta	cantarmos/cantar
2PL	cantam	cantam	canta( <i>m</i> )	cantarem/cantar
3PL	cantam	cantam	canta( <i>m</i> )	cantarem/cantar

The fact that BP is not a Romance-type pro-drop language is a joint conclusion of Duarte (1995), Ferreira (2004), Figueiredo Silva (1994), Galves (1993, 2001), Kato (1999), Modesto (2000), Moreira da Silva (1984), Negrão (1999), Rodrigues (2004), the collection of articles in Kato and Negrão (2000) and Roberts and Kato (1993).<sup>6</sup> After losing second person morphology (due to the substitution of the second pronoun *tu* 'you' by the form *você*) BP cannot license referential null subjects anymore, as seen in (5).<sup>7</sup>

6. The fact that the correct analysis of BP is "a joint conclusion" and not a simple observation of the facts is a first indication that collecting BP data is not an easy task. BP data is not self-evident, as I believe English data is. Socio-historical factors contribute to that state of affairs.

7. Since first person subjects can generally be null in matrix clauses in BP, the null subject has to be in an interrogative or embedded clause in examples about pro-drop. This is because of a universal availability of 1st person as a discourse topic (cf. Modesto, 2000; Rodrigues, 2004). Even in languages like Thai (Holmberg & Phimsawat, 2015), with no verbal inflection, 1st p. subjects may be null in matrix clauses. So, there is nothing special about 1st person in BP.

- (i) Cheguei/chegamos!  
 arrived.1SG/1PL  
 'I/we are here!'

- (5) a. O que \*(eu) quero é sambar.  
 what (I) want is samba.INF  
 'What I want is to samba.'
- b. O Pedro disse que \*(nós) estávamos/parecíamos cansados.  
 the Pedro said that (we) were/seemed tired  
 'Pedro said that we were/seemed tired.'
- c. Eu acho que \*(eles) estão na praia.  
 I think that (they) are on.the beach  
 'I guess they're on the beach.'
- d. \*O Juca<sub>1</sub> disse que a Maria<sub>2</sub> acha que *ec*<sub>1</sub> é feio.  
 the Juca said that the Maria thinks that is ugly.M  
 'Juca said that Maria thinks he is ugly.'
- e. \*[A filha dos Clinton<sub>1</sub>]<sub>2</sub> acha que *ec*<sub>1</sub> vão ganhar  
 the daughter of.the Clintons thinks that go.PRS.3PL win.INF  
 as eleições.  
 the elections  
 'The Clintons' daughter thinks that they will win the elections.'

Example (5d) shows that a null finite subject in BP must have a local antecedent, which is relevant, since examples like (6) are fully grammatical (and used in speech, most importantly). Example (5e) shows that the antecedent must c-command the null subject.

- (6) O Juca<sub>1</sub> disse que *ec*<sub>1</sub> gosta da Maria.  
 the Juca said that likes of.the Maria  
 'Juca said that he likes Maria.'

All examples in (5) are grammatical in EP, a "strong" Agr language. BP inflection is weak, in the sense of not licensing null referential subjects.

In contexts such as (5), null subjects are not used in spoken BP (according to spoken corpora, Maria Eugénia Duarte (p. c.) and much work already cited by Brazilian linguists), though they may "sound ok, grammatical" to many speakers. Cases like (ii) have been taken to be ungrammatical with a null subject (by Figueiredo Silva, 1994; Modesto, 2000; Rodrigues, 2004). Holmberg, Nayudu, and Sheehan (2009) claim that sentences like (ii) are grammatical in BP with a null subject. I (and most Brazilian linguists) disagree. On the reading that the null pronoun refers to the kids, the sentence is clearly ungrammatical. The reading which includes Maria in the reference of the null pronoun may be possible, but it could be an interference from written language.

- (ii) A Maria convenceu as crianças que \*(elas) devam usar fita.  
 the Maria convinced the kids that they should.3PL wear ribbon  
 'Maria convinced the kids that they should wear a ribbon.'

Expectedly, null referential subjects are not common in nonfinite clauses as well. I take all examples in (7) below to be ungrammatical in spoken BP (though grammatical in EP and maybe also in written BP, where inflection is “strong”). Rodrigues and Hornstein (2013) claim that such sentences are still grammatical, which is very surprising.

- (7) a. \**[A filha dos Clinton]<sub>1</sub> lamentou ec<sub>1</sub> perderem*  
           the daughter of.the Clinton regretted loose.INF.PL  
           as eleições.  
           the elections  
           ‘The daughter of the Clintons regretted that they lost the elections.’  
       b. \**O professor exigiu ec fazermos um trabalho.<sup>8</sup>*  
           the teacher demanded do.INF.1PL a homework  
           ‘The teacher demanded of us to do a homework.’

The examples in (7) would be derived by the grammar of “standard BP” (if someone spoke it), so maybe that is where the confusion is. It must be clear that educated speakers understand the sentences in (7), though they are ungrammatical in the spoken language (or so is claimed in Modesto, 2010, and here). One has to differentiate standard BP and the inflecting spoken variant of BP. Sentences like (7) are simply not used in speech. The sentences in (8), on the other hand, are still used in spoken language, and clearly contrast with those in (7) with respect to grammaticality. Several examples like (8) have been collected by me in the past 5 years on several different discourse contexts and media. The difference between (7) and (8) is that in the latter sentences the null nonfinite subject has a local c-commanding controller.

- (8) a. *O Juca convenceu as meninas<sub>1</sub> a ec<sub>1</sub> ficarem com ele.*  
           the Juca convinced the girls to stay.INF.PL with him  
           ‘Juca convinced the girls to stay with him.’

8. Note that (7b) is ungrammatical exactly because the teacher is not included in the group that will do the homework. Examples like (i) show that when the controller is included in the interpretation, a first person plural agreement is grammatical in that context, since we have a PC structure. However, examples in the first person plural in BP always need many disclaimers, because “*a gente*” a DP which takes 3rd person singular agreement competes with the first plural pronoun *nós* and sentences like (i) are not very frequent in spoken language.

- (i) *O professor exigiu nos encontrarmos pessoalmente.*  
       the professor demanded REFL meet.INF.1PL personally  
       ‘The professor demanded that we met in person.’

- b. Mesmo depois de muito derrotados nas primárias, o Bill  
even after of much defeated.PL in.the primaries the Bill  
Clinton<sub>1</sub> ainda espera *ec*<sub>1+</sub> ganharem as eleições.  
Clinton still hopes win.INF.PL the elections  
‘Even after losing a lot on the primaries, Bill Clinton still hopes that  
they will be elected.’
- c. O primeiro casal que entrou já decidiu imediatamente  
the first couple that entered already decided immediately  
ficarem com a casa.  
stay.INF.PL with the house  
‘Already the first couple who entered (the house) immediately decided  
to buy the house.’

In order to investigate the grammaticality status and the interpretations speakers allow for inflected infinitives, the next section presents a grammaticality judgment experiment conducted online, in which 45 linguistics students from 7 Brazilian states gave their native intuitions about 20 sentences (for each informant) from a total of 60 test-sentence tokens. The results show that controlled inflected clauses are grammatical to every speaker in every discourse context; whereas non-controlled (NC) nonfinite inflected clauses are not grammatical in every context (which seems to confirm Modesto’s claim). The explanation for the sentences that are in fact acceptable, according to the speakers, is the influence of the written language, which seems to confound the informants when giving judgments. Even if that explanation is wrong, the important point here is that the experiment shows that controlled and non-controlled inflected nonfinite clauses are judged differently by BP speakers. The former is widely accepted, whereas the grammaticality of the latter is uncertain, as the discussion of the experiment in Section 3.1 demonstrates.

After linguists demonstrated that BP was not a run of the mill pro-drop language, they had to explain the licensing of the null subjects that are effectively found in speech. Building on Galves (1993), Modesto (2000, 2008) proposed that subjects can be elliptical in BP because they occur in an A-bar position (in an exploded C domain), so they may form a topic-chain with some referential constituent in the next C domain up. My current formal expression of the proposal assumes most of what is proposed in Miyagawa (2010) but; particularly for BP, we assume that only the feature [number] is inherited by T in BP; [person] stays in the C domain and enters the derivation accompanied by the Topic feature in the first projection of the C domain, which I refer to as FinP, following Rizzi (1997). The structure of Example (6) above would be like in (9).

- (9) [<sub>FinP</sub> O Juca<sub>1</sub> [<sub>TP</sub>  $\sigma$  Juca disse [<sub>CP</sub> que [<sub>FinP</sub> ele<sub>1</sub> [<sub>TP</sub> ele gosta...  
the Juca the Juca said that he he likes

In this proposal, the pro-drop character of BP (even after the impoverishment of the inflectional paradigm) is explained by its “topic prominent” character (cf. Huang, 1984; Li & Thompson, 1976, for discussion of topic prominent languages, and Galves, 1993, 2001; Modesto, 2008; Negrão, 1999; Negrão & Viotti, 2000; Pontes, 1987, for arguments that BP is one such language). Movement analyses have been shown not to derive the BP facts correctly (Modesto, 2007a, 2011), so I will keep on assuming (9).

Likewise in finite contexts, if null subjects are possible in nonfinite clauses with weak agreement, there must also be a mechanism that licenses their interpretation. It will be shown here that such a mechanism is nonfinite Control.

### 3. Rodrigues and Hornstein (2013)

Rodrigues and Hornstein (2013), RH from now on, is a reply to Modesto (2010) that claims

Modesto’s arguments based on Brazilian Portuguese inflected infinitives is [sic], at best, inconclusive, and at worst, incorrect, the reason being that under well-controlled experimental situations, Brazilian Portuguese speakers show the ability to assign a NOC [non-obligatory Control] interpretation to inflected infinitival clauses, although it is unclear that these verbal forms are fully mastered by these speakers or how much their (late, explicitly tutored) mastery reveals about the basic operations of the grammar.

It should be clear by now that “speakers show the ability to assign a NOC interpretation to inflected infinitival clauses” because they learned that in school. That is the confusion RH make between normative grammar and speakers’ intuitions. Although I intend to show here that RH’s conclusions are incorrect, two facts must be conceded: PC structures with infl infs are indeed rare in speech (since inflection in that context is usually optional); and infl infs are only used by a part of the Brazilian speakers, as discussed in the introduction. However, those speakers who use nonfinite inflection use it all the time (as has been noted by Lightfoot, 1991), so infl infs are not scarce at all in the speech of those speakers (contra RH). PC structures with nonfinite inflection, though rare, are clearly grammatical for such speakers; and examples can be found anywhere. PC with inflected infinitives does not need to be abundant to show that the MTC is problematic.

One of the experiments run by RH to show that NC readings were still possible in BP involved asking speakers the truth-value of a sentence based on some context previously read. Since all informants were schooled, it is no surprise that most of them answered correctly (according to “standard BP”). This

is even more the case since RH used a test-sentence that Modesto (2010) was claiming to be ungrammatical in speech, so the only chance of interpreting the sentence, even for inflecting speakers, was to follow standard BP grammar.<sup>9,10</sup> And, of course, since a big portion of BP speakers are not inflecting speakers, the only way to interpret the sentence was to assume “standard BP” grammar. In this way, the experiment really only tested if the informant was schooled. It is important that RH (and any linguist who work on BP) observe that the rules of written Portuguese are not equal to the rules governing the use of infl infs in speech in Brazil; that has to be taken into account when doing experimental syntax (in BP).

In order to test the acceptability and interpretation of infl infs by BP speakers, we knew it would be necessary to test several sentences in both contexts: OC contexts, which Modesto claims to be grammatical; and NC contexts, in which the controller is non-local, which Modesto claims are ungrammatical (not used in speech) and RH claim are grammatical.<sup>11</sup> We then tested 60 token sentences (30 in each context). The experiment is described below.

9. Whatever standard BP grammar is. The Brazilian state of affairs is sometimes explained as a kind of diglossia or grammars in competition (Kroch, 1994).

10. RH designed their experiment to show that sentences like (i) are grammatical, “although (i) is a clear case of noncontrol.” Modesto (2010) had claimed that such sentences are ungrammatical, not in his idiolect as RH affirm, but in BP *qua* spoken language. Assuming that there are two main spoken dialects in Brazil – the inflecting and the non-inflecting variants – as Lightfoot (1991) and Modesto (2010) do – if (i) is ungrammatical in the inflecting variant (of which Modesto is a speaker) and infl infs are not used in the non-inflecting variants, one must conclude that such sentences are ungrammatical for every Brazilian speaker.

- (i) (\*) [O presidente Lula odiou [nos reunirmos sem ele]].  
the president Lula hated REFL meet.INF.1PL without him  
‘President Lula hated that we met without him.’

It is difficult to get straight judgments from BP speakers of the inflecting variant about such matters, because the layperson does not differentiate the concepts of I and E-language. Sentences like (i) are taught at school as grammatical sentences. That does not make BP speakers use them in normal speech. The experiment described in Section 3.1 above, if not proves Modesto’s point, at least indicates that BP speakers do judge infl infs in OC and NC contexts differently.

11. Ungrammaticality may be much harsh a term. All Modesto (2010) has claimed is that free, NC readings are not productive anymore in BP, in fact much similarly to what RH propose for infl infs in general. This means that it is interesting to study infl infs in controlled contexts, but not very interesting to do the same with NC contexts.

### 3.1 The experiment

For this pilot experiment, we chose 6 verbs (3 propositional: *acreditar* ‘to believe’, *concluir* ‘to conclude’ and *perceber* ‘to realize’; and 3 factive: *lamentar* ‘to regret’, *odiar* ‘to hate’ and *aceitar* ‘to accept’). We combined the 6 verbs with 5 different inflected nonfinite verbal complements (*estarem* ‘be.INF.3PL’, *serem* ‘be.INF.3PL’, *terem* ‘have.INF.3PL’, *estarem sendo* ‘be.INF.3PL be.GER’ and *terem sido* ‘have.INF.3PL be.PRT’ producing 30 skeletons of sentences. Each sentence was then put in a context that forced either a controlled reading or a NC reading, producing 60 token test sentences. Test sentences were constructed in that semi-automatic way in order to prevent a biased experimenter constructing “better-sounding” sentences in one context or the other. So all sentences involve the same sequences of verbs and auxiliaries, varying only in context, which makes one reading more salient.

All the contexts involved *Will Robinson*, the younger son of a family from Earth who are lost in space, and *Moia Glic*, the daughter of a family from planet Kandor who are also lost in space. Will and Moia met in Kandor before the Glics got lost and now they talk through the radio and exchange experiences and information about their families. This introduction was presented to every informant before rating sentences. A sample of the sentences tested is presented below. NC reading is intended in (10a, c) and an OC reading is intended in (10b, d).

- (10) a. Depois de conversar com os Glic, o Will concluiu  
 after of talking with the Glics, the Will concluded  
*estarem em Marte.*  
 be.INF.PL in Mars  
 ‘After talking to the Glics, Will concluded that they were in Mars.’
- b. Quando os Robinson viram o Sol, o Will concluiu  
 when the Robinsons saw the Sun, the Will concluded  
*estarem em Marte.*  
 be.INF.PL in Mars  
 ‘When the Robinsons saw the Sun, Will concluded that they were in Mars.’
- c. Os Glic não podem voltar pra casa. O Will lamenta  
 the Glics not can go back to home the Will regrets  
*estarem perdidos.*  
 be.INF.PL lost  
 ‘The Glics can’t return home. Will is sorry that they are lost.’
- d. Os Robinson não podem voltar pra casa. O Wil lamenta  
 the Robinsons not can go back to home. the Will regrets

estarem perdidos.

be.INF.PL lost

‘The Robinsons can’t return home. Will is sorry that they are lost.’

Each informant judged one sentence (randomly chosen from 3 possibilities) from each of the ten templates below in both contexts. For half the informants, in the first part of the test, all sentences were in a NC context and, in a second part, all were in a OC context. Since it is admissible that the ordering of contexts could bias the answers, the other half of the informants was presented the contexts in the reverse order. Summing up the conditions, every informant judged 10 sentences with an OC reading and 10 with a NC reading from a pool of 60 target sentences. The number of informants was 45; 24 informants responded to a questionnaire in one order of contexts, 21 responded to a questionnaire in the reverse order.<sup>12</sup>

- (11) a. propositional verb + serem (be.INF.PL)
- b. factive verb + serem (be.INF.PL)
- c. propositional verb + estarem (be.INF.PL)
- d. factive verb + estarem (be.INF.PL)
- e. propositional verb + terem (have.INF.PL)
- f. factive verb + terem (have.INF.PL)
- g. propositional verb + estarem sendo (be.INF.PL, be.GER)
- h. factive verb + estarem sendo (be.INF.PL, be.GER)
- i. propositional verb + terem sido (have.INF.PL, be.PRT)
- j. factive verb + terem sido (have.INF.PL, be.PRT)

The responses were very similar for every informant. The only significant variable was if the sentence was being interpreted under a NC or an OC context.

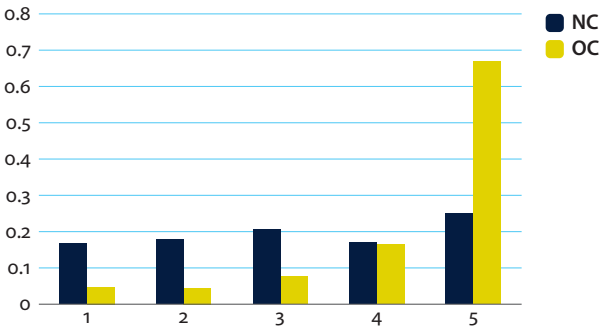
Figure 1 below shows the probability density function obtained for the sentences when considered under a NC context (blue) and under OC context (yellow). It is important to note that the vertical axis shows the probability density and not the percentage of responses. The figure, then, reads that whenever a

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12. Two responses had to be discarded due to technical difficulties; and one from each group was discarded since the informant did not accept any inflected infinitive as grammatical (the informant rated all sentences with 3 or less, in both contexts). So we ended up with a total of 41 interviews: 1 from AL, 1 from MA, 2 from MG, 2 from PR, 3 from RJ, 6 from RS, 26 from SP (the acronyms stand for Brazilian states). Most informants were linguistics students. Since the point of the test was to see how other linguists reacted to infl infs being used in NC contexts, no distractor sentences were presented to the informants, who probably knew what was being tested. Testing reading times will allow us to verify if lay speakers treat the two contexts equally or not, so distractor sentences will be used in that case.



BP speaker is presented with a nonfinite inflected complement in an OC context, the probability of that speaker rating the sentence as fully grammatical (grade 5) is much higher than the probability of the speaker assigning any other grade. For NC contexts, the probability of getting grades 1, 2, 3, 4 or 5 as responses from speakers is more or less the same. This seems to indicate that BP speakers are guessing in NC contexts. This is expected, since the interpretation of those sentences in NC contexts depends on the written BP grammar that speakers acquired in school and not on their I-grammar. Statistically speaking, the two distributions are very significantly different (the result of the Wilcoxon test is:  $W = 40216.5$ ,  $p\text{-value} < 0.001$ ).



**Figure 1.** probability density function of grammaticality ratings for inflected infinitives interpreted under NC (blue) and OC (yellow)

From the result of the experiment, we could also conclude that NC readings are grammatical. Of course, it would be harder to explain why a grammatical reading *that is sanctioned* by the normative grammar is also so rejected by speakers. Still, this result makes it complicated to talk about (un)grammaticality. It may be safer to say about NC readings of inflected infinitives exactly what RH said about infl infs in general, that they are a peripheral aspect of BP, learnt in school, but not really determined by BP as an I-language. Controlled infl infs, on the other hand, as argued in Modesto (2010), seem to be completely grammatical and not peripheral.

### 3.2 Partial Control structures

Partial Control is a central aspect in the dispute about the correct characterization of Control as a syntactic operation (cf. Boeckx & Hornstein, 2004, 2006; Boeckx, Hornstein, & Nunes, 2010; Hornstein, 2003; Landau, 2004, 2007, 2013; Modesto, 2010; Rodrigues, 2007; Sheehan, 2012, 2014, this volume, for discussion). As mentioned in the introduction above, PC raises serious problems for the MTC, because

“the relationship between the controller and PRO appears to be a subset-superset relation, wholly unlike movement-derived chains” (Sheehan, 2014).<sup>13</sup> One attempt to reconcile the MTC with PC is presented in Rodrigues (2007), and RH mention that analysis as a possible solution to the problem raised by Modesto involving infl infs.<sup>14</sup> However, Landau (2013) and Sheehan (2014) have already pointed out problems with Rodrigues’ proposal, as discussed below.

### 3.2.1 *The complex DP analysis*

Rodrigues (2007) proposes that PC interpretations emerge when a null pronoun adjoins to a DP in its argumental position and forms a big DP, [<sub>DP</sub> *pro* DP], then the internal DP is moved out to become the controller, stranding *pro* in the thematic position (the embedded Spec, vP position). According to Rodrigues, the null pronoun that is optionally adjoined to the argumental DP would be equivalent to an associative morpheme, found in languages like Japanese and Chinese. In those languages, when the associative morpheme is attached to a name, say John, it yields a plural denotation, meaning “John and his group”. The null associative *pro* would then be responsible for PC interpretations. It is important to notice that Rodrigues wants to explain why, according to her, “exhaustively or partially obligatory-controlled PRO does not trigger  $\phi$ -feature agreement independently of its antecedent” (Rodrigues, 2007, p. 215). Citing Koizumi (1993), Rodrigues claims that the secondary predicate in (12) is adjoined to VP, but it is “predicated of the DP in the closest spec of TP”. Since the controller has moved out of the big DP to the embedded spec of TP stranding the associative *pro* in spec VP, the secondary predicate records the syntactic number agreement of the controller (that may be singular), although its interpretation is semantically plural, as seen in (12a).

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13. Proponents of the MTC have claimed that (i) certain predicates (like *want*) are associated with a “meaning postulate” which allows overlapping reference in PC (Hornstein, 2003); (ii) PC is a lexically restricted property of meet “and a handful of other verbs” (Boeckx & Hornstein, 2004); (iii) PC arises from selection of embedded null comitatives (Boeckx, Hornstein, & Nunes, 2010). I refer the reader to Landau (2007, 2013), where all these suggestions are countered straightforwardly. The comitative analysis of BHN (2010) is examined by Sheehan (2014), who concludes that it cannot explain the English data (as well as part of the EP data) of PC. See also Pitteroff, Alexiadou, and Fischer (2015) for experimental evidence that German has true PC (as well as fake PC with comitatives). BP data indicates the same.

14. Other attempts to reconcile PC with movement analyses, not mentioned by RH, are Barrie and Pittman (2004) and Bowers (2008). Both proposals are discussed in Landau (2013).

- (12) a. A vítima quer se encontrar bêbada/\*bêbadas.  
 the victim wants REFL meet drunk.F.SG/\*drunk.F.PL  
 'The victim wants to meet drunk.'
- b. As vítimas querem se encontrar \*bêbada/bêbadas.  
 the victims want REFL meet \*drunk.F.SG/drunk.F.PL  
 'The victims want to meet drunk.'

Since Rodrigues' analysis is designed to explain why the syntactic features of the controller are retained in PC complements, RH's mention of Rodrigues' (2007) analysis makes little sense, because Modesto (2010) had shown exactly the opposite: that in BP the controlee may trigger plural agreement even when the controller is singular (as seen in (2) and (8) above). Rodrigues' (2007) analysis is also at odds with languages like Russian, Icelandic and British English, in which the features of the controller are not retained in OC complements (Bobaljik & Landau, 2009; Landau, 2008, 2013). The data in (12) can be explained by the null comitative analysis of Boeckx et al. (2010), which is shown by Sheehan (2014) to be a common place in Romance: in (12a), PRO is singular and, therefore, triggers singular agreement (on the verb and on the secondary predicate); the PC reading, in that case, is given by a null comitative.<sup>15</sup>

Even if the big DP analysis could be used to explain the BP data, it faces the challenge of isolating PC interpretations in the right syntactic contexts (embedded tensed nonfinite clauses, according to Landau, 2004), since the associative null *pro* could, in principle, be attached to any argumental DP (even in finite clauses, producing all sorts of ungrammatical sentences). Based on examples like (13), Rodrigues assumes, contra Landau (2004), that PC is not linked to embedded semantic tense: "Arguably the linguistic requirement on partial control is that the null associative plural pronoun must occur within the scope of a modal." (Rodrigues, 2007, p. 223).

- (13) I can't meet tomorrow. My daughter is getting married.

Landau (2013, pp. 167–8) raises four additional problems with Rodrigues' analysis. First, the scopal condition on the null associative pronoun is stipulated, not explained. In fact, Rodrigues gives no account of why the associative pronoun should be able to survive only in the scope of a modal.

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15. When PRO triggers plural agreement on the verb, it also triggers plural agreement on the secondary predicate, as seen in (i):

- (i) A vítima preferiu PRO se encontrarem bêbados/a sós.  
 the victim preferred REFL meet.INF.PL drunk.M.PL/alone.PL  
 'The victim preferred for them to meet drunk/alone.'

Second, examples like (13) are not representative and, in fact, extremely isolated, in the sense that the collocation *can meet* is quite exceptional in this respect. As seen in (14) below, once the modal or the collective predicate are changed, PC fails.

- (14) a. \*I can't gather tomorrow.  
b. \*I don't think George can fix the fence together.

In third, data in (15), also from Landau (2013), indicates that modality is not an adequate substitute for semantic tense in explaining the distribution of PC: none of the other EC predicates displays any "modal effect".<sup>16</sup>

- (15) a. \*The chair can start to gather in the conference room.  
b. \*It can be impolite of Bill to giggle together at the dinner table.

In contrast, factive predicates do not introduce a modal context, yet PC is licensed in their complements. Landau gives the examples in (16), saying that "this proves that modality is not just insufficient, but also unnecessary for PC."

- (16) a. I regretted [ $\text{PRO}_{1+}$  killing Sam the way we did] because he was such a nice guy.  
b. Bill regretted/hatted [ $\text{PRO}_{1+}$  meeting without a concrete agenda].

Fourth and last, the associative *pro* account fails to explain why raising complements never exhibit PC, as shown by Landau's examples in (17).<sup>17</sup> Landau points out that "many raising predicates are clearly modal, demonstrating again the insufficiency of the modal condition for licensing PC."

- (17) a. \*We thought that the chair was likely to gather once more.  
b. \*We expected Bill to work together more willingly.

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16. The same arguments against modality licensing PC could be given with BP examples, since modality does not license PC in BP as well:

- (i) \*O presidente pode começar a se encontrar(em) a qualquer hora.  
the chair may start to REFL meet.INF(3PL) at any time  
'\*The chair may start meeting at any time.'

17. In BP, the relevant examples would be (i).

- (i) a. \*A Maria parece estarem doentes.  
the Maria seems be.INF.PL sick.PL  
'Maria seems like they are sick.'  
b. \*A Maria não deve parecer estarem doentes.  
the Maria not should seem be.INF.PL sick.PL  
'Maria should not seem like they are sick.'

Concluding, Rodrigues' complex DP analysis cannot be used to explain PC interpretations (either in BP or in English) even when non-inflected infinitives are used. The use of infl infs in PC in BP just adds to the problems of Rodrigues' analysis.

### 3.2.2 *Inflected infinitives are controlled, null finite subjects are not*

RH make two major claims about inf infs in their paper. They start by claiming that inf infs are "NOC [non-obligatory control] configurations" (p. 297); then they say that it doesn't really matter because infl infs do not exist in BP, when considered as an I-language. We tackle each claim separately. The first claim, as mentioned before, confuses written BP with the actual spoken dialects of Bp. Written BP tries to follow the normative grammar of EP. The use of infl infs in "NOC configurations" (in fact, non-controlled (NC) contexts) is then a feature of written BP because it is characteristic of EP. However, written language says nothing about the internalized grammar of BP. In the spoken inflecting dialect of BP, infl infs are not used in NC or NOC contexts, as the experiment described above indicates. In fact, in written BP and EP, infl infs license referential *pro* subjects (Raposo, 1987), so describing them as "NOC configurations" do not seem appropriate (therefore, I will keep using "NC contexts"). The right question to be asked, considering that infl infs are still used in BP is, exactly, what happened with the contexts of use and the interpretation of infl infs after BP suffered a loss of 2nd person morphology, which (as believed) led to a weakening of BP inflection (Galves, 1993, 2001; or, the other way around as argued by Negrão, 1999). If referential null subjects are not licensed in BP anymore, even in finite contexts, what occupies the subject position of nonfinite inflected clauses in BP? RH's bet is to say that it is "NOC *pro*". Within the MTC, NOC *pro* is a pronoun with free interpretation available only because movement (which would derive control) is somehow unavailable. That is already highly problematic. It is unclear why movement would be unavailable from nonfinite clauses with weak agreement, since Boeckx et al. (2010), Nunes (2008) and Rodrigues (2004) argue that movement is available even from *finite* indicative clauses in BP, which are inflected, so movement out of *nonfinite* clauses, inflected or not, would be expected in *their* theory.<sup>18</sup> Putting all this aside, data shows that inflected clauses are in fact controlled, as will be shown below. As for

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18. I assume here that, if inflection is weak in finite contexts in BP, it has to be weak in nonfinite contexts as well, because nonfinite verbal paradigms show even less morphological distinctions than finite paradigms in BP. Since, for the MTC, movement takes place from "porous" contexts (nonfinite, tense- or  $\phi$ -defective finite clauses) and movement trumps pronominalization, the only expected result, *according to the MTC*, is OC in inflected nonfinite contexts in BP.

finite null subjects, there are several differences between them and controlled non-finite subjects (cf. Holmberg, Nayudu, & Sheehan, 2009; Holmberg & Sheehan, 2010; Modesto, 2008).

Subjects of finite clauses in BP are possibly null when bound by a c-commanding subject in a superordinate clause (or, when bound by a conversational topic), as seen in Section 2. RH claim that finite null subjects in BP are controlled in the same sense as nonfinite subjects. However, as noted by Modesto (2000, 2007a, 2008) and Rodrigues (2004), finite controlled subjects are unlike nonfinite controlled subjects in not allowing control by an object. When a verb like *avisar* ‘to warn’ (and other verbs of that class) takes a *nonfinite* complement, *object* control is obligatory (18a); when it takes a *finite* complement (with a null subject), *subject* control is obligatory (18b). That shows that, although the two syntactic mechanisms may be called Control, they are not the same mechanism. A grammatical version of (18b) with the intended “object control” reading would require an overt pronoun, as in (18c).<sup>19</sup> Incidentally, Holmberg and Sheehan (2010) also argue that the relation between the controller and the null subject (in several partial null subject languages) differs from OC in several crucial respects.

- (18) a. Ele<sub>1</sub> avisou a Maria<sub>2</sub> pra ec<sub>\*1/2</sub> fechar a janela.  
           he warned the Maria to close.INF the window  
           ‘He told Maria to close the window.’  
       b. Ele<sub>1</sub> avisou a Maria<sub>2</sub> que ec<sub>1/\*2</sub> vai viajar.  
           he warned the Maria that go.PRS.3SG travel.INF  
           ‘He told Maria that he will travel.’  
       c. Ele<sub>1</sub> avisou a Maria<sub>2</sub> que ela<sub>2</sub> vai viajar.  
           he warned the Maria that she go.PRS.3SG travel.INF  
           ‘He told Maria that she will travel.’

Also unlike in Control contexts, as noted by Modesto (2000), null finite subjects may find their antecedent not in the immediately upper clause, but one up, when the closest subject is non-referential:

19. Some other verbs of the same class are *convencer* ‘to convince’; *aconselhar* ‘to suggest, guide’; *instruir* ‘instruct, tell’. It is important to note that the clausal finite complement of the verbs in this class is not an adjunct, as has been claimed (in Rodrigues, 2004; and Nunes, 2008; see Modesto, 2011, for discussion), since it would make little sense to assume that the complement of that class of verbs is an adjunct *only* when it is finite. It is also important to notice that there is no semantic reason why the null subject in (18b) could not take the matrix object as its antecedent. The fact that that interpretation is absent in (18b) argues against a Control analysis of null finite subjects (as also discussed in Modesto, 2007a).

- (19) a. O Zé<sub>1</sub> acha/disse que *ec* parece que *ec*<sub>1</sub> vai viajar.  
 the Zé thinks/said that seems that goes travel.INF  
 ‘Zé thinks/said that it seems that he is going to travel.’  
 b. O Zé<sub>1</sub> disse que *ec* é claro que *ec*<sub>1</sub> vai na tua festa.  
 the Zé said that is clear that goes to.the your party  
 ‘Zé said it is obvious he will go to the party.’

RH’s claim that infl infs are “NOC configurations” leads one to expect that infl infs would be used in (clearly) NOC configurations. However, that is not the case.<sup>20</sup>

- (20) Comer(\*em) pizza com mostarda é um péssimo hábito  
 eat.INF(PL) pizza with mustard is a lousy habit  
 dos cariocas.  
 of.the cariocas  
 ‘To eat pizza with mustard is a lousy habit of Cariocas (people born in Rio de Janeiro).’

Also, inflected nonfinite null subjects need an antecedent in BP. This is clearly seen in (21). If there is no antecedent, as in (21a, b), only the uninflected infinitive is possible. If inflected infinitives were “NOC configurations,” there should be no reason for (21b) to be ungrammatical.<sup>21</sup>

- (21) a. Essa tecnologia possibilita melhorar o produto.  
 this technology enables improve.INF the product  
 ‘This technology makes it possible to improve the product.’

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20. Nonfinite 3rd person plural inflection may be used in contexts like (i) below, which are *not* NOC contexts, despite the arbitrary interpretation (see Landau, 2000, 2010; Modesto, 2010, for discussion).

- (i) A prefeitura já mandou cortarem essas árvores.  
 the cityhall already sent cut.INF.3PL those trees  
 ‘The cityhall has already sent someone to cut those trees.’

21. Judgments are subtle here because the most common way of expressing that idea in BP would be with an object control structure like (i). Some BP speakers insist that (21b) is a grammatical sentence, but they recognize never to use such sentences in speech. The ungrammaticality of (21b) is exactly on a par with the ungrammaticality of (5c) above. Therefore, considering spoken language, only (21a,c) are fully grammatical and used by speakers.

- (i) Essa tecnologia possibilita a gente a/de melhorar(mos) o produto.  
 this technology enables the people to improve.INF(1PL) the product  
 ‘This technology enables us to improve the product.’

- b. \*Essa tecnologia possibilita melhorarmos o produto.  
 this technology enables improve.INF.1PL the product  
 ‘This technology makes it possible for us to improve the product.’
- c. Essa tecnologia nos possibilita melhorar(mos) o produto.  
 this technology REFL enables improve.INF(1PL) the product  
 ‘This technology enables us to improve the product.’

Not only inflected infinitives need an antecedent, the antecedent must be local:

- (22) a. As jogadoras disseram que o treinador<sub>2</sub> resolveu não *ec*<sub>2</sub>  
 the players said that the coach decided not  
 usar uniforme.  
 wear.INF uniform  
 ‘The players said that the coach decided not to wear a uniform.’
- b. \*As jogadoras<sub>1</sub> disseram que o treinador resolveu *ec*<sub>1</sub> não  
 the players said that the coach decided not  
 usarem uniformes.<sup>22</sup>  
 wear.INF.PL uniforms  
 ‘The players said that their coach decided that they would not wear uniforms.’

That inflected infinitives are controlled is corroborated by the fact that sentences like (23) display only a sloppy reading in VP ellipsis contexts. The strict reading is not available.

- (23) A Dilma tinha declarado terem contido a inflação e a  
 the Dilma had declared have.INF.PL held the inflation and the  
 Cristina Kirchner também tinha.<sup>23</sup>  
 Cristina Kirchner too had  
 ‘Dilma had declared to have held up inflation and C. Kirchner had declared so too.’

The absence of strict readings in ellipsis contexts and the absence of *de re* interpretations are widely assumed to be characteristics of OC (see Bouchard, 1985;

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22. Sentence (22b) would be grammatical if the nonfinite subject was taken to include the coach and the players, characterizing PC.

23. Ms. Dilma Roussef is the current president of Brazil (at the time when the chapter was written) and her name is used in several examples in this chapter as a way to create pragmatically plausible examples. Ms. Cristina Kirchner is the current president of Argentina (at the time this chapter was written).



Chierchia, 1989; Higginbotham, 1992; Hornstein, 1999). Sentence (24a) is interpreted *de se*, the *de re* reading being unavailable, so that indicates that the nonfinite clause is controlled in (24a).<sup>24</sup>

- (24) a. Os pacientes acreditam terem recebido uma medalha.  
           the patients believe have.INF.PL received a medal  
           ‘The patients believe to have received a medal.’  
       b. Os pacientes acreditam que eles receberam uma medalha.  
           the patients believe that they received a medal  
           ‘The patients believe that they received a medal.’

Considering the classic context of amnesiac patients, sentence (24a) cannot be used if the patients have no memory of having received a medal themselves. In contrast, the same is not true of (24b), with an overt pronoun, that can be used if the patients saw themselves getting a medal on TV, but have no idea that the war heroes on TV are actually themselves.

Further evidence that inflected nonfinite complements are obligatorily controlled in BP comes from sentences like (25a). It entails what Fodor (1975, pp. 133–4) calls ‘epistemic privacy’: the dictators are the only ones to believe of themselves to have commanded the country well (so all the democratic presidents must believe that they did not govern well: probably a false statement). Sentence (25b), on the other hand, is not restricted to one’s belief about oneself. Epistemic privacy is also taken to be a distinguishing property of OC (see Bouchard, 1985; and Hornstein, 1999). Minimal pairs like the one in (25) show that neither *pro* or NOC PRO/*pro* is licensed in nonfinite clauses in BP, otherwise the contrast between the two sentences should not exist.<sup>25</sup>

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24. On every day we checked Google, phrases like *acreditam terem* ‘believe.PRS.PL have.INF.PL’, which are avoided by normative grammar, appeared approximately 10% of the time phrases like *acreditam ter* ‘believe.PRS.PL have.INF’ appeared. See Section 5 for discussion. Sentence (i) below is the headline for a video on Youtube.

- (i) Funcionários de lojas e restaurantes que pensam estarem  
       employees of stores and restaurants that think.PRS.3PL be.INF.PL  
       fazendo um favor atendendo bem.  
       doing one favor waiting well  
       ‘Stores and restaurants’ employees who think they are doing you a favor for serving you well.’

25. According to a few EP informants, sentence (25a) is in fact ambiguous in EP.

- (25) a. Só os ditadores acreditam terem governado bem  
 only the dictators believe have.INF.PL governed well  
 o país.  
 the country  
 ‘Only the dictators believe to have governed the country well.’
- b. Só os ditadores acreditam que eles governaram bem  
 only the dictators believe that they governed well  
 o país.  
 the country  
 ‘Only the dictators believe that they governed the country well.’

Concluding, after considering the data, the assumption that inflected infinitives are “NOC configurations” in BP is untenable. Infl infs are ungrammatical in clear NOC contexts, they give rise to sloppy readings under ellipsis, and *de se* beliefs, as well as epistemic privacy; all characteristics of OC. The claim that inf infs do not exist in BP is discussed in the next subsection.

### 3.3 BP has nonfinite inflected clauses

Turning now to the other main claim in RH, they wrote:

In Pires & Rothman 2010, it is argued that the majority of Brazilian Portuguese speakers do not acquire inflected infinitives via an early native acquisition process but rather via late exposure to the standard dialect at school. These authors investigated the competence of 87 upper-income Brazilian children (ages ranging from 6 to 15 years), concluding that they do not master the syntax and semantics of inflected infinitives until the age of 10–12 years, after which they display adult-like competence, with no significant individual variation.

(Rodrigues & Hornstein, 2013, p. 307)

Pires and Rothman (2010) claimed that infl infs are learned in school (based on 87 informants). However, Rothman, Duarte, Pires, and Santos (2013) have found inflected infinitive use in the production of 3 year olds. This shows that the matter is far from being settled. On one hand, RH are *not* arguing that infl infs are not used in BP; they seem to assume that they are used, but that use is not scientifically interesting. On the other hand, RH mention “the scarcity of inflected infinitives among native speakers [of BP]”. It is our contention that infl infs are very scientifically interesting, as long as confounds like normative grammar are weeded out. The affirmation that they are scarcely used by BP native speakers is incorrect. As Lightfoot (1991, pp. 99–102) has noted,

there are speakers who use only the forms characterized here as innovative, and a few Brazilians use only the “standard” forms with the inflected infinitive,

even in their spoken language. The bifurcation described here seems to be real(...).<sup>26</sup>

Lightfoot's observations are exactly in line with what is defended here. Lightfoot does not assume that those speakers who use inflection use it because they want to sound proper (why would he?).

We believe that, if children grow up in an environment with a lot of variation (with some speakers inflecting infinitives in most contexts and some speakers not inflecting them in the same contexts), the expected result is for children to regularize infl infs use. Since variation in nonfinite inflection is in fact attested in Brazil (cf. Lightfoot, 1991), it is possible that BP speakers have interpreted infl infs as controlled contexts, as argued in Modesto (2010).

### 3.4 Epicene agreement and null finite subjects in Brazilian Portuguese

Taking most postulates from Hornstein's (1999, 2003) MTC, Rodrigues (2004) proposed a movement analysis of null finite subjects in BP as a partial pro-drop language.<sup>27</sup> The same set of data had been analyzed by Modesto (2000) as an A'-binding relation between two subjects (an updated version of that analysis is given in Modesto (2008), in which the A'-binding relation is described as a topic-chain relation, similar to what happens in Chinese (see also Modesto, 2007a). One of the arguments used by Rodrigues (2004) in favor of an account of finite subjects in BP in terms of Control as A-movement involved epicene nominal agreement in BP and Italian.<sup>28</sup> In Boeckx and Hornstein (2006), the argument involving epicene agreement is reproduced. Modesto (2010) replied to Boeckx and Hornstein (2006), basically claiming two things: a. PC structures in BP, which can use inflected infinitives, provide evidence that control phenomena should not be treated as movement, as discussed previously, and b. BP and Italian are not as different as described by Rodrigues (2004) (the original argument). The experimental data provided by RH to counter claim b., however, in fact confirms Modesto's

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26. The innovative forms referred to by Lightfoot are nonfinite clauses with overt subjects without nonfinite inflection.

27. The term "partial pro-drop language" applied to BP has created a lot of confusion: BP pro-drop is not limited to 3rd person pronouns, as in Hebrew (Borer, 1989; Landau, 2000, 2004). BP is best characterized as a discourse or radical pro-drop language, like Chinese (Galves, 1993; Huang, 1984; Modesto, 2008; Negrão & Viotti, 2000; Pontes, 1987). See also Barbosa (2013) for a unified account of Chinese-type and BP-type languages.

28. Epicene nouns (like 'victim' and 'witness') are syntactically feminine in languages like BP and Italian, though they may refer to males or females.

point: epicene agreement in Italian is not very different from epicene agreement in BP. In both languages, in finite contexts, epicene agreement is grammatical to every speaker, and mismatched agreement is accepted by some speakers in different degrees, as seen by RH's results in Figure 2.

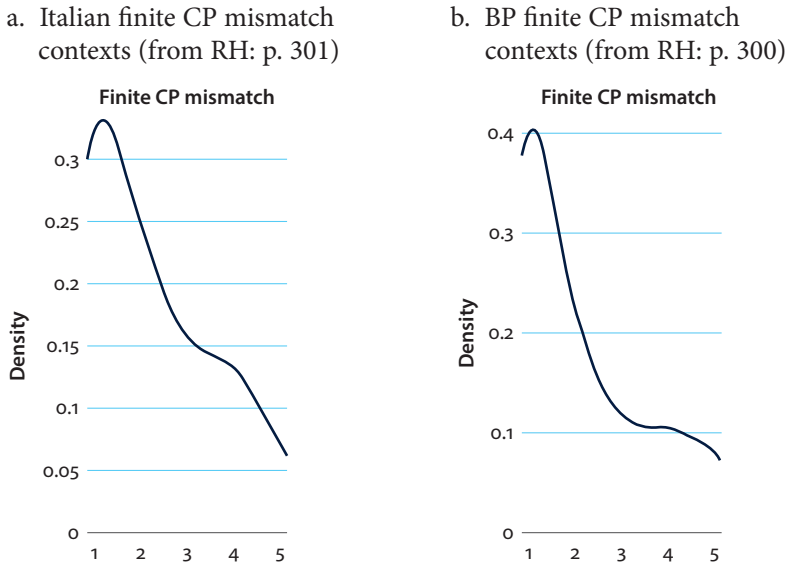


Figure 2.

To recap, Rodrigues' and RH's argumentation is this: epicene nouns are lexically specified as feminine, no matter what the gender of its referent. They induce feminine participle agreement in simplex clauses. According to Rodrigues (2004) and RH, epicene-feminine agreement is preserved under A-movement operations, such as raising. Rodrigues then compares Italian and BP and argues that, since the embedded subject is pronominal in Italian and a trace of movement in BP, epicene agreement should be preserved (obligatorily) in BP finite contexts, whereas in Italian epicene agreement should not be possible in the same context.<sup>29</sup> She gives

29. This very strong conclusion – that epicene agreement should be impossible in Italian finite contexts – follows from Rodrigues' assumption that pronouns always take the gender of their real world referent, rather than the gender of their binder. In other words, Boeckx and Hornstein (2006), Rodrigues (2004) and RH seem to assume that local syntactic agreement (followed by movement) is the only syntactic vehicle of agreement. Both assumptions are clearly unmotivated. As noted by Landau (2013, p. 167): "Binding, Agree and predication are all equally capable of forcing full agreement in  $\phi$ -features between their two relata." Landau's

the paradigms in (26) in support of her analysis. Hornstein and Boeckx (2006) use the same data and analysis to argue that the MTC explains the BP facts. The data and judgments below are used by Boeckx and Hornstein (2006), as they were by Rodrigues (2004), and unexplainably also by RH (example a. is in Italian, b. in BP).<sup>30</sup>

- (26) a. La vittima<sub>1</sub> ha detto che *pro*<sub>1</sub> era \*stata aggredita/stato  
 the victim.F has said that was \*been attacked.F/been  
 aggredito in strata.  
 attacked.M in street
- b. A vítima<sub>1</sub> disse que *ec* foi atacada/ ??atacado na rua.  
 the victim.F said that was attacked.F/ ??<sub>M</sub> in.the street  
 'The victim said that he was attacked on the street.'

In a reply to Boeckx and Hornstein (2006), Modesto (2010) claimed that the ungrammaticality of epicene feminine agreement in (26a) "could not be verified with Italian speakers."<sup>31</sup> Since Boeckx and Hornstein's (2006) argument depended on Italian being different from BP in finite CP contexts, RH had an experiment done. They applied a questionnaire with 44 sentences to be judged using a scale of 1 to 5, in which 1 corresponded to 'not good' and 5 to 'perfect', to 14 Italian speakers (and 21 BP speakers). The sentences included finite CP, OC and NOC contexts with mismatched epicene agreement, plus some distractor sentences. Unfortunately, their results show that the judgments in (26a) are in fact incorrect (see Figure 2 above). Epicene agreement is the preferred choice also in Italian. So we may debate on whether mismatched agreement is more grammatical in Italian than in BP (which RH end up doing), or we admit that the argument is inconclusive.

RH use statistical analysis to argue that finite embedded contexts are similar to nonfinite (OC) contexts in BP; and that finite contexts are dissimilar to OC contexts in Italian, which led them to the conclusion that finite contexts of

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point is corroborated by the literature on agreement: Corbett (2006) and Wechsler and Zlatić (2003) show that pronouns anteceded by epicene (or "hybrid") nouns can either show grammatical (i.e. feminine) or real world (masculine) gender. In Italian, particularly, Rodrigues' assumption is not empirically warranted, since mismatched agreement is not obligatory in Italian finite contexts, when the referent of the epicene noun is a male (as seen by RH's own experimental results).

30. In the sentences in (26), it is assumed that the entity referred to by *the victim* is a man.

31. Every Italian speaker we consulted informed me that, in finite contexts, epicene agreement was possible and, in fact, the preferred choice, though mismatched agreement was possible as well, for some speakers (not all). RH's experimental data confirms those judgments.

epicene-agreement are (statistically) dissimilar in the two languages. Since RH did not statistically compare finite contexts in the two languages, the argument is clearly fallacious.<sup>32</sup>

Despite their experimental results, RH do maintain their analysis; however, they are not very explicit about the fact that the argument now rests on paradigm (27), not on the one in (26): so the argument rests on the contrast between one *versus* two question marks for mismatched agreement in finite contexts.

- (27) a. La vittima<sub>1</sub> ha detto che *pro*<sub>1</sub> era stata aggredita/?stato  
 the victims.F has said that was been attacked.F/?been  
 aggredito in strada.  
 attacked.M in street
- b. A vítima<sub>1</sub> disse que *ec*<sub>1</sub> foi atacada/ ??atacado na rua.  
 the victim.F said that was attacked.F/ ??<sub>M</sub> in.the street  
 'The victim said that he was attacked on the street.'

Our conclusion, then, reaffirming what Modesto (2010) has claimed, is that epicene agreement is a rather weak argument, especially considering what it is an argument for: A-movement out of finite *indicative* clauses. A-movement out of indicative clauses is something rather unexpected, especially in a theory that assumes syntactic derivation by phases (as Chomsky, 2001, 2008); and, in fact, A-movement out of finite indicative clauses has never been unquestionably attested in any language (except for some poorly understood phenomena examined by Ura, 1994). Therefore, in order to accept A-movement out of finite indicative clauses in BP, a much stronger argument than the difference between Italian and BP with respect to epicene agreement would have to be presented.

#### 4. The distribution of inflected infinitives in BP

Modesto (2010) claimed that nonfinite inflection was possible to occur in BP in the complement of all PC verbs, as defined by Landau (2004), in PC structures. That has been confirmed by data collected spontaneously and from the Internet (see (2) and (8c) above, for example). In (25) above, we saw nonfinite inflection occurring in an Exhaustive Control (EC) structure under a PC verb, like in (28)

32. There are a number of warnings that could be given about statistical hypothesis testing, especially, considering the size of the sample used by RH (14 Italian speakers only). As noted by Moore (2003), "If the government required statistical procedures to carry warning labels like those on drugs, most inference methods would have long labels indeed."

below. Such structures, frowned upon by normative grammar, turned out to be much more common than I expected.<sup>33</sup>

- (28) a. Eles tão torcendo pra ficarem sozinhos logo.  
they are cheering for stay.INF.PL alone soon  
'They are hoping to be alone soon.'
- b. Elas preferem não ficarem mais nesse hotel.  
they prefer not stay.INF.PL more in.that hotel  
'They'd rather not stay in that hotel any longer.'
- c. Os policiais admitiram terem usado armas  
the policemen admitted have.INF.PL used guns  
no protesto.  
in.the protest  
'The policemen admitted using guns at the protest.'

33. Sentences like (ia) have always been considered ungrammatical in EP and BP (Negrão, 1986; Quicoli, 1996; Raposo, 1987) and, in fact, educated speakers of BP tend not to like such sentences, because inflection is repeated and that is frowned upon by the "educated written language". As soon as another verb intervenes, though, a complement with EC interpretation may be inflected (see (ib)) even by educated speakers. My realization that even structures like (ia) are grammatical came from spontaneous data collection (from the speech of other people and mine). Testing small sentences without context (like in (ia)) contributed to the delay in detecting the correct data.

- (i) a. ?Elas preferem esperar.  
they prefer wait.INF.PL  
'They'd rather wait.'
- b. Eles preferem esperar ficarem a sós.  
they prefer wait.INF.Ø stay.INF.PL alone  
'They'd rather wait being left alone.'

Lemle (1984) had already noted the possibility of nonfinite inflection in the complement of control verbs in BP. She mentions the pair in (ii) noticing that the nonfinite clause in (iia) is non-ambiguously interpreted propositionally, whereas (iib) also has the "know how to" interpretation (preferably). Lemle does not discuss infl infs much further in her book, but it was only after seeing the examples in (ii) that I started paying attention to my own use of infl infs.

- (ii) a. As italianas sabem serem elegantes.  
the Italians.F know.3PL be.INF.PL elegant  
'Italian women know that they are elegant.' (Lemle, 1984, p. 183)
- b. As italianas sabem ser elegantes.  
the Italians.F know.3PL be.INF.Ø elegant  
'Italian women know how to be elegant.' (Lemle, 1984, p. 184)

Nonfinite inflection usually licenses overt subjects in most syntactic contexts it appears. Since inflection is used in the complement of PC verbs, overt subjects are possible in the same contexts. Although such examples may be rare (speakers prefer to use finite completive clauses), they are certainly grammatical. All sentences in (28) could have an overt subject.<sup>34</sup> Complements of epistemic verbs can also license overt subjects (in pre-verbal position). Example (29b) is extracted from a corpus of spoken BP (from Gorski, 2000, p. 98). Then, with respect to licensing overt subjects in nonfinite contexts, BP is like Turkish (Landau, 2015) or the languages discussed in McFadden and Sundaresan (2014), Sundaresan (2014) and Sundaresan and McFadden (2009). The discussions in Landau (2000) and Szabolcsi (2009) also indicate that controlled subjects may not be null. All this indicates that there is no complementary distribution between PRO and overt subjects cross-linguistically (see the discussion in Section 5), so the distribution in English is due to some particularity of English.

- (29) a. Eu não acredito eles estarem te roubando!  
 I not believe they be.INF.PL CL.2SG stealing  
 'I can't believe they are stealing from you.'
- b. O governo admite eles venderem os imóveis  
 the government admits they sell.INF.PL the homes  
 à pessoa...  
 to.the person  
 'The government admits that they sell property to the person...'

The only two contexts in which nonfinite inflection does not license overt subjects are in object control structures (that use the prepositional complementizer *a* 'to') and in nominals (that also govern the use of *a*).

- (30) a. Eu convenci as meninas a (\*os meninos) saírem.  
 I convinced the girls to the boys leave.INF.PL  
 'I convinced the girls to leave/\*to let the boys leave.'

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34. This is contra Modesto (2010), who judged overt subjects ungrammatical in the complement of desiderative predicates. Though the examples in Modesto (2010) do sound bad to many speakers, I have realized that structures like (i) are very common:

- (i) Eu prefiro elas ficarem lá com o pai delas mesmo.  
 I prefer they stay.INF.PL there with the father of.their really  
 'I prefer they stay there with their father.'



- b. Os americanos foram os primeiros a (\*os britânicos)  
the Americans were the first to the British  
pisarem na lua.  
step.INF.PL on.the moon  
‘The Americans were the first to step on the moon/\*to make the British  
step on the moon.’

The same contexts – object control and nominals – license overt subjects when the prepositional complementizer *de* ‘of’ is used.

- (31) a. Eu convenci as meninas de (os meninos) ficarem aqui.  
I convinced the girls of the boys stay.INF.PL here  
‘I convinced the girls to stay here/ to let the boys stay here.’  
b. O governo tem medo dos atentados atrapalharem  
the government has fear of.the attacks interfere.INF.PL  
a negociação.  
the negotiation  
‘The government is afraid that the attacks could interfere with the  
negotiations.’

The distribution of nonfinite inflection in BP is summarized in Table 1 below. The table reads that adjunct clauses, for instance, accept nonfinite inflection (NI), subjects of such clauses may be controlled (even when the verb is inflected),

Table 1. Distribution of nonfinite inflection in BP

		NI	controlled	generic	overt
Nominals A		√	√	*	*
Nominals De		√	√	√	√
Adjunct clauses		√	√	√	√
Subject clauses		√	*	√	√
complements	modal	??	√	–	–
	aspectual	??	√	–	–
	implicative	??	√	–	–
	propositional	√	√	√	√
	perception	√	*	√	√
	causatives	√	*	√	√
	interrogatives	*	√	*	*
Object control complements A		√	√	*	*
Object control complements De		√	√	√	√

may have a generic (non-control) interpretation, and may also be overt. Subject clauses, on the other hand, accept nonfinite inflection, but do not allow for controlled subjects (since there is no possible controller within its phase), and so forth. In Table 1, “propositional” complements stand for those complements that may also be finite, as the complement of desiderative, factive, epistemic predicates and *verba discendi*.

The ungrammaticality of inflection in the complement of EC verbs, assumed in Modesto (2010), has to be relativized, since occurrences of such kind have been found, they are just much less common (cf. Canever, 2013).<sup>35</sup>

- (32) a. Vocês não vão gostar quando os filhos de vocês  
 you.PL not go like.INF when the sons of you.PL  
 começarem a serem mal-tratados.<sup>36</sup>  
 start.SBJV.3PL to be.INF.PL bad-treated  
 ‘You’ll not enjoy when your children start being badly treated.’
- b. Eu acho que vocês se gostam e que devem  
 I think that you REFL like and that should.PL  
 ficarem juntos.  
 stay.INF.PL together.  
 ‘I think that you guys like each other and that you should stay together.’

It is important to notice that, even if inflection is allowed in the complement of EC verbs, there are no PC interpretations, so (33) are all ungrammatical and never used (as predicted by Landau, 2004, 2015, see Section 5).

- (33) a. \*O Paulo começou a serem mal-tratados.  
 the Paulo started to be.INF.PL bad-treated  
 ‘Paulo started being treated badly.’
- b. \*O Paulo devia ficarem juntos.  
 the Paulo should stay.INF.PL together.  
 ‘Paulo should stay together.’

There are a few facts about the distribution of infl infs in BP that we would like to discuss and possibly explain, though for reasons of space, only a cursory treatment

35. Working with written corpora of BP, Canever (2013) found that the frequency of inflection in the complement of aspectual verbs reaches 5.1% and only 0.3% (one instance) in the complement of modal verbs. Implicative and PC complements were not surveyed. In comparison, adjunct nonfinite clauses (final, causal and temporal) are inflected in 75% of instances; adjectival complements got 89.4% and nominal complements inflect 94.5% of the time.

36. Example from Fiéis and Madeira (2014).

will be sketched in the next section. The first problem is to know why inflection is so rare under EC predicates; not so common in the complement of PC verbs; and very common in nominals and object-control structures. Secondly, why non-finite inflection does not disrupt the control interpretation in BP, as predicted by Landau (2004, 2015). In third, why overt subjects with independent reference freely alternate with controlled PRO in BP and other languages. This last point shows that there might be no relation between Control and lack of (regular) Case (see Chomsky, 1995), something that has been assumed since the GB era and is still very present in movement analyses (cf. Hornstein, 1999), but has been challenged by Russian and Icelandic data (cf. Bobaljik & Landau, 2009; Landau, 2008).

## 5. Making sense of the data

The assumption that PRO is in fact a “minimal pronoun” (Kratzer, 2009; Landau, 2015) and that [group] is one of the features that may initiate the derivation of a pronoun, in fact explains the role of [number] in PC configurations, including those in BP. Landau assumes that a minimal pronoun is a set containing a D feature and unvalued phi-features ([D,  $\varphi$ ]), but all that is needed by Landau’s analysis is that the feature [person] is unvalued. Number may be interpretable and valued in PRO. In fact, if Kratzer is correct in saying that

If all number features head number projections, bound variable pronouns can never inherit number features via feature transmission on the proposed account, and this means that number features should always be interpretable on bound variable pronouns... (p. 231)

number in PRO should always be valued. Importantly, some languages, like British English and BP, assign a valued plural feature to minimal pronouns containing [group], but languages like American English assign syntactic singular to those pronouns. The [group] specification, then, though always having a semantic interpretation, will have some *syntactic* effect only in British, but not American, English. In BP, both syntactic singular and plural may be assigned to the minimal pronoun with [group], but a plural specification will be visible as agreement on the nonfinite verb for inflecting speakers. Since the minimal pronoun has an unvalued person feature, the plural specification on PRO does not disrupt the syntactic processes that are involved in Control (predication in the case of EC predicates; variable binding in the case of PC predicates, or logophoric Control, following Landau, 2015).<sup>37</sup>

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37. Though I have no space here to discuss these matters with any depth, it is unclear if minimal pronouns should have a D feature or acquire them from their binder (as also proposed by Livitz, 2014).

Examining languages like Greek and Turkish, Landau (2015) assumes that predication Control is compatible with inflection and Logophoric Control is not, which is almost the opposite of what we have stated here about BP. The “problem” with the languages studied by Landau is that they all have strong agreement (pronominal agreement, or the D feature in T, see Holmberg, 2005). In those languages, the use of verbal inflection is equivalent to the use of an overt referential pronoun in languages like English. Therefore, verbal inflection inside a CP complement (finite or nonfinite) in strong agreement languages excludes Control. However, in a language with a weak T (with no D feature), number agreement should be compatible even with Logophoric Control.

Recall that we assume the structure in (9) for finite complements, repeated below highlighting the phi-features introduced by C. Only number is inherited by T in BP (cf. Nunes, 2008, for basically the same claim). The subject then moves to the C domain to check the person feature and may delete in PF by being in a Topic-chain.

- (34) ... disse [<sub>CP</sub> que [<sub>FinP</sub> **ele** Fin<sub>[person]</sub> [<sub>TP</sub> **ele** T<sub>[number:sg]</sub> gosta...  
said that he he likes

With nonfinite complements, a very similar structure will be formed under attitudinal predicates (PC predicates). The number feature in T can be valued by PRO (with singular or plural) and that domain may be transferred to the interfaces with no unvalued feature. Logophoric Control will take place in (35) exactly as described by Landau, even if PRO has a valued number feature.

- (35) ... disse [<sub>CP</sub> <sub>prox</sub> [<sub>FinP</sub> PRO Fin<sub>[person]</sub> [<sub>TP</sub> PRO T<sub>[number:pl]</sub> gostarem  
said like.INF.PL

On the other hand, in predication control, which involves EC predicates, PRO cannot have a plural specification when the controller is singular, otherwise the predication relation cannot occur (that is why inflection cannot be used to give rise to PC interpretations with EC predicates in BP). However, if the controller ends up being plural, a plural nonfinite clause should be possible (as I think it is, as mentioned in the last subsection). The fact that inflection is so rare in the complement of EC predicates is probably due to restructuring, as defended by Modesto (2016) (see also Grano, 2012; Landau, 2015; and Wurmbbrand, 2015, who argue that restructuring is universal with EC predicates). Since EC complements usually do not include a TP in BP, inflection is rarely seen in those contexts. Lack of restructuring, however, could give rise to inflected EC complements, as we have seen; and, as long as PC readings are not attempted, the sentences should be grammatical (though “unusual”).

When an overt pronoun or any DP is the subject of a nonfinite clause in BP, the pronoun (itself with valued features) will value the number feature in T and

the person feature in the C system, producing a non-controlled nonfinite complement. This implies that PRO should alternate with overt DPs in BP in every context. In order to explain the two cases in which that is not true (in nominals and object-control structures headed by *a*), we have to assume that those contexts involve movement (as in Modesto, 2007b; see also Sheehan, this volume). A possible derivation of an object-control structure like (36a) would be like in (36b–e). In (36b), after a nonfinite inflected TP is formed, a defective C (actually Fin) headed by the preposition *a* is merged to the structure. The object-control verb *convencer* ‘to convince’ merges with the structure in (36b), producing (36c). Since the C of the complement is defective, an overt subject is not licensed in that clause (maybe for lack of a person feature in C), so the embedded subject is moved to a theta position in the matrix VP, forming (36d). Little *v* is then introduced in the structure and the vP is closed off by merging the external argument, producing (36e). Movement of V to *v* and deletion of lower copies will then produce the word-order seen in BP.

- (36) a. O Zé convenceu as meninas a saírem.  
           the Zé convinced the girls       to leave.INF.PL  
           ‘Zé convinced the girls to leave.’  
       b. [<sub>FinP</sub> a [<sub>TP</sub> as meninas saírem]]  
       c. [<sub>VP</sub> convencer [<sub>FinP</sub> a [<sub>TP</sub> as meninas saírem]]]  
       d. [<sub>VP</sub> as meninas [<sub>VP</sub> convencer [<sub>FinP</sub> a [<sub>TP</sub> as meninas saírem]]]]  
       e. [<sub>vP</sub> o Zé v+convencer [<sub>VP</sub> as meninas [<sub>VP</sub> convencer [<sub>FinP</sub> a [<sub>TP</sub> as meninas saírem]]]]]

If *de* is used instead of *a*, since *de* is a non-defective C, an overt subject will be licensed in structures like (36a) (see (31a)). The same kind of derivation will apply to nominals, depending whether the nominal head selects a complement headed by *a* or *de*.

If the analysis above is on the right course, the only two facts remaining to be explained in Table 1 are the lack of controlled subjects in the complement of perceptive and factive predicates; and the lack of inflection in interrogative complements. As for the latter, I have no interesting insight to offer on why a *wh*-phrase in C disallows inflection on a nonfinite verb in interrogative control complements, besides pointing out that the phi-features of the *wh*-phrase may interfere with the phi-features introduced by C and, therefore, prevent agreement between verbal inflection and the subject. However, it is unclear why the same does not happen in finite contexts. The former problem, on the other hand, seems to indicate that the structure of perceptive (and causative) complements are different from other nonfinite complements. I will assume here that the complement of perceptive verbs is headed by a nominal structure, forming a clausal

DP. Such analysis purports to explain why the nonfinite subject *as meninas* in (37a) cannot be passivized and the fact that (37a) implies that the crossing was completed (something (37b) does not).

- (37) a. Eu vi [<sub>DP</sub> as meninas atravessarem a rua].  
 I saw the girls cross.INF.PL the street  
 'I saw the girls' crossing of the street.'
- b. Eu vi [<sub>CP</sub> as meninas atravessando a rua].  
 I saw the girls cross.GER the street  
 'I saw the girls crossing the street.'
- c. As meninas foram vistas \*atravessar(em)/ atravessando  
 the girls were seen cross.INF(PL)/ cross.GER  
 a rua.  
 the street  
 'The girls were seen crossing the street.'

Although BP data deserves a more detailed analysis, we have shown that recent theory on Control explains (and in fact predicts) a language like BP. The conclusions in Landau (2004, 2015) about the impossibility of inflection in Logophoric Control complements were prompted by the fact that most languages that present nonfinite inflection (or control into finite contexts) are also pro-drop languages. When a non-pro-drop language like BP uses nonfinite inflection, inflection may be used in PC contexts since it only marks number, leaving the person feature unvalued, producing Control.

## 6. Conclusions

In this chapter, we argued that inflected infinitives in BP are an interesting object of study, that they are used by part of the Brazilian speakers, who have intuitions about them, though normative grammar may confound them when giving judgments. The PC data in BP is very problematic for movement analysis of control, since they predict that the controller should preserve its features when moving to the matrix clause, which may not happen in PC in BP. We refuted all the claims in Rodrigues and Hornstein (2013): inflected infinitives are not "NOC configurations", inflected infinitives are not uniformly accepted in NC contexts by BP speakers, and inflection does appear in control structures. Then we showed how to account for the data using recent linguistic theory. Though movement may be involved in the derivation of some control structures, BP data indicates that PRO (now seen as a minimal pronoun) must be part of grammar.

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# Infinitival complements of causative/ perception verbs in a diachronic perspective

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This paper traces the diachrony of three alternative configurations of infinitival complementation with causative and perception verbs in Portuguese, namely the *faire*-infinitive, the Exceptional Case Marking and the inflected infinitive constructions. It is shown that the *faire*-infinitive construction is the earlier pattern of infinitival complementation with causative and perception verbs. The ECM construction is the subsequent innovation and creates the conditions for the appearance of the inflected infinitive. Hence the diachronic development of the structures analyzed in the paper defines a clear path of functional enrichment of the infinitival complements of causative and perception verbs, which gradually acquire greater syntactic autonomy. The structurally ambiguous configurations that lie behind each step of the change are identified in the paper.

**Keywords:** Exceptional Case Marking (ECM); *faire*-infinitive (*faire*-inf); inflected infinitive; syntactic change; European Portuguese

## 1. Introduction

This paper traces the diachrony of three alternative configurations of infinitival complementation with causative and perception verbs in Portuguese, namely the *faire*-infinitive construction (Kayne, 1975), the Exceptional Case Marking (ECM) construction and the inflected infinitive (see Gonçalves, 1999, and subsequent work). Section 2 deals with the relation between the *faire*-infinitive and the ECM constructions. It is proposed that the latter developed from the former, although both are attested since Old Portuguese. Section 3 discusses particular configurations involving ECM, coordination, gapping, and root inflected infinitives, which are taken to be central to understand the emergence of the inflected infinitive as complement of causative/perception verbs in structurally ambiguous contexts. Section 4 identifies two types of apparent inflected infinitives and briefly discusses them. It is suggested that they are not recent innovations in the language but marginal grammatical options with limited expression in the written historical sources.

The thirteenth century text *Demanda do Santo Graal* (henceforth *Demanda*) will be used as the main source of the data discussed on Section 2. Together with *Livro de José de Arimateia* (henceforth *Arimateia*), it constitutes the Portuguese translation of the Old French Post-Vulgate Arthurian Cycle. Although the original manuscripts were lost, *Demanda* has been preserved by a fifteenth century copy that generally maintains the grammatical features of thirteenth century Portuguese. The sixteenth century copy of *Arimateia*, on the other hand, changed the language of the original in some respects (Martins, 2013; Neto, 2001). The texts *Demanda* and *Arimateia* are available online in POS-tagged and parsed versions in <<http://alfclul.clul.ul.pt/wochwel/>>.

## 2. From *faire*-infinitive to ECM structures

As early as the thirteenth century, Old Portuguese allowed both the *faire*-infinitive construction and the ECM construction. The inflected infinitive, on the other hand, does not seem to be attested in the infinitival complement of causative and perception verbs before the fifteenth century, and only spreads across texts and genres from the sixteenth century on.<sup>1</sup> A large majority of the data that can be found in the Old Portuguese texts throughout the medieval period are ambiguous between the *faire*-infinitive and the ECM structures. Taking the thirteenth century text *Demanda do Santo Graal* as an example, almost 90% of the occurrences of infinitival structures with causative and perception verbs do not permit a plain identification as *faire*-infinitive or ECM. This very high amount of ambiguous data is in part due to the large number of sentences with arbitrary null subjects found in the texts (see Davies, 1992, 1995a, 1995b, 1996). But it is also a consequence of the particularities of the syntax of word order in Old Portuguese, which makes some of the standard syntactic tests used to separate *faire*-infinitive from ECM structures in contemporary Portuguese not applicable to the earlier stages of the language (as will be clarified farther on in this section). The sentences in (1) and (2) below are extracted from *Demanda* and allow us to clearly separate the ECM structures, represented in (1), from the *faire*-infinitive structures, illustrated in (2).

ECM:

- (1) a. porque o uy doer-sse bem de sseus pecados  
 because him.ACC saw ache-himself well of his sins  
 'because I really saw him suffer, on account of his sins'

(*Demanda*, fol. 101v)

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1. But see the end of Section 3.

- b. *feze-os iurar que* *fezessem* todos seu mādado  
 made-them.ACC swear that would.do all his will  
 ‘he made them all swear that they would comply with his orders’  
 (Demanda, fol.198r)
- c. *Ali ueriades el Rey doo fazer e* *bater* as palmas  
 there would.see the king pain do.INF and clap the hands  
 ‘There you would see the king show great pain and clap his hands’  
 (Demanda, fol.190r)

*Faire-infinitive:*

- (2) a. E Meraugis, quando o uyu armar, disse que por elle  
 and Meraugis when him.ACC saw arm.INF said that for he  
 ueera ali e cō ele se querya yr. E armou-se  
 had.come there and with he SE wanted go and armed-himself  
 e sobiu em seu caualo  
 and rose in his horse  
 ‘And Meraugis, when he saw him [Erec] arm himself, said that he had  
 come to support him and would go with him. Then he armed himself  
 and mounted his horse’  
 (Demanda, fol.106r)
- b. E *fazerde-lhes* *saber que* *seredes* hi com  
 and make.INF.2PL-them.DAT know.INF that will.be.2PL there with  
 ells em sua ajuda  
 them in their help  
 ‘Make known to them that you will be there to help them’  
 (Demanda, fol.149r)
- c. Quando o homẽ boo que i estava *vyu a Gualuõ tall*  
 when the man good that there was saw to Galvam such  
*doo fazer*  
 pain do  
 ‘When the good man who was staying there saw Galvam show such  
 pain’  
 (Demanda, fol.101v)
- d. muytas marauilhas que deus per sa graça fez a *mj acabar*  
 many wonders that God by his grace made to me finish  
 ‘the many wonders that God, by his grace, made me accomplish’  
 (Demanda, fol.177r)

Example (1a) contrasts with (2a) with respect to the presence/absence of the reflexive pronoun in the infinitival complement of the perception verb. In both sentences an inherent reflexive verb is present in the infinitival clause (note that the second occurrence of the verb *armar-se* ‘arm oneself’ in (2a) proves that the verb is reflexive). But the reflexive pronoun *se* is only realized in (1a) while in (2a)

it is absent. This difference indicates that (1a) is an ECM structure while (2a) is a *faire*-infinitive structure. In (1a) the reflexive pronoun is bound and licensed by the accusative infinitival subject; in (2a) the *faire*-infinitive construction creates a complex predicate and a mono-clausal domain where the reflexive pronoun cannot be licensed because there is no infinitival subject. Examples (1b) *versus* (2b) display the typical difference in Case marking of the causee argument that distinguishes ECM structures from *faire*-infinitive structures. The causee in (1b) exhibits accusative Case assigned by the causative verb since infinitival T(ense) is defective, thus unable to assign nominative Case to the infinitival subject. In (2b) the causee displays dative Case because the *faire*-infinitive construction transforms it into the dative complement of the complex predicate. Examples (3a) and (3b) show exactly the same accusative-dative alternation, with the difference that the causee is not represented by a clitic pronoun. In this type of sentences it is the presence or absence of the dative-marking preposition *a* ‘to’ that indicates whether we are dealing with accusative or dative Case assignment. Example (2d) explicitly shows that the preposition *a* ‘to’ assigns dative Case since the strong pronoun that surfaces after the preposition displays the particular morphological form corresponding to dative/oblique.<sup>2</sup>

In sentence (1a) above there is cliticization to the infinitive, which is an uncommon pattern for Old Portuguese. With a few known exceptions, clitic climbing normally occurred in the syntactic contexts where it is currently optional (Martins, 2006). Under (3) are listed the exceptional cases of cliticization to the infinitive in clitic climbing contexts that could be tracked down in medieval Portuguese texts.<sup>3</sup> As for Examples (3c) and (3d), recall that the thirteenth century text *Arimateia* only survived through a sixteenth century copy that modified the

2. I am here abstracting from the fact that in Old Portuguese the preposition *a* could occasionally precede an accusative DP bearing a [human] feature (like in contemporary Spanish), so adding a further instance of potential ambiguity to the structures under discussion (Martins, 2006, pp. 334–336). The occurrence of the preposition *a* before a [+hum] direct objects is, nevertheless, a rare option in medieval Portuguese texts (see Döhla, 2014).

3. Note that sentences involving gapping of the finite verb in coordination structures make clitic climbing unavailable. Therefore, cliticization to the infinitival verb is normally found in this type of syntactic configuration, as illustrated in (i).

(i) mandou-o      filhar      e      atar      as      mãos      e      os      pees      e  
made.3SG-him    catch.INF    and    tie.INF    the    hands    and    the    feet    and  
*deita-llo*            *em hũu carçer.*  
throw.INF-him    in    a      cell

‘And he made them catch him and tie his hands and feet and throw him in a cell.’

(Demanda, fol. 58r)

original text in various ways. Still there is a constant across these exceptional Old Portuguese sentences with enclisis to the infinitival verb in typical contexts of clitic climbing (which extend beyond the structures with causative/perception verbs as illustrated by (3e–f)). In all the examples, the enclitic pronoun is the reflexive *se* and it is always attached to an inherent reflexive verb.<sup>4</sup> Maybe, as I have suggested elsewhere (Martins, 2006), these were cases of exceptional morphological cliticization, which would be compatible with the hypothesis that in Old Portuguese infinitives selected by clitic climbing verbs did not include an appropriate functional position to support syntactic cliticization.

- (3) a. porque o uy doer-sse bem de seus pecados  
because him.ACC saw ache-himself well of his sins  
'because I really saw him suffer, on account of his sins'  
(*Demanda*, fol.101v)
- b. E seus jmjgos tãbem o louuauã e preçauã mujto  
and his enemies also him praised and appreciated much  
tãto o ujam bẽ defender-se  
so.much him.ACC saw well defend-himself  
'And his enemies praised and appreciated him greatly because they saw him defend himself so valiantly'  
(*Demanda*, fol.150v)
- c. E o mensageiro andou tanto que vio  
and the messenger walked so.much that saw.3SG  
Tolomer *partir-se*.  
Tolomer leave-*se*  
'And the messenger went so far that he saw Tolomer leave.'  
(*Arimateia*, fol. 50r)
- d. vio no mar alevantar-se ãa gram tempestade.  
saw.3SG in.the sea rise.up-*se* a great storm  
'he saw a great storm rise up on the sea'  
(*Arimateia*, fol. 96r)

#### 4. Thanks to one of the reviewers for the following important observation:

The output of clitic climbing in (3a) and (3b) should place the clitic *se* in a position adjacent to the third person accusative clitic, which is not allowed [in contemporary European Portuguese] (*\*se-o/\*so*). Thus, if this co-occurrence restriction were also at play in Old Portuguese, (3a) and (3b) should not allow climbing (or if climbing were enforced, (3a) and (3b) should involve a case of lower copy pronunciation).

It could also be the case that ECM structures in Old Portuguese did not differ from ECM structures in contemporary European Portuguese in disallowing clitic climbing (we will return to this unsettled matter later in the paper).



- e. E quando quiser *espedir-se* *del*  
 and when want.FUT.SBJV.3SG say.farewell.INF-SE of.he  
 ‘And when you want to say farewell to some lord’  
 (Foro Real. Quoted by Vieira da Silva, 2003, p. 324)
- f. Onde os que moram a cabo destas *eygreias* *nõ*  
 where the.ones that live.3PL at top of.these churches not  
 podem *hyr* *confessar-sse*  
 can.3PL go.INF confess.INF-themselves  
 ‘So that the ones that live close to these churches cannot go to  
 confession’ (Primeira Partida. Quoted by Vieira da Silva, 2003, p. 147)

Anyhow, the occurrence in the Old Portuguese texts of sentences like (3a–b) above, to be compared with sentences like (4) below, appear to indicate that Old Portuguese did not substantially differ from contemporary Portuguese as for the relation between causative/perception structures and clitic climbing. That is to say, object clitics obligatorily climbed in *faire*-infinitive structures, like (4), but not in ECM structures, as shown by (3a–b). although the issue on whether they *could* climb remains unsettled.<sup>5</sup>

- (4) e rogarom-lhe *que lha* *fezesse* *êtender*  
 and begged-him that them.DAT-it.ACC made understand  
 ‘And asked him to make them understand it [the story].’  
 (*Demanda*, fol. 98r)

In example (4), the dative marking of the causee argument shows that the sentence displays the *faire*-infinitive construction. That clitic climbing of both clitic complements of the complex predicate (i.e. the dative clitic *lhes* ‘them’ and the accusative clitic *a* ‘it’) takes place, is thus expected. Nevertheless, this does not necessarily indicate that *faire*-infinitive and ECM structures display similar degrees of

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5. That is to say, as far as the current investigation on causative/perception structures in Old Portuguese goes, we do not have crystal clear evidence that a sentence like (i) below is not ambiguous between *faire*-infinitive and ECM.

- (i) eu vo-lo farei aver aa vossa vontade e toste  
 I you.DAT/ACC-it.ACC will.make have at your will and swiftly  
 ‘I will make you have it at your will, and swiftly.’ (*Demanda*, fol. 183v)

The fact that the accusative object clitic *lo* climbed, would mean under standard tests for contemporary Portuguese that we would be dealing with the *faire*-infinitive construction, since presently object clitics cannot climb in the ECM construction. But syntactic tests devised to deal with contemporary Portuguese may not be pertinent for Old Portuguese. The clitic *vo(s)* ‘you’ is ambiguous between accusative and dative as morphology does not distinguish between the two cases for 1st and 2nd person pronouns.

functional defectiveness of the infinitival domain in Old and contemporary Portuguese. The fact that negation is never found in ECM infinitives in Old Portuguese, for example, points to a higher degree of defectiveness than in contemporary Portuguese (Martins, 2006, 2012). But even if ECM infinitives were functionally or featurally defective in such a way that they would exclude syntactic cliticization, the matter of fact is that I have not been able to find an unambiguous example of clitic climbing out of an ECM infinitival clause.<sup>6</sup> It might be that neither clitic climbing nor syntactic cliticization inside the infinitival clause used to be a grammatical option in Old Portuguese ECM structures. Accordingly, this could be the reason why the *faire*-infinitive construction would be the only available option in sentences like (5) below. The clitic sequence formed by the first person accusative followed by the third person dative is impossible nowadays and very rare in the Old Portuguese texts (Martins, 1994). But if only reflexive *se* of inherent reflexive verbs was allowed within the infinitival complement of an ECM structure, an ECM variant of the *faire*-infinitive sentence in (5) would be impossible in Old Portuguese.

- (5) Deos *me*      *lhe*      *leixe* *fazer*    tal    serujço em esta demanda  
God me.ACC him.DAT let do.INF such service in this quest  
que *lhe*      *apraza*  
that him.DAT pleases  
‘May God let me serve him in this quest in such a way that will please him.’  
(*Demanda*, fol. 59r)

I will not discuss in this paper what would be the exact structure of ECM infinitives in Old Portuguese. For my current purposes, I will just assume that ECM infinitives were TPs but the featural make-up of T might not be such that it would be appropriate to license syntactic cliticization, understood as attachment to T. More importantly, in other respects ECM structures display similar features in Old and contemporary Portuguese and differ from *faire*-infinitive structures in the same central ways, as the data shown in (1) and (2) above demonstrate. In the remainder of this section I will focus on discussing the diachronic path that relates the two types of structures and argue for the hypothesis that in the history of Portuguese (and presumably also Spanish) ECM structures originated from *faire*-infinitive structures. Since we can find both ECM and *faire*-infinitive structures in Portuguese texts from the thirteenth century, the chronology of the attested examples is *prima facie* not of great help. That is to say, if from the beginnings of

6. It is the clitic complement of the infinitival verb that is relevant here, as the accusative infinitival subject always climbs (at all stages of the history of Portuguese).

the written production in Portuguese the two types of structures are attested, how can the hypothesis that ECM evolved from *faire*-infinitive be supported?

Mark Davies was the first author to lead an in-depth investigation of the diachronic development of causative structures in Spanish and Portuguese, based upon extensive data extracted from corpora (Davies, 1992, 1995a, 1995b, 1996). Guided by quantitative indicators, he identifies the ECM construction as “innovative” with respect to the *faire*-infinitive construction. In fact, ECM sentences are attested but infrequent in Old Portuguese. The rise in frequency over time is compatible with the ECM structure being an innovation.<sup>7</sup>

Geolinguistic evidence agrees with Davies’ frequency indicators as the geolinguistic distribution of *faire*-infinitive across the Romance area is more widespread than ECM, the latter arising without restrictions only in Portuguese and Spanish (see Ciutescu, 2013a, 2013b, and Soares da Silva, 2012) for an up-to-date overview and bibliographical references). Within the Portuguese territory, the geolinguistic distribution of ECM and *faire*-infinitive structures somehow mirrors what is found in the larger Romance area (Pereira, 2012), although ECM seems to be the preferred option in the standard written language in contemporary European Portuguese (Andrade, 2010; Soares da Silva, 2012). Pereira (2012) investigated the distribution of the different types of infinitival complements of causative and perception verbs in the Portuguese territory using the data of the Corpus COR-DIAL-SIN, which features spoken rural dialects across continental Portugal and the island of Azores and Madeira. She shows that while *faire*-infinitive structures are attested everywhere, with no spatial limitations, the geolinguistic distribution of ECM and inflected infinitival complements of causative and perception verbs is restricted to particular areas. ECM with causative verbs appears in a Southern continental and insular area. ECM with perception verbs is more widespread but not general. It appears in the islands of Azores and Madeira and occupies the Western part of Portugal, extending from up North to the extreme South (also in the broader Romance domain, ECM is more widespread with perception than with causative verbs). The two geolinguistic areas identified by Pereira (2012) within the Portuguese territory actually display unsurprising spatial contours for

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7. Andrade (2010), Fiéis and Madeira (2013) and Soares da Silva (2012) offer relevant quantitative information. Using very restrictive criteria to contrastively identify *faire*-infinitive and ECM structures in Old Portuguese texts, I could find c. 10% sentences displaying *faire*-infinitive in *Demanda* (both with causative and perception verbs) but only 1,2% ECM sentences with causative verbs and 5% with perception verbs. Note that I analyzed as structurally ambiguous a large number of sentences that would be classifiable as either *faire*-infinitive or ECM if all the syntactic tests devised for contemporary Portuguese could be applied to Old Portuguese.

a syntactic innovation (see Pereira forthcoming), i.e. the development of the ECM construction from the *faire*-infinitive construction.

On strictly logical, linguistic terms, it is also natural to think of the ECM construction as the connecting link between the early *faire*-infinitive construction and the inflected infinitive structures that will emerge in the fifteenth century. Under this perspective, the change displays a consistent path of step-like functional enrichment of the infinitival complements of causative/perception verbs, which progressively become less defective and therefore display a greater degree of syntactic independence across time.

We may wonder if this scenario is not contradictory with the existence in Classical Latin of a construction known as *Accusativus cum Infinitivo* (AccInf) that could be the ancestor of the Romance ECM structure. As a matter of fact, the Latin AccInf construction is clearly distinct from the Romance ECM construction. The accusative subject of Latin infinitivals is found in clauses where the accusative Case cannot be assigned by the main finite verb, as exemplified in (6) below. In (6a) the infinitival clause is the complement of the nominal predicate *rumor erat* ('there was a rumor') and in (6b) it is the complement of a passive verb. In both instances the accusative case displayed by the infinitival subject cannot be assigned by the main predicate, which indicates that in the Latin AccInf construction either the accusative displayed by the embedded subject is a default Case or it is assigned internally to the infinitival clause (see Bolkestein, 1979; Cechetto & Oniga, 2002; Pillinger, 1980) for discussion). In any event, what matters to us here is the fact that the Latin AccInf construction illustrated in (6) is distinct from the Romance ECM construction.

- (6) a. Rem te valde bene gessisse rumor erat  
 thing.ACC you.ACC very well to.have.handled rumor.NOM was  
 'It was reported that you had handled the problem very well.'  
 (Cic. *Fam.* 1,8,7)
- b. Traditum est etiam Homerum caecum fuisse  
 related is also Homer.ACC blind.ACC to.have.been  
 'It has been related that Homer was blind, too.'  
 (Cic. *Tusc.* 5,39,114) Examples taken from Cecchetto and Oniga (2002).

As early as the first century BC, Miller (1992) attests in Vulgar Latin what appears to be an instance of the *faire*-infinitive construction, and other authors who investigated Late Latin texts of the Gallo-Romance area report the occurrence of infinitival structures that can be analyzed as mono-clausal, including examples with dative marking of the causee (see Chamberlain, 1986; Norberg, 1974). The Latin legal texts produced in the Portuguese territory between the tenth and the twelfth centuries seem to provide evidence in the same direction. In the corpus studied by Vieira da Silva (2003) the bi-clausal ECM construction is not attested.

The sentence in (7) below is the early Vulgar Latin example that Miller (1992) so comments:

Varro's example from rural speech ... anticipates the Romance construction with the causee after the verb complex. Since this is an unusual linearization pattern for Latin, it is reasonable to conclude that the construction had long been in use in Vulgar (or rural) speech and already by Varro's time (first century BCE) developed a relatively 'frozen' linearization that would predominate in Romance.

(Miller, 1992, p. 260)

- (7) dēsīderium arborum marcēscere facit  
 desire.NOM tree.GEN languid.INCH.INF make.PRS.IND.3SG  
 volucrēs inclūsūs  
 winged.ACC enclosed.ACC

'Longing for trees makes captive birds waste away.'

(Varro, *De Rustica* 3.5.3. Taken from Miller, 1992, p. 260)

Before we finish this section, we will have to ask how *faire*-infinitive structures would have given rise to ECM structures in the history of Portuguese. Besides the well known cases of ambiguity between the two types of structures, there is a further type of ambiguity that must be considered when we deal with Old Portuguese, although the extant literature (including the papers by the author) has ignored it. In turn, I would like to suggest that this further case of ambiguity related to constituent order might have played an important role in the emergence of the ECM construction.<sup>8</sup>

Constituent order is commonly used as a test to distinguish ECM from *faire*-infinitive structures in contemporary Portuguese. When the infinitival verb does not select a direct object, the position of the causee argument, preceding or following the infinitival verb, is considered to be a reliable indicator of a particular type of structure. Thus, in (8a) the fact that the causee argument surfaces in preverbal position indicates that it is the subject of the infinitival clause of an ECM structure. On the other hand, the postverbal position of the causee in (8b) indicates that it is the complement of the complex predicate in a *faire*-infinitive structure. This

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8. See Davies (1992, 1995a, 1995b, 1996) for a different view. Davies observes that null arbitrary subjects were highly frequent in causative structures at earlier times and explains this fact as a consequence of the morphological merger in Late Latin between the active and passive infinitives of most verbs (passive clauses being often agentless). The very high frequency of null subjects would be felt as 'unnatural' and the expression of the agent subject would gradually become a more common option as the active interpretation of the relevant structures gained ground. Then the fact that the infinitival clause often displayed an overt referential subject would have favored its reanalysis as a non-reduced clause, paving the way for the emergence of both the ECM construction and the inflected infinitive.

is confirmed by the examples in (9) where the reflexive pronoun *se* is used as an additional indicator to tease apart the two types of structure. The reflexive pronoun obligatorily occurs inside the infinitival complement of the ECM construction in (9a) but is excluded in the *faire*-infinitive construction in (9b), even though *deitar-se* is an inherent reflexive verb.

- (8) a. Vi os animais morrer com sede.  
saw.1SG the animals die.INF with thirst  
b. Vi morrer os animais com sede.  
saw.1SG die.INF the animals with thirst  
'I saw the animals die of thirst.'
- (9) a. Mandeí as crianças deitar-\*(se).  
sent.1SG the children lie.down.INF-SE  
b. Mandeí deitar-(\*se) as crianças.  
sent.1SG lie.down.INF-SE the children  
'I sent the children to bed.'

A similar reasoning has been used to analyze Old Portuguese data by all the authors that studied the diachronic evolution of causative and perception verbs. However, particular traits of the syntax of word order in Old Portuguese make the surface position of the causee an unreliable test to split apart ECM and *faire*-infinitive at earlier stages of the history of Portuguese. Old Portuguese allowed object scrambling, understood as leftward movement of the object to the middle field, which derived the order OV from the basic VO pattern (Martins, 2002, 2011). The OV order is found in finite subordinate clauses but also in infinitival clauses. Crucially, it can be found in *faire*-infinitive structures as the examples in (10) show. Because object scrambling was optional, different linearization options arose, either displaying no leftward movement of the non-clitic object (see (10a)) or displaying leftward movement of one (see (10b–c)) or several complements of the complex predicate (see (10d–e)).<sup>9</sup> Therefore, it is impossible to

9. Less often, we can also find in the texts sentences like (ia–c) below, where the scrambled object surfaces to the left of the two verbs forming a complex predicate.

- (i) a. quē sodes uos que m' esto mãdades fazer?  
who are you.NOM that me.DAT this send.2PL do.INF  
'Who are you that order me to do this?' (Demanda, fol. 167r)
- b. sōo por em tam triste cada que della ouço fallar  
am for that so sad each.time that of.her hear talk.INF  
'That is why I am so greatly sad whenever I hear talk about her'  
(Demanda, fol. 42v)

know if the constituents underlined in (11) below correspond to the infinitival subject of the ECM construction or the direct object of the complex predicate in the *faire*-infinitive construction. This adds one more instance of ambiguity to the Old Portuguese data, when compared to contemporary Portuguese. Importantly, ambiguous sentences like (11) may have played a significant role in the reanalysis of *faire*-infinitive sentences as ECM sentences.<sup>10</sup> It would suffice for that end that the pre-infinitival DP be parsed as the subject of the infinitival clause.

- 
- c. quando a espada viu viir  
 when the sword saw.3SG come.INF  
 ‘when he saw the sword coming’ (Demanda, fol. 197v)

These examples seem to indicate that *faire*-infinitive structures could display different degrees of defectiveness of the infinitival domain. In the sentences where the scrambled object surfaces between the two verbs, like in (10) above, in contrast to (ia–c), it has presumably stayed within the infinitival domain, which signals that like in contemporary Portuguese *faire*-infinitive infinitivals included some functional structure above the verb phrase (see Duarte & Gonçalves, 2002; Gonçalves, 1999; Gonçalves & Duarte, 2001). I am assuming that scrambling deriving the OV order is movement of a maximal projection to a functional specifier position (Martins, 2002, 2011).

10. Sentences like (i) below show, on the other hand, that the infinitival subject of ECM structures could surface after the infinitival verb in Old Portuguese, so that this rightward placement of the causee is not a reliable indicator for a particular construction either. Note that the presence of the reflexive clitic *se* proves that (i) is an example of the ECM construction. Actually, the post-infinitival position of the subject is also possible in contemporary European Portuguese as a means to give the clause-final subject DP informational prominence, thus deriving a VOS structure, as shown in (ii). The fact that the sentence displays an unaccusative verb in the infinitival clause is a facilitating factor for the postverbal position of the subject but does not seem to be a necessary condition (see (iii)).

- (i) vio no mar levantar-se ũa gram tempestade, que parecia que a  
 saw in.the sea rise.up.INF-SE a great storm that seemed that the  
 pena se queria derribar.  
 rock SE wanted to.fall.apart  
 ‘he saw a great storm rise up on the sea, such that the rock seemed on the verge of falling apart’ (Arimateia, fol. 96r)
- (ii) Viu levantar-se no mar uma grande tempestade.  
 saw rise.up.INF-SE in.the sea a great storm  
 ‘(S)he saw a great storm rise up on the sea.’
- (iii) Quando eu vi ultrapassá-las a atleta portuguesa...  
 when I saw outrun-them the athlete Portuguese  
 ‘Wen I saw the Portuguese athlete outrun them...’

- (10) a. foy marauilhado de que lhi uiu fazer tal doo  
was marveled of that him.DAT saw do.INF such pain  
‘He marveled that he saw him show such pain.’ (*Demanda*, fol. 174r)
- b. quando chegou a ella e lhe vio tal doo fazer  
when arrived to she and her.DAT saw such pain do.INF  
‘when he reached her and saw her show such pain’ (*Demanda*, fol. 45v)
- c. porẽ uos rogo que ... leyxedes aa donzella dar  
for-that you.DAT beg that let.2PL to.the lady give.INF  
o que lhe demãdamos  
the what her.DAT ask.2PL  
‘So I beg you to let the lady give us what we are asking her for.’  
(*Demanda*, fol. 145v)
- d. Quando o homẽ boo que i estava vyu a Gualuõ tall  
when the man good that there was saw to Galvam such  
doo fazer  
pain do  
‘When the good man who was staying there saw Galvam show such  
pain’ (*Demanda*, fol. 101v)
- e. nũca uj a homem tal coita leuar em sonhos  
never saw to man such suffering display in dreams  
‘I have never seen anybody else display such distress while dreaming’  
(*Demanda*, fol. 74v)
- (11) a. Quando ell vio a donzella chorar  
when he saw the lady cry.INF  
‘When he saw the lady cry’ (*Demanda*, fol. 84v)
- b. e vio a donzella rrir  
and saw the lady laugh.INF  
‘He saw the lady laugh’ (*Demanda*, fol. 93v)
- c. Quando ella uiu Erec cabo de sua irmãa seer  
when she saw Erec next to her sister be.INF  
‘When she saw Erec stay by her sister’ (*Demanda*, fol. 105r)
- d. Quando Gujglaym vio Galaaz chegar aa ponte  
when Gujglaym saw Galaaz arrive to.the bridge  
‘When Gujglaym saw Galaaz reach the bridge’ (*Demanda*, fol. 153r)

To summarize: Word order is not a reliable criterion to distinguish between the two relevant types of structures in Old Portuguese because object scrambling may make the direct object of the *faire*-infinitive construction appear before the infinitival verb and look like the infinitival subject of the ECM structures. On the other hand, these ambiguous contexts where the direct object of *faire*-infinitive



structures could be interpreted as the subject of the infinitival clause might have been the relevant context leading to change. This explanation can easily extend to Spanish since the constituent order facts described for Old Portuguese in relation to object scrambling are found in Old Spanish as well.

The next section will deal with the emergence of the inflected infinitive in the complements of causative and perception verbs. The previous existence of the ECM construction seems to have worked as a push factor since in both types of structure the infinitival domain is an independent clause with its own subject. The main difference is that in the inflected infinitive structure the subject is assigned nominative Case by the infinitival verb while in the ECM structure the infinitival subject is assigned accusative Case by the finite verb due to the defective nature of infinitival T.

Cituescu (2013) proposes that coordination structures may offer a reliable test to signal when the causee argument is structurally the infinitival subject even if it receives Case from a category external to the infinitival clause. The reasoning behind this new syntactic test devised to tease apart ECM and *faire*-infinitive structures is that only if the infinitival domain constitutes an independent clause (instead of being a constitutive part of a complex predicate) can it undergo coordination with other infinitival clauses. The series of coordinated non-finite clauses depends upon the same main predicate that licenses them. The sentences in (12) illustrate the relevant configuration and according to Cituescu (2013) are instances of the ECM construction. In the next section it will be proposed that coordinate structures involving gapping of a causative/perception verb constitute the relevant configuration prompting the emergence of the inflected infinitive in causative/perception structures (although an additional ingredient will have to be introduced).

- (12) a. Estas tres cousas o ffaziam fficar na riba e  
 these three things him.ACC made stay.INF in.the margin and  
 ffazer orações a nosso Senhor  
 do.INF prays to our Lord  
 ‘These three things were making him stay on the margin of the river  
 and pray to the Lord.’ (Demanda, fol. 82v)
- b. Mas enpero quẽ no entom vise dar golpes  
 but however who him.ACC then would.see give.INF blows  
 e receber nõ lhe semelharia couardo  
 and receive.INF not him.DAT would.seem coward  
 nem preguiçoso.  
 nor lazy  
 ‘But whoever might have seen him give and receive blows wouldn’t  
 have thought him coward or lazy.’ (Demanda, fol. 89v)

- c. Ali ueriades el Rey doo fazer e bater  
there would.see the king pain do.INF and clap  
as palmas  
the hands  
‘There you would see the king show great pain and clap his hands’  
(Demanda, fol.190r)
- d. E quando vio o padre e o filho fazer mortos e  
and when saw the father and the son lie.INF dead and  
o caualleiro ferjdo  
the knight hurt  
‘and when he saw father and son lie dead and the knight lie hurt’  
(Demanda, fol. 27v)

### 3. From ECM structures to the emergence of the inflected infinitive

We might think that the main ingredient accounting for the additional step of change leading from ECM to the emergence of the inflected infinitive in the complements of causative and perception verbs would be the very existence of the inflected infinitive in the language. However, this is a necessary but not a sufficient condition as demonstrated by Galician. Although the inflected infinitive is part of Galician grammar, causative structures exclude it (Álvarez & Xove, 2002; Gondar, 1978; Sousa Fernández, 1998). So the evolution from ECM to inflected infinitives in the syntactic contexts discussed in this paper is not a trivial diachronic development. I will now try to understand how the change happened in Portuguese.

The inflected infinitive is commonly found in Old Portuguese in most contexts that allow it in contemporary Portuguese, which are typically embedded domains, but root inflected infinitives are also attested.<sup>11</sup> The relevant clauses have an imperative import and are either independent clauses or the matrix part of a conditional or a temporal construction. These infinitival clauses expressing a stipulation or a strong wish are well attested from the late twelfth century up to the sixteenth century. Sentence (13) below is given by way of illustration of the Old Portuguese independent inflected infinitive. Example (14) shows how in Old

11. There are different theories on the origin of the Portuguese inflected infinitive. The one that seems empirically better supported defends that the inflected infinitive stems from the Latin imperfect subjunctive. See Martins (2001a), Harris (2013) and Wireback (1994) for details and references.

Portuguese such mandatory infinitival clauses alternate with subjunctive clauses in similar textual contexts. In contemporary Portuguese the relevant alternation between subjunctive and inflected infinitive is lost. Sentences such as (13) and (14a) below, with the inflected infinitive, would be ungrammatical nowadays, only equivalent mandatory sentences with subjunctive verbal inflection being a grammatical option.

- (13) E *ffazersse* o vinho no nosso lagar... E  
 and make.INF.3SG-SE the wine in.the our wine.press and  
*pagardes* a lagaragem  
 pay.INF.2PL the wine.press.use  
 'And the wine is to be made in our wine press and you shall pay for using it'  
 (Legal document, year 1381. Martins, 2001b, p. 458)
- (14) a. E *ffazerem* a dita cassa e refazerem de todo  
 and build.INF.3PL the said house and rebuild.INF.3PL from any  
 casso fortuyto  
 event accidental  
 'and they will build and rebuild the house after any accidental bad event'  
 (Legal document, year 1407. Martins, 2002, p. 247)
- b. E a *faça* e *refaça* de todo  
 and it build.SBJV.PRS.3SG and rebuild.SBJV.PRS.3SG from any  
 caso furtuyto  
 event accidental  
 'and he will build and rebuild the house after any accidental bad event'  
 (Legal document, year 1414. Martins, 2002, p. 477)
- c. E *fazerde-lhes* saber que seredes hi com  
 and make.INF.2PL-them know.INF that will be.2PL there with  
 eles em sua ajuda ... e *poede-lhes* dia.  
 them in their help and put.SBJV.PRS.2PL-them day  
 'And make known to them that you will be there to help them ... and  
 let them know when.'  
 (*Demanda*, fol.149r)

The existence in Old Portuguese of these root mandatory inflected infinitives allowed a kind of structural ambiguity in coordinate structures involving gapping of the finite verb, which I take to be the configuration where ECM infinitives were reanalyzed as inflected infinitives. Example (15) below illustrates the relevant kind of ambiguity, showing how two different structures can be associated with the same sentential string. One of the structures displays a root inflected infinitive (see (15b)), the other displays gapping licensed by coordination and an inflected

infinitive in the complement of the gapped causative verb (see 15c)). This second possibility corresponds to the innovation that the interplay between coordination, gapping and root inflected infinitives made possible.<sup>12</sup> See Martins (2006, 2012) for further details.

(15) a. *Attested example*

E que fosse nossa mercee mandarmos que husem de  
and that should.be our kind.will order.1PL that use.3PL of  
seus officios e per suas mortes nom *seerem*  
their business.licenses and by their deaths not *be.INF.3PL*  
dados a outros  
given to others

b. *Analysis as two independent sentences, S2 a root infinitival*

E que fosse nossa mercee mandarmos que husem de  
and that should.be our kind.will order.INF.1PL that use.3PL of  
seus officios. E per suas mortes nom *seerem*  
their business.licenses. And by their deaths not *be.INF.3PL*  
dados a outros  
given to others

12. As one reviewer pinpoints, (15a) can receive a further structural description, namely, that both infinitivals are coordinate arguments of the higher predicate *fosse nossa mercee*. I put aside this third option because it seems irrelevant to understand the syntactic change under discussion. The reviewer asks why the child would favor the more complex structural analysis of (15a) as gapping instead of the ‘simpler’ analysis of coordination without gapping. I will not go here into discussing the child’s path of acquisition of different types of coordination structures (see Lust, Flynn, Chien, & Krawiec, 2009, and Stoyanova, 2011, for relevant discussion), but it is well known that children command ellipsis structures from very early (see Santos, 2009). Moreover, as the same reviewer notes, other examples in the paper rule out a simple coordinate structure analysis. Referring to Example (18), the reviewer states:

Assuming the author’s approach to OV in terms of scrambling, one cannot maintain an analysis of (18a) in terms of coordination of two infinitivals as the complement of *conuẽ*, for scrambling only the first infinitival would violate the Coordinate Structure Constraint.

If the causative verb in (15a) (which is itself an inflected infinitive) was not embedded under a higher predicate, the simple coordinate structure analysis would also be excluded. Finally, it is important to bear in mind that the actual sentences attested in medieval documents or literary texts were certainly not the input for L1 acquisition, although they suggest what might have been the relevant input for acquisition and change.

c. *Analysis as coordination with gapping of the causative verb*

E que fosse nossa mercee **mandarmos**<sub>i</sub> que husem de  
 and that should.be our kind.will order.1PL that use.3PL of  
 seus officios e [ - ]<sub>i</sub> per suas mortes nom *seerem*  
 their business.licenses and by their deaths not *be.INF.3PL*

dados a outros

given to others

‘[It was suggested to us] that we should be so kind as to order that they keep the business licenses they were once given and (order that) when they die such licenses (should) not be transmitted to others [= new brokers]’  
 (Royal chancellery, 1436. Dias, 1998, p. 382)

For clarification purposes, note that in (15b) the sequence *per suas mortes nom seerem dados a outros* is analyzed as an independent sentence introduced by a coordinate conjunction, in which case there would be coordination at the textual/inter-sentential level. In (15c), instead, the sequence *per suas mortes nom seerem dados a outros* is analyzed as the second member of a coordinate structure that licenses gapping. In Example (15c), the gapped site is marked and the verbal gap antecedent (that is, the causative verb *mandarmos*) is highlighted in bold. So, the syntactic constituent introduced by the coordinate conjunction might be read either as an independent mandatory inflected infinitival sentence or as the complement clause of a phonetically unrealized causative verb.

Looking beyond causative and perception structures, new important data are offered by the thirteenth century Arthurian novels *Demanda* and *Arimateia*. These texts show that the impersonal (non-obligatory) object control verb *convir* ‘be convenient, suit, behoove’ displays in what concerns the emergence of the inflected infinitive the same path of change as causative and perception verbs. At the same time, the role played in the change by structurally ambiguous contexts of the type above identified seems to receive additional confirmation.

In *Demanda* the infinitival complement of the object control verb *convir* is always uninflected, as exemplified in (16).<sup>13</sup> Interestingly, the verb *convir* allows clitic climbing, as exemplified by sentence (17), which would be ungrammatical in contemporary Portuguese. The contrast between Old and contemporary Portuguese as for the grammatical status of (17) indicates once more that we cannot project our knowledge of the current state of the language upon earlier stages.

13. There are 51 occurrences of *convir* with an infinitival complement in *Demanda*, all of them with an uninflected infinitive.

This consequently supports the claim in Section 2 that whether ECM structures allowed clitic climbing or not is an unsettled issue.

- (16) a. *cõuẽ-uos sair desta e jr em aquella*  
suits-you.DAT get.out.INF of.this and go.INF in that  
'It's better for you to get out of this boat and get into that other'  
(*Demanda*, fol. 138v)
- b. *Mas ora chegou ia termo en que vos cõvẽ*  
but now arrived already moment in which you.DAT suits  
*ia de mi partir*  
already of me leave.INF  
'But now it is already time for you to get away from me'  
(*Demanda*, fol. 195v)
- (17) *nosso hirmãõ he e cõvẽ-no-llo amar como quer que*  
our brother is and suits-us.DAT-him.ACC love how is that  
*o os outros desamẽ*  
him.ACC the others dislike  
'He is our brother and we must love him no matter how much the others dislike him.'  
(*Demanda*, fol. 97r)

Although the inflected infinitive is not found in the complement of *convir* in *Demanda*, sentence (18) below displays exactly the same kind of structural ambiguity as (15) above. Hence, the same type of syntactic configurations may lie behind the emergence of the inflected infinitive with different classes of verbs. The diachronic facts about *convir* bring (non-obligatory) control verbs into the domain of historical inquiry that up until now has focused on causative and perception structures.

- (18) a. *Attested example*  
*Etmom tornou mũy toste e foy aa donzella e*  
then returned very fast and went to.the lady and  
*filhou-a pello freo e disse-lhe: Donzella, a tornar*  
grabbed-her by.the bridle and told-her: Lady, to return  
*vos conuẽ e hirdes comigo que assy me praz.*  
you.DAT suits and go.INF.2PL with.me that so me pleases
- b. *Analysis as two independent sentences, S2 a root infinitival*  
*Donzella, a tornar vos conuẽ. E hirdes comigo que*  
Lady, to return you.DAT suits. And go.INF.2PL with.me that  
*assy me praz.*  
so me pleases

c. *Analysis as coordination with gapping of the causative verb*

Donzella, a tornar vos **conuê**<sub>i</sub> e [ - ]<sub>i</sub> hirdes comigo  
 Lady, to return you.DAT suits and go.INF.2PL with.me  
 que assy me praz.  
 that so me pleases

‘Then he went back very fast and grabbed the bridle of the lady’s horse  
 and told her: *Lady, you must move back and (must) come with me  
 because it pleases me so*’  
 (*Demanda*, fol. 99r)

In the sixteenth century copy of the text *Arimateia* clear instances of the inflected infinitive under *convir* are found, as exemplified in (19).<sup>14</sup>

- (19) Então disse Elaim a el-rey: – Se tu queres ser são,  
 then said Elaim to the-king if you want to.get well  
 primeyramente *te* *convirá* *leyxares* a ley pagam  
 first you.DAT will.suit leave.INF.2SG the law pagan  
 ‘Then the king told Elaim: – If you want to get well, you should abandon the  
 law of the pagans’  
 (*Arimateia*, fol. 300r)

We may wonder why the inflected infinitive arises in the complement of causative/perception verbs as late as the fifteenth century if the syntactic configurations prompting its emergence were a grammatical option much earlier.<sup>15</sup> There are at least two answers to this question. Maybe such configurations were possible but quantitatively inexpressive, as the ECM construction itself displayed a low rate of occurrence (see Section 2). Or maybe the inflected infinitive was allowed in the complement of causative and perception verbs before the fifteenth century but not so commonly as to be visible in the written language. As a matter of fact, there is an attestation of an inflected infinitive embedded under a perception verb in *Demanda*. But it is an isolated example and involves a seeming error of copy

14. Other changes in the syntax of *convir* are also attested in *Arimateia*, such as the subject raising configuration shown in (i). See Martins & Nunes (2005).

- (i) a fonte que viste na montanha, onde se convinhão  
 the spring that saw.2SG in.the mountain where *se* were.convenient.3PL  
 lavar todos os que a festa iam  
 wash.INF all the.ones that to.the party went  
 ‘the spring that you saw in the mountain, where everybody that went to the party  
 should wash’  
 (*Arimateia*, fol. 151v)

15. The fifteenth-sixteenth century corresponds to the chronology generally assumed since Maurer (1968).

(*uêê* ‘come’ for *uee* ‘see’), which leaves us with the reasonable doubt on whether the example in (20) below – with *uêê* ‘come’ corrected to *uee* ‘see’ – originates in the thirteenth century translation or the fifteenth century currently available copy.

- (20) se hũu caualeiro uee ij muy boos jũtarê-se per  
 if a knight sees two very good join.INF.3PL-themselves by  
 sanha e per maa talant aa batalha  
 fury and by ill will to.the fight  
 ‘if it happens that a knight sees two other join the fight with fury and ill will’  
 (*Demanda*, fol. 125v)

#### 4. Apparent inflected infinitives

Infinitives that assign nominative Case to their subjects may not display overt morphological expression of inflection. Still, syntactically, such infinitives behave as inflected infinitives if we take the central property of the inflected infinitive to be its ability to (independently) license a nominative subject.<sup>16</sup> Both in Brazilian Portuguese (Pires, 2002) and in some European Portuguese dialects (Barbosa & Freire, 2014; Pereira, 2012) this type of morphologically impoverished but syntactically bona fide inflected infinitive is a grammatical option. On the other hand, infinitives that display morphological inflection may appear in unexpected configurations where clearly there is no assignment of nominative Case to the infinitival subject (Fiéis & Madeira, 2014; Gonçalves, Santos, & Duarte, 2014; Hornstein, Martins, & Nunes, 2006, 2008; Martins, 2012). Sentences (21) and (22) below respectively illustrate the occurrence of apparent inflected infinitives in an ECM structure and in an obligatory control structure, two well known types of configuration where the infinitival subject is not assigned nominative Case (independently of the theory of control that one adopts). In (21), in particular, note that the causee overtly exhibits accusative marking.

- (21) Vi-os saírem no carrito dele e  
 saw.1SG-them.ACC leave.INF.3PL in.the little.car of.he and  
 vi-os quando chegaram.  
 saw-them.ACC when returned.3PL  
 ‘I saw them leave in their little car and saw them again when they returned.’  
 (Newspaper *Público*, 23/1/2005)

16. On the personal infinitive of Spanish, see Sitaridou (2009) and Torrego (1998).



- (22) dois exemplares são necessariamente entregues em papel, *podendo*  
 two copies are necessarily delivered in paper can.GER  
 os restantes *serem* entregues em suporte digital.  
 the remaining be.INF.3PL delivered in support digital  
 ‘Two copies must be delivered in printed version, while the others can be  
 delivered in digital format.’

(*Diário da República, 2ª série, n.º 194, 10-10-2011, Edital n.º 94/2011*)

A particular account has been proposed for each one of these two types of sentences, which seems right because speakers can accept one without accepting the other. In my judgment, for example, (21) is perfectly grammatical while (22) is out. Hornstein et al. (2006, 2008) take (21) to display a simple infinitive, which has its number feature morphologically expressed. The authors assume that the simple infinitive has a nominal character and bears a number feature, but no person feature, which makes it unable to assign nominative Case and hence distinct from the inflected infinitive. Gonçalves et al. (2014) assume a theory of control as Agree (Landau, 2000, 2004) and see the inflection on the infinitival verb in (22) as a visible morphological sign of the Agree operation that takes place between matrix T and embedded C-T, resulting in spreading of the phi-features of matrix T onto embedded T.

It is not my aim here to go through the details of the accounts of Hornstein et al. (2006, 2008) for sentences like (21) and Gonçalves et al. (2014) for sentences like (22). What I want to show is that none of these cases of apparent inflected infinitives is a recent innovation in the language even if only recently they became a subject of interest in the specialized literature. Moreover, the appearance of these morphologically enriched manifestations of the simple infinitive is not related to the diachronic path of change discussed in this paper, which led from the complex predicate structure of the *faire*-infinitive construction to the full-fledged infinitival structures displaying the inflected infinitive, with ECM structures constituting the diachronic bridge between them.

Sentences like (22), with a control infinitival displaying morphological inflection, are attested as soon as the sixteenth century copy of *Arimateia*, as exemplified in (23) and (24).<sup>17</sup> Since sentences of this type do not occur in *Demanda*, we can safely

17. On sentences with gapping of the finite verb in coordination structures and variation between the simple and the inflected infinitive, see Martins (2012) and the examples below.

- (i) devem teus pees de ser tão limpos que se *nom* *devem* *sujar*  
 shall your feet to be so clean that *se* not should get.dirty.INF  
 em nhũa maldade, *mas* *estarem* em oração e em pregação  
 in no evil but be.INF.3PL in prayer and in preaching

conclude that they were not part of the thirteenth century original, but were introduced in *Arimateia* by the sixteenth century copyists (Martins, 2013). The fact that these sentences have gone unnoticed by grammarians until recently, although they have been around for many centuries, indicates that they are in a sense marginal since they failed to diffuse and did not become part of the standard written language.<sup>18</sup>

- (23) Ora pois entremos, disserão eles, que, ja porque essa besta  
now so let.enter.1PL said they because even though that beast  
seja grande e fera, *nom leixaremos d' entrarmos.*  
is large and fierce not will.fail.1PL to get.in.INF.1PL

'Let us get in, because even if that beast is large and fierce, we will not fail  
to get in the boat' (Arimateia, fol. 195r)

- (24) E, por aquela aventura que ali aconteceu a el-rey Arfasão,  
and for that adventure that there happened to the-king Arfasão  
*vieram ali depoyos muitos cavaleiros provarem para jazerem*  
came.3PL there then many knights prove.INF.3PL to stay  
*i de noute*  
there at night

'And after that adventure happened to king Arfasão, many knights would  
come there to prove their courage by staying during the night'  
(Arimateia, fol. 303r)

e em confissão  
and in confession

'You should keep your feet clean and don't stain them with any wrong doing, but  
instead put them in prayer, preaching and confession' (Arimateia, fol. 37v)

- (ii) *podem chegar a introduzir a quem quiserem, e desviar*  
can.PRS.3PL get to introduce.INF to who want and remove.INF  
*e excluir a quem não quiserem*  
and exclude.INF.3PL to who not want

'They can bring into their circle whoever they wish as they can dismiss and  
exclude whoever they do not favour'

(António Vieira; 17th century. Example taken from Maurer (1968, p. 166))

18. Presently they are easily attested in written and spoken corpora. Two examples extracted from the *Syntax-oriented corpus of Portuguese dialects* (CORDIAL-SIN) are given below:

- (i) *então podem levar coentros* (AJT)  
then can.3PL take.INF.3PL coriander  
'Then we can add coriander to it.'

- (ii) *iam falam uns com os outros* (MTV)  
went.3PL speak.INF.3PL ones with the others  
'They would go and speak to each other.'

ECM infinitivals displaying inflection are well attested in the novels of chief nineteenth century Portuguese writers such as Júlio Dinis, Eça de Queirós and Camilo Castelo Branco. This is shown in (25) to (28) with examples taken from *Corpus do Português*. It is probably a matter of time until we are able to attest this kind of sentences in earlier written sources than the nineteenth century ones. The fact that ECM infinitivals displaying inflection are part of the nineteenth century literary standard points to an earlier emergence and diffusion. It remains to understand why these sentences were totally ignored by twentieth century Portuguese grammarians as if they were not part of Portuguese grammar.<sup>19</sup>

- (25) E dentro em pouco viu-as olharem também  
and in a moment saw.3SG-them.ACC look.INF.3PL also  
para Jorge com certa estranheza  
to Jorge with some awkwardness  
'And soon saw them look also to Jorge with some awkwardness.'  
(Júlio Dinis)
- (26) E viste-os beliscarem-se? – São como cães!  
and saw.2SG-them.ACC pinch.INF.3PL-SE are like dogs  
'Have you seen them pinching each other? They are like dogs!'  
(Eça de Queiroz)
- (27) Eu via-as reunirem-se em bandos por cima de mim  
I saw-them.ACC gather.INF.3PL-SE in flocks by above of me  
'I saw them gather in flocks over my head.'  
(Eça de Queiroz)
- (28) Via-os saborearem-se em sossego dos bens  
saw-them.ACC enjoy.INF.3PL-SE in peace of.the goods  
mal adquiridos  
ill gotten  
'He saw them enjoy in peace their ill-gotten goods.'  
(Camilo Castelo Branco)

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19. They are also absent from the recently published reference grammar of Portuguese organized by Raposo, Bacelar, Mota, Segura, and Mendes (2014). One of the reviewers asks whether it is a coincidence that out of the four examples of accusative subjects of 'inflected' infinitives cited in (25)–(28), three of them involve reflexive predicates. I do not have enough 19th century attestations of the relevant structure to be able to hypothesize whether it is a coincidence or not. However, as a speaker of the dialect that allows sentences like (25)–(28), I do not have restrictions on the type of verb that may occur in the infinitival clause. See also (21) above.

The two types of apparent inflected infinitives briefly addressed in this last section would deserve a morphologically-oriented approach that is not undertaken in the current paper.

## 5. Conclusion

This paper traces the evolution of Portuguese causative/perception structures over time. It is shown that there is no evidence for a diachronic relation between the Latin *Accusativus cum Infinitivo* construction and the Romance ECM construction. Instead the *faire*-infinitive construction, which seems to have emerged in Late Latin and Proto-Romance times, is the earlier pattern of infinitival complementation with causative and perception verbs in Portuguese (and, presumably, more generally in Romance). The ECM construction is the subsequent innovation and creates the conditions for the appearance of the inflected infinitive in the complements of causative and perception verbs. Hence the diachronic development of the structures analyzed in the paper defines a clear path of functional enrichment of the infinitival complements of causative and perception verbs, which gradually acquire greater syntactic autonomy.

The structurally ambiguous configurations that lie behind each step of the change are identified in the paper and are shown to hinge on specific syntactic traits of Old Portuguese. Besides, it is demonstrated that some object control verbs followed a similar path of change as causative and perception verbs (including the availability of restructuring and clitic climbing at earlier stages). This is, as far as I am aware, a new observation with potential for future investigations.

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# Controlled overt pronouns as specificational predicates

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Szabolcsi (2009) shows that there are languages where control and raising infinitives have overt subjects, in compliance with (1):

- (1) a. The overt subjects of control complements can only be pronouns.
- b. The overt subjects of raising complements can be pronouns or lexical DPs.

Drawing on data from European Portuguese (as well as Spanish and Italian) we show that the evidence underlying (1) constitutes a strong case in favor of a non-raising approach to obligatory control. Relying on the observation that many consistent Null Subject Languages (NSL) allow for explicit subjects in raising and control complements, we develop an account that aims to capture the association between this phenomenon and the null subject property.

**Keywords:** infinitival complements; control; raising; null subject language; exhaustive focus

## 1. Introduction

Szabolcsi (2009) discusses evidence that there are languages where control and raising infinitives have overt subjects. Her descriptive generalization regarding this set of languages is the following:

- (1) The overt subjects of control complements can only be pronouns. The overt subjects of raising complements can be pronouns or lexical DPs.

Even though similar observations have been made before for Italian and Spanish (Belletti, 2005; Burzio, 1986; Torrego, 1996), Szabolcsi's paper is particularly interesting given that it covers a considerable number of languages and reveals the existence of at least three different typological patterns:

- a. Languages that do not admit expressed subjects either in control or in raising complements; this is the case in English, German and French.



- b. Languages that allow for explicit subjects in raising and control complements: Hungarian, Italian, Romanian, Turkish, Brazilian Portuguese.
- c. Languages that allow for expressed subjects only in raising complements, like Russian, Finnish and (possibly) Hebrew.

In this paper, I will examine European Portuguese (henceforth EP) and I will show that it complies with (1). I will argue that the explicit subjects that occur in these infinitival complements in EP (as well as in Spanish or Italian) are genuine post-verbal subjects of the kind that is commonly attested in a standard consistent Null Subject language (henceforth NSL) and I will examine generalization (1) in light of the current debate between movement *vs.* non-movement-based theories of obligatory control (OC). I will show that the evidence underlying (1) constitutes a strong case in favor of a non-raising approach to OC. In particular, there are differences between raising and control complements in EP that resist explanation under a movement theory of control.

A closer look at the sample of languages studied by A. Szabolcsi reveals that all of the consistent NSLs in her sample fall under Pattern b. A. Szabolcsi conjectures that the availability of null subjects might play a role but then rejects this hypothesis in virtue of languages such as colloquial Brazilian Portuguese (henceforth, BP), which is no longer a consistent NSL and yet obeys pattern b. In Section 4, I will argue that BP doesn't quite fit the criteria for inclusion in pattern b. Thus, even though the correlation between consistent pro-drop and pattern b. might not be stated as a two way implication, there appears to exist a one way implication in the sense that there is not a single consistent NSL in the sample that doesn't fall under pattern b. My goal in this paper is to present an explanatory theory of (1) that captures this correlation.

Our analysis is based on the assumption that the head bearing person agreement features in the consistent NSLs is interpretable (Alexiadou & Agnastopoulou, 1998; Barbosa, 1995). Along the lines of Holmberg (2005), we assume that T bears an interpretable D feature regardless of whether it is finite or non finite. The novel contribution of the paper is the idea that, due to D's interpretability, when a lexical subject is merged as an argument, it must be interpreted as a property that is applied to the variable introduced by D. Crucially, the element that truly saturates the verbal predicate is this variable. When the subject is an individual denoting expression – a pronoun or a definite DP – its meaning must be shifted to a property by the type-shifting operation *Ident* (Partee, 1987), which maps the DP denotation onto its singleton set; i.e, it maps *j* onto the property  $\lambda x [x = j]$ . In many contexts, particularly in V initial clauses with a transitive verb, the identity statement is mapped in the Nuclear Scope and the rest of the material in clause is presupposed. This yields the exhaustive focus interpretation that is typical of many postverbal subjects in EP and Italian, particularly in V initial sentences

with a transitive verb, and captures the occurrence of emphatic pronouns in finite environments. In infinitival contexts, T has unvalued  $\phi$ -features. In this case, two configurations arise. If the matrix verb is a raising verb, the identity relation may be established between the lexical subject *in situ* (a pronoun or an R-expression) and D in T in the matrix or in the embedded clause. When the selecting verb is an OC verb, a predicative Fin head (Landau, 2015) is selected. In the spirit of Kratzer (2009), we propose that Fin carries a binder index represented as a lambda operator that binds a variable in the clause, turning it into a predicate. Since the relation established between an overt subject and the index on D under infinitival T is one of identification, an overt subject may be present as long as it is a pronoun bound from Fin. A R-expression is not allowed due to Condition C. This captures generalization (1).

This paper is organized as follows. In Section 2 I introduce the relevant data. In Section 3 I argue that the DPs that occur in these infinitival complements are genuine subjects and I discuss the relevance of the data examined for the current debate between movement-based vs. Agree-based theories of OC. In Section 4, I motivate the existence of a correlation between the occurrence of overt subjects in control infinitival complements and the null subject property (of the rich agreement type) and in Section 5 I lay out my basic assumptions regarding clausal structure in the Romance NSLs; I address the issue of the status of the head bearing person agreement and its impact on the position occupied by overt subjects in the infinitival complements under discussion. In Section 6 I discuss two possible approaches to overt subjects of infinitival control complements and show why they lack explanatory power. Section 7 presents our core proposal and Section 8 applies this proposal to the raising and control complements under discussion. Section 9 concludes the paper with a possible speculation regarding the status of PRO in these languages.

## 2. The data

In this section, I introduce the data discussed in Szabolcsi (2009). I will use examples from EP (a language that is not discussed by A. Szabolcsi), but the same facts obtain in Italian and Spanish, as reported in the paper cited.

### 2.1 Obligatory control complements

Consider the following example:

- (2) *Só ele* decidiu ir ao mercado.  
       only he decided to go to.the market  
       ‘He is the only one who decided to go to the market.’

(2) has the interpretation indicated in the English gloss, with the Focus operator having matrix scope. Example (3) below, with a postverbal subject, is ambiguous and can have the two readings indicated in [a] and [b] depending on whether the focused DP is interpreted as having scope over the matrix verb (reading [a]) or over the embedded verb only (reading [b]). Following Szabolcsi (2009), I will call each of these readings the High and Low readings, respectively:

- (3) Decidiu ir ao mercado só ele.  
 decided to go to.the market only he  
 [a] 'He is the only one who decided to go to the market.'  
 [b] 'He decided for it to be the case that only he goes to the market.'

The ambiguity of (3) can easily be explained under the assumption that (3) is structurally ambiguous: the focused pronoun can be the (postverbal) subject of the matrix clause ((4a)) or it can be the (postverbal) subject of the embedded clause ((4b)):

- (4) a. [decidiu [PRO ir ao mercado] só ele]  
 b. [*pro* decidiu [ir ao mercado só ele]]<sup>1</sup>

Now compare Example (3) above with (5) below:

- (5) Decidiu ir ao mercado só o João.  
 decided to go to.the market only the João  
 [a] 'John is the only one who decided to go to the market.'  
 [b] \*'He decided for it to be the case that only John goes to the market.'

(5) differs from (3) in that the focused DP is fully lexical rather than a pronoun. Curiously, the Low reading disappears in this case and the focused DP can only be interpreted with matrix scope. Under a standard, non-raising, approach to OC, the reading in (5a) corresponds to the syntactic representation in (6a). The syntactic configuration that would serve as input for the Low reading (5b) is represented in (6b):

- (6) a. [decidiu [PRO ir ao mercado] só o João]  
 b. \**pro*<sub>i</sub> decidiu [ir ao mercado só o João]<sub>i</sub>

The configuration in (6b) is a Condition C violation and this is why the Low reading is not available. This means that the subject pronoun in (3) in the Low reading is indeed in a low position, inside the embedded infinitival clause.

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1. Below we will argue that *pro* is actually in postverbal position in the matrix clause. Here we comply with 'the received view' that *pro* occupies the preverbal position so as not to distract the reader from the main thread of the argument.

Note that the pronoun in the embedded clause doesn't need to be modified by a Focus operator. It may occur by itself, in which case the most natural position for it is before the complement:

- (7) Decidiu ir *ele* ao mercado.  
 decided to go he to.the market  
 'He decided for it to be the case that he would be the one to go the market.'

In (7) the pronoun is focused and the sentence has the reading indicated in the gloss (below, we will return to the issue of the position and interpretation of these postverbal subject pronouns). (7) strongly favors the Low reading when uttered without a break between the pronoun and the PP. The same can be said of (8) below, with a modified pronoun:

- (8) Decidiu ir *só ele* ao mercado.  
 decided to go only he to.the market  
 'He decided that he would be the only one to go to the market.'

Similarly to what is shown in Szabolcsi (2009) for Hungarian, the overt pronoun in examples such as (3) or (7–8) can only be interpreted *de se*, a fact that suggests that we are dealing with control rather than coreference. Thus, it is not possible to use (9) below to describe a situation of mistaken identity, i.e., a situation in which the amnesiac heroes are not aware of the fact that they are the ones who will receive the medal.<sup>2</sup>

- (9) Os heróis amnésicos detestaram receber eles a medalha.  
 the heroes amnesiac hated to receive they the medal  
 'The amnesiac heroes hated it that they were the ones to receive the medal.'

Moreover, it is worth pointing out that these facts are not related to restructuring (Ordóñez, 2007). The examples mentioned so far contain the verbs *decidir* 'decide' and *hate* 'detestar', which are not restructuring verbs (Rizzi, 1978). This

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2. Here we use a plural subject in order to avoid the possibility of having an inflected infinitive in the embedded clause. Since third person singular agreement inflection is zero in the inflected infinitive, a third person singular inflected infinitive is homophonous with an uninflected infinitive. To my ear, an inflected infinitive doesn't require a *de se* interpretation, unlike the uninflected form. Thus (i) below can be appropriately used to report a situation in which the amnesiac heroes do not know that they themselves received the medal in contrast to what happens in (9).

- (2) Os heróis amnésicos detestaram terem recebido eles  
 the heroes amnesiac hated.3PL to have.INF.3PL received they  
 a medalha.  
 the medal

is confirmed by the fact that they don't allow clitic climbing, a well-known test for restructuring.

- (10) \*Decidi-os / detestei-os convidar.  
decided.1SG-them / detested.1SG-them to invite
- (11) Decidi / detestei convidá-lo.  
decided.1SG / detested.1SG to invite-him  
'I decided / detested to invite him.'

Moreover, it is not possible to relate these facts to lack of a CP projection (Costa, 2004) given that these controlled pronominals can occur in infinitival complements introduced by an overt complementizer (the EP Example (12)). This observation has already been made by Torrego (1996) for Spanish (13) and Belletti (2005) for Italian (14):

- (12) Não sabemos [se assinar (*só*) nós a carta ou não].  
not know.1PL if to sign (only) we the letter or not  
'We don't know whether only us should sign the letter or not.'
- (13) No sabemos [si firmar *nosotros* la carta].  
not know.1PL if to sign us the letter  
'We don't know whether to sign the letter ourselves'
- (14) Maria mi ha chiesto [di parlare *io* com Gianni].  
Maria me has asked DI to speak I with Gianni  
'Maria asked me to talk to Gianni myself'

Note that (14) contains an object control verb. Therefore, the phenomenon in question is not limited to subject control.<sup>3</sup> (15) illustrates this for Portuguese.<sup>4</sup>

- (15) Ontem os pais obrigaram as crianças a fazer elas  
yesterday the parents forced the children to make they  
a cama.  
the bed  
'Yesterday their parents forced the children to make their bed themselves.'

In sum, in obligatory control complements, the (noninflected) infinitival clause may have what look like explicit subjects, which are obligatorily controlled. As mentioned above, Belletti (2005) and Torrego (1996) reach similar conclusions

3. This is unlike the situation in Hungarian, where overt subjects are unattested in object control complements. Here we don't have an account of this contrast.

4. Examples (15) and (12) sound more natural with an inflected infinitive, but we wouldn't say that they are ungrammatical.

for Italian and Spanish. Besides pronouns, the following two kinds of anaphoric expressions can also occur in OC constructions:

*Partitive QPs containing a pronoun*

(16) *EP*

Pensamos falar alguns de nós / vários de nós / muitos de nós com ela.  
 think.1PL to speak some of us / several of us / many of us with her  
 ‘Some of us / several of us / many of us intend to talk to her.’

(17) *Spanish (Torrego, 1996)*

No sabemos si asistir algunos de nosotros / muchos de nosotros.  
 not know if to attend some of us / many of us  
 ‘We don’t know whether some of us / many of us should attend.’

*Certain kinds of anaphoric collective DPs (Torrego, 1996)*

- (18) Não sabemos como falar a turma toda / o grupo todo  
 not know.1PL how to talk the class whole / the group whole  
 com ela  
 with her  
 ‘We don’t know how the whole class / the whole group will talk to her.’

Spanish allows yet another kind of collective DP in this configuration, as illustrated in (19).

(19) *Spanish (Torrego, 1996)*

No sabemos si asistir los linguistas.  
 not know.1PL whether to attend the linguists  
 ‘We linguists don’t know whether to attend.’

The EP counterparts to (19) are out, a fact we will get back to below.

(20) *EP*

\*Não sabemos se assinar os linguistas ou não.  
 not know.1PL whether to sign the linguists or not

## 2.2 Raising complements

Szabolcsi (2009) observes that, in raising complements, the distinction between pronouns and (non-anaphoric) lexical DPs is lost. Thus, the examples that follow allow for the Low reading regardless of the nature of the DP.

(21) *EP*

- a. Não pareço cantar só eu nesta gravação.  
not seem.1SG to sing only I in.this recording  
'It doesn't seem to be the case that only I sing in this recording.'
- b. Não parece cantar só o João nesta gravação.  
not seem.3SG to sing only the João in.this recording  
'It doesn't seem to be the case that only John sings in this recording.'

(22) *Italian*

- a. Non sembro cantare solo io su questo nastro.  
not seem.1SG to sing only I in this recording  
'It doesn't seem to be the case that only I sing in this recording.'
- b. Non sembra cantare solo Gianni su questo nastro.  
not seem.3SG to sing only Gianni in this recording  
'It doesn't seem to be the case that only John sings in this recording.'

Since it is not easy to distinguish the High from the Low readings with the verb 'seem', Szabolcsi uses other examples with raising verbs and designs different scenarios that clearly distinguish the different truth-conditions associated with each reading. Here we apply her tests to sentences with the aspectual verb *começar* in EP. Consider the following sentences and the situations described in (24):

- (23) a. Só ela / só a Maria começou a receber bons papéis.  
only she / only the Maria started to receive good roles
- b. Começou a receber bons papéis só ela / só a Maria.  
started to receive good roles only she / only the Maria  
'Only she / only Maria started to get good roles.'

- (24) a. *Scenario A*: High reading true; low reading false
- |       |                    |                    |
|-------|--------------------|--------------------|
|       | Before 2015        | In 2015            |
| Eva   | Without good roles | Without good roles |
| Clara | Some good roles    | Some good roles    |
| Maria | Without good roles | Some good roles    |
- b. *Scenario B*: High reading false; low reading true.
- |       |                 |                    |
|-------|-----------------|--------------------|
|       | Before 2015     | In 2015            |
| Eva   | Some good roles | Without good roles |
| Clara | Some good roles | Without good roles |
| Maria | Some good roles | Alguns bons papéis |

(23a) is compatible with scenario A only.<sup>5</sup> It means that she/Maria was the only person that started to receive good roles. (23b) is compatible with both scenarios given that it has the following two readings:

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5. The lack of ambiguity of this example indicates that reconstruction is not an option.

- (25) a. It started to be the case that only she/Maria got good roles.  
 b. She/ Maria was the only one who started to receive good roles.

This shows that raising complements with an explicit subject are fully ambiguous regardless of the nature of the DP (a pronominal or lexical DP). The ambiguity of such examples can be attributed to the two positions available for the subject: it may be the post-verbal subject of the embedded clause ((26a)) or it may be the subject of the matrix ((26b)):

- (26) a. Começou [a receber bons papéis só ela / só  
 Started to receive good roles only she / only  
 a Maria].  
 the Maria  
 ‘It started to be the case that only she / Maria got good roles.’  
 b. Começou [a receber bons papéis] só ela / só  
 started to receive good roles only she / only  
 a Maria.  
 the Maria  
 ‘She / Maria was the only one who started to receive good roles.’

Of interest to us here is the configuration in (26a). In sum, raising complements differ from control complements in that they do not require the subject in the embedded clause to be a pronoun or an anaphoric expression.

### 2.3 Discussion

The facts just presented are particularly interesting in light of the debate between movement-based *vs.* nonmovement theories of OC. Under the view of Control as raising (Hornstein, 1999, and subsequent works), one might be tempted to account for the facts just discussed in terms of *backward control* or *backward raising* (Alexidou, Anagnostopoulou, Iordachioaia, & Marchis, 2008; Polinsky & Potsdam, 2002), whereby the subject of the infinitival clause is the Spell-out of the copy of the raised subject. As pointed out in Szabolcsi (2009), however, this cannot be done in the case of the data discussed here for the following reasons. First, the embedded subjects do not have matrix scope. This is unexpected if the pronoun is the copy of a raised subject. Secondly, the contrast between raising and control complements regarding non-pronominal subjects is not easily explained. Recall that, with control verbs, only pronouns (or a restricted set of anaphoric collective DPs) are compatible with the Low reading ((3) *vs.* (5b)). Earlier, we attributed this to a Condition C effect, but this account is lost under a backward control analysis, which would predict raising and control infinitives to behave alike with respect to the choice of the phonological shape of the pronounced copy.



### 3. Multiple subjects and emphatic pronouns

One other fact pointed out by Szabolcsi (2009) as well as Belletti (2005) and Torrego (1996) is that these control and raising structures may take multiple subjects. Here we transcribe examples in EP ((27)) and Italian ((28)).

- (27) a. *Só o João* detestou resolver *só ele* o problema.  
 only the João hated to solve only he the problem  
 ‘Only John hated it that only him solved the problem.’  
 b. *O João* acabou por resolver *ele* o problema.  
 the João ended up to solve he the problem  
 ‘John ended up solving the problem himself.’
- (28) a. *Solo Gianni* vuole and are *solo lui* a scuola.  
 Only Gianni wants to go only he to school  
 ‘Only Gianni wants to be the only one to go to school’  
 b. *I ragazzi* risultarono aver risposto *loro* alla domanda.  
 the boys turned out to have answered them to.the question  
 ‘The boys ended up answering the question themselves.’

These examples are strongly reminiscent of the constructions with “emphatic” pronouns discussed in Burzio (1986), among others. In the Romance languages under discussion a pronoun (bare or modified by a focus particle) may co-occur with an explicit preverbal subject in a simple sentence. The preverbal subject may be a full DP or even a pronoun:

- (29) A *Teresa / ela* escreveu *só ela* o poema.  
 the Teresa / she wrote only she the poem  
 ‘Teresa was the only one who wrote the poem’ = ‘Teresa / she wrote the poem herself.’
- (30) a. A *Teresa / ela* escreveu *ela* o poema (ninguém  
 the Teresa / she wrote she the poem (no one  
 a ajudou).  
 her helped)  
 b. A *Teresa / ela* escreveu o poema *ELA* (ninguém  
 the Teresa / she wrote the poem she (no one  
 a ajudou).  
 her helped)  
 ‘Teresa / she was the one who wrote the poem (no one helped her).?’ =  
 ‘Teresa / she wrote the poem herself (no one helped her).’

- (31) *Italian (Belletti, 2005)*  
 Gianni / lui verrà *lui*.  
 Gianni / he will come he  
 'John / he will come himself'
- (32) *Spanish (Sanchez, 1995)*  
 Pedro abrió *el* la puerta.  
 Pedro opened he the door  
 'Pedro opened the door himself'

In (29) the pronoun is modified by a Focus particle. In the remaining examples it appears by itself. As we can see in the EP Examples (30), the pronoun may precede the object ((30a)) or follow it ((30b)). In the latter case it must bear stress (as indicated by the use of capital letters). In both cases the reading obtained is the one indicated in the glosses, where the pronoun bears exhaustive focus and acquires an interpretation that can be paraphrased in English by sentences with the adjunct *n*-SELF anaphor. This is why these pronouns have been labelled "emphatic" by Burzio (1986).

In view of these examples, one might think that the pronouns in the embedded clauses in (29–32) are not genuine subjects, but rather some kind of anaphoric adjuncts. In the next section, we argue that this hypothesis is untenable and that the pronouns in bold in all of the examples mentioned above are genuine postverbal subjects.

### 3.1 Evidence that emphatic pronouns are subjects

According to some linguists, emphatic pronouns are not real subjects but rather adjunct anaphors (Piera, 1987), or the phonetic realization of a trace (Burzio, 1986). Barbosa (1995), Belletti (2005), Cardinaletti (1999), Rigau (1987) and Solà (1992), however, claim that they are postverbal subjects. In what follows, I present some of the arguments given in Barbosa (1995).

The idea that these pronouns are adjuncts (very much like the adjunct SELF anaphor *himself* in English) faces the problem that they do not have the same properties as adjunct anaphors. In the first place, if they are adjuncts, we should expect them to attach to any DP in the sentence, as happens with the English anaphor (*I talked to the director himself*). However, this is not the case: emphatic pronouns may not attach to a DP ((33)); in this situation, a SELF anaphor must be used ((34)):

- (33) a. \*Apareceu o director ELE.  
 appeared the director HE

- b. \*Falei com o director ELE  
talked.1SG to the director HE
- (34) a. Apareceu o director *ele próprio*.  
appeared the director him self  
'The director himself showed up.'
- b. Falei com o director *ele próprio*.  
talked.1SG to the director him self  
'I talked to the director himself.'

As shown in (34), EP does have a lexical counterpart to English *himself*, namely the simplex anaphor *próprio/a* or the complex anaphor *pronoun-próprio/a*. Thus, the hypothesis that emphatic pronouns are adjuncts is untenable.<sup>6</sup>

On the other hand, emphatic pronouns have the same distribution and interpretation as regular postverbal subject pronouns. Thus, on a par with (30a–b) above we have (35a–b), where the pronoun gets a rather similar interpretation, as indicated in the English glosses provided:

- (35) a. Escreveu *ela* o poema (ninguém a ajudou).  
wrote.3SG she the poem (no one her helped)
- b. Escreveu o poema *ELA* (ninguém a ajudou).  
wrote.3SG the poem she (no one her helped)  
'She was the one who wrote the poem (no one helped her).' = 'She wrote the poem herself (no one helped her).'

In these examples, the pronoun is exhaustively focused and the effect obtained can be paraphrased in English by means of a cleft or by means of a sentence with a SELF anaphor in a way that is strikingly similar to (30a–b). The pronoun may precede the object or follow it (in which case it must be heavily stressed).

I assume the analysis of VSO/VOS alternations proposed in Costa (1998) for EP and Cardinaletti (1998) for Italian. According to this analysis, postverbal subjects occupy their base position inside the *v*/VP. Since these languages have V raising to T, the order obtained is VSO; VOS order is derived by object scrambling to a position above *v*P. Thus, (35a) is analysed as in (36a), and (35b) is analysed as in (36b):

- (36) a. [<sub>TP</sub> escreveu [<sub>vP</sub> *ela* escreveu o poema]]  
b. [<sub>TP</sub> escreveu [o poema [<sub>vP</sub> *ela* escreveu o poema]]]

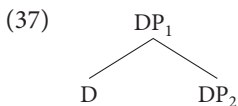
6. Torrego (1996) maintains the idea that the pronoun is an adjunct in these cases, but stipulates that the pronoun can only be an adjunct of a null element (a trace, *pro* or PRO), yielding an emphatic pronoun, a post-verbal pronoun and a controlled pronoun, respectively. The question is why such adjuncts should be so restricted. Below we will discuss examples that pose a problem for this hypothesis (see footnote 11).

In (36b) the pronoun is the mostly embedded constituent. Therefore, it is assigned Nuclear Stress by the Nuclear Stress Rule (Cinque, 1993; Zubizarreta, 1998). This fact explains why the pronoun in that position must bear stress, as indicated above. Note that this effect obtains in (35b) as well as in (30b) above, with an emphatic pronoun. This, for us, is a clear indication that the emphatic pronoun is subject to the same restrictions as postverbal subject pronouns.

There is, of course, an alternative view, according to which postverbal subjects occupy a Focus position in the postverbal field. This is the approach defended in Belletti (2005) and the analysis adopted by Ordóñez (2007) for Spanish VOS order.<sup>7</sup> In Section 7 we will offer an analysis of the interpretative properties of post-verbal subjects that doesn't rely on movement to a Focus position, so we delay discussion of this point for later. For the moment, it suffices to observe that since emphatic pronouns have the same distribution and interpretation as postverbal subject pronouns, it is legitimate to conclude that they are subjects.

In view of this, there are in principle at least three possible alternative analyses of "double subject" constructions such as (27–32) above:

- a. The emphatic pronoun is the spell out of the copy of the moved subject (Burzio, 1986);
- b. The emphatic pronoun and the preverbal subject form a unique syntactic constituent, a Big-DP of the kind proposed by Cecchetto (2000), Torrego (1995), Uriagereka (1995) in order to account for Clitic Doubling in Romance ((37)); part of the Big-DP, DP<sub>2</sub>, moves to preverbal position and the remaining part (the pronoun) stays in the right-periphery of the clause; this is Belletti's (2005) proposal:<sup>8</sup>



7. Ordóñez (2007) observes that a postverbal subject pronoun in VSO order in Spanish need not be contrastively focused and argues that this order is obtained by movement of the subject to Spec-TP and verb raising to a higher Infl node. Since lack of focus on the pronoun is a property that sets Spanish apart from all the other Romance languages (except probably Romanian), I set this issue aside in this paper.

8. DP<sub>2</sub> can be a lexical DP ((39)), *pro* ((ia)) or PRO ((ib)); this yields, respectively, a "double subject" construction; a postverbal subject construction; a controlled explicit subject:

- (i) a. [[<sub>DP2</sub> *pro*] [<sub>T'</sub> *escreveu* [<sub>VP</sub> [<sub>DP1</sub> *ela* [<sub>DP2</sub> ~~*PRO*~~] o poema]]
- wrote she the poem
- b. A Teresa decidiu [[PRO *escrever* [<sub>VP</sub> [<sub>DP1</sub> *ela* [<sub>DP2</sub> ~~*PRO*~~] o poema]].
- The Teresa decided to write she the poem

(38) [[<sub>DP2</sub> A Teresa] [<sub>T'</sub> escreveu [<sub>VP</sub> [<sub>DP1</sub> ela [<sub>DP2</sub> A Teresa ]]] o poema]]

- c. The DP in preverbal position is not the thematic subject, but is rather a left-dislocated topic doubled by the pronominal subject in postverbal position (Barbosa, 1995; Rigau, 1987; Solà, 1992); in the representation that follows we assume that left dislocated topics are *base-generated* in the left periphery of the clause and are licensed by “rules of predication” in the sense of Chomsky (1977) (Anagnostopoulou, 1997; Barbosa, 1995, 2000; Cinque, 1990; De Cat, 2007; Demirdache, 1992, for extensive arguments in favor of a base-generation analysis of left-dislocated topics):<sup>9</sup>

(39) [DP<sub>k</sub> [<sub>TP</sub> V/v [<sub>V/VP</sub> ... *subject pronoun*<sub>k</sub> ...]]

(40) [A Teresa]<sub>i</sub> [<sub>TP</sub> escreveu [<sub>VP</sub> ela<sub>i</sub> [<sub>V'</sub> ~~escreveu~~ o poema]]]]

One simple way of testing hypothesis c. consists in seeing whether these “double subject” constructions are compatible with non-referential quantified expressions. As is well-known, “non-referential” quantifiers cannot in general be left-dislocated. The following examples from French illustrate this fact:

- (41) a. Pierre il aime la musique.  
         Pierre he loves the music  
       b. \*Personne il aime la musique.  
           no one he loves the music

Since topics introduce entities (or sets of entities, in the case of plurals) that the sentence is about, nonreferential QPs cannot be topics.<sup>10</sup> Given this, hypothesis c. predicts that a non-referential quantified phrase should be incompatible with an emphatic pronoun, and, in effect, this prediction is confirmed ((42–43)).

- (42) EP  
       \*Nenhuma criança escreveu ela o poema.  
       no child wrote she the poem

9. Such arguments are drawn from a systematic comparison between CLLD, on the one hand, and Focus/*wh*-movement, on the other. Focus/*wh*-moved constituents obey successive cyclicity and reconstruct for the purposes of *ne*-clitization and scope; CLLDed topics do not pass any of these diagnostics. Since the evidence is overwhelming and I have never seen a movement analysis of CLLD that successfully captures these basic contrasts, I assume a base-generation analysis. It is often claimed that CLLD obeys strong islands. De Cat (2007), however, shows that once the examples are properly constructed, speakers of French do accept sentences with a CLLD topic and the resumptive inside a relative clause.

10. On this issue, see Endriss and Hinterwimmer (2008), who introduce the notion of ‘topical quantifier’ vs. ‘non-topical quantifier’.

(43) *Italian (Cardinaletti, 1999)*

\*?Nessuno è venuto lui.  
no one has come he

(44) *Italian (Szabolcsi, 2009)*

*Context:* The teacher worked and...

a. Gianni ha lavorato anche lui.  
Gianni has worked also he  
'John too worked.'

b. \*Ogni ragazzo ha lavorato anche lui  
every boy has worked also he

Now note that it is possible to construct an example with an emphatic reflexive in English which is linked to a negative QP subject. As discussed in Ahn (2010), (45) is a felicitous utterance in a context in which Mary sees an empty pack of cigarettes and wonders how many people it took to finish it. She then remembers that Spike smokes a lot and utters (45):

(45) No boy could have smoked the whole pack himself.

In this example, the emphatic reflexive cooccurs with a negative QP, which shows that emphatic reflexives differ from emphatic pronouns in this regard.

These facts favor hypothesis c. and constitute a problem for hypotheses a. and b. Recall that, under hypothesis c., the pronoun is the argumental subject and the dislocated DP is a base-generated topic. Since non-referential QPs cannot be left dislocated, the only configuration available for them when they occur in preverbal position is the one in (46), where the QP is the thematic subject; hence there is no room for the subject pronoun:

(46) [Nenhuma criança escreveu [<sub>VP</sub> ~~nenhuma criança~~ escreveu o poema]]

Now consider hypotheses a. and b. in light of these facts. If the emphatic pronoun is the spell out of the copy of the raised subject (hypothesis a.), there is really no explanation for why this option is blocked in the case of a non-referential QP. The same reasoning applies to hypothesis b. Under the Big-DP approach, it is also not clear why DP<sub>2</sub> may not be a non-referential QP. In view of these facts, I conclude that emphatic pronouns are not contained inside a Big-DP and are rather genuine subjects sitting in their base position (or in another intermediate postverbal position).<sup>11</sup> For additional arguments in favor of this view, the reader is referred to Cardinaletti (1999).

11. Torrego (1996) argues that the pronoun is an adjunct in these cases, but stipulates that the pronoun can only be an adjunct of a null element (a trace, *pro* or PRO), yielding an emphatic pronoun, a post-verbal pronoun and a controlled pronoun, respectively. On such an account,

### 3.2 Multiple subjects in raising and control complements

Turning now to non-finite complements with an overt nominative pronoun we note that they are remarkably similar to the mono-clausal examples with an emphatic pronoun. Given these similarities, it is reasonable to conclude that the pronouns that occur in the embedded infinitival complements are also genuine (postverbal) subjects. In fact, all of the expressions that can occur as subjects of control infinitives ((47)) can easily occur as postverbal subjects in a simple clause triggering exactly the same kind of agreement morphology that is found in a control structure ((48)).

- (47) Pensamos falar nós / só nós / só nós os dois / alguns  
 think.1PL to speak we / only we / only we the two / some  
 de nós / a turma inteira.  
 of us / the class whole  
 'We / Only us / only both of us / some of us / we the whole class intend to talk to her.'

- (48) Chumbámos nós / só nós / só nós os dois / alguns de nós  
 flunked.1PL we / only we / only we the two / some of us  
 / a turma inteira  
 / the class whole  
 'We / only us / only both of us / some of us / we the whole class flunked.'

The same point can be made for Spanish: the collective DPs that may appear in the embedded clause in a control structure ((49a)) can occur as postverbal subjects in a simple clause ((49b)); and much as in the control case ((50a)), EP's counterpart to (49b) is out ((50b)):

- (49) *Spanish* (Torrego, 1996)  
 a. No sabemos si asistir los lingüistas.  
 not know.1PL whether to attend the linguists  
 'We linguists don't know whether to attend.'  
 b. Firmamos los lingüistas la carta.  
 sign.1PL the linguists the letter  
 'We linguists sign the letter.'

the ungrammaticality of (43–44) (and other examples of the same type to be discussed below) is unexpected. Besides, one would like to understand why such pronouns should be restricted to occur as adjuncts of null elements.

(50) *EP*

- a. \*Não sabemos se assinar os linguistas ou não.  
not know whether to attend the linguists or not
- b. \*Assinamos os linguistas a carta.  
sign.1PL the linguists the letter

Evidence that the control and raising complements with multiple subjects should be analysed along the same lines as the monoclausal examples with emphatic pronouns comes from the following interesting contrast in the distribution of non-referential QPs in raising *versus* control complements. Unlike referring DPs ((51a)), non-referential QPs may not occur in a “multiple” subject construction with a raising verb ((51b)):

- (51) a. A empregada não apareceu e o hóspede acabou por  
the maid not showed up and the guest ended up  
fazer ele o pequeno-almoço.  
to make he the breakfast  
‘The maid didn’t show up and the guest had to cook breakfast himself.’
- b. A empregada não apareceu, mas eu fui lá  
the maid not showed up but I went there  
e \*nenhum hóspede acabou por fazer ele  
and no guest ended up to make he  
o pequeno-almoço.  
the breakfast  
‘The maid didn’t show up but I went there and no guest turned out to prepare breakfast himself.’

Our explanation of the contrast between (29) and (42) above carries over to the raising case: in (51a) the DP *o hóspede* is a base-generated topic doubled by the pronoun, which is the *in situ* subject of the infinitival clause:

- (52) o hóspede [acabou por [fazer ele o pequeno-almoço]]  
the guest ended up to make he the breakfast  
‘The guest ended up cooking breakfast himself.’

In (52), the subject *in situ* bears a long distance Agree relation with matrix T. This configuration is not available in (51b) given that the non-referring expression *nenhum hóspede* ‘no guest’ cannot be a base-generated topic; the QP can only be merged as an argument of the embedded clause and then raised to the matrix. For this reason, there is no position for the subject pronoun to be merged in the embedded clause.

- (53) [nenhum hóspede [acabou por [fazer ~~nenhum hóspede~~ o pequeno-almoço]]



Now, interestingly, control complements can take multiple subjects with a non-referential QP, as shown by the following example, which constitutes a minimal pair with (51b):

- (54) Estou certa de que nenhum hóspede optará por fazer *ele*  
 am certain of that no guest choose.FUT by to make he  
 o pequeno-almoço todos os dias.  
 the breakfast every the days  
 ‘I am certain that no guest will choose to prepare his breakfast himself  
 every day’

Likewise, Szabolcsi (2009) mentions the following Italian example, which minimally contrasts with (44) above:

- (55) *Context:* The teacher worked and...  
 Ogni ragazzo vuole lavorare anche lui.  
 Every boy wants to work also he  
 ‘Every boy wants it to be the case that he too works.’

The contrast between (51b) and (54) can be easily explained under the assumption that the QP *nenhum hóspede* is merged as an argument of the matrix control verb (note that since it is a non-referential QP, it cannot be a left-dislocated topic). It is first merged in Spec,νP and then subsequently moved to pre-verbal position ((56)). The pronoun occupies the subject position of the infinitival complement and is construed as a bound variable:

- (56) [[nenhum hóspede]<sub>i</sub> optará[[nenhum hóspede]<sub>i</sub> optará [por fazer  
 no guest choose.FUT for to make  
*ele*<sub>i</sub> o pequeno almoço]]]  
 he the breakfast  
 ‘No guest will choose to cook breakfast himself’

The crucial difference between the raising case (51b) and (56) is that in the raising case the base position for the raised QP is the subject position selected by the infinitival verb ((53)). In (56), by contrast, there are two independent thematic positions: one is selected by the embedded infinitival verb and is filled by the pronoun; the other is selected by the matrix verb and is realized by the QP.

It is important to stress that the contrast between raising and control is only visible when we make sure that a left-dislocation analysis is excluded, as in the case of a negative QP. When a left-dislocation analysis is available, we get the configuration in (52), where the embedded subject position is filled by a pronoun triggering a long-distance Agree relation with matrix T and the topic is

directly base-generated in place. The analysis is quite straightforward as long as it is assumed that left-dislocation doesn't involve movement, contra much of the received view on the matter. The reader is referred to the sources cited for independent arguments against a movement analysis of left-dislocation (see also footnote 9).

Independent evidence in favor of this overall approach actually comes from Hungarian. In A. Szabolcsi's Hungarian dialect, pronominal placeholders for 3rd person left-dislocated expressions are distal demonstratives, never personal pronouns. Therefore, if indeed our account is on the right track, we predict that Hungarian should display a contrast between control and raising complements with respect to the possibility of allowing "multiple subjects". Raising complements are predicted not to allow "multiple" subjects, in view of the unavailability of doubling by a pronoun. Sentences containing control complements on the other hand, should be OK, given that the matrix lexical subject is an argument of the matrix verb and the embedded pronoun is an argument of the infinitival complement. This prediction is indeed confirmed by Szabolcsi's (2009) data: (57) below is fine and (58a–b) are judged as deviant:

(57) *Control*

János nem akart [megpróbálni [*csak ő* menni busszal]].  
 János not want to try only he to go bus.with  
 'John doesn't want to be another person who tries to be the only one who takes the bus.'

(58) *Raising*

a. ?\*Nem fogok [*én is* elkezdni [*nem én* kapni szerepeket]]  
 not will I too begin not I to get roles.ACC  
 'It will not happen to me too that it will begin to be the case that it is not me that gets roles.'

b. ?János elkezdett [*csak ő* kapni szerepeket].  
 János began only he to get roles.ACC  
 'It began to be the case that only John gets roles.'

Thus, we take this paradigm as indirect evidence in favor of our analysis.

Now let us consider these contrasts between raising and control complements in light of the debate over whether control can be reduced to a special case of raising. Under this approach it is not at all clear how to explain the minimal pair formed by (51b) and (54). If the pronoun in (51b) is the spell out of the raised subject then the ungrammaticality of the example is unexpected. Furthermore, the contrast between (51a) and (51b) is also left unaccounted for. For this reason, I conclude that the paradigm discussed constitutes a strong case in favor of a non-movement account of obligatory control.

#### 4. Cross-linguistic differences

In her paper, Szabolcsi (2009) applies the above mentioned tests to a series of languages and detects the existence of three different patterns:

- a. Languages that do not admit expressed subjects either in control or in raising; this is the case in English, German and French.
- b. Languages that allow for explicit subjects in raising and control complements; this is the case of Hungarian, Italian (and possibly Romanian, Spanish, Brazilian Portuguese and Modern Hebrew).
- c. Languages that allow for expressed subjects only in raising complements: possibly Russian and Finnish.

“Possibly” in b. concerns the control case only and means that Szabolcsi was unable to exclude an emphatic pronoun (=adjunct) analysis. Here we have argued that emphatic pronouns are real subjects in EP and Spanish, so we propose to add these languages to Hungarian and Italian as sure samples of pattern b. As for Brazilian Portuguese, it is indeed not clear from Szabolcsi’s examples whether the pronoun is a real subject or an emphatic adjunct. To start with, all of her BP examples contain a pronoun modified by a focus operator. She mentions the following example:

- (59) *Context:* Mary slipped on the wet floor...  
 Eu não quero *eu também* escorregar neste chão.  
 I not want I too to slip on.this floor  
 LO: ‘I don’t want it to be the case that I too slip on this floor.’

According to the BP informants that I have consulted, (59) is out with a bare pronoun:

- (60) *BP*  
 \*Eu não quero eu escorregar neste chão.  
 I not want I to slip on.this floor

This shows that (59) should not be analysed on a par with the EP cases discussed in the preceding sections. The obligatoriness of the Focus modifier in (59) suggests that the whole expression is likely to be an emphatic adjunct. Therefore, I will not include BP in the sample of languages in b. Taking away the dubious cases in pattern b. (which include BP and Modern Hebrew), we observe that all of the consistent NSLs fall under this pattern. By “consistent NSL”, I mean, following Holmberg (2005), the type of NSL in which the availability of a zero subject correlates with the presence of rich verbal agreement morphology. These languages possess a series of properties in common that distinguish them from other NSLs in which this correlation does not hold, such as the discourse *pro*-drop languages or the partial

NSLs (Finnish, BP, Russian, etc.). In fact, when we look at A. Szabolcsi's sample, we observe that there isn't a single consistent NSL in the sample that doesn't fall under pattern b. This one-way implication is what I wish to explore here.

In the raising case, the languages that fall under pattern b. and Finnish and Russian pattern alike. Starting with Russian, consider the following examples:

*Russian (Szabolcsi, 2009, Examples 212–214)*

- (61) Tol'ko on/Gordon stal/perestal prixodit' domoj pjanim.  
only he/Gordon started/stopped go.INF home drunk  
*High reading:* 'Only he/Gordon started/stopped going home drunk.'
- (62) Stal/perestal prixodit' domoj pjanim tol'ko on/Gordon.  
started/stopped go.INF home drunk only he/Gordon  
*High reading:* 'Only he/Gordon started/stopped going home drunk.'  
*Low reading:* 'It started/stopped being the case that only he/Gordon goes home drunk.'
- (63) Stal/perestal prixodit' domoj tol'ko on/Gordon pjanim.  
started/stopped go.INF home only he/Gordon drunk  
*Low reading:* 'It started/stopped being the case that only he/Gordon goes home drunk.'

Like in EP, examples with sentence final 'only'-phrases are ambiguous between the High and Low readings ((62)), but placing the 'only'-phrase between the infinitival verb and another element of the infinitival clause eliminates the High reading ((63)).

Moving on to Finnish, the Low reading is available with the nominative subject in non-initial position ((65–66)):

*Finnish (Szabolcsi, 2009, Examples 225–227)*

- (64) Vain hän alko-i saa-da hyv-i-ä roole-j-a.  
only s/he begin-PST get-INF good-PL-PAR role-PL-PAR  
*High reading:* 'Only he started to get good roles.'
- (65) Hyv-i-ä roole-j-a alko-i saa-da vain hän.  
good-PL-PAR role-PL-PAR begin-PST get-INF only s/he  
*Low reading:* 'It started being the case that only he got good roles.'
- (66) Vuonna 2006 alko-i vain Maria saa-da hyv-i-ä roole-j-a.  
year.ESS 2006 begin-PST only Maria get-INF good-PL-PAR role PL-PAR  
*Low reading:* 'In 2006 it started being the case that only Maria got good roles.'

As acknowledged by A. Szabolcsi, these facts can be explained if, in all of these languages (including those that fall under pattern b.) subjects may stay *in situ* (or in a derived Focus position inside the embedded clause ((66)), and establish

a long distance Agree relation with matrix T. Interestingly, Holmberg (2005)) shows that subjects may stay *in situ* in Finnish and Bailyn (2004) makes a similar observation for Russian. In the case of the consistent NSLs, we have argued above that post-verbal subjects occupy a low position in the post-verbal field. If raising constructions are not strong phases, then it is quite plausible that the examples in which the Low reading is available are cases of long distance agreement of matrix T with a (non-raised) infinitival subject. By hypothesis, the availability of subjects of raising infinitives would depend on the (language particular) availability of having long distance agreement between T and a non-raised subject.

This account works for raising infinitives, but cannot obviously be extended to control complements, given that neither Russian nor Finnish display overt subjects in this environment. In view of the fact that the languages that allow for overt subjects in control environments also allow for overt subjects in raising infinitives, I conclude that the availability of long distance agreement might be a necessary, but certainly not a sufficient condition for the existence of overt controlled pronouns. Something else is required for the language to allow for controlled pronouns and whatever it is, it must be related to the null subject property (of the consistent kind), since all of the consistent NSLs allow for this option in contrast to Finnish or Russian. This is what we wish to explain in the remainder of this paper.

In the next section, I present my assumptions regarding the syntactic properties that characterize the consistent NSLs (of the Romance type). I will start by addressing the issue of the position occupied by the subject in the infinitival complements under discussion in the Romance NSLs and then I will briefly discuss Hungarian. This will allow me to prepare the ground for the analysis to be presented in Sections 7 and 8.

## 5. Some background assumptions regarding the syntax of the consistent NSLs

We have argued that the pronouns that appear in the control structures in question are subjects. Setting Hungarian aside for the moment, we observe that, in the Romance NSLs in question, there is a further restriction: they must occur in postverbal position. This observation is made in Belletti (2005) and Torrego (1996), who mention Examples (68) and (69), respectively (in (67) I quote an EP example):

- (67) Não sabemos como (\*nós os dois) assinar (nós os dois)  
not know.1PL how we the two to sign we the two

a carta.

the letter

'We don't know how the two of us will sign the letter.'

- (68) I ragazzi risultarono [(*\*loro*) aver (loro) riposto  
the boys turned out they to have they answered  
alla question].  
to.the question

'The boys turned out to answer the question.'

- (69) *\*No* sabemos si (*\*algunos* de nosotros) asistir (algunos  
not know.1PL if some of us to attend some  
de nosotros).  
of us

'We don't know if some of us should attend.'

In this section, we provide an account for this restriction. In so doing, we introduce the background assumptions that prepare the ground for an account of Szabolcsi's (2009) cross-linguistic generalization b. We will start by examining finite contexts.

Since the mid-nineties there has been a growing body of work (Alexiadou & Anagnostopoulou, 1998; Barbosa, 1995; Kato, 1999; Manzini & Savoia, 2002; Ordóñez & Treviño, 1999; Platzack, 2004; Pollock, 1997, among others) making the claim that, in the consistent NSLs, the head bearing subject agreement is interpretable. This insight is not just meant to capture the old intuition that rich agreement in these languages is, in some sense, "pronominal", or "affix-like" (Rizzi, 1982; Taraldsen, 1978); it was also meant to capture a number of contrasts in the distribution and interpretation of overt subjects in the consistent NSLs as opposed to the non-NSLs

The particular implementations of this proposal vary, but all of them have one key feature in common: the functional head bearing subject agreement has a nominal specification ([+D]; valued  $\phi$ -features; probably also Case) to the effect that it has the status of a pronominal affix/clitic on V raised to I.<sup>12</sup> As a consequence

12. For Alexiadou and Anagnostopoulou (1998), Barbosa (1995) and Pollock (1997), in languages like Spanish or Portuguese, the pronominal element is the verbal agreement affix attached to the verbal root; the EPP is checked by V raising to T. Drawing on Rohrbacher (1993) and Speas (1994), Alexiadou and Anagnostopoulou distinguish two types of verbal agreement: strong and weak. Strong agreement affixes have their own lexical entry and are available to the computational system. Weak agreement affixes do not have independent lexical entries. Since the former have their own lexical entry, they are clitic-like pronominal

of this, there is no EPP related movement to Spec-IP, the thematic subject stays inside the post-verbal field and pre-verbal subject constructions are not derived by A-movement.

Since, in the particular case of the Romance NSLs, there is  $v/V$  raising to Infl/T, when the subject is a fully specified nominal, this yields a postverbal subject construction (so-called “free inversion”). Thus, the Portuguese Example (70a) is analysed as in (70b):

- (70) a. Telefonou a Maria.  
           called the Maria  
           ‘Mary called.’  
       b. [[T telefonou] [ $vP$  a Maria ~~telefonou~~]]

When the subject is silent, there are in theory two possibilities: either pronominal Agr is the theta-role bearer, in which case *pro* can be dispensed with (Kato, 1999; Ordóñez & Treviño, 1999; Platzack, 2004), or there is a *pro* in Spec,  $vP/VP$  (Alexiadou & Anagnostopoulou, 1998; Barbosa, 2009). In (71b) we adopt the latter view:

- (71) a. Telefonaram.  
           called  
           ‘They called.’  
       b. [[T telefonaram] [ $vP$  *pro*]]

In a configuration such as (71), the semantic content for the pronominal argument is supplied by the situational context, or it can be supplied linguistically, by a topic. Thus, example (72a), with an apparent pre-verbal subject, is analysed as an instance of subject Clitic Left Dislocation (CLLD). Again, I assume that left dislocated topics are *base-generated* in a position of adjunction to the clausal projection that is predicated of them, so that (72) is basically (71b) with the value for the pronominal argument being supplied by the topic:

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elements with a [+D] categorial feature. This entails that the verbal root and the +D affix can be accessed independently from each other and opens the way to two different options: (i) the verbal root and the [+D] affix merge in the syntax at an early stage,  $V$  projects and the EPP is checked by  $V$  raising to  $I$ ; (ii) the [D] Agr affix is directly merged with TP. The former option is instantiated in languages like Spanish; the latter option is realized in the northern Italian dialects that have obligatory subject clitics and display the range of properties associated with consistent *pro*-drop (on the northern Italian dialects, see Manzini & Savoia, 2002).

Kato (1999), Ordóñez & Treviño (1999) and Platzack (2004), on the other hand, claim that the verbal agreement affix heads a DP merged in argument position inside the  $vP/VP$ ; D moves to  $I$ , where it amalgamates with  $V$  (for a more detailed description of the analysis proposed by Ordóñez & Treviño, 1999, see Section 6.2).

- (72) a. A Maria telefonou.  
the Maria called  
'Maria called.'
- b. [[ A Maria] <sub>TP</sub> telefonou [ *pro* ]]

The configuration above can be recast in terms of a TopicP projection. Here we do not wish to dwell on this aspect of the analysis, the important point being that the DP *a Maria* is base-generated in place and licensed by "rules of predication" (Chomsky, 1977); *pro* supplies the open position required to establish a predication relation with the topic.

The configuration in (72b) is available just in case the DP in question is capable of picking up an entity or a set of entities. When this is not the case, as happens with non-referential QP subjects (or non-topical QPs, to use a term introduced by Endriss and Hinterwimmer (2008), see footnote 10), SV order is derived by means of a different strategy, namely direct movement from the post-verbal position to a non-L-related position to the left of T.<sup>13</sup> This kind of movement is independently motivated for the case of non-referential QP objects. Consider the following example:

- (73) Algo lhe disseram, mas não sei o quê.  
something to-him said.3PL but not know.1SG the what  
'They must have told him something, but I don't know what.'

(73) contains a fronted non-referential QP object. As already mentioned, non-referring expressions cannot be CLLDed. However, they *can* be fronted to preverbal position as shown in (73). As argued in Barbosa (1995, 2000), Cinque (1990), Vallduví (1992), constructions such as (73), display all of the diagnostics for syntactic movement.<sup>14</sup> In particular, they move successive cyclicly and they exhibit reconstruction effects, unlike CLLD.

13. Evidence in favor of this analysis comes from the northern Italian dialects, Trentino and Fiorentino, which are NSLs that display obligatory subject clitics. In these dialects, the form of the clitic that is found with preverbal non-referential QPs is different from the one attested with referential DPs. Moreover, it is the same form that occurs with post-verbal subjects or with *wh*-moved subjects (see Barbosa, 1995; Poletto, 2000, who provide data that doesn't quite fit the description provided in Brandi & Cordin, 1989).

14. Some authors identify a structure like (73) with Focus movement (Martins, 1994; Uriagereka, 1995). However, fronted bare QPs do not have the contrastive reading typically associated with fronted Focus (of referential DPs) in Italian (Cinque, 1990). Raposo (1994), Zubizarreta (1998) use the term *Emphatic* movement and Vallduví (1992) uses the label *Quantificational Operator* movement. He claims that Spec-TP is an A-bar position and is the landing site for this kind of movement.



Vallduví (1992), as well as Barbosa (1995, 2000, 2009), argued that SV constructions with a non-referential QP as subject in a NSL are analysed as involving the same kind of movement as (73): the QP is extracted to the Spec position of a functional projection to the left of T. Thus, the EP Example (74a) is analysed as in (74b) (where FP stands for the neutral term “Functional Projection”):<sup>15</sup>

- (74) a. Alguém telefonou.  
           someone called  
           ‘Someone called.’  
       b. [FP alguém ... [T' [telefonou] [ $\nu$ P alguém ...]]

Even though the proposal that pre-verbal subjects do not raise to a pre-verbal A-position has faced opposition in the literature (Cardinaletti, 2004; Costa & Duarte, 2002; Rizzi, 2005), the evidence given in favor of this view comes from a variety of syntactic phenomena. In Barbosa (1995, 2000, 2009) I discuss a number of facts regarding the NSLs that can be captured under this analysis and are otherwise poorly understood. These concern (i) asymmetries between the Romance NSLs and French/English regarding pre-verbal subjects; (ii) asymmetries between referential and non-referential quantified subjects, which are attested in the NSLs though unattested in French/English. For lack of space, I will not discuss the evidence here and I refer the reader to the papers mentioned.

This is, in a nutshell, the overall approach to the syntax of the Romance NSLs. As already mentioned, there are several possible technical implementations of the insight that Agr is pronominal in these languages (see footnote 12) and developing a precise theory of this insight is not an easy task. For the purposes of this section, I choose the approach that entails the least amount of otherwise unmotivated assumptions. I adopt Holmberg's (2005) suggestion that what characterizes the consistent NSLs is that T bears a D feature. Contra, Holmberg (2005), however, I assume that the presence of D in T suffices for the  $\phi$ -feature set in T to be interpretable and valued. Thus, by hypothesis, in a consistent NLS, T is endowed with the feature bundle  $\langle D:i\phi \rangle$ .

We thus get the following clausal structure for a finite clause where the subject is lexical.

- (75) [<sub>TP</sub> [T $\langle D:i\phi \rangle$ ] [V/ $\nu$ P ... DP subject <sub>$\langle i\phi, uNom \rangle$</sub>  ...]]]

15. In Barbosa (1995, 2000) I have argued that the landing site for such a movement is (or may be) Spec-FinP. Vallduví (1992) claims it is Spec-TP, regarded as an A-bar position in these languages.

From Zeijlstra (2012), I take the view that subject movement (that is, the EPP) is not triggered by case requirements, but instead results from the presence of  $u\phi$ -features on  $T^0$ . Movement is triggered by the requirement that the  $i\phi$ -features of the subject c-command  $u\phi$  in  $T^0$ . In the case of (75), the  $\phi$ -feature set in T is interpretable. Hence, there is no L-related movement to the specifier of T. Since the Romance languages are V raising languages, V raises all the way up to T yielding a post-verbal subject construction:

- (76)  $[_{TP} \dots [_T [V] T_{<D:i\phi>}] [V/vP DP \textit{subject}_{<i\phi, uNom> \dots}]]$

In (76) the subject is in its first merge position, inside V/vP. Since it bears an uninterpretable Nominative Case feature, it must enter an Agree relation with T, and this is how  $\phi$ -feature agreement is obtained, linking the D with the post-verbal subject. On the interpretative side, I assume that  $<D:i\phi>$  merely denotes an index, but we will return to this matter below.

Given that, in this view, the “thematic position” for the subject is postverbal, the prediction is that, if the language allows left dislocation with doubling by an overt subject pronoun, the doubler should be a postverbal pronoun rather than a preverbal one. In effect, as seen in the previous section, such “double subject” constructions do exist. They are the structures with emphatic pronouns. As observed, these are incompatible with non-referential QPs, which suggests that the constructions in which they occur are instances of left dislocation. Doubling by an overt preverbal pronoun, by contrast, is not productive at all in the Romance NSLs even though it is very productive in French or Brazilian Portuguese (see Barbosa, 2009, and the references cited there for discussion).

Solà (1992) surveys a number of different languages and reaches the conclusion that, among the sample of languages studied, only the NSLs have emphatic pronouns. While both the NSLs and the non-NSLs have emphatic anaphors (reflexives), only the former display emphatic pronouns. Within the framework of assumptions developed here, this typological generalization follows naturally: emphatic pronouns are postverbal subject pronouns doubling a pre-verbal left-dislocated topic. In a non-NSL, however, the preverbal position is an A-position, therefore it is filled by a subject and the emphatic element can only be an anaphor.

One other fact that is immediately captured under this analysis is the position occupied by the subject in the infinitival complements under discussion in this article. We assume that D is invariably present under T in a consistent NSL, regardless of whether T is finite or not. According to the analysis proposed here, preverbal referential subjects require a configuration of CLLD ((72)). In general, object CLLD requires the presence of a clitic. Likewise, by hypothesis, subject CLLD requires the presence of subject agreement features. In addition to this, it

has often been noted that object CLLD is constrained in infinitival clauses, so several factors conspire against the availability of left-dislocation in (non-inflected) infinitives. Thus, preverbal subjects are rightly predicted not to be allowed in non-inflected infinitival clauses.

Note that if the language allows *wh*-movement inside the infinitival clause, as happens in Spanish, a *wh*-moved subject may occur preverbally:

(78) *Spanish* (Torrego, 1996)

Muchos de nosotros no sabemos [quantos firmar la carta].  
 Many of us not know.1PL how many to sign the letter  
 'Many of us don't know how many should sign the letter.'

Jaeggli (1984) and Rizzi (1982) have argued that the base position for subject extraction in the NSLs is the postverbal position and Campos (1997) discusses evidence from Spanish that supports this view. Hence, in (78) the *wh*-subject is directly extracted from postverbal position ((79)), so, in reality, this case is not substantially different from the preceding cases. The only difference lies in the occurrence of *wh*-movement.

(79) Muchos de nosotros no sabemos [<sub>CP</sub> quantos [firmar [<sub>VP</sub> quantos la carta]]]

In sum, the reason why a preverbal subject is disallowed inside the infinitival complement clause in the Romance NSLs simply follows from the unavailability of left-dislocation in this particular context.<sup>16</sup>

At this point, we need to address the case of Hungarian, a consistent NSL where the overt subjects of the infinitival complements under discussion occupy the preverbal position. As is well known, Hungarian has a rigid sequence of "operator" positions in the preverbal field and the position immediately preceding the verb is reserved for the focus of the sentence. This is illustrated in the following examples taken from É. Kiss (1995, p. 212):

- (80) a. János Évát várta a mozi előtt.  
 János Évát.ACC waited the cinema in.front.of  
 'It was Eve that John waited for in front of the cinema.'
- b. Évát János várta a mozi előtt.  
 Évát.ACC János waited the cinema in.front.of  
 'It was John that waited for Eve in front of the cinema.'

16. This claim also applies to so called Aux-to Comp contexts; see Barbosa (2000, 2009) for the view that some of the structures that have fallen under this label are in reality instances of regular post-verbal subject constructions.

In (80b) the object is a topic and the subject is in focus; in (80a), it is the other way around. As discussed in Szabolcsi (2009), the same pattern is found in infinitival clauses (note that the focus particle is optional in (81)):

- (81) Szerettem volna holnap mindenkivel (csak) én beszélni.  
 liked.1SG would.have tomorrow everyone.with (only) I to talk  
 'I would have liked it to be the case that tomorrow everyone is such that it is me who talks with him/her.'

I assume that the position filled by the pronominal subject in (81) is a syntactic Focus position and that it is due to independent constraints internal to the grammar of Hungarian that the infinitival subject appears in the preverbal slot; I contend that once we control for this particular caveat, the status of the infinitival subject in (81) is no different from that of a postverbal subject in Romance (so these examples are akin to Spanish (78), with a *wh*-moved subject).

Even though the analysis sketched captures the absence of preverbal subjects in (non-inflected) infinitival clauses in Romance, it doesn't of course have an answer to why, in this particular kind of language, a lexical subject may occur at all in these environments, particularly in control complements. In Section 8 we offer an explicit account for why this is so, but before we motivate our analysis, we will discuss two possible alternative accounts of controlled pronouns.

## 6. Two possible alternative accounts of controlled pronouns

In this section, we examine two possible alternative theories of controlled overt pronouns and we conclude that both have shortcomings. The first one assumes that the overt pronoun is the *spell-out* of PRO and is adopted by Herbeck (2011), Landau (2015) and Livitz (2011). The second alternative is the possibility that the controlled pronoun is a doubling DP within a Big-DP, a variant of the Big-DP hypothesis that is consistent with our conclusions thus far. We will conclude that this latter possibility also fails.

### 6.1 Alternative 1: Controlled pronouns as pronounced PR

Most of the current theories of controlled pronouns in nonfinite environments (Herbeck, 2011; Landau, 2015; Livitz, 2011) rely on the idea that the overt pronoun is nothing but a PRO that happens to be pronounced. In view of the observation that these controlled pronouns are usually focused, the idea is that the pronunciation of PRO is sanctioned by the presence of a Focus feature. Even though the technical implementations of this idea differ from each other, one common denominator to all of them is the assumption that PRO is a minimally specified

nominal, that is, a nominal category with an unvalued set of  $\varphi$ -features (for Livitz (2011) it is a  $\varphi$ P with unvalued  $\varphi$ -features; for Herbeck and Landau, it is a minimally specified D (D[ $\varphi$ : -])). The  $\varphi$ -features on PRO are valued in the course of the derivation under Binding or Predication (Landau, 2015) or under Agree with the features of the controller (Herbeck, 2011; Livitz, 2011). Under normal conditions, PRO is not pronounced, but when it bears a Focus feature it must be pronounced and so we get a controlled pronoun.

Even though this kind of approach is appealing in its simplicity, it faces conceptual and empirical problems. Starting with the latter, we observed above that the anaphoric expressions that may occur inside the infinitival control complements are not just pronouns, but also partitive QPs and collective DPs. Here we repeat the relevant examples in EP and Spanish:

Partitive QPs containing a pronoun

(82) *EP*

Pensamos falar alguns de nós / vários de nós / muitos de  
think.1PL to speak some of us / several of us / many of  
nós com ela.  
us with her

‘Some of us / several of us / many of us intend to talk to her.’

(83) *Spanish (Torrego, 1996)*

No sabemos si asistir algunos de nosotros / muchos  
not know if to attend some of us / many  
de nosotros.  
of us

‘We don’t know whether to attend some of us / many of us.’

Certain kinds of anaphoric collective DPs (Torrego 1996)

(85) *EP*

Não sabemos como falar a turma toda / o grupo todo  
not know.1PL how to talk the class whole / the group whole  
com ela.  
with her

‘We don’t know how the whole class / the whole group will talk to her.’

(86) *Spanish*

No sabemos si asistir los lingüistas.  
not know.1PL whether to attend the linguists

‘We linguists don’t know whether to attend.’

These data are hard to accommodate under the pronounced PRO hypothesis. There is no way such anaphoric expressions can be analysed as minimally specified pronouns that get their features from the controller.

In addition to this, as already mentioned in Section 3.2, the pattern observed in control complements bears striking features in common with the pattern found in finite contexts, where we not only find emphatic pronouns but also the same range of anaphoric expressions in construction with 1PL inflection. Here we repeat the relevant examples for convenience:

- (87) Chumbámos nós / só nós / só nós os dois / alguns de nós  
 flunked.1PL we / only we / only we the two / some of us  
 / a turma inteira.  
 / the class whole  
 ‘We / only us / only both of us / some of us / we the whole class flunked.’

This shows that the phenomenon in hand is not restricted to control environments. Therefore, it is rather unlikely that the pronounced PRO hypothesis is the answer. Whatever explanation one might find for the control case should extend to these cases as well. That there is indeed a relation between the two is confirmed by the fact that the two environments are subject to similar restrictions. Thus, while Spanish allows a collective definite description to appear in construction with first person plural inflection in control ((86)) as well as finite contexts ((88)), EP disallows this kind of construction in both contexts:

- (88) *Spanish (Torrego, 1996)*  
 Firmamos los lingüistas la carta.  
 sign.1PL the linguists the letter  
 ‘We linguists sign the letter.’
- (89) *EP*  
 a. \*Não sabemos se assinar os lingüistas ou não.  
     not know whether to sign the linguists or not  
 b. \*Assinamos os lingüistas a carta.  
     sign.1PL the linguists the letter

The fact that the constraint in question affects both finite and nonfinite environments is a strong indication that the same underlying process is at work in both contexts. Since the pronounced PRO hypothesis falls short of explaining the finite case, I conclude that it is not empirically adequate.

The pronounced PRO analysis is also inadequate on conceptual grounds. In the preceding section, we have concluded that there is a correlation between the null subject property (of the consistent type) and the presence of controlled pronouns. The pronounced PRO hypothesis does not capture this correlation. If indeed the possibility of pronouncing PRO arises in virtue of the presence of a Focus feature, then the prediction is that one should find pronounced PRO in a wider range of languages, including Finnish or Russian, contrary to fact. In the Finnish and Russian raising examples mentioned in the preceding section, the

subject is focused, so the question arises of why their counterparts with a controlled pronoun are not possible.

As pointed out by Rigau (1987), Torrego (1996) (as well as Belletti, 2005), the constructions with emphatic pronouns in finite contexts and in infinitival control complements bear a striking resemblance to clitic doubling. In EP as well as Standard Spanish, clitic doubling is not allowed with direct object DPs even though it is attested with pronouns:

(90) *EP*

- a. Nós vimo-la a ela.  
 we saw.1PL-CL.ACC.3SG.F to her  
 'We saw HER.'
- b. \*Nós vimo-la à Maria.  
 we saw.1PL-CL.ACC.3SG.F to.the Maria

(91) *Standard Spanish*

- a. Lo vimos a él  
 CL.ACC.3SG.M saw.1PL to him  
 'We saw him.'
- b. \*Lo vimos a Guille.  
 CL.ACC.3SG.M saw.1PL to Guille

Interestingly, in both languages, a first person plural direct object clitic may be doubled by the exact same range of partitive QPs and collective DPs that appear in the control and finite cases mentioned above:

(92) a. *EP*

Eles viram-nos a nós / a alguns de nós / à  
 they saw.3PL-CL.ACC.1PL to us / to some of us / to.the  
 turma inteira.  
 class whole  
 'They saw us / some of us / the whole class.'

b. *Spanish*

Nos vio a nosotros / a muchos de los linguistas /  
 CL.ACC.1PL saw.3SG to us / to some of the linguists /  
 a la clase entera.  
 to the class whole  
 'He/she saw us / some of us linguists / the whole class.'

As happens in the control and finite environments, a collective definite description can be doubled by an accusative clitic in standard Spanish though not in EP.

- (93) a. *Spanish*  
 Nos            vio            a los linguistas.  
 CL.ACC.1PL saw.3SG to the linguists  
 'He / she saw us linguists.'
- b. *EP*  
 \*Viu-nos                    aos    linguistas.  
 saw.3SG-CL.ACC.1PL to.the linguists

We take this range of facts as an indication that there is indeed a relation between the availability of controlled pronouns in infinitival clauses and the “clitic-like” status of subject agreement. Recall from the previous section that we have argued that the head bearing subject agreement in the consistent NSLs is a D head bearing an interpretable set of  $\phi$ -features. Thus, it is quite plausible that the availability of emphatic pronouns in finite as well as in control infinitives is related to the availability of a configuration akin to clitic doubling.

As briefly mentioned in Section 3 in connection with Belletti’s analysis, one common way of dealing with clitic doubling has been to assume that the clitic and the doubling DP originally form one constituent, a Big-DP, an idea that goes back to Torrego (1985). By now, there are different versions of this idea. In Section 3, we presented a problem for Belletti’s particular implementation of the Big-DP hypothesis as applied to emphatic pronouns constructions with a preverbal subject.<sup>17</sup> However, within the framework of assumptions developed thus far, other hypotheses of analysis suggest themselves. One case in point is the theory developed by Ordóñez and Treviño (1999), who propose that person agreement is a clitic in Spanish and that the relation established between a postverbal subject and *cl*-Agr is one of clitic doubling. We turn to their proposal next.

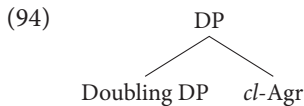
## 6.2 Alternative 2: The controlled pronoun is a doubling DP within a Big-DP

Following Torrego (1985) and Uriagereka (1995), Ordóñez and Treviño (1999) adopt the Big-DP analysis of clitic doubling. The authors propose that person agreement in the NSLs is a clitic that heads a DP which may optionally contain a Doubling DP as a specifier:

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17. Note that Belletti’s (2005) analysis differs from the standard Big-DP approach to clitic doubling in that she assumes that the head of the Big-DP is the emphatic pronoun itself, which is not a clitic, and that what moves out of the Big-DP is the doubling DP yielding an emphatic pronoun construction. On the assumption that the doubling DP may be PRO, this movement would also derive controlled pronouns. In Section 3, we presented a difficulty for this analysis.





The Big-DP is merged as a subject argument and then *cl-Agr* raises to the left of T yielding the “rich agreement” morphology typical of the consistent NSLs. When the specifier of the Big-DP is not projected, we get a null subject sentence, when it does project, we get “free inversion”, including emphatic pronoun constructions (note that, like us, the authors assume that pre-verbal “subjects” are dislocated).

The authors do not discuss infinitival clauses, but it is not difficult to envisage an account of infinitives within this approach. For the sake of argument, one could assume, in line with recent accounts of the feature make-up of PRO, that in a consistent NSL *cl-AGR* in infinitival clauses bears unvalued  $\phi$ -features. When embedded under a raising verb, *cl-Agr* would raise all the way up to the matrix T. If a doubling DP is present, we basically derive a subject *in situ* inside the infinitival complement, as described in the previous section. In an OC configuration, assuming an Agree-based model of Control, *cl-Agr* only raises up to infinitival T and the unvalued  $\phi$ -features on *cl-Agr* are valued by the features of the controller under Agree. Assuming that the doubling DP agrees with the head of the Big-DP, *cl-Agr*, this would enforce an anaphoric interpretation on the doubling DP, when present, and so we would get either an anaphoric pronoun as the doubling DP or the by now familiar set of anaphoric expressions construed with first person plural inflection.

On the surface, this approach works pretty well for all the cases discussed here while capturing the correlation established between the availability of controlled pronouns and the null subject property of the consistent kind. Notwithstanding this, I believe that there are reasons to be skeptical about the whole Big-DP approach. In the first place, the analysis is circular: there is clitic doubling because there is a Big-DP and there is a Big-DP because there is clitic doubling. In order for the analysis to be completely convincing, one would like to see independent evidence in favor of this particular DP architecture, but the evidence is nowhere to be found: whenever a Big-DP is posited, displacement of either D or of the doubling DP is also posited, so we never actually get to see the full DP.<sup>18</sup> In the second place, under this approach, doubling is predicted to occur without restrictions and I find it difficult to constrain the structure assumed so as to capture the interpretation of

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18. In most cases, there is displacement of D in virtue of being a clitic. In Belletti’s analysis of emphatic pronouns described in Section 3, however, it is the doubling DP that must move, leaving the strong pronoun (not a clitic) behind.

post-verbal subjects, particularly when compared to cases of clitic doubling. In EP, Italian and Catalan, at least, we know that post-verbal subjects tend to be focused. On the other hand, it has been reported in the literature on languages that have fully productive clitic doubling of direct objects that the doubling DP is interpreted as ‘familiar’ or ‘topical’ (Kallulli, 2008). Assuming that the Big-DP configuration is what lies behind both constructions, we reach a somewhat paradoxical situation given that focus and topicality are incompatible notions. In other words, the Big-DP analysis is too unconstrained and additional machinery is required so as to prevent it from overgenerating.

For these reasons, this approach will not be adopted here. I assume that, in the consistent NSLs, T contains a D-feature and interpretable  $\phi$ -features ( $i\phi$ ). The post-verbal subject is independently merged as an argument, as described in the previous section, and enters an Agree relation with T so as to check its Nominative Case feature. This creates a configuration of doubling with particular properties, to be presented in the next section.

## 7. The proposal

There are two aspects that we take to be key to an understanding of controlled pronouns. The first one is that, in the Romance languages under consideration, their interpretation is very similar to that of emphatic pronouns in finite contexts. The second one is that these pronouns are exhaustively focused. These two aspects are, in effect, closely related, given that emphatic pronouns are invariably associated with an exclusive focus interpretation.

As already mentioned, a sentence with an emphatic pronoun can be paraphrased by an English sentence with an emphatic reflexive:

- (95) A Maria resolveu ela o problema.  
       the Maria solved she the problem  
       ‘Maria solved the problem herself.’

Notwithstanding this, emphatic pronouns do not quite display the same range of interpretations as emphatic reflexives. The literature on emphatic reflexives mentions at least two distinct uses of these elements: an additive/inclusive use and an exclusive use (Ahn, 2010; Gast, 2006; König & Siemund, 2005):

- (96) a. *Additive/inclusive*  
       Though Liz’s boss can speak German fluently, Liz is able to speak little German, herself.  
       b. *Exclusive*  
       Despite her lack of German skills, Liz ran the business meeting herself, which is to say without her boss’s help.

Emphatic pronouns, by contrast, cannot be used to convey an additive/inclusive meaning; they can only be associated with the exclusive reading (96b). This fits in well with the idea that they are postverbal subjects rather than adjuncts. In effect, as previously mentioned, in the case of EP and Italian at least, exclusive focus is a property that holds of (most) postverbal subjects, particularly in V initial transitive sentences, as we will see. Let us start by reconsidering a transitive sentence in EP with a definite postverbal subject:

- (97) a. Resolveu a Maria o problema.  
           solved the Maria the problem  
           'It was Maria who solved the problem.'
- b. Resolveu ela o problema.  
           solved she the problem  
           'It was she who solved the problem.'

As already mentioned, (97a–b) have an interpretation that is very similar to that of an *it* cleft, equivalent to 'The one who solved the problem was Maria/she', with exhaustive focus on the post-verbal subject. Exhaustivity can be demonstrated using a test provided by Szabolcsi (1981) in her discussion of the Hungarian preverbal Focus position (see also É. Kiss, 2006). The test sentences have two versions. In one sentence, the subject is a conjoined DP and, in the other, one of the members of the conjoined DP has been dropped. If the latter version contradicts the former, then the subject is interpreted exhaustively. We start by applying this test to a cleft sentence in EP:

- (98) a. Foram o Pedro e a Ana quem resolveu o problema.  
           were the Pedro and the Ana who solved the problem  
           'It was Pedro and Ana that solved the problem.'
- b. Foi o Pedro quem resolveu o problema.  
           was the Pedro who solved the problem  
           'It was Pedro that solved the problem.'

(98a–b) are not compatible with each other. (98b) implies that Peter is the unique entity that solved the problem. Thus, if (98a) is true, then (98b) is anomalous, as it contradicts the explicit content of (98a). Bearing this in mind, let us consider V initial sentences with a transitive verb and a postverbal subject. Consider the following examples:

- (99) a. Resolveram esse problema o Pedro e a Maria.  
           solved that problem the Pedro and the Maria  
           'It was Pedro and Maria that solved that problem.'
- b. Resolveu esse problema o Pedro.  
           solved that problem the Pedro  
           'It was Pedro that solved that problem.'

According to the informants that I have consulted, (99a–b) sound contradictory, a fact that suggests that the subject is interpreted exhaustively. The same effect obtains when the sentence displays VSO order:

- (100) a. Resolveram o Pedro e a Maria esse problema.  
solved the Pedro and the Maria that problem  
'It was Pedro and Maria that solved that problem.'
- b. Resolveu o Pedro esse problema.  
solved the Pedro that problem  
'It was Pedro that solved that problem.'

Curiously, when the post-verbal subject is an indefinite or a bare plural, exhaustivity is no longer enforced (even though it is possible). Thus, (101a–b) are not perceived as contradictory by any of the informants consulted and similar judgements obtain in the case of (102a–b), with VSO order:

- (101) a. Resolveram esse problema crianças e adultos.  
solved that problem children and adults.  
'Children and adults solved that problem.'
- b. Resolveram esse problema crianças.  
solved that problem children  
'Children solved that problem.'
- (102) a. Resolveram crianças e adultos esse problema.  
solved children and adults that problem  
'Children and adults solved that problem.'
- b. Resolveram crianças esse problema.  
solved children that problem.  
'Children solved that problem.'

When the subject is an indefinite, as in (103), judgements depend on specificity. If the subject is interpreted as a specific indefinite, it patterns with the definite DP in (99–100). The nonspecific interpretation patterns with that of the bare plural in (101–102).

- (103) a. Resolveram uma criança e um adulto esse problema.  
solved a child and an adult that problem  
'A child and an adult solved that problem.'
- b. Resolveu uma criança esse problema.  
solved a child that problem  
'A child and an adult solved that problem.'

Interestingly, these patterns are remarkably similar to those that have been described by É. Kiss (2006) for preverbal Foci in Hungarian in sentences without a pre-verbal particle. As we have seen, Hungarian has a preverbal Focus position

which can be filled by any constituent. In this context, É. Kiss (2006) observes that there is a contrast between definite DPs and singular or plural indefinites sitting in the preverbal Focus position in sentences without a preverbal particle. While the former must be interpreted exhaustively, the latter do not necessarily express exhaustive identification. É. Kiss (2006, p. 175) illustrates her point with the following examples:

- (104) a. János KÖNYVEKET ÉS CD-KET vett.  
 János books and CD's bought  
 'John bought BOOKS AND CD's.'
- b. János KÖNYVEKET vett.  
 János books bought  
 'John bought BOOKS.'
- (105) a. János EGY KÖNYVET ÉS EGY CD-T vett.  
 János a book and a CD bought  
 'John bought A BOOK AND A CD.'
- b. János EGY KÖNYVET vett.  
 János a book bought  
 'John bought A BOOK.'
- (106) a. János A KÖNYVET ÉS A CD-T vett.  
 János the book and the CD bought  
 'It was the book and the CD that John bought.'
- b. János A KÖNYVET vett.  
 János the book bought  
 'It was the book that John bought.'

According to É. Kiss, (104a) and (104b) can be simultaneously true in the same world and the same applies to (105a–b). (106a–b), however, are inconsistent, an anomaly that arises in virtue of the exhaustive interpretation assigned to the focused definite. É. Kiss further observes that the indefinite noun phrases in (105) are ambiguous between a nonspecific and a specific reading. While a nonspecific indefinite patterns together with a bare noun ((104)), a specific indefinite patterns with a definite DP and is interpreted exhaustively. To illustrate her point, É. Kiss mentions an example containing a verbal particle, which blocks the nonspecific interpretation.

- (107) a. János EGY KÖNYVET ÉS EGY CD-T vett meg.  
 János a book and a CD bought up  
 'It was a book and a CD that John bought up.'
- b. János EGY KÖNYVET vett meg.  
 János a book bought up  
 'It was a book that John bought up.'

(107a–b) sound contradictory, so the focused object has an exhaustive interpretation. Thus, the patterns of variation found in the interpretation of nominal constituents in the preverbal Focus position in Hungarian are strongly reminiscent of the patterns of variation found in the interpretation of post-verbal subjects in EP. For this reason, it is not unreasonable to assume that they have a common source. In what follows, we will review the analyses of the Hungarian structural Focus position put forward by É. Kiss (2006) and Wedgwood (2005). The core of their proposals is that the Hungarian Focus position is essentially a predicative position: the constituent that occupies this position (i.e., the position immediately left-adjacent to the tensed element in the clause) must be interpreted as a predicate.

### 7.1 Hungarian structural focus as predication

É. Kiss (2006) starts by observing that the Hungarian sentence (107b) can be adequately paraphrased by a cleft or pseudocleft construction in which the focused constituent appears as a nominal predicate complementing the copula.

- (108) a. It was a book that John bought up.  
b. What John bought was a book.

In the spirit of Higgins (1973) and Huber (2000), É. Kiss (2006) assumes that the focus interpretation of the pseudocleft and cleft constituents is a consequence of their predicative function. In his analysis of the pseudocleft construction, Higgins claims that sentences consisting of a subject, a copula and a predicative complement can be of three types: predication, identificational and specificational. The first two types contain a referential subject. Specificational sentences contain a nominal predicate, as illustrated in (109):

- (109) The winner is my brother.

In this case, neither the subject nor the nominal predicate are referential. The subject functions as the heading of a list (or, in other words, delimits a domain) and the predicate specifies what makes up the list (or identifies the particular members of that domain). A specificational predicate presupposes exhaustivity, i.e., other alternatives are excluded. Pseudocleft constructions are specificational copular sentences: the *wh*-clause functions as the subject and the clefted constituent is a specificational predicate.<sup>19</sup>

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19. In Huber's (2000) terms, in specificational sentences, the subject denotes a set, which the predicate characterizes through another set, by listing the individuals that make up the set. A specificational predicate implies exhaustive listing. The subject of predication is associated with an existential presupposition because only the content of an existing set can be listed. In

Given that the interpretation of the Hungarian structural Focus is identical with that of a cleft or pseudocleft constituent, É. Kiss (2006) proposes that it has the same source. In particular, she argues that the Hungarian Focus constituent occupies a predicative position, namely Spec, PredP. A sentence with a structural Focus has the structure in (110):

- (110) [<sub>PredP</sub> PÉTER<sub>i</sub> [<sub>VP</sub> *t<sub>i</sub>* olvasta el a levelet]]  
 'It was Peter who read the letter.'

According to É. Kiss (2006), the filler of Spec, PredP must be interpreted as a predicate.

Since *Péter*, a definite DP, referential noun phrase, cannot be interpreted as a property, it can only be understood as a specificational predicate. As such, it requires an open sentence as its subject, which is provided by the VP.

(É. Kiss, 2006, p. 182)

Thus (110) expresses that the set of people who read the letter includes Peter and no one else. Exhaustivity follows from the specificational role of the nominal predicate.

É. Kiss's theory has the advantage of accounting for the above noted asymmetry between definite DPs and specific indefinites, on the one hand, and bare nominals or nonspecific indefinites, on the other. Under É. Kiss's approach, a preverbal nominal constituent occupying the position immediately left-adjacent to the tensed element in the clause receives a predicate interpretation. As discussed in Higgins (1973), a nominal can function as a predication, identificational or specificational predicate. Any type of nominal can express specification. Predication, on the other hand, can only be expressed by a bare nominal or a nonspecific indefinite. Since only specification presupposes exhaustive listing, definite DPs are expected to pattern differently from bare nominals or nonspecific indefinites: only the former are necessarily interpreted exhaustively.

Yet another piece of data that supports the predicative nature of structural Focus is the following observation originally made by Szabolcsi (1981). A DP in the preverbal Focus position allows a nonreferential, "qualitative" interpretation, in which the contrasted DPs can have the same referent (É. Kiss, 2006, p. 180, Example 18a):

- (111) AZ ÖREGEMBERNEK<sub>i</sub> adtam át a helyem, nem  
 the old.man.to gave.1SG over my seat not

this view, the focus properties of the cleft constituent are the properties of a specificational predicate.

A PROFESSZORNAK<sub>i</sub>.  
the professor.to

‘It was to the old man that I gave my seat, not to the professor.’

This interpretation is not possible whenever the contrasting DPs occupy any other position (É. Kiss, 2006, p. 180, examples 18b,c):

- (112) a. \*Az öregembernek<sub>i</sub> át adtam a helyem a  
the old.man.to over gave.1SG my seat the  
professzornak<sub>i</sub> nem.  
professor.to not  
‘To the old man, I gave my seat; to the professor, I did not.’
- b. \*Át adtam a helyem az öregembernek<sub>i</sub>, de nem adtam  
over gave.1SG my seat the old.man.to but not gave.1SG  
át a professzornak<sub>i</sub>.  
over the professor.to  
‘I gave my seat to the old man, but I did not give it to the professor.’

These contrasts fit in well with the idea that the preverbal Focus position is a predicative position.

Wedgwood (2005, 2009) offers an analysis of Hungarian structural Focus that is rather similar in spirit to that of É. Kiss’s. He also takes the preverbal Focus position to be a predicative position. He further suggests that when the constituent occupying this position is an individual denoting expression – a definite DP or a specific indefinite – its meaning must be shifted from type  $\langle e \rangle$  to type  $\langle e, t \rangle$  by the type-shifting operation *Ident*, originally proposed by Partee (1987). This operation maps any element onto its singleton set. In Wedgwood’s terms, this amounts to the shift exemplified in (113):

- (113)  $mary' \rightarrow \lambda x. x = mary$   
('interpret *Mary* as the set of things that are *Mary*')

Consider the following sentence:

- (114) János MARI-T fogja látni.  
János Mari-ACC will see.INF  
‘It’s Mary who John will see.’

In (114), *Mari-t* is in the pre-tense position, so it is interpreted as a predicate. As a result of this, its meaning is shifted to a property by *Ident*, giving essentially the reading ‘be Mary’, or, in set theoretic terms, ‘the set of things that are Mary’. In Wedgwood’s (2009) own words, “we are no longer dealing with *Mary*, but rather with the set of things (or, more plausibly, the thing) that *can be identified as being Mary*” (Wedgwood, 2009, p. 109). Since an act of identification implies the



existence of something to be identified, the identificational reading has a presuppositional element: by a process of inference, the property in question is understood as being predicated of the rest of the sentence so that what is identified with being Mary are ‘the things that János will see’, yielding the interpretation: ‘the entity that János will see is Mary’. This reading is equivalent to that of a cleft. In a nutshell, the effect of the ‘Focus position’ is:

- (i) to abstract the denotation of its occupant from the normal meaning of the sentence, (ii) via a process of inference, to bind the remainder with a *iota* (rather than merely a *lambda*), and (iii) to apply the predicative reading of the ‘Focus position’ expression to the *iota*-expression. (Wedgwood, 2009, p. 109)

As will be clear in the following section, Wedgwood’s proposal will be particularly useful in our discussion of the interpretation of postverbal subjects in Romance.

Having reviewed the analyses that assume that the Hungarian preverbal Focus position is a predicative position thus establishing a connection between predication and focus, we are in a position to come back to post-verbal subject constructions in the Romance NSLs.

## 7.2 Postverbal subjects in the Romance NSLs

Above we have examined the patterns of variation in the interpretation of postverbal subjects in VSO/VOS sentences and we have concluded that they have striking features in common with Hungarian structural Focus. In particular, when the subject is a definite DP or a specific indefinite, exhaustivity is enforced and the reading obtained is akin to that of a cleft. When the subject is a bare nominal or a nonspecific indefinite, exhaustivity is possible though not mandatory. The account offered for Hungarian relies on the idea that the constituent in Focus is interpreted as a predicate. In view of the similarities between the two cases, a natural move to make at this point is to pursue an analysis of postverbal subjects in the Romance NSLs along the same lines. As a matter of fact, one other piece of evidence in favor of the predicative nature of the postverbal subject is the availability of the non-referential, “qualitative” interpretation for a DP subject in post-verbal position, exactly as described above for Hungarian (111).

- (115) Falou [o velho homem]<sub>i</sub> e não [o professor]<sub>i</sub>.  
 spoke the old man and not the professor  
 ‘It was the old man that spoke, not the professor.’

In (115), the two nominal expressions have the same referent. When the subject occupies the preverbal position, this interpretation is not possible:

- (116) #[O velho homem]<sub>i</sub> falou; [o professor]<sub>i</sub> não.  
 the old man spoke the professor not

In our view, these contrasts constitute evidence in favor of the predicative nature of the DP subject in postverbal position.

In spite of the similarities noted, there are of course important differences between Hungarian structural Focus and postverbal subjects in the Romance NSLs. In the first place, any constituent can be focused in Hungarian, not just subjects; in the second place, there is a dedicated position for structural Focus in Hungarian. From these two observations it follows that it is rather plausible to posit a predicative projection in this language, the specifier of which can be the landing site for any constituent. In the case of the postverbal subject constructions under discussion, however, positing a predicative projection makes little sense in view of the fact that the position in question is restricted to subjects. For this reason, we will try to derive the predicative (or property) interpretation of post-verbal subjects from a different source.

Above we have argued that T bears an interpretable D feature in the consistent NSLs. Assuming that D bears an index, one plausible move to make is that the property interpretation of postverbal subjects is enforced by the presence of D in T. In fact, the idea that the focalized nature of many postverbal subjects in Italian is due to their being “predicated” of D in T can already be found in Manzini (2009). The author assumes an analysis of the role of subject agreement that is rather similar to ours. She proposes that D in T denotes a variable and that the post-verbal subject is interpreted as a property that is applied to it. Here we adopt this view. Along the lines of Wedgwood (2009), we propose that, when the thematic subject is a definite DP or a specific indefinite, its denotation must be shifted to property denotation by *Ident*.

In order to spell out the analysis more clearly, let us reconsider the syntax of (117a) (irrelevant details omitted):

- (117) a. Falou a Maria com o Pedro.  
           talked the Maria with the Pedro  
           ‘It was Maria who talked to Peter.’  
       b.  $[[_{\text{T}} \text{V} [\text{T} \langle \text{D}_i, i:\varphi \rangle]] [\nu\text{P} [a \text{ Maria}]_2 \forall \text{com o Pedro}]$

The DP *a Maria* is merged in subject position within the  $\nu\text{P}$  and bears a Case feature. Thus, it is active as a goal. T and the subject enter an Agree relation and their  $\varphi$ -features match. Since the subject and T belong within the same Phase (the CP Phase) both are present when the derivation is handed over to the semantics. At this point,  $\text{D}_i$  and the DP subject are both interpretable, in violation of Full Interpretation. Type shifting applies to the denotation of *a Maria* yielding the property  $\lambda x. x = \text{Maria}$ . This property is applied to the individual variable introduced by D. Crucially, the element that truly saturates the verbal predicate is this variable.

With this much in place, we now address the issue of exhaustivity. (117) has an interpretation that is similar to that of an *it* cleft, equivalent to ‘The one who talked to Peter was Maria.’ The exhaustive Focus interpretation found in (117), however, doesn’t carry over to every sentence with a post-verbal subject. In particular, it doesn’t obtain in presentational sentences with unaccusative verbs ((118a)) and certain types of unergatives ((118b)):

- (118) a. Chegou o comboio.  
arrived the train  
‘The train arrived.’  
b. Telefonou o João.  
called the João  
‘John called.’

Moreover, even when we restrict our attention to transitive sentences with an overt object and a postverbal subject such as (117), we observe that it is possible to construct examples in which the postverbal subject is not necessarily interpreted exhaustively. Thus, if we manipulate Example (117) by adding a topical expression in the left-periphery and slightly change verb aspect, exhaustive focus is no longer mandatory ((119)). (119) is not incompatible with a situation in which other people besides Maria were talking to Pedro:

- (119) Quando eu entrei na sala, falava a Maria com o Pedro.  
when I entered in.the room spoke the Maria with the Pedro  
‘When I entered the room, Mary was talking with Peter.’

The contrast between (117) and (119) suggests that the obligatoriness of exhaustive focus on a postverbal subject is highly dependent on information structure. We take this as an indication that exhaustivity is constructed inferentially, as argued by Wedgwood (2009) in connection with the Hungarian Focus position (in spite of the already noted important differences between the two cases). We contend that the exhaustive focus interpretation arises whenever the semantic representation is such that the identity statement falls under the Nuclear Scope (or is asserted) and the rest of the material in the clause is presupposed (we adopt Wedgwood’s proposal that binding of the remainder of the clause by *iota* is constructed inferentially). Thus, in the case of Example (117), what is being identified with Mary is the set of individuals that talked to Peter. This yields the interpretation ‘the entity that talked to Peter is Mary’:

- (120) [the  $x$ :  $x$  talked to Peter]  $x$  = Mary

Interpreting the verbal predicate as presupposed, as in (117), appears to be a property of V initial sentences containing a transitive verb. As noted, once we add a frame adverbial expression and introduce enough context, the narrow focus

reading is no longer obligatory. This can be clearly seen in the following minimal pair, which contains a transitive verb:

- (121) a. Perdi eu o autocarro.  
missed I the bus  
'I was the one who missed the bus.'
- b. Vê lá. Por causa das pressas, perdi eu o autocarro.  
see there because of.the hurry missed I the bus  
'Guess what, because I was in a hurry I missed the bus.'

(121a) can only be interpreted with narrow focus on the pronoun, meaning 'I was the one who missed the bus'. (121b) is not necessarily so interpreted. The difference between the two examples lies in the context setting and in the presence of the frame PP *por causa das pressas* 'because I was in a hurry' in (121b). The PP sets a presupposed focus frame and this allows for the verbal predicate to be mapped within the Nuclear Scope, so that what is asserted is something like 'the individual  $x$ , such that  $x$  = the speaker, missed the bus'. No exhaustive reading is obtained in this case.

Likewise, in presentational sentences with an intransitive verb ((118)), the verbal predicate is asserted rather than presupposed. We can think of a representation for (118b) along the lines of (122), where  $e$  stands for a Davidsonian event argument:

- (122)  $\exists e$  [call ( $e$ ) & Agent ( $e$ , [the  $x$ :  $x$  = John])]

(122) says that there is an event of calling and John is its agent. In this case, the verbal predicate is asserted along with the identity statement applied to the variable introduced by D.

The idea that the relation established between the variable introduced by D and the (definite) post-verbal subject is one of identification also has the potential to capture the occurrence of collective DPs in construction with 1st person inflection. We illustrate our point with the collective DP 'the whole class':

- (123) Falámos com ele a turma toda.  
talked.1PL with him the class whole  
'We, the whole class, talked to him.'

In (123) the set 'the whole class' is identified with D in T. Above we argued that the set of  $\phi$ -features in T is interpretable, so we basically get the following interpretation: 'the  $x$ , such that  $x$  is a group and includes the speaker and  $x$  talked to him, = the whole class'. Likewise, in (124)

- (124) Falámos com ele alguns de nós.  
talked.1PL with him some of us  
'We, some of us, talked to him.'

the set denoted by the partitive phrase *alguns de nós* ‘some of us’, which is a subset of the set denoted by the oblique pronoun *nós* ‘us’, is identified with D. Thus, (124) ends up meaning: ‘the group  $x$ , such that  $x$  includes the speaker and  $x$  will talk to him = a subset of us’.

In this connection, the question arises of why agreement must be 1st person plural rather than 3rd person. Consider the counterpart to (124) with third person inflection:

- (125) Falaram com ele alguns de nós.  
talked.3PL with him some of us

(125) is not ungrammatical, but rather implies that the group of people who talked to him excludes the speaker. This group, in turn, is identified with a subset of the group denoted by the oblique pronoun ‘us’, which includes the speaker. This result is what is expected under the assumption that the  $\phi$ -features on T are interpretable. Assuming that the person features are decomposed in the more primitive features  $[\pm 1]$ ,  $[\pm 2]$ , (see Müller, 2005; Noyer, 1992), 3rd person will be specified as  $[-1; -2]$ . This means that it will exclude 1st person. If the intended interpretation is that the set that is being identified with the variable introduced by D includes the speaker, then 1st person morphology must be used and everything else follows. By hypothesis, interpretability of the  $\phi$ -feature set under T is a function of the presence of D in T.

Since this approach appears to be adequate for the core cases under discussion, we will pursue it here. In this paper, we confine ourselves to the cases in which the postverbal subject is definite and leave an examination of other types of subjects for future work. With this much in place, we are now in a position to look at overt pronominal subjects of infinitival complements (null subject constructions will be briefly addressed in Section 9).

## 8. Infinitival complements revisited

Our approach to infinitival constructions is based on the idea that T in infinitives contains an interpretable D feature just like finite T. The difference between finite and infinitival clauses is that infinitival T is somehow defective with respect to  $\phi$ -features. We will encode this insight by assuming that T bears an unvalued (though interpretable)  $\phi$ -feature set. We start by examining raising contexts.

### 8.1 Raising complements

Recall from the discussion in Section 2 that Example (126) is ambiguous between the two interpretations in (127):

- (126) Acabou por receber a Maria / ela bons papéis  
ended up by to receive the Maria / she good roles
- (127) a. It ended up being the case that Maria / she was the one that got good roles.  
b. Maria/she was the one who ended up receiving good roles.

We are interested in the configuration in which the post-verbal subject is within the embedded clause. Following Costa (2004), we assume that the subject is *in situ*, in Spec,  $\nu P$ , and that the object has moved out of  $\nu P$ , so the representation is as follows:

- (128) acabou por <sub>TP</sub> receber [bons papéis [ <sub>$\nu P$</sub>  a Maria / ela ...]]  
ended up by to receive good roles the Maria / she

We adopt Chomsky's (2000) suggestion that raising infinitives do not project up to C and hence are not strong phases. Lack of a C projection accounts for the fact that these infinitival complements are Tense and  $\phi$ -feature defective. Notwithstanding this, I assume that T in raising infinitives bears a D feature as well. Within the framework of assumptions developed thus far, T in the infinitival complement has unvalued  $\phi$ -features and T in the matrix has valued  $\phi$ .

- (129) [<sub>T<sub>FIN</sub></sub> < D,  $\phi$ :val>] ... [[<sub>T<sub>INF</sub></sub> < D,  $\phi$ :\_>] *subject*]

The subject *in-situ* enters a long distance Agree relation with infinitival T; since T is defective and the infinitival domain is not a Phase, the subject enters a second Agree relation with matrix T (an operation that I assume is triggered by Case):

- (130) [<sub>T<sub>FIN</sub></sub> < D,  $\phi$ :val>]      [[<sub>T</sub> < D,  $\phi$ :val>] *subject*]  


The  $\phi$ -features of T in the embedded clause are valued under Agree with matrix Agr (recall that we adopt Zeijlstra's (2012) proposal that feature valuation requires c-command).

Now note that D in the embedded clause and D in the matrix are both linked to a single argument position. I suggest that, due to this, only one instance of D is interpreted. If so, then the configuration above can give rise to different semantic representations depending on which D is interpreted. If it is the higher one, the reading obtained is 'The  $x$  such that  $x$  started to receive good roles is Mary/she'. If it is the lower one, we get the reading 'It started to be the case that the  $x$  such that  $x$  received good roles is Mary/she'.

## 8.2 Control complements

As we have seen, in obligatory control complements, if the subject of the infinitival clause is explicit, it must be anaphoric. Since, as shown above, the data are problematic for a backward control analysis, I adopt a non-movement approach.

In recent years, a growing number of studies on obligatory control within the Minimalist Program adopt the view that (at least some) obligatory control infinitives denote (derived) properties of individuals rather than propositions (Landau, 2015, and the references cited there). Chierchia (1990) argued that infinitives and gerunds are systematically interpreted as derived predicates or unsaturated structures (i.e., properties); thus, when combined with attitude verbs, they give rise to obligatory *de se* interpretations. According to Chierchia, a structure such as (131a) is interpreted as in (131b), where PRO is translated as a  $\lambda$ -abstractor:

- (131) a. to eat the cheese.  
b.  $\lambda x [x \text{ eats the cheese}]$

So as to capture the interpretation of PRO as a  $\lambda$ -abstractor, Chierchia proposed that PRO is bound by a null operator in C.

- (132) a. The cat wants to eat the cheese.  
b. The cat wants [ $Op_i$  [ $PRO_i$  to eat the cheese]]

Other authors (Clark, 1990; Heim & Kratzer, 1998; Landau, 2015) assume that the operator is PRO itself, moving to a position in the left-periphery of the clause:

- (133) The cat wants [ $PRO_i$  [ $t_i$  to eat the cheese]].

In Landau's (2015) particular implementation of this idea, an infinitival TP with a PRO subject is embedded under a "predicative" head in the low CP periphery, which he takes to be Rizzi's (1997) Fin. In the same way that C attracts a *wh*-phrase to its Spec, Fin attracts PRO, thus turning the clause into a predicate. This property of Fin is encoded as an uninterpretable D feature that acts as a probe for a matching D category. In Landau's system, PRO is a featureless D, [ $D, \phi: \_$ ]. Semantically, it merely denotes an index. Upon movement to Spec, Fin, it is translated into a  $\lambda$ -abstractor.

In reality, Landau's (2015) major concern is the distinction between two types of OC complements, those embedded under attitude verbs, and those embedded under non-attitude verbs, such as implicative, aspectual or perceptive verbs. The latter denote properties that are related to the controller via direct predication. The former involve an extra layer of structure (a CP layer), which hosts a projected coordinate of the embedded context of evaluation, either *the attitude holder* or *the addressee*. The predicative FinP is selected as a complement of C and the derived property is predicated of the projected coordinate in Spec, CP. Since

I fail to detect any significant differences between the two types of OC complements regarding the availability of an overt pronominal subject, this distinction will not be further discussed here. For the purposes of the present paper, what matters is the idea that at the core of the control configuration lies a derived predicate “constructed” by Fin.

In what follows, I will assume that the lambda abstract is contributed by the predicative head Fin itself. The idea that semantic binders ( $\lambda$ -operators represented as binder indices) are introduced by particular functional heads is found in Kratzer (2009) (see also Adger & Ramchand, 2005). To illustrate how this proposal works, we briefly present Kratzer’s analysis of English reflexives. In this analysis, the  $\nu$  head that introduces external arguments carries a binder index and binding from the closest  $\nu$  creates the phenomenon of reflexivization. Thus, the structure of the  $\nu$ P of a simple reflexive sentence *I blame myself* is as in (134b):

- (134) a. I blame myself.  
 b. [ $\nu$ P I [ $\nu$  [ $n$ ] [VP *blame* [ $n$ ]]], parsed as [ $\nu$ P I [ $\nu$  [ $\lambda$ [ $n$ ] [VP *blame* [ $n$ ]]]]]

The personal pronoun is a mere index represented as a numerical feature [ $n$ ] that functions as an individual variable. The binder  $\lambda$ [ $n$ ] is introduced by  $\nu$  in the form of another occurrence of [ $n$ ] and is parsed as heading its own projection, thus essentially creating a reflexive predicate.

Kratzer conjectures that relative pronouns also originate as mere numerical indices that are bound by local Cs that attract them to their specifier position. When they move they leave a copy of their index behind, which is then bound by the C that attracted them. The pronoun’s own index is not interpreted in the position where it is given a pronounceable shape; consequently, we end up with a CP that denotes a property.

Coming back to infinitival complements, we combine Landau’s insight that in OC complements Fin is predicative with the procedure introduced by Kratzer (2009). We have argued that T bears an interpretable D feature in a consistent NSL. Adopting Landau’s proposal, we hypothesize that T containing D is attracted to Fin carrying the whole verbal complex along.<sup>20</sup>

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20. Curiously, there is evidence concerning clitic placement in favor of the view that infinitival T in the Romance NSLs raises higher than finite T. This evidence is clear in the case of Italian and Spanish, where pronominal clitics precede the inflected verb in finite clauses even though they follow it in infinitival clauses. This is in contrast to French, a non-NSL, where pronominal clitics invariably precede the verb (see Kayne, 1991, for the idea that there is a correlation between this state of affairs and the null subject property). Note, however, that this order is found in all kinds of infinitives, not just control infinitives.



- (135)  $[[_{\text{Fin}} [_T \text{V-T} \langle \text{D}_p, \varphi: \_ \rangle] \text{Fin} [n]] [\text{TP} [_T \text{V-T} \langle \text{D}, \varphi: \_ \rangle] [_{v/\text{VP}} \text{V} \dots ]]]$

Fin carries a binder index, which is parsed as a lambda abstract adjoined to TP.

- (136)  $[_{\text{FinP}} \text{Fin} [\lambda [n] [\text{TP} [_T \text{V-T} \langle \text{D}_p, \varphi: \_ \rangle] [_{v/\text{VP}} \text{V} \dots ]]]]$

Now consider an example with an overt pronoun:

- (137) Decidiu ir ele ao mercado.  
decided to go he to.the market  
'He decided to go to the market himself.'

In this case, the embedded FinP will have the syntactic representation in (138), where the pronoun in post-verbal position carries an index and enters an Agree relation with T containing D.

- (138)  $[_{\text{FinP}} [\text{Fin} [n] [\text{TP} [\text{ir} [_T \text{T} \langle \text{D}_{2p}, \varphi: \_ \rangle] [_{\text{VP}} \text{ir} [_{\text{DP}} \text{ele}_n] [\text{ao mercado}]]]]]$

We assume that the pronoun is assigned Nominative case by default, an assumption that is not problematic as Nominative is the default Case in EP (see Belletti, 2005 and Cardinaletti, 1999 for a similar claim).

(138) is parsed as (139a), where the pronoun is bound from Fin. The complement of Fin is interpreted as in (139b), where the denotation of the pronoun has been shifted to a property (namely the property of being identical to  $y$ ), which is applied to the variable introduced by D:

- (139) a.  $[_{\text{Fin}} [\lambda_n [\text{TP} [\text{ir} \langle \text{D}_p, \varphi: \_ \rangle] [_{\text{VP}} \text{ir} [\text{ele}_n] [\text{ao mercado}]]]]]$   
b.  $[\lambda_x [\text{the } y [\text{go } (y, \text{the market})] [y=x]]]$

The property in (139b) is then applied to the attitude holder via C, yielding the interpretation: 'He decided for it to be the case that the one that goes to the market is himself'. The set of  $\varphi$ -features under T is valued by the controller.

Now recall that control complements differ from raising complements in that a non-anaphoric expression cannot have embedded scope:

- (140) Decidiu ir ao mercado o João.  
decided to go to.the market the John  
[a] 'John is the one who decided to go to the market.'  
[b] \* $\text{He}_1$  decided for it to be the case that  $\text{John}_1$  is the one that goes to the market.'

As already mentioned, we attribute this restriction to a Condition C effect (the name is c-commanded by the matrix null subject).

To wrap up: due to the presence of D in T, the consistent NSLs display a mode of composition of the subject argument with the verbal predicate whereby a pronominal argument may be inserted as an argument and be interpreted as a

property by the type-operation *Ident* (Partee, 1987). This is why an overt subject pronoun is allowed in an OC complement. In a language lacking D in T, this possibility will of course never arise. In this case, PRO (by assumption,  $[D, \varphi: \_]$ ) must be first merged as an argument in Spec- $\nu$ P/VP. Since  $\nu$ /V projects,  $[D, \varphi: \_]$  (or its copy) must be both an  $X^0$  and an  $X^{\max}$ . Consequently, there is no room for a lexical subject no matter what.

## 9. Concluding remarks

This paper discusses evidence that control and raising infinitives have overt subjects in EP as well as in the other Romance NSLs. This evidence is in conformity with Szabolcsi's (2009) cross-linguistic study where the following generalization is put forward:

- (141) The overt subjects of control complements can only be pronouns.  
 The overt subjects of raising complements can be pronouns or lexical DPs.

We have argued that the evidence underlying (141) constitutes a strong case for a non-raising approach to Control. Relying on the observation that all of the Romance NSLs allow for explicit subjects in raising and control complements (in compliance with (141)), we have developed an account that aims to capture the association between this phenomenon and the null subject property. This account is based on the idea that T bears an interpretable D feature (along the lines of Holmberg, 2005) regardless of whether it is finite or non finite. Contra Holmberg, we assume that, due to the presence of D in T, the set of  $\varphi$ -features in T is interpretable. As a corollary of this, there is no A movement of subjects to preverbal position and apparent preverbal subject constructions are either instances of CLLD or instances of A-bar extraction. Neither of these options are readily available in infinitival clauses and this is the reason why the overt subjects of the infinitival complements under discussion in the Romance NSLs (where V raises to T) are postverbal.

We have examined some striking parallelisms in the patterns of variation in the interpretation of postverbal subjects in EP and nominal constituents occupying the preverbal focus position in Hungarian and we have argued that what these have in common is their predicative status. We have concluded that postverbal subjects in the Romance NSLs are interpreted as predicates and we have suggested that this is due to the presence of interpretable D in T. Since D in T and the subject are both interpretable, the latter is interpreted as a property that is applied to the variable introduced by D. Crucially, the element that truly saturates the verbal predicate is this variable. Thus, when the subject is a pronoun or a definite DP, its

denotation is shifted to a property by the type-shifting operation *Ident* (Partee, 1987). In many contexts, particularly in V initial clauses with a transitive verb, the identity statement is mapped in the Nuclear Scope and the rest of the material in clause is presupposed, yielding an interpretation that is akin to that of a cleft.

In infinitival contexts, T has deficient or unvalued  $\phi$ -features. Two configurations arise. If the matrix verb is a raising verb, C doesn't project and D in the matrix as well as D in the embedded clause both bear a long distance Agree relation with the subject that is merged within the embedded clause. Since both are linked to a single argument, only one of them is interpreted and we get two possible interpretations depending on which D bears the index that is identified with the subject. If it is the higher one, we get matrix scope; if the lower, we get narrow scope.

When the selecting verb is an OC verb, a predicative Fin head (Landau, 2015) is selected. In the spirit of Kratzer (2009), we proposed that Fin carries a binder index represented as a lambda operator that binds an open position in the clause, turning it into a predicate. Since the relation established between an overt subject and the index on D under infinitival T is one of identification, an overt subject may be present as long as it is a pronoun, which is then bound from Fin.

In this paper, we have restricted our attention to constructions with an overt subject, so the question arises of how null subject constructions are to be analysed. The key point of our analysis is that the variable introduced by D is the element that saturates the verbal predicate regardless of whether T is finite or non-finite. Therefore, one possible consequence of this approach could be that *pro* can be dispensed with altogether, and along with it, the need to posit an empty category in argument position in infinitival contexts as well. This is in effect the position taken by Jelinek (1984), Manzini and Savoia (2002), among others. Ultimately, whether such an empty category is required is an empirical question, one that should be able to be settled on the basis of evidence. In the case of the partial NSLs, there is clear evidence in favor of the existence of a null empty category with the same distribution as regular subjects (Holmberg, 2005), but in the consistent NSLs it is not easy to come across concluding evidence. There are, however, theory internal reasons to posit the presence of an empty category in argument position, namely the widely held assumption within Minimalism that theta-roles are assigned configurationally. For this reason, and for the purposes of the present paper, I assume that a null nominal projection is merged as subject within  $\nu$ P/VP.

In Barbosa (2013, 2014), I have argued in favor of reducing *pro* in the partial NSLs to a form of null NP anaphora, along the lines of Tomioka's analysis of discourse (or radical) *pro*-drop. Tomioka (2003) claims that what underlies discourse *pro*-drop is the fact that languages (almost) universally allow phonologically null NP anaphora ((142)).

(142) I bought one book, but Carlos bought [five [<sub>NP</sub> –]].

In a language that either lacks determiners or has null determiners, this operation will give rise to phonologically unrealized arguments. In languages in which DPs are necessarily projected, a remnant D will always show up and so this process will never yield a silent argument. In Barbosa (2014) I extend this proposal to the partial NSLs and other instances of object drop and propose to unify this null NP with the very same null NP that has been posited to occur as a complement of D in every pronoun by Elbourne (2005), Panagiotidis (2003), Postal (1966), among others. Elbourne (2005), in particular, argues that non E-type pronouns are determiners that take a kind of default null NP, which he labels ONE, the meaning of which is ‘entity’ or ‘individual’, translated as  $[\lambda x: x \in D_e, x \in D_e]$  (a property that is trivially true of any individual in the domain). D type-shifts the property to an individual.

In this paper, we have reached the conclusion that the overt subject in post-verbal position in the consistent NSLs of the Romance type is interpreted as a property. Hence, a natural move to make is to suggest that the empty category sitting in argument position inside *v*/VP also denotes a property; in other words, it is a null NP as well. This move would allow us to fully reduce *pro* (as well as PRO, in a consistent NSL) to a null NP. We leave a more precise implementation of this hypothesis for future work.

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# (Hyper-)raising in Brazilian Portuguese and Spanish

## Interaction between case and agreement

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Brazilian Portuguese and Spanish allow subject NP-raising from non-finite clauses, but both languages also allow referential subjects in existential clauses with finite complement clauses. The latter have been referred to as hyper-raising in BP (Martins & Nunes, 2009) and further-raising in Spanish (Fernández-Salgueiro, 2005, 2008). Both structures have been argued to have a matrix subject in an A-position resulting from A-movement raising from the embedded clause. Whereas BP has been argued to require matrix subject-verb agreement, differently from Spanish, we show that there is more variation in this respect. We compare these structures, and adopt a unified A-movement analysis for them, allowing variation only in the specification of agreement ( $\phi$ -)features in the matrix clause.

### 1. Introduction

Hyper-raising, in which the subject of a tensed embedded clause raises to the subject position of a higher tensed clause, has been observed in different languages. This is shown by the following examples from Ura (1994: 66ff):

- (1) a. *Moroccan Arabic*  
Ttshab-et-li                      mmi      [CP beli žat].  
seemed-3SG.F-me.DAT mother              that came  
Lit. ‘(My) mother seemed to me that came.’
- b. *Bhojpuri*  
Laiki: laga:-le:                      [CP ki su:t-i:].  
girl seem-3SG.F.PRS              that sleep-3SG.F.FUT  
Lit. ‘The girl seems that will fall asleep.’

Hyper-raising is attested in Brazilian Portuguese, as illustrated in the following examples (see e.g. Ferreira, 2005; Martins & Nunes, 2009; Nunes, 2008):

- (2) a. As crianças parecem que gostam de chocolate.  
 the kids seem.3PL that like.3PL of chocolate  
 Lit. 'The kids seem that like chocolate.'  
 'The kids seem to like chocolate.'
- b. Nós parecemos que gostamos de chocolate?  
 we seem.2PL that like.2PL of chocolate  
 Lit. 'We seem that we like chocolate?'  
 'Do we seem to like chocolate?'

Note that in the examples above, the raised DP agrees with the matrix Tense – in (1) it agrees in person, number and gender, and in (2) it agrees in person and number. However, raising of a subject DP out of a tensed embedded clause without agreement with the matrix Tense has been argued to be possible in Spanish, at least for some speakers, as seen in the following Spanish examples from Fernández-Salgueiro (2005, 2011). Fernández-Salgueiro argues that for these speakers agreement with the raising verb is blocked, as shown by (4):

- (3) Juan y Pedro parece que son listos  
 Juan and Pedro seem.3SG that are intelligent  
 Lit. 'Juan and Pedro seems that are intelligent.'
- (4) Muchos niños parece(\*n) que llegaron a tiempo a la fiesta.  
 many kids seem.3(\*PL) that arrived.3PL to time to the party  
 'Many kids seem to have arrived at the party on time.'

Fernández-Salgueiro (2005) refers to structures such as (3)–(4) as instances of further-raising, differently from constructions such as (1)–(2) that have been normally treated as hyper-raising.<sup>1</sup>

The impossibility of agreement with the matrix subject in further-raising in Spanish extends to instances with first and second person subjects (see also Fernández-Salgueiro, 2005), as shown below:

- (5) a. Nosotros parece/\*parecemos que podemos salir.  
 we seem.3SG/seem.1PL that can.1PL leave.  
 'We seem to be allowed to leave.'

---

1. Fernández-Salgueiro (2011) points out that Galician also behaves similarly to Spanish by showing a pattern of further-raising:

- (i) [Algúns nenos]<sub>i</sub> parece que t<sub>i</sub>  
 some kids seem.3SG that  
 están tolos. (Galician, Fernández-Salgueiro, 2011)  
 are crazy  
 'Some kids seem to be crazy.'

- b. Vosotros parece/\*parecéis que sois listos.  
 you.PL seem.3SG/seem.2PL that be.2PL intelligent.  
 'You seem to be intelligent.'
- c. Yo parece/\*parezco que puedo salir.  
 I seem.3SG/seem.1SG that can.1SG leave.  
 'I seem to be allowed to leave.'

In this paper, we will adopt the convention of using the term hyper-raising to refer to structures like (1)–(2) that show person/number subject agreement in the matrix clause, and further-raising to refer to structures like (3)–(4) which lack subject-verb agreement in the matrix clause (marked as 3SG across the board). That is, we will treat as hyper-raising instances in which raising across a finite clause co-occurs with overt phi-feature agreement between the matrix subject and matrix verb (including at least number agreement), whereas in the further-raising cases, as considered by Fernández-Salgueiro, we will take this phi-feature agreement to be blocked in the matrix clause, as in (4).

Fernández-Salgueiro (2005) claims that, at least in Romance, further-raising and hyper-raising are mutually exclusive – there are languages with only hyper-raising and only further-raising, but not with both. However, there is substantial variation from speaker to speaker in this domain, at least regarding Spanish and Brazilian Portuguese. We consulted five native Spanish speakers from Spain, asking them for judgments on hyper- and further-raising sentences like those in (6). First, some speakers of Spanish do not allow either further-raising or hyper-raising. Second, among the speakers we consulted, there were speakers of (Andalusian) Spanish for whom agreement is obligatory in such examples, so they actually have the obligatory agreement pattern corresponding to hyper-raising, as shown in (6).

- (6) a. Juan y Pedro parece\*(n) que son listos.  
 Juan and Pedro seem.3\*(PL) that are intelligent  
 'Juan and Pedro seem to be intelligent.'
- b. Los niños parece\*(n) que son listos.  
 the kids seem.3\*(PL) that are intelligent  
 'The kids seem to be smart.' (Andalusian Spanish)

Third, Brazilian Portuguese (henceforth BP) also allows the patterns corresponding to both hyper-raising and further-raising, as shown by the possibility of a further-raising pattern as in (7), in contrast with a hyper-raising pattern, as in (8).

- (7) *Further-raising (BP)*  
 Os meninos parece [que chegaram a tempo na festa].  
 the kids seem.3SG that arrived.3PL to time in.the party  
 'The kids seem to have arrived at the party on time.'

(8) *Hyper-raising (BP)*

Os meninos parecem [que chegaram a tempo na festa].  
 the kids seem.3PL that arrived.3PL to time in.the party  
 'The kids seem to have arrived at the party on time.'

However, for purposes of this paper, we will treat the further-raising pattern in (3)–(4) as canonical for Spanish, and the hyper-raising pattern in (2) and (8) as canonical for BP.<sup>2</sup> We will attempt to account for the availability of either construction in the two languages. We will also treat the alternative possibility of hyper-raising in Spanish as in (6) as being equivalent to the one found in Brazilian Portuguese, as in (2). In addition, we will also address an aspect of variation in the pattern of further-raising found in Spanish (3)–(4) and in Brazilian Portuguese (7).

Hyper-raising and further-raising provide crucial data points for theories of agreement and movement. In particular, they present a challenge for the traditional notion that a DP is frozen for further movement once its Case feature is checked/valued, under the assumption that a DP that checks/values the agreement features of T(ense) has its Case feature checked/valued in parallel. Assuming that a DP has its Case feature checked in the Spec,TP of a finite clause, it should not be able to raise any further.

A first possible solution could be to argue that BP hyper-raising in (2) and (8) and further-raising in Spanish in (3)–(4) are not true raising constructions, but rather the DP is base-generated in a topic position. However, Fernández-Salgueiro gives substantial evidence that Spanish does indeed have DP-raising of the embedded subject in further-raising cases. First, the matrix DP observes island constraints (Fernández-Salgueiro, 2005, p. 101):

(9) a. *Complex NP island*

\*Juan y Pedro parece que el hecho de que vengan  
 Juan and Pedro seem.3SG that the fact of that come.SBJV  
 nos alegra.  
 us cheer

Lit. 'Juan and Pedro seem that the fact they are coming makes us happy.'

b. *Wh-island*

\*Juan y Pedro parece que Eva se pregunta si  
 Juan and Pedro seem.3SG that Eva REFL wonders if  
 se marcharon.  
 REFL left

Lit. 'Juan and Pedro seem that Eva wonders if they left.'

---

2. Remember, however, that individual speakers may have a preference for the alternative option in each language, as indicated above. In addition, at least in the case of Spanish, both further-raising and hyper-raising can be blocked by some speakers.

Second, further-raising is also incompatible with an experiencer, consistent with the fact that raising across an experiencer is disallowed in Spanish:

- (10) \*Juan y Pedro me parece que son listos.  
 Juan and Pedro to me seem.3SG that are intelligent  
 Lit. 'Juan and Pedro seem to me that they are intelligent.'

Fernández-Salgueiro (2005, 2008) also gives diagnostic evidence that further-raising is an instance of A-movement, as opposed to A-bar movement. For example, the subject of an idiom can be further-raised while maintaining the idiomatic reading:

- (11) a. Mala hierba nunca muere  
 bad grass never dies  
 'The devil looks after himself.'  
 b. Mala hierba parece que nunca muere.  
 bad grass seems that never dies  
 'The devil seems to look after himself.'

In addition, further-raising of a quantifier does not freeze its scope:

- (12) a. Algún problema afecta siempre a toda teoría compleja.  
 some problem affects always to every theory complex  
 'Some problem always affects every complex theory.'  
 [some>every, every>some]  
 b. Algún problema parece que afecta siempre a toda  
 some problem seems that affects always to every  
 teoría compleja.  
 theory complex  
 'Some problem always seems to affect every complex theory.'  
 [some>every, every>some]

Similar arguments apply to the hyper-raising cases in Brazilian Portuguese data, making it clear that both Brazilian Portuguese hyper-raising and Spanish further-raising are true instances of raising. First, hyper-raising observes island constraints in BP, as in (13):

- (13) a. *Complex NP island (BP)*  
 \*Os meninos parecem que o fato (de) que venham  
 the kids seem.3PL that the fact of that come.3PL  
 nos alegre.  
 us cheer  
 Lit. 'The kids seem that the fact that (they) are coming makes us happy.'

b. *Wh-island (BP)*

\*Os meninos parecem que a Eva se pergunta se saíram.  
 the kids seem.3PL that the Eva REFL wonders if ft.3PL  
 Lit. 'The kids seem that Eva wonders if (they) left'

Second, in BP hyper-raising the subject of an idiom can hyper-raise as in (14), as also observed by Martins and Nunes (2010):

(14) a. Vaso ruim não quebra. (BP)  
 vase bad not break.3SG  
 'A creaking gate hangs longest.'

b. Vaso ruim parece que não quebra. (BP)  
 vase bad seem.3SG that not break.3SG  
 'A creaking gate seems to hang longest.'

Third, hyper-raising of a quantifier also does not freeze its scope in BP (15b), similarly to what Fernández-Salgueiro (2005, 2008) observed for Spanish further-raising, supporting the view that hyper-raising in BP does not require A'-movement:

- (15) a. Todos os políticos escondem um segredo.  
 all the politicians hide a secret  
 'All the politicians hide a secret.'  
 [a>all, all>a]
- b. Todos os políticos parecem que querem esconder  
 all the politicians seem.3PL that want.3PL hide.INF  
 um segredo.  
 a secret  
 'All the politicians seem to want to hide a secret.'  
 [a>all, all>a]

Finally, negative quantifiers can hyper-raise in BP, further indicating that the raising does not involve topicalization as A'-movement:<sup>3</sup>

- (16) Nenhum dos alunos parecem que fizeram o dever. (BP)  
 None of.the students seem.3PL that did.3PL the work  
 'None of the students seem to have done their homework.'

---

3. See also Ferreira (2005) for an argument that quantifiers such as *alguém* can hyper-raise in BP, although they cannot be topics. We did not confirm whether corresponding negative quantifier examples are possible with further-raising (or hyper-raising) in Spanish, although the other pieces of evidence considered above are sufficient to support the A-movement analysis for Spanish as well.

As for the variant of further-raising that is possible in BP, as in (7), there is also evidence that it involves movement. First, it behaves similarly to instances of hyper-raising such as (13) regarding sensitivity to islands, as shown in (17), although the ungrammaticality may be stronger with some islands:<sup>4</sup>

(17) a. *Complex NP island (BP)*

\*Os meninos<sub>i</sub> parece que o fato (de) que t<sub>i</sub> venham  
the kids seem.3SG that the fact of that come.3PL  
nos alegra.  
us cheer

Lit. 'The kids<sub>i</sub> seem that the fact that (they<sub>i</sub>) are coming makes us happy.'

b. *Relative clause island*

\*Os alunos<sub>i</sub> parece que o livro que t<sub>i</sub> escolheram  
the students seem.3SG that the livro that chose.3PL  
era difícil.  
was difícil.

Lit. 'The students<sub>i</sub> seem that the book that (they<sub>i</sub>) chose was difficult.'

c. *Wh-island*

\*Os meninos<sub>i</sub> parece que a Eva se pergunta  
the kids seem.3SG that the Eva REFL wonders  
se t<sub>i</sub> saíam.  
if left.3PL

Lit. 'The kids<sub>i</sub> seem that Eva wonders if (they<sub>i</sub>) left.'

Second, further-raising in BP is also possible with chunks of idioms, as shown for hyper-raising. Here, in order to show clearly that we are dealing with further-raising, and not hyper-raising, the subject of the idiom has to be a plural DP, whereas there is no plural agreement on the raising verb:

(18) a. *BP*

Águas passadas parece que não movem moinhos.  
Waters passed seem.SG that not move.3PL mills.  
'It seems that past events do not matter anymore.'

b. Os opostos parece que se atraem.  
the opposites seem.SG that self attract.3PL

'It seems that incompatible people are drawn to each other.'

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4. Notice that the examples in (17) improve significantly if there is a pause after the matrix clause DP, which would lead them to be treated as topics, similarly to what is possible in European Portuguese. However, this would turn the structures into instance of topicalization, and not further-raising.



- c. Todos os caminhos parece que levam a Roma  
all the ways seem.SG that lead.3PL to Rome.  
'It seems that all the alternatives yield the same outcome.'
- d. As paredes parece que têm ouvidos.  
the walls seem.SG that have.3PL ears  
'It seems that there is always someone eavesdropping.'

Third, further-raising of a quantifier does not freeze its scope:

(19) *BP*

Todos os políticos parece que querem esconder um segredo.  
all the politicians seem.3SG that want.3PL hide.INF a secret  
'All the politicians seem to want to hide a secret.'  
[a>all, all>a]

Finally, negative quantifiers can also further-raise in BP, indicating again that the raising does not involve topicalization as A'-movement, similar to what we observed above for hyper-raising:

- (20) Nenhum dos alunos parece que fizeram o dever. (BP)  
none of.the students seem.SG that did.3PL the work  
'None of the students seem to have done their homework.'

In sum, considering the instances of further-raising in Spanish (3) and Brazilian Portuguese (7), and hyper-raising in Brazilian Portuguese (8), the evidence indicates that they all show properties of A-movement to the matrix clause (it remains to be determined whether these properties also apply to the variant of hyper-raising in Spanish, as in (6)).

The paper is organized as follows. Section 2 summarizes relevant previous analyses of hyper- and further-raising in Brazilian Portuguese and Spanish. Section 3 proposes a unified analysis of these phenomena in the two languages, building upon but modifying aspects of previous approaches. Section 4 concludes and suggests avenues for further research.

## 2. Previous analyses

Any account of hyper-raising or further-raising must explain why a DP is able to remain active in order to raise, despite being merged in Spec,TP of a finite embedded clause. There are several possible formal accounts. One account is to assume that the embedded T is defective. This is the approach developed in proposals by Ferreira (2005) and Martins and Nunes (2009, 2010) for hyper-raising in Portuguese. A second possible analysis is to assume that the embedded T is in fact  $\phi$ -complete, and therefore it can value the DP's Case feature, but the valuation

can be delayed, allowing the DP to remain active at least until the higher clause. Versions of this approach are developed by Fernández-Salgueiro (2005, 2008) for Spanish further-raising, and by Carstens (2011) for the Bantu languages.<sup>5</sup>

Let's consider first the account that assumes that the embedded T is defective. If the embedded T is defective (or  $\varphi$ -incomplete, in terms of feature specification), it cannot check the DP's Case feature, and the DP remains active for further movement.

This approach is taken by Ferreira (2005), who argues that finite T in BP can be either  $\varphi$ -complete or  $\varphi$ -incomplete. In his approach, in a numeration with two finite T's, there are four possibilities, only one of which converges. If both T's are  $\varphi$ -incomplete, the Case feature of the embedded subject DP will never be eliminated. If both T's are  $\varphi$ -complete, the DP will be inactivated when its Case feature is checked by the embedded T, so the DP cannot raise to satisfy the EPP feature of the matrix T (The same situation obtains if the matrix T is  $\varphi$ -incomplete and the embedded T is  $\varphi$ -complete). If the matrix T is  $\varphi$ -complete and the embedded T is  $\varphi$ -incomplete, then the DP cannot have its Case feature eliminated by the embedded T, so it remains active to raise and have its Case feature eliminated by the matrix T, thereby also eliminating the matrix T's EPP feature.

To support his contention that finite T can be  $\varphi$ -incomplete in BP, Ferreira uses evidence related to the distribution of BP null subjects. For instance, referential null subjects must be c-commanded by an antecedent in the immediately higher clause, as shown by the ungrammaticality of the sentences in (21), where the embedded null subject (empty category, *ec*) is co-referent with *João*, which does not c-command the *ec* position from the immediately higher clause:

- (21) a. \**João<sub>i</sub> disse que a Maria acha que ec<sub>i</sub> é esperto.*  
           *João said that the Maria thinks that ec is smart*  
           *'John said that Mary thinks that he is smart.'*
- b. \**A mãe do João<sub>i</sub> acha que ec<sub>i</sub> é esperto.*  
           *the mother of.the João thinks that ec is smart*  
           *'John's mother thinks that he is smart.'*

Ferreira (2005) argues that the empty category is the trace of movement of the subject. The subject must move to a c-commanding position, such as Spec,TP of the matrix clause (see also Rodrigues 2002, 2004, for an alternative movement analysis).

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5. Another analysis of raising verbs that deals with the defectiveness of T is Ausín and Depiante (2000). However, their analysis takes Spanish to lack defective T, in order to explain why raising across an experiencer is ruled out in Spanish, so it does not provide a mechanism for explaining the possibility of further-raising in Spanish.

However, the embedded subject should not be able to move if the embedded finite T is  $\varphi$ -complete. Thus, Ferreira suggests that finite T in BP can also be  $\varphi$ -incomplete. This predicts that there should be non-hyper-raising sentences in which a subject raises out of a finite clause. The fact that (21a) becomes grammatical if the embedded null subject is co-referent with *Maria* instead of *João*, as shown in (22), is taken by Ferreira to support this view regarding control clauses (but see Rodrigues, 2002, 2004, for alternative arguments regarding such cases).

- (22) João disse que Maria<sub>i</sub> acha que *ec*<sub>i</sub> é esperta.  
 João said that Maria<sub>i</sub> thinks that *ec*<sub>i</sub> is smart.  
 'João said that Maria<sub>i</sub> thinks that *ec*<sub>i</sub> is clever'

Under the assumption that *João* has raised from the embedded subject position in (21a), it is ungrammatical due to a violation of the Minimal Link Condition, since *Maria* intervenes. On the other hand, (22) does not violate the Minimal Link Condition, since it is *Maria*, the closest c-commanding antecedent, which raises from the embedded subject position.

Martins and Nunes (2009, 2010) adopt Ferreira's analysis as above, and argue that the possibility of  $\varphi$ -incomplete finite T in BP arose diachronically partially as the result of a change in the Romance-type null subject parameter setting.<sup>6</sup> Unlike null subject languages like EP, BP does not freely allow matrix referential null subjects; however, it does allow embedded clauses to lack overt subjects, which have been analyzed as obligatory control structures (see e.g. Ferreira, 2005; Rodrigues, 2002, 2004). According to Martins and Nunes, there was a stage in the history of BP in which sentences with an overt matrix subject but no overt embedded subject were common. If learners were exposed to these sentences after setting a negative value for the pro-drop parameter, their only remaining option would be to reanalyze these structures as cases of hyper-raising – in other words, to reanalyze the embedded T as being  $\varphi$ -incomplete.

According to Martins and Nunes, this reanalysis could have been facilitated by BP's loss of verbal morphology.<sup>7</sup> According to them, given the lack (or gradual loss) of overt verbal agreement morphology in BP, each finite verb form in the language can be analyzed as being specified for person and number, or being specified for number only. Martins and Nunes argue that the first option corresponds

6. However, Martins and Nunes (2010) also consider a similar type of structure with a resumptive pronoun, which they call apparent hyper-raising constructions. We leave consideration of these structures out of the scope of this paper.

7. However, see Borges and Pires (2017) for evidence indicating that the rise of null subjects with the requirement of a co-referential antecedent, as in (22), took place in a dialect of Brazilian Portuguese before there were substantial losses in the verbal morphology system.

to  $\phi$ -complete T, and the second option corresponds to  $\phi$ -incomplete T. Therefore, under their analysis, the embedded T of hyper-raising structures in BP such as (2) and (8) is a  $\phi$ -incomplete T specified for number (but not person) feature.

Martins and Nunes' (2009) diachronic analysis of the development of hyper-raising in BP can be compared to Pires' (2001a, 2001b, 2006) analysis of null subjects in infinitives in BP. European Portuguese and standard Brazilian Portuguese have both inflected and non-inflected infinitives. Pires (2001a, 2001b) argues that the null subjects of non-inflected infinitives, which have obligatory control interpretation, as in (23a), are derived by subject-to-subject movement, following the control as movement analysis of Hornstein (1999). However, Pires shows that the same analysis does not extend to inflected infinitives, in which non-obligatory control interpretation of embedded null subjects of inflected-infinitives is possible (23b), blocking a movement analysis in such cases. In addition, Pires (2001b, 2006) argues that, due to the loss of overt inflection (and corresponding inflected infinitives) in Brazilian Portuguese, the non-obligatory control interpretation of embedded null subjects of inflected infinitives becomes unavailable in colloquial BP, making (23b) ungrammatical in that dialect.

- (23) a. BP  
 [Nossos<sub>k</sub> amigos]<sub>j</sub> detestam PRO<sub>j</sub>/\*<sub>k</sub> perder as coisas deles.  
 [Our<sub>k</sub> friends]<sub>j</sub> hate PRO<sub>j</sub>/\*<sub>k</sub> lose.INF the things of.they  
 'Our friends hate losing their belongings.'
- b. [Nossos<sub>k</sub> amigos] detestam *pro*<sub>k</sub> perdermos as  
 [Our<sub>k</sub> friends] hate *pro*<sub>k</sub> lose.INF.1PL the  
 coisas deles. (StdBP, \*ColBP)  
 things of.they  
 'Our friends hate when we lose their belongings.' (Pires, 2001b)

Rodrigues (2002) extends an analysis of control as movement to null subjects of embedded finite clauses in BP. As previously noted, BP is not a true null subject language, but it does allow embedded finite clauses to lack overt subjects. Rodrigues argues that these null subjects have obligatory control interpretation, and are derived by subject-to-subject movement (see also Ferreira, 2005).

In Rodrigues' (2002) analysis, the possibility of subject raising out of finite clauses arose because the verbal agreement morpheme underwent  $\phi$ -feature degradation, but retained its D-feature. Martins and Nunes' (2009) subsequent explanation of BP hyper-raising in terms of defective feature specification in the embedded clause, building upon Ferreira's approach, is similar to this analysis.

The analyses by Martins and Nunes, Ferreira, and Rodrigues have in common the proposal that BP allows phi-incomplete or defective T in embedded clauses that would otherwise behave as finite clauses. Therefore, these

approaches offer a plausible approach to the mechanisms that would give rise to hyper-raising in BP.

However, whereas Martins and Nunes' analysis of hyper-raising provides a precise account for the possibility of hyper-raising out of embedded finite clauses as in (2) and (8), some difficulties arise regarding their approach.

First, it is unclear why an embedded phi-incomplete T is possible (or required) in the same clause in which matrix T needs to be phi-complete in order to trigger Case valuation, as in (2), despite the fact that the matrix and embedded verb show no morphological distinction in their overt specification of person and number agreement features.

Second, one finds overt morphological evidence of a difference in phi-feature specification between the matrix and the embedded clause not in the hyper-raising cases such as (2), (8), but instead in the further-raising cases such as (7). However, in such cases it is actually the matrix clause that shows evidence of morphological underspecification for agreement, and not the embedded clause.

In fact, Martins and Nunes' analysis of hyper-raising assuming phi-deficiency of the embedded clause is more compatible with the possibility of a different instance of further-raising in the colloquial dialect of BP, as in (24), in which there is complete lack of overt agreement morphology not only in the embedded clause but also in the matrix clause. In this example, the only element overtly marking plural number is the determiner in the subject DP. This example can be taken to be part of basolectal colloquial BP (basolectal BP), since it is considered the dialect that is more distant in terms of its grammatical properties from standard BP, partially due to the widespread omission of overt verbal agreement (and most nominal agreement).

(24) *basolectal BP*

Aqueles menino parece que gosta de chocolate.  
 that.PL boy.SG seem.SG that like.SG of chocolate  
 Lit. 'Those boy seem that like chocolate.'  
 'Those boys seem to like chocolate.'

More importantly, the approaches to hyper-raising in Brazilian Portuguese above depend on the argument that embedded finite clauses in those instances must be phi-incomplete, lacking the ability to value Case of an embedded subject DP, in connection with the (partial) loss of clausal agreement in BP. Unfortunately, those approaches face difficulties in being extended to further-raising in Spanish, in view of the fact that there is no independent empirical evidence that embedded finite clauses in Spanish examples of further-raising or hyper-raising must be phi-incomplete in order to allow DP-raising to the matrix clause to take place.

Let's turn now to an alternative analysis in which it is assumed that the embedded T is in fact  $\phi$ -complete, and therefore it can value the DP's Case feature, but Case valuation can be delayed, allowing the DP to remain active. This approach is taken by Fernández-Salgueiro (2005, 2008) in his analysis of Spanish further-raising. Fernández-Salgueiro argues that a DP is active for movement if it has undeleted Case features. In this analysis, the DP agrees with the embedded T, but the valuation and deletion of its Case feature can be delayed, allowing the DP to raise and check the matrix T's EPP feature. Fernández-Salgueiro (2008) proposes the Case-F Valuation Parameter, allowing variation in the timing of Case valuation, such that it can be delayed in further-raising languages.

- (25) *The Case-F Valuation Parameter* (operative in further-raising languages)  
 After the unvalued  $\phi$ -Fs of a  $\phi$ -complete Tense head get a value from a matching DP, the valuation of the Case-F of the DP can be delayed.  
 (Fernández-Salgueiro, 2008)

For concreteness, consider the derivation of the further raising case in (26). The DP *las chicas* raises from its thematic position (not shown below) to the specifier of the embedded T, to satisfy T's EPP feature. At this point in the derivation, there is full  $\phi$ -feature agreement between the embedded T and the DP. However, valuation of the DP's Case feature can be delayed, due to the positive setting of the Case valuation parameter in Spanish. If it is delayed, then the DP is still active for movement, so once the matrix clause is merged, it can raise to Spec,TP of the matrix clause, where its Case feature is valued.

- (26) [<sub>TP</sub> Las chicas parece [<sub>CP</sub> que <las chicas> [<sub>TP</sub> son listas]].  
           the girls seem.3sg       that                   are intelligent  
           Lit. 'The girls seems that are intelligent.'

Under Fernández-Salgueiro's analysis of further-raising, since there was  $\phi$ -agreement between the subject DP and the embedded T, the DP does not undergo  $\phi$ -agreement with the matrix T. This accounts for why *parece* is always in the third person singular, and does not agree in person or number with the raised DP in Spanish further-raising, as also shown in (4) and (5). Fernández-Salgueiro assumes that the matrix T's  $\phi$ -features are valued by agreement with the embedded CP, since that is presumably what happens in cases without further-raising, but he does not give detailed argumentation for this assumption.

Fernández-Salgueiro extends his analysis to connect the availability of further-raising with the availability of Romance-type null subjects. In his analysis, assuming that lookahead is disallowed, the possibility of delaying Case feature valuation and deletion implies that it is possible for a DP with an unvalued Case

feature to end up in a canonical subject position. If a DP moves to the specifier of T and agrees with it, valuation and deletion of the DP's case feature can be delayed in Spanish. However, if the T is not embedded the derivation will crash unless it is rescued. According to Fernández-Salgueiro, in *pro-drop* languages, the derivation can be rescued by deleting the DP's phonological features as a repair strategy, resulting in a canonical null subject. Consider, for example, the derivation of the null subject sentence in (27):

- (27) Bebe            agua. (Spanish)  
        drink.3sg water  
        'He/she drinks water.'

The subject DP raises from the thematic position to the specifier of T. The DP undergoes  $\phi$ -agreement with T and satisfies T's EPP feature, but Case valuation may be delayed. If there is no lookahead, then there is no way to know if the derivation will be monoclausal or biclausal (with an embedded T). If it ends up being monoclausal, then the DP cannot raise further, so its Case feature is never valued. However, the phonological features of the DP can then be deleted as a repair strategy, yielding a null subject. The details of this approach are further specified in Fernández-Salgueiro (2011). Fernández-Salgueiro (2008) mentions two consequences. First, the extension of his approach to null subject *pro* cases is inconsistent with an architecture in which there is Full Interpretation at LF. Since the Case feature of the DP is never checked and deleted, it will be sent to LF despite being uninterpretable, contrary to Full Interpretation. Fernández-Salgueiro (2005) suggests that his proposal is more compatible with a strong derivational approach without levels of representation (Epstein, Groat, Kitahara, & Kawashima, 1998). Second, he argues that the availability of further-raising is connected to the possibility of null subjects corresponding to standard null subject *pro*. His approach predicts that languages with further-raising must also allow null subjects. Fernández-Salgueiro (2008) argues that this prediction is borne out for Romance, and he argues that other Romance languages allow further-raising (Galician, European Portuguese, Catalan, and Italian) if they are also null subject languages.

Fernández-Salgueiro's approach is an insightful attempt to derive null subjects from independent mechanisms, in languages such as Spanish and Galician. However, several questions arise regarding the connection between null subjects and further-raising. First, as we indicated above, some speakers of Spanish reject both further-raising and hyper-raising, despite the fact that they have null subject *pro* in their grammar. One possibility would be that null subjects are only a condition for further-raising to arise, but a null subject grammar can exist without the possibility of further raising, consistently with Fernández-Salgueiro's

approach.<sup>8</sup> However, given this possibility, an account of null subjects as the result of a deletion as repair strategy becomes less clear, if there is no alternative in the grammar in which the DP could undergo further-raising.

Second, the lack of connection between further-raising and null subjects would also arise in the case of European Portuguese (henceforth EP). Although EP has structures that appear to represent further-raising, Martins and Nunes (2009) have proposed evidence to argue that the DP in the matrix clause in corresponding structures in EP is base-generated in the matrix clause as a topic, instead of moving there, differently from further-raising in Spanish. For instance, as Martins and Nunes point out, in such structures, as in (28), chunks of idioms cannot occur as matrix subjects and maintain the idiom reading, which is compatible with the impossibility of A-movement:

(28) *European Portuguese*

- #A montanha parece que pariu um rato.  
 the mountain seems that gave birth a mouse  
 ‘It seems that the results were well below the expectations.’

Third, the observation we made above that some Brazilian Portuguese speakers allow further-raising brings up complications for the analysis of further-raising in connection with null subjects, since BP is not a canonical Romance-type null subject language, showing at most properties of a partial null-subject language (see e.g. Borges & Pires, 2017; Duarte, 2000; Holmberg, 2010; Kato & Negrão, 2000; Rodrigues, 2004).

In view of these difficulties, in the analysis we develop for further-raising and hyper-raising we will not invoke a connection to an analysis of null subject *pro* as movement, such as the one proposed by Fernández-Salgueiro (2005, 2008, 2011), although we do not discard the potential application of that approach for the derivation of canonical null-subject *pro* in Romance-type null subject languages such as Spanish.

In sum, both types of approach reviewed above invoke a valuation-delay analysis, and both in hyper-raising and in further-raising delayed valuation takes place regarding the Case feature of the raising DP. However, two main aspects

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8. Note that the existence of Spanish speakers who allow hyper-raising, as in (6), implies that for those speakers, sentences like (i) should be possible without any overt subject, given the availability of null subjects. However, for some speakers who either allow only further-raising or who allow neither, (i) is ruled out.

(i) (\*)Parecen que cantan.  
 seem.3PL that sing.3PL  
 ‘They seem to sing.’



distinguish the different approaches. On the one hand, in the approach to delayed valuation proposed for hyper-raising by Ferreira (2005) and Martins and Nunes (2009, 2010), delayed Case feature valuation takes place as a consequence of the defectiveness of an embedded T in Brazilian Portuguese. As we pointed out above, that approach invokes a difference in the phi-feature specification of matrix and embedded clauses that faces some empirical difficulties, primarily regarding the extension of the approach to instances of further-raising in Spanish. On the other hand, in the approach proposed by Fernández-Salgueiro, embedded clauses in further-raising structures are taken to be phi-complete, and delayed Case valuation happens due to a parameter of Case valuation.<sup>9</sup>

Second, the two approaches are also distinguished regarding whether phi-feature valuation takes place in the matrix clause. This is the case in Martins and Nunes' approach to hyper-raising in Brazilian Portuguese, but not in Fernández-Salgueiro's approach to the derivation of further-raising in Spanish. That is, in the matrix clause of instances of further-raising, Fernández-Salgueiro argues that an EPP-feature is satisfied without any counterpart in terms of phi-feature valuation.

We turn now to a third possible approach, proposed by Carstens (2011) for hyper-raising in Bantu languages. Carstens assumes that DPs in Bantu possess an uninterpretable but inherently valued feature, gender, and that they remain active because this feature is not valued by an Agree relation. If a DP has an inherently valued feature, it will never be valued by an Agree relation, and it will therefore remain active indefinitely. Carstens demonstrates that some Bantu languages display behavior indicating that DPs are hyperactive, including hyper-agreement and hyper-raising. She argues that the hyperactivity of Bantu DPs is due to the fact that they have uninterpretable, inherently valued gender features. Since their gender features will never be valued by an Agree relation, they always remain active.

Carstens notes that in Bantu compound tense constructions, subject agreement (SA) appears on every verbal element of the clause (an example of what she calls hyperagreement), unlike in Indo-European languages, as seen in the Kilega example below:

- (29) Nzogu      zí-kili      z-á-twag-a                      maswá.  
 10elephant 10SA-be still 10SA-ASP-stampede-FV 6farm  
 'The elephants are still stampeding over the farms.'

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9. The different analyses of further-raising and hyper-raising considered here for BP and Spanish invoke delayed valuation. However, the appeal to delayed valuation involving cases of A-movement across finite clauses introduces the possibility that delayed valuation should be found in other empirical domains as well, as pointed out by a reviewer. In Section 3 we focus on the attempt to constrain its application, in order to account for its restricted nature.

Similarly, locative inversion, in which a locative phrase raises to Spec,TP is widespread in Bantu. In the following example from Kilega, the raised locative controls subject agreement:

- (30) Ku-Lúgushwá kú-kili ku-á-twag-a nzogu maswá.  
 17-Lugushwa 17SA-be.still 17SA-ASP-stampede-FV 10elephant farm  
 'At Lugushwa elephants are still stampeding over the farms.'

Finally, hyper-raising is widespread in Bantu, as in the following example from Lusaamia:

- (31) Efula yi-bonekhana i-na-kwa muchiri.  
 9rain 9SA-appear 9SA-FUT-fall tomorrow  
 'It seems that it will rain tomorrow.'

Carstens refers to locative inversion and hyper-raising as instances of hyperactivity. The two properties of hyperactivity and hyperagreement are widespread in the Bantu languages.

In order to connect hyperagreement with hyperactivity in Bantu, Carstens assumes a version of the Activity Condition which states that in order to be active, a goal must have an unchecked/unvalued uninterpretable feature. Since the gender feature on Bantu DPs is uninterpretable but intrinsically valued, it will never be checked, and therefore Bantu DPs are allowed to be always active, explaining the presence of hyperagreement and hyperactivity in Bantu.

However, Carstens argues that this analysis cannot apply to Romance. In her analysis, given that inherently valued gender is lexically possessed by N, not D, DPs themselves only have gender features if N-to-D adjunction takes place. Carstens claims that Bantu has N-to-D adjunction, but Romance does not (see Carstens, 1991, for syntactic arguments that Bantu has N-to-D adjunction). In particular, Romance N appears in the middle field of the DP, suggesting that it has not adjoined to D. Carstens gives examples of Swahili and Italian DPs along with the structure she assumes for them:

- (32) a. nyumba yangu nzuri  
           house my nice  
           'my nice house'  
       b. [<sub>DP</sub> nyumba+D [<sub>FP</sub> yangu *t<sub>F</sub>* [<sub>NP</sub> nzuri [<sub>NP</sub> *t<sub>N</sub>*]]]]  
 (33) a. la mia casa  
           the my house  
           'my house'  
       b. [<sub>DP</sub> la [<sub>FP</sub> mia casa [<sub>NP</sub> *t<sub>N</sub>*]]]

According to Carstens' analysis, clausal agreement in Romance languages such as Italian can only take place with the DP, since the person feature on D blocks

agreement with the NP. Different aspects of that analysis extend to Spanish and Portuguese. Thus, the goal of agreement does not have an inherently valued uninterpretable feature. In Bantu, however, the goal of agreement does have an inherently valued uninterpretable feature, due to the adjunction of N to D.

Carstens' (2011) proposal that gender is an inherently valued uninterpretable feature provides a viable solution to allow Bantu embedded subject DPs to remain active after they Agree with an embedded TP, so that they undergo multiple clausal agreement as in (31). However, it raises important difficulties regarding the treatment of uninterpretable features and valuation. In a Minimalist approach, uninterpretable features are specified to enter the derivation as unvalued, and once they are valued they have to be deleted so that they do not reach the interfaces, where they would not be legible but would instead yield a non-convergent (ungrammatical) derivation. Carstens' proposal to introduce an inherently valued uninterpretable feature into the derivation raises questions as to how a derivation with such a feature can be grammatical, if this feature, which is already valued, reaches the interfaces (more specifically, the C-I interface) where it would not be legible.

Under Chomsky's (2008) assumptions, Carstens' approach would require a mechanism by which the inherently valued uninterpretable feature, which is presumably uninterpretable at the C-I interface, must be prevented from reaching that interface, where it would yield a crash. Carstens challenges part of the assumptions of Chomsky (2008), whereby uninterpretable features must be transferred simultaneously with valuation, lest they be indistinguishable from interpretable features, causing crash at C-I. Carstens follows Epstein, Kitahara, and Seely (2010) in pointing out that an utterance like *Whom do they like?* is incompatible with Chomsky's assumptions, because the uninterpretable Case feature on *whom* and the uninterpretable agreement features on *like* are valued within the  $v^*$  phase, but those lexical items subsequently move to the edge of the  $v^*$  phase, and presumably are not transferred in the same domain as they are valued. Epstein et al. propose that uninterpretable features simply remain recognizable as such throughout the derivation, including at C-I. Thus, the C-I interface can simply ignore uninterpretable features, provided they are valued, so they do not cause crash. Carstens adopts their proposal, so the presence of inherently valued uninterpretable features in her system does not cause C-I crash.

Despite this solution, Carstens' analysis does not provide an account as to why either further-raising or hyper-raising are possible in languages such as Spanish and Brazilian Portuguese, given her argument that a gender feature is not active on the D head in Romance. In the next section, we turn to the analysis we propose to address the possibility of further-raising or hyper-raising in both Spanish and Brazilian Portuguese.

### 3. Proposed analysis: Delayed case valuation

Turning to the analysis we would like to propose for further-raising and hyper-raising in Spanish and Brazilian Portuguese, we adopt several generalizations that emerge from previous analyses of these phenomena, as summarized below:

- (34) a. The embedded subject DP raises to the matrix TP domain;
- b. The raising DP remains active in order to be able to undergo Agree with a probe in the higher clause.

In addition, considering the approach to phases developed in Chomsky (2008), we make an additional assumption:

- (35) The embedded subject DP must remain accessible for computation in the matrix CP phase, to be able to undergo subject-to-subject raising (raising from the embedded TP to the matrix TP).

There are two possible ways to ensure the satisfaction of (35) in canonical instances of further-raising and hyper-raising in Spanish and Brazilian Portuguese illustrated in (36) and (37). One alternative would be for the embedded clause not to be treated as a phase, and to behave akin to a TP-complement without the projection of a CP, as in standard raising clauses such as (38). However, there is no clear evidence indicating that the embedded finite clauses in (36) and (37) would lack the projection of an embedded CP-phase, especially in view of the projection of an overt complementizer *que*, in parallel with the realization of full clausal agreement in the embedded clause, both in Spanish and in Brazilian Portuguese.

- (36) *Further-raising (Spanish)*  
Ellos parece [que llegaron].  
they seem.3SG that arrived.3PL
- (37) *Hyper-raising (BP)*  
Eles parecem [que chegaram].  
they seem.3PL that arrived.3PL  
'They seem to have arrived.'
- (38) *Raising from infinitive TP (Spanish)*  
Las chicas parecen [<sub>TP</sub> saber inglés].  
the girls seem.3PL to know English  
'The girls seem to know English.'

The other alternative, which we adopt, is to allow the embedded subject DP to undergo Agree with the embedded TP (as the result of C-to-T feature inheritance), but to allow this subject DP to remain accessible for further

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Martins and Nunes (2010) and Nunes (2008) argue that Chomsky's (2001) version of the Phase Impenetrability Condition is compatible with hyper-raising (see also Chomsky, 2000). Under this version of the PIC, the complement of the head of the CP phase (i.e. the TP) is only spelled out when the *next* strong phase head is introduced. Since neither the matrix TP nor the VP/vP in a raising construction is a strong phase, the embedded TP is not transferred until the matrix C is merged. Thus, the embedded subject is able to raise to the matrix Spec,TP before the embedded TP is transferred. The same argument applies to the further-raising derivation in (43) below. This approach makes long A-movement through CP available in natural language, although it is constrained by the status of matrix TP and VP/vP in raising structures as not being strong phases. We attempt to constrain the possibility of this long A-movement through CP by invoking the application of the *Case-F Valuation Parameter* proposed by Fernández-Salgueiro (2008).

We turn now to an example such as (41) to illustrate the non-raising counterpart of the BP hyper-raising case in (40). In this instance, the embedded subject undergoes Case valuation in the embedded clause. Then, at the matrix CP phase, as C-to-T feature inheritance takes place, one can assume that an expletive *pro* is inserted to value the partial phi-feature of the matrix T (although the analysis does not hinge on the projection of this expletive *pro*):

(41) *Non-raising structure (BP)*

Parece que eles chegaram.

'(it) seems that they arrived'

a. [<sub>CP</sub> que [<sub>TP</sub> eles<sub>[Case, 3PL]</sub> T<sub>[3PF]</sub> [<sub>VP</sub> <eles> chegaram.]]  
that they arrived.3PL

b. [<sub>CP</sub> [<sub>TP</sub> *pro* T<sub>[phi]</sub> parece [<sub>CP</sub> que <...>]]  
seem.3SG that...

The derivation of a non-raising structure in a simple clause proceeds as normal; the subject raises to Spec,TP where it agrees with T, as in (42). The Case-F Valuation Parameter states that valuation of the subject's Case feature *can* be delayed, but it need not be. If it is not delayed, then the derivation converges:

(42) *Monoclausal structure (Spanish)*

Ellos llegaron.

'They arrived.'

[<sub>CP</sub> [<sub>TP</sub> ellos<sub>[Case, 3PL]</sub> T<sub>[3PF]</sub> [<sub>VP</sub> <ellos> llegaron]]

The derivation of a further-raising case, as in Spanish, proceeds in a similar fashion to the hyper-raising case illustrated in (40) for BP. In Spanish further-raising, the embedded subject DP undergoes Case and phi-feature valuation with T in



with the third person singular agreement that characterizes further-raising).<sup>10</sup> We take the *person* agreement mismatch in the matrix clause to be the source of the ungrammaticality, instead of the *number* agreement mismatch, which is otherwise allowed in instances of further-raising in BP as in (7) and (18), in which the raised subject agreement mismatch affects only number (3P.PL subject vs. 3P.SG verb agreement) and not person as well (1P pronoun vs. 3P verb agreement, as in the ungrammatical (44)).

- (44) a. *Further-raising (BP)*  
 \*Nós parece que podemos sair.  
 we seem.3SG that can.1PL leave  
 'We seem to be allowed to leave.'
- b. \*Eu parece que posso sair.  
 I seem.3SG that can.1SG leave  
 'I seem to be allowed to leave.'

In fact, the only grammatical counterpart to examples such as (44) that allows embedded clause agreement involves hyper-raising, with full person and number agreement both in the embedded and in the matrix clause, as shown in (45):

- (45) a. *Hyper-raising (BP)*  
 Nós parecemos que podemos sair.  
 we seem.1PL that can.1PL leave  
 'We seem to be allowed to leave.'
- b. Eu pareço que posso sair.  
 I seem.1SG that can.1SG leave  
 'I seem to be allowed to leave.'

The possibility of a person agreement requirement in instances of further-raising in BP (e.g. (7), (18) and (44)), differently from Spanish (e.g. (36) and (43)), in fact brings further-raising in BP closer to the behavior of hyper-raising, with the only difference that BP further-raising does not require matrix clause agreement in number (at least for 3P inflectional forms, which are also used with 2P subjects, *você(s)* 'you.SG(PL)'), but it does in person, whereas hyper-raising requires agreement both in person and number in the matrix clause.<sup>11</sup>

10. Dropping subject-verb agreement across the board in (44) would improve its acceptability, but it would turn it into an instance akin to (24) from basilectal BP, in which mismatching overt verbal agreement morphology is not expected to yield unacceptability, contrary to (44).

11. This raises the alternative that there would possibly be a single unified phenomenon encompassing both further-raising and hyper-raising in BP. A unified treatment of both



## 4. Conclusion

We have proposed an analysis of hyper-raising and further-raising in Brazilian Portuguese and Spanish, making use of the Case-F Valuation Parameter proposed by Fernández-Salgueiro (2008). According to this parameter, when a DP undergoes agreement with finite T, the valuation of its uninterpretable Case feature can be delayed, allowing it to remain active and therefore raise further. Languages like Brazilian Portuguese and Spanish have a positive value for this parameter, whereas languages without hyper- or further-raising (like English, French and possibly European Portuguese)<sup>12</sup> have a negative value.

The distinction between hyper-raising and further-raising arises due to a second parameter, regarding the phi-feature specification of T. The matrix T may require complete phi-feature match with the raised DP (yielding hyper-raising) or may not require complete phi-feature match (yielding further-raising). This parameter can be formalized in terms of the featural specification of the functional head T, consistent with the Borer-Chomsky conjecture, according to which all variation is due to microparameters attributable to the featural specification of functional heads in the lexicon. Notice also that the Case-F Valuation Parameter in (39) is formulated in terms of the featural specification of a functional head (in

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phenomena does not require a match in terms of number agreement in the matrix clause, but only in the embedded clause, allowing presence of number agreement (hyper-raising) or lack thereof (further-raising) in the matrix clause. However, in both instances person agreement is enforced. This alternative approach is consistent with an extremely reduced verbal agreement paradigm that has been proposed for BP which includes only a distinction between first person (or only 1SG) and all other persons, as illustrated below:

- (i) *Eu fal-o*  
'I speak-1SG'
- (ii) *Você(s)/Ele(s) fala*  
'You.SG(PL)/He/They speak-Ø'

However, the adoption of this alternative approach to account for the drop in number agreement in main clauses in instances of further-raising in BP would leave unexplained why the drop of plural number agreement does not take place in the corresponding embedded clause as well, in examples such as (7) and (18), akin to the basilectal BP further-raising instance shown in (24).

12. As we pointed out in Section 2, Martins and Nunes (2009) have argued that European Portuguese lacks the possibility of further-raising, on the basis of examples such as (28). However, Anabela Gonçalves (p.c.) indicates that it remains controversial whether EP lacks both hyper-raising and further-raising. We leave this question for further research, given that detailed consideration of EP was outside the scope of this paper.

this case, the Case feature on the D head), so it is also compatible with the Borer-Chomsky conjecture.

A remaining question is the relationship between hyper- and further-raising and the availability of null subjects. As discussed above, Fernández-Salgueiro (2008) proposes that languages with further-raising must be null subject languages. We suggest that the possibility of further-raising in Brazilian Portuguese, which is not a null subject language with the same properties as Spanish, militates against a strong implicational connection between further-raising and null subjects. However, this needs to be further investigated comparatively, given the apparent strong connection between the possibility of further-raising and null subjects.

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# Subjunctive and subject obviation in Portuguese

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Subject obviation refers to the impossibility of the subject of an embedded clause to be co-referent with the main clause's subject. This is verified in complementation structures of some predicates that select the subjunctive, but not in those of other predicates. A semantic explanation is proposed, based on Giannakidou's concept of veridicality, for why only some of the predicates that select the subjunctive mood trigger obviation.

**Keywords:** (subject) obviation; complement clauses; subjunctive; (non) veridicality; agentivity

## 1. Introduction

One aspect of complementation structures in pro-drop languages, as (European) Portuguese, that has received a great deal of attention is the (im)possibility of the subject of the embedded clause to be co-referent with the one of the main clause. A classical observation is that in subjunctive complement clauses the subjects of main and embedded clauses must have disjoint reference, while the subject of indicative complement clauses may be co-referent with the main subject:

- (1) a. Quero<sub>i</sub> que [pro]<sub>\*i/j</sub> saia cedo.  
want.1SG that leave.SBJV.1SG/3SG early  
'I want him/her to leave early.'
- b. Ele consegui<sub>i</sub> que [pro]<sub>\*i/j</sub> fechasse o portão.  
he managed that [pro] close.SBJV.1SG/3SG the gate  
'He got him/her to close the gate.'
- (2) a. Penso<sub>i</sub> que [pro]<sub>i</sub> saio cedo.  
think.1SG that [pro] leave.IND.1SG early  
'I think that I will leave soon.'
- b. Ele lembra-se<sub>i</sub> que [pro]<sub>i</sub> fechou o portão.  
he remembers that [pro] closed.IND.3SG the gate  
'He remembers that he closed the gate.'

The fact that co-reference of the subjects is impossible in examples like (1) – a fact known as (subject) obviation –, but not in cases like (2), with the indicative, has been at the heart of an extensive bunch of literature in the field of syntax. From a semantic point of view (as Quer, 1998, observes, obviation is an issue of semantic nature), the analyses of Farkas (1992) and Kempchinsky (2009) are landmarks. Both authors acknowledge that obviation is related to the meaning of the main predicate and (as observed previously by Ruwet, 1984) to agentivity. The proposal of Kempchinsky (2009) will be discussed below. As for Farkas' (1992) account, she proposes that obviation is a consequence of the availability of two kinds of complements (subjunctives and infinitives), together with general principles. In simple terms, the idea is that with certain predicates if the infinitive can be used it must be used. In this paper I will focus on data of Portuguese, trying to push a bit further this idea. Hopefully, a semantic account of mood can shed some light on why, in some cases but not others, the infinitive must be chosen over the subjunctive.

## 2. Obviation and tense dependency

Within the government and binding theory paradigm of Generative Syntax, several authors (e.g. Ambar, 1992; Raposo, 1985, a.o., for Portuguese; Picallo, 1984, for Spanish) have proposed that the disjoint reference of subjects in subjunctive complementation structures follows from Principle B, according to which a pronoun must be free in its binding domain. These analyses explore the idea that subjunctive clauses are defective for tense features and, therefore, a subjunctive clause is a temporal domain dependent from the matrix clause. Consequently, the null subject of the embedded clause cannot be linked to the one of the matrix clause, in accordance to Principle B. On the contrary, indicative clauses would be specified for tense and the embedded clause forms a temporal domain independent from the matrix. Hence, the null subject of the embedded clause can be co-referent with the matrix one, because matrix and embedded clause are two distinct syntactic domains.

In sum, according to these analyses, obviation is a consequence of the temporal dependency of the subjunctive, together with Principle B. A common explanation is, then, provided for obviation and *consecutio temporum* in subjunctive complementation structures.

However, as observed by several authors, there are some fundamental problems for an analysis along these lines. Here I focus on two issues. First, temporal dependency is not always verified in subjunctive complementation structures. Hence, temporal dependency is not a characteristic of the subjunctive *per se*. Second, some indicative complementation structures also show restrictions on sequence of tenses (SOT), although no obviation effect is observed. Thus, obviation cannot be reduced to temporal dependency. Let us illustrate each of these problems.

Concerning the first problem, it has long been observed (cf. e.g. Kempchinsky, 1986, for Spanish; or Oliveira, 2003, for Portuguese) that the tense sequence PST + PRS is possible with directive predicates, alongside with the sequence PST + PST, the presence of present tense or past tense in the complement clause having real effects on the temporal interpretation, as illustrated by (3):

- (3) a. A Ana pediu que fechasses a porta.  
           the Ana asked that [you] close.PST.SBJV the door.  
           ‘Ana asked you to close (PST) the door.’  
           ...fechaste-a?  
           ‘...did you close it?’
- b. A Ana pediu que feches a porta.  
           the Ana asked that [you] close.PRS.SBJV the door.  
           ‘Ana asked you to close (PRS) the door.’  
           ... #fechaste-a?  
           ‘... #did you close it?’

In (3a) the sequence of tenses PST (in the main clause) + PST (in the embedded clause) is observed, while (3b) shows the sequence PST + PRS. While in (3a) the temporal perspective point (TPP) for the embedded tense is the time of the main event (that is, the event of closing the door is futurate concerning the event of Ana’s asking, not necessarily futurate concerning utterance time), in (3b), the TPP for the embedded tense is utterance time, as shown by the impossibility of continuing the sentence with (the equivalent of) “did you close it?”. Thus, the subjunctive tense does not have to be harmonic with the main tense (i.e., in the subjunctive complement, a present tense, which takes utterance time as its TPP, is compatible with a past tense in the main clause).

The same is observed in structures with factive subjunctive verbs (cf. (4a,b)) and implicative verbs (cf. (4c)):

- (4) a. Surpreendeu-me que ele seja/fosse tão alto!  
           ‘I was surprised (PST) that he is (PRS.SBJV)/was (PST.SBJV) so tall!’
- b. Até ontem, sempre lamentei que ela more/morasse no estrangeiro.  
           ‘Until yesterday, I always regretted (PST) that she lives (PRS.SBJV)/lived (PST.SBJV) abroad.’
- c. A construção da ponte, há dois anos atrás permitiu  
           the construction of the bridge, two years ago, allowed.PST  
           que {possamos/ pudéssemos} atravessar o rio  
           that can.PRS.SBJV.1PL/ could.PST.SBJV.1PL cross the river  
           a pé.  
           on foot  
           ‘The construction of the bridge, two years ago, allowed us to cross the river on foot.’

Moreover, the sequence PRS + PST is possible in some structures of subjunctive complementation:

- (5) Ontem, houve uma explosão naquele prédio. Espero que não estivesse ninguém lá dentro!  
'Yesterday there was an explosion in that building. I hope (PRS) that nobody was (PST.SBJV) inside!'

This data shows that subjunctive complementation does not necessarily involve tense dependency on the main clause. It seems more defensible that subjunctive tenses have semantic import, just like the indicative tenses, as argued by, e.g., Laca (2010) or Vogel (1997) for other Romance languages. *Present subjunctive* has utterance time ( $t_0$ ) as its TPP and *past subjunctive* accepts as its TPP the temporal location of the event described by the main clause. Tense harmony between embedded and main clause is obligatory with complements of predicates of volition (or desiderative predicates), as *querer* 'to want', but is not required with any subjunctive complementation structure. In fact, concerning sequence of tenses, three groups of subjunctive predicates have to be considered:

- a. predicates that accept both the sequence PST + PRS and PRS + PST: factive-emotive predicates, like *lamentar* 'to regret', *surpreender-se* 'to be surprised', etc.
- b. predicates that accept the sequence PST + PRS, but not PRS + PST: implicative (e.g. *conseguir* 'to manage') and deontic predicates (e.g. *mandar* 'to order' or *pedir* 'to ask');
- c. predicates that accept the sequence PRS + PST, but not PST + PRS: *esperar* 'to hope', *duvidar* 'to doubt';
- d. predicates that impose tense harmony (i.e., only accept the sequence PRS + PRS or PST + PST): predicates of volition (e.g. *querer* 'to want', *desejar* 'to desire').

Table 1 summarizes these observations:

Table 1. Subjunctive predicates and SOT

	PST + PRS	PRS + PST	
<i>lamentar</i> 'regret'	ok	ok	(a)
<i>pedir</i> 'ask', <i>mandar</i> 'order', <i>conseguir</i> 'manage'	ok	*	(b)
<i>esperar</i> 'hope', <i>duvidar</i> 'doubt'	*	ok	(c)
<i>querer</i> 'want'	*	*	(d)

- a. Lamentei que estejas desempregado. / Lamento que estivesse desempregado.  
'I regretted (PST) that you are (PRS.SBJV) unemployed. / I regret (PRS) that you were (PST.SBJV) unemployed.'

- b. Ele pediu que falasse com a Ana. / \*Ele pede que falasse com a Ana.  
 'He asked (PST) that you speak (PRS.SBJV) with Ana. / \*He asks (PRS) that you spoke (PST.SBJV) with Ana.'
- c. \*Duvidei que a Ana esteja mesmo doente. / Duvido que a Ana estivesse mesmo doente.  
 '\*I doubted (PST) that Ana is (PRS.SBJV) really ill. / I doubt (PRS) that Ana was (PST.SBJV) really ill.'
- d. Ele quis que a Ana lhe {\*telefone/ telefonasse}. / Ele he wanted.PST that the Ana him {phone.\*PRS.SBJV/ PST.SBJV}. / he quer que a Ana lhe {telefone /\*telefonasse}. wants.PRS that the Ana him {phone.PRS.SBJV/\*PST.SBJV}  
 'He wanted/wants Ana to phone him.'

Considering now indicative complement clauses, the same kind of picture is noted: with some verbs no restrictions are observed concerning sequence of tenses, contrary to what happens with other indicative verbs. With declaratives and epistemic factive verbs, as *saber* 'to know', all tense sequences are allowed (cf. (6)), while with verbs as *prometer* 'to promise' the sequence PRS + PST is ruled out (cf. (7)), and with doxastic verbs like *achar* 'to think' or *supor* 'to suppose' the sequence PST + PRS is blocked (cf. (8)):

- (6) a. Ele {diz / disse} que {está / estava / esteve / ...} doente.  
 'He {says/said} that he {is / was (PST.IMPERF) / was (PST.PERF) / ...} ill.'
- b. {Sei / Soube} que ele {está / estava / esteve...} doente.  
 'I {know / knew} that he {is / was (PST.IMPERF) / was (PST.PERF)/ ...} ill.'
- (7) Prometo que {chego/\*cheguei} a horas.  
 promise.1SG that {arrive.PRS/\*arrived.PST} on time.  
 'I promise I {will be / \*was} on time.'
- (8) Achei que a Ana {estava / \*está} doente.  
 'I thought that Ana {is (PRS) / \*was (PST)} ill.'

Table 2 summarizes these observations:

**Table 2.** Indicative predicates and SOT

	PST + PRS	PRS + PST
<i>dizer</i> 'say', <i>saber</i> 'know'	ok	ok
<i>prometer</i> 'promise'	ok	*
<i>achar</i> 'think'	*	ok

The comparison of Tables 1 and 2 shows that, both in the class of subjunctive rulers as in the class of indicative rulers, there are predicates that impose SOT



restrictions and predicates that do not. Thus, as observed in, e.g., Marques (2014) or Marques, Silvano, Gonçalves, & Santos (2015), restrictions on sequence of tenses are imposed by the matrix verb (i.e., it is a lexical matter), and affect both verbs that select the subjunctive as verbs that select the indicative. The hypothesis that subject obviation is a consequence of some kind of temporal defectiveness of the subjunctive does not fit well with the observation that SOT restrictions are lexically driven and independent of the mood selected by the main predicate.

Finally, the idea that obviation is a consequence of tense dependency faces the problem that co-reference of embedded and main subjects may coexist with tense restrictions. This is observable in constructions with indicative complement clauses, such as (9a), and also in constructions with subjunctive complements, as (9b):

- (9) a. Ele<sub>i</sub> achou que [-]<sub>i</sub> tinha / \*tem tempo.  
 'He<sub>i</sub> thought (PST) that he<sub>i</sub> had (PST.IND) / \*has (PRS.IND) time.'
- b. [-]<sub>i</sub> Duvidei que [-]<sub>i</sub> conseguisse / \*consiga [-]<sub>i</sub>  
 doubted.PST.1SG that managed.PST.SBJV / \*manage.PRS.SBJV  
 chegar a tempo.  
 arrive on time.'  
 'I doubted that I would arrive in time.'

In these examples, the embedded tense has to concord with the one of the main clause. However, embedded and main subjects are co-referent, a fact that shows that tense dependency does not lead to subject obviation.

In synthesis, though the idea that obviation follows from tense dependency of the subjunctive clauses allows an elegant description of structures like (1) – *Quero<sub>i</sub> que[-]<sub>\*i/j</sub>saia cedo* ('I<sub>i</sub> want that [-]<sub>\*i/j</sub> leave.SBJV.1SG/3SG early') –, it faces empirical objections: subjunctive tenses express temporal information, just like indicative tenses; restrictions on tense sequences in complementation structures are observed both in cases with the subjunctive and in cases with the indicative; it is not the case that obviation is obligatory whenever there must exist (some kind of) tense concord between complement and main clause. The observed data shows that there are three autonomous, even if related, issues: subjunctive complementation, restrictions on tense sequences, and obviation. Sentences like (1) may suggest that these issues are all connected, but the idea that obviation is a consequence of tense dependency, which, in turn, is a characteristic of the subjunctive, does not seem tenable.

Table 3 shows that these three issues – mood selection, SOT restrictions and obviation – are lexically constrained and that only with verbs of volition there is obligatory tense concord and obviation in subjunctive complementation structures. The third column concerns the mood of the complement clause (only finite clauses are considered, infinitival complementation is possible with all the

considered verbs). The next two columns relate to the possibility of the present tense to occur in the embedded clause when the subordinating clause is in the past and vice-versa. The last column refers to the impossibility of co-reference between the subjects of embedded and main clause (\* means that co-reference is possible; i.e., no obviation):

**Table 3.** Mood selection, SOT restrictions and obviation

Verb classes	Examples	Mood	PST + PRS	PRS + PST	obviation
Commissive	<i>prometer</i> ‘to promise’	IND.	√	*	*
Declarative	<i>dizer</i> ‘to say’	IND.	√	√	*
Doxastic	<i>achar</i> ‘to think’	IND.	*	√	*
	<i>duvidar</i> ‘to doubt’	SBJV.	*	√	*
Factive	<i>saber</i> ‘to know’	IND.	√	√	*
	<i>lamentar</i> ‘to regret’	SBJV.	√	√	*
Implicative	<i>conseguir</i> ‘to manage’	SBJV.	√	*	√
Deontic	<i>pedir</i> ‘to ask’	SBJV.	√	*	√
Volitive	<i>querer</i> ‘to want’	SBJV.	*	*	√

As shown in Table 3, only verbs of volition, directives, and causatives are obviative predicates. All of these verbs are subjunctive rulers, but there are other subjunctive rulers which do not lead to subject obviation. Verbs of volition impose tense harmony between embedded and main clause, but not the other obviative predicates, which accept the sequence PST + PRS.

The considered data concerns only Portuguese. But the classes of verbs with which obviation holds – verbs of volition, directives, and causatives – are the same in other Romance languages, as has been observed in the literature. A proposal for why these verbs show obviation effects is found in Kempchinsky (2009), to which I now return.

### 3. Obviation and the quasi-imperative operator – Kempchinsky’s proposal

Departing from her previous work, Kempchinsky (2009) characterizes subjunctive complement clauses of desiderative and directive predicates as embedded imperatives. She proposes that these subjunctive clauses have a quasi-imperative operator, located in the head of FinP, which yields an interpretation “anyone other than the matrix subject” (Kempchinsky, 2009, p. 1796) (while true imperatives yield an interpretation “anyone other than the speaker”). Obviation in subjunctive

complements to desiderative and directive predicates will then be due to the role that this quasi-imperative subjunctive operator plays in the interpretation of the embedded subject. In addition, she proposes, following Speas (2004), that in the syntactic representation there is a world argument which denotes the set of possible worlds within which the proposition expressed by a sentence is evaluated (i.e., the semantic notion “model of evaluation”, see Giannakidou, 1998, and her subsequent work, is represented in syntax). By default, the value of this argument will be the actual world and the individual anchor is the speaker (i.e., the world in which the proposition is assigned a truth value is the epistemic model of the speaker; see Giannakidou, 1998). In contrast, intensional predicates, as directives and verbs of volition, which typically select for subjunctive complements, introduce a set of future worlds which are anchored to the matrix subject (cf. also Farkas, 1992; Giannakidou, 1998).

Basing on these ideas, Kempchinsky (2009) proposes the syntactic structure (10) for subjunctive complements of verbs of volition and directives:

- (10) ...Vw[CP[ForceP      Force<sub>[uW]</sub>][FinP[Fin      Op][IP(DP)[MoodP[V+T+M<sub>w</sub>][TP...]]]]
- |                               |                  |
|-------------------------------|------------------|
|                               |                  |
| selection<br>(identification) | Checking (Agree) |

Just as lexical selection for an interrogative complement is expressed as an uninterpretable *wh*-feature in the CP field (...), we can suppose that lexical selection for a subjunctive complement is expressed as an uninterpretable *W* feature, in Force. As an uninterpretable feature, it must be checked and deleted, and the necessary interpretable feature to do this work, in a language with mood paradigms, is in Mood. More accurately, the complex head [[[V]T]M] in Mood checks, via Agree, the *uW* feature in Force. (Kempchinsky, 2009, p./1798)

In the case of negative clauses as (11), the complement clause can be evaluated either with respect to the epistemic model of the speaker or to the epistemic model of the main clause's subject, as shown by the two possible continuations of the sentence:

- (11) The dean doesn't believe that the students deserve a prize  
 ... and neither do I.  
 ... but I do.

In Spanish and Catalan, this model shift is signaled by mood shift, as observed by Quer (1998). The same is verified in Portuguese:

- (12) a. Ele não acredita que a Maria seja cubana.  
 ... e eu também não. / ... #mas está enganado.  
 'He does not believe that Maria is (sbjv) Cuban.'  
 '... and neither do I. / ... #but he is wrong.'

- b. Ele não acredita que a Maria é cubana.  
 ... #e eu também não. / ... mas está enganado.  
 'He does not believe that Maria is (IND) Cuban.'  
 ... #and neither do I. / ... but he is wrong'

For these cases, where the subjunctive is not lexically selected (i.e., cases of “polarity subjunctive”, cf. Quer, 1998), Kempchinsky proposes the following syntactic representation:

- (13) ...V[CP<sub>[ForceP Force<sub>[w]</sub>] [FinP[+Fin] [IP (DP) [<sub>MoodP</sub> [V+T+M<sub>w</sub>] [TP...]]]]]</sub>



identification

She argues that in both (10) and (13), the feature *W* must be identified:

In the case of lexically selected subjunctive, the shift in the modal base – the introduction of a new (set of) possible worlds – is a consequence of the semantics of the matrix predicate. The selection relation itself triggers the presence of *W*. Therefore, *W* itself is uninterpretable, and so like any other uninterpretable feature must be checked. In (27) [13], in contrast, the shift in the modal base is only made visible by the subjunctive mood itself; hence the relationship between *W* in Force and the verbal complex is not checking, but identification.

(Kempchinsky 2009, p. 1799)

Apart from these cases, Kempchinsky also considers the subjunctive in complement clauses of *credere* ‘to believe’ in Italian, where this mood is usually referred to be the most common, as well as in complement clauses of implicatives, like the equivalents of *to manage* or *to force*, and of factive-emotive predicates, like the equivalents of *to regret*. For all these cases, she argues that the selection of mood is due to the expression of some change in the modal base. Concerning the Italian data, she follows Giorgi and Pianesi (1997) in the assumption that “the default modal base for this proposition [the complement of *credere*] is *W*(Su), and this modal base has been grammaticalized in Italian” (Kempchinsky 2009, p. 1804). As for implicatives, she adheres to Quer’s proposal that such predicates establish “a world dependency in which the main clause subject introduces a set of future alternatives right before the point of causation” (Quer, 1998, p. 49). Implicative predicates, thus:

group with strong intensional predicates such as desideratives in their common lexical property of introducing a set of future alternative worlds, complements to implicatives are evaluated in the non-veridical model  $ME_{fut}(su)$ ; that is, future realizations of the world according to the matrix subject and in which that subject wants – and in the case of implicatives brings about – a certain state of affairs. Given that it is a lexical property of the matrix verb that introduces this

set of alternative worlds, by the logic of the account thus far this entails that the W feature in Force of the subjunctive complement is uninterpretable. Further, given the obviation facts, the quasi-imperative operator must also be present in Fin, with the usual consequences for interpretation of the subjunctive subject. (Kempchinsky, 2009, p. 1805)

Likewise, concerning factive-emotive predicates, she observes that:

Traditional and pedagogical grammars of Spanish, in their attempts to explain the appearance of subjunctive complements with these predicates, appeal to the evaluative rather than the factive component of the main predicate. Quer (2001, p. 107) has a specific articulation of this idea: factive-emotive predicates “express a causal link between an eventuality ... and a psychological state resulting from that eventuality” (cf. Giorgi & Pianesi, 1997). (ib., 1807)

In sum, Kempchinsky proposes that the classical distinction between intensional subjunctive and polarity subjunctive (cf. Quer, 1998) is reflected on syntax, and basing on Quer (1988), that subjunctive expresses some change in the modal base:

to the extent that selection for a subjunctive clause – expressing some change in the modal base – becomes grammaticalized with other classes of matrix predicates (positive epistemics in Italian, factive-emotives in Romance in general), the W feature in Force becomes uninterpretable, to be checked and deleted by the V in Mood in the complement clause itself. (ib., p. 1808)

In the cases of intensional subjunctive (i.e., when the subjunctive is lexically selected), obviation would occur, because of the presence of the quasi-imperative operator in the complement clause, but not in the cases of polarity subjunctive, where no such operator is present and identification, not checking (agree), would arise (cf. the representations (10) and (13), above).

The idea that verbs of volition and directives (as well as, possibly, other subjunctive predicates, as implicatives, as Kempchinsky assumes) are associated with a quasi-imperative operator would explain Quer’s generalization that for co-reference of embedded and main subjects to be possible “the subject of the matrix predicate cannot be the agent in control of the embedded eventuality” (Quer, 1998, p. 51). However, there are some issues that lead to question Kempchinsky’s explanation of obviation.

The first concerns the distinction between intensional and polarity subjunctive, which Kempchinsky integrates in the syntactic calculus. As seen, she observes a positive relation between obviation and intensional subjunctive. That is, according to her, obviation occurs when the subjunctive is lexically selected, but not in cases of polarity subjunctive, where, following Quer (1998), the subjunctive would signal a modal shift. Though it seems unquestionable that the use of the indicative or the subjunctive in cases as (12) – *ele não acredita que ... {é / seja} ...* ‘he

does not believe that ... be.IND/SBJV ...', as in other cases discussed by Quer (1998), is related to model shift, it does not seem to be the case that the possibility of using the subjunctive or the indicative in the same context is always related to model shift, at least concerning Portuguese. In fact, in this language, the equivalent of *believe* and a group of verbs with the same core meaning (e.g. *presumir* 'to presume', *imaginar* 'to guess') allow both the indicative and the subjunctive in the complement clause and no model shift is associated with any of the options:

- (14) a. Acredito que há vida fora da Terra.  
 ... tenho quase a certeza de que há!  
 ... #mas não estou muito convencido de que haja mesmo.  
 'I believe that there is (IND) alien life.'  
 '... I am almost sure that there is!'  
 '... #but I'm not quite convinced that indeed there is.'
- b. Acredito que haja vida fora da Terra.  
 ... #tenho quase a certeza de que há!  
 ... mas não estou muito convencido de que haja mesmo.  
 'I believe that there is (SBJV) alien life.'  
 '... #I am almost sure that there is!'  
 '... but I'm not quite convinced that indeed there is.'

In these examples, whether the indicative or the subjunctive is used in the complement clause, only an epistemic model is considered, the one of the main clause's subject, which corresponds to the speaker. Moreover, as shown by the continuations of the discourse, when the indicative is used a higher degree of belief is expressed than when the subjunctive is selected. That is, in (14b) the subjunctive is not lexically selected (the indicative is also acceptable, as shown by (14a)) and no model shift is involved. The modal base considered in (14a) and (14b) is the same: the set of propositions forming the belief model of the attitude holder (see Giannakidou, 1998). Therefore, (14b) is problematic for the syntactic calculus proposed by Kempchinsky: there would be no checking (agree), because the subjunctive is not lexically selected, but identification would also not occur because there is no model shift.

One might propose that the value of W (cf. the syntactic representations (10) and (13)) is not related to the model of evaluation but to something else. Another argument contrary to the idea that W signals the model of evaluation is the fact that indicative complement clauses are also evaluated towards a model, which might be different from the model of evaluation of the speaker:

- (15) a. Ele disse que estava doente, mas mentiu.  
 'He said that he was (IND) ill, but he lied.'
- b. Ele previu que iria chover, mas enganou-se.  
 'He predicted that it would (IND) rain, but he was wrong.'

In sum, the consideration of a model of evaluation occurs with any complement clause of a propositional attitude predicate, regardless the mood of such complement. Hence, the relation between subjunctive, model of evaluation and obviation that Kempchinsky proposes is questionable. She argues that predicates selecting subjunctive also force a shift in the model of evaluation and select a quasi-imperative operator. As shown by data as (14) and (15), the shift in the model of evaluation (from the epistemic model of the speaker to a model anchored to the entity referred by the main clause's subject) does not occur only in the case of lexically selected subjunctive. So it is not a particularity of the obviative predicates (verbs of volition, directives and causative predicates).

A second problem with Kempchinsky's proposal is related to lexically selected subjunctive. She assumes the distinction between polarity subjunctive and lexically selected subjunctive and argues that subjunctive rulers in one way or another are associated with a quasi-imperative operator. However, for some lexically selected subjunctives there is no way to assume a quasi-imperative operator, as I will now try to show.

Kempchinsky argues that the core case of subjunctive complements are embedded imperatives (the distinction between these subjunctives and true imperatives being that the latter yield an interpretation "anyone other than the speaker", while embedded imperatives yield an interpretation "anyone other than the matrix subject"). In her terms:

the core case of subjunctive complements are those which appear with matrix verbs which introduce some set of alternative worlds which do not hold at the time of the matrix predicate; this broad definition includes desideratives, directives and implicatives.  
(Kempchinsky 2009, p. 1808)

This characterization is not applicable to all kinds of lexically selected subjunctive. Predicates like *esperar* 'to hope', *temer* 'to fear', *recear* 'to be afraid' or *duvidar* 'to doubt' are subjunctive rulers (i.e., the following are not cases of 'polarity subjunctive'), but, unlike desideratives, directives and implicatives, they are not future oriented:

- (16) a. [-]<sub>i</sub> {Espero / temo / receio / duvido} que ele tenha saído cedo.  
'I {hope / fear / am afraid / doubt} that he left early.'
- b. \*{Quero/peço/consigo} que ele tenha saído cedo.  
{want/ask/get.1SG} that he have left early  
\*I{want / ask / get} him to have left early.'

Thus, the subjunctive complements of predicates like *esperar* 'to hope', *duvidar* 'to doubt' or *verba timenda* (*temer* 'to fear', *recear* 'to be afraid') are not embedded imperatives, though the subjunctive is lexically selected.

If these subjunctives are not embedded imperatives, the quasi-imperative operator will not be present, according to Kempchinsky's proposal, and co-reference of subjects should be possible. Portuguese data confirms this prediction (cf. (17)), though in the case of *esperar* 'to hope' and *verba timenda* co-reference is harder when the matrix subject is the agent (or controller) of the embedded eventuality (cf. (18a)):

- (17) a.  $[-]_i$  Espero que  $[-]_i$  chegue a tempo.  
'I hope that I arrive (SBJV) on schedule.'  
b.  $Ele_i$ {receia / teme} que  $[-]_i$  não consiga ver o filme.  
'He is afraid that he does not manage (SBJV) to see the movie.'  
c.  $[-]_i$  Duvido que  $[-]_i$  acabe o trabalho no prazo.  
'I doubt that I finish (SBJV) the work on schedule.'
- (18) a.  $[-]_i$  {Espero / receio / temo} que  $[-]_{i/*}$  não vá à festa.  
'I {hope / am afraid} that I will not go (SBJV) to the party.'  
b.  $[-]_i$  Duvido que  $[-]_i$  vá à festa.  
'I doubt that I go (SBJV) to the party.'

The point is that the quasi-imperative operator, that would cause obviation, is not present in all cases of lexically selected subjunctive. The only alternative would be to consider that it is lexically selected. Some predicates (directives, verbs of volition and causatives) would select embedded imperatives, with the quasi-imperative operator, and other predicates (e.g., the equivalents of *to hope* or *to doubt*) would select a different kind of subjunctive. This would force the consideration that several kinds of subjunctive occur in the same language (polarity subjunctive, in cases where the subjunctive is not lexically selected, and two kinds of lexically selected imperatives). But, apart from being theoretically more interesting having a unified analysis of all cases of subjunctive, there is no independent evidence, apart from obviation data, that points to the existence of different kinds of lexically selected subjunctives. Moreover, data as (18a) is problematic for Kempchinsky's analysis: if the subjunctive predicate is not an embedded imperative, the obviation could not be explained as following from the presence of the quasi-imperative operator.

Finally, if the justification for obviation is the presence of the quasi-imperative operator and this operator is lexically selected, it should be present also in infinitival complements of the same predicates. But, with infinitival complements, co-reference is obligatory:

- (19)  $Ele_i$ {quis / pediu para / conseguiu}  $[-]_{i/*j}$  sair mais cedo.  
'He {wanted / asked to / got} to leave (INF) earlier.'

In sum, in one hand the hypothetical quasi-imperative operator would be present only in some cases of lexically selected subjunctive, which suggests that it is



lexically selected. On the other hand, this operator would be present only in subjunctive complements of some kinds of predicates, and not in infinitival complements of the same predicates. Thus, the account for obviation seems to be circular: obviation is observed in subjunctive complements of directives, verbs of volition and causatives because these predicates would select a quasi-imperative operator when their complement is in the subjunctive, and the evidence for the presence of this operator is that obviation occurs.

In other words, the idea that lexically selected subjunctives are embedded imperatives and, therefore, force obviation doesn't seem to be defensible for all cases of lexically selected subjunctive. Moreover, as seen above, the proposal that non-lexically selected subjunctives always signal a shift in the modal base is contradicted by data of Portuguese (cf. (14)). Finally, as Giannakidou (p.c.) observes, the idea that complements of (the equivalents of) *want* are embedded imperatives is problematic. Embedded imperatives appear in quotations, but not complements of *want*, neither complements of causative predicates, one might add:

- (20) a. She told me: Open the door!  
       b. \*She wanted: Open the door!  
       c. \*She managed: Open the door!

In the next sections, I will consider an analysis of subjunctive that does not assume the existence of different kinds of subjunctive and try to figure out whether such analysis can shed some light on this question.

#### 4. Subjunctive and non veridicality

In her PhD dissertation and a lot of subsequent work, Giannakidou shows that subjunctive, both in Modern Greek as in other languages, signals non-veridicality. Her concept of (non) veridicality, which I adopt, does not correspond to factivity. A factive proposition is one that describes a fact of the real world. If  $\phi$  is a factive operator and  $\phi$  introduces a proposition  $p$ , then  $\phi p$  implies that  $p$  is true in the real world. For instance, *to know that p* or *to find out that p* implies that  $p$  is true in the real world (that  $p$  is a fact). That is, verbs as *to know* or *to find out* are factive operators. Other propositional operators do not allow the inference that the proposition they introduce is true in the real world, but allow the inference that such proposition is true according to an entity. For instance, *John thinks that there is a ghost at his attic* does not allow the inference that in fact there is a ghost at John's attic, but it allows the inference that the sentence *there is a ghost at John's attic* is true for John. So, *to think p* is not a factive predicate. But it is veridical: it allows the inference

that the complement proposition is true for the attitude holder. Other veridical, and non-factive, verbs are, for instance, *to say*, *to promise*, *to claim* or *to infer*. All of these verbs indicate that their complement propositions are true to the attitude holder (John in this example). So,  $x \{thinks / says / claims / \dots\} that p$  indicates that  $p$  is true for someone. Factive predicates are also veridical. *John knows that the earth is round* allows the inference that in reality the earth is round (i.e., *to know* is a factive verb) and also the inference that John takes this sentence to be true (i.e., *to know* is a veridical verb). Other factive predicates do not allow the inference that the attitude holder assumes that the complement clause is true, but they allow the inference that the speaker takes the sentence to be true. This is the case of predicates like *to be unaware that p*. These predicates are also veridical. They also allow the inference that the complement clause is true for someone. Thus, all factive predicates are veridical, but not all veridical predicates are factive (factive operators are a subset of veridical predicates).

Nonveridical operators do not allow the inference that the proposition under their scope is true according to someone. This is the case of, e.g., predicates like *want*, *hope*, *order*, *be possible*, and so on. A subclass of non veridical operators are anti-veridical operators, which allow the inference that the proposition they introduce is false. Predicates like *to prevent* or sentential negation are examples of anti-veridical operators:

- (21) a. Snow prevented the hikers from reaching the end of the road.  $\Rightarrow$  The hikers did not reach the end of the road.
- b. She left without saying goodbye.  $\Rightarrow$  She did not say goodbye.

In sum, veridical operators allow the inference that the proposition they introduce is true according to someone, non-veridical operators do not allow such inference, and anti-veridical operators allow the inference that it is false (hence, anti-veridical operators are also non-veridical, they do not allow the inference that their complement proposition is true according to some individual).

Giannakidou's notion of (non) veridicality explores the idea that the truth value of a proposition is relativized. A sentence is not true or false in itself (tautologies and contradictions apart), it is true (or false) for someone (Giannakidou uses the terms "relativized veridicality" or "subjective veridicality"). More precisely, the truth value of a sentence is relativized to a model of evaluation, a model being a set of possible worlds. For instance, in the sentence *John thinks that there is a ghost at his attic* the complement clause is evaluated against the set of worlds that conforms to John's beliefs and the sentence expresses the information that in all these worlds there is a ghost at John's attic. With verbs like *to dream*, the model against which the complement proposition is evaluated corresponds to the dream-worlds, and so on.

Giannakidou (2015) presents formal definitions of veridical and non-veridical operators:

### Def. 3. Subjective veridicality

A function  $F$  that takes a proposition  $p$  as its argument is subjectively veridical with respect to an epistemic state  $M(i)$  of an individual anchor  $i$  iff:

- i.  $Fp$  entails or presupposes that  $i$  knows/believes that  $p$  is true.
- ii. If  $i$  knows / believes that  $p$ , then  $i$ 's epistemic state  $M(i)$  is such that:  $M(i) \subseteq p$ .

From Def. 3, it follows that  $\forall w [w \in M(i) \rightarrow w \in \{w' \mid p(w')\}]$ . Subjectively veridical functions require in their truth conditions homogenous epistemic states, included in  $p$ . This is the state of full commitment.

(Giannakidou, 2015, p. 15, my underline)

### Def. 4. Subjective nonveridicality

A function  $F$  that takes a proposition  $p$  as its argument is subjectively nonveridical with respect to an individual anchor  $i$  iff:

- i.  $Fp$  does not entail that  $i$  knows or believes that  $p$  is true.
- ii.  $i$ 's epistemic state  $M(i)$  is such that:  $M(i) - p$  is not  $\emptyset$ , which means that
- iii.  $\exists w' \in M(i): \neg p(w')$ .

A subjectively nonveridical function imposes non-homogeneity on the epistemic state, since there is at least one non- $p$  world.

(Giannakidou 2015, pp. 16–17, my underline)

In sum, a veridical operator that takes a proposition  $p$  as its argument introduces a homogeneous logical space, formed only by  $p$ -worlds, worlds where the state of affairs described by the proposition is verified (if John thinks that Mary is ill, in all worlds that form John's epistemic model Mary is ill), whereas a non-veridical operator introduces a logical space where there is at least one non- $p$  world (if John doubts that Mary is ill, in at least one of the worlds that form John's epistemic model Mary is not ill; i.e., there is at least one non- $p$  world in John's epistemic model).

Giannakidou (1998, 2013, 2015, a.o.) argues that subjunctive occurs in non-veridical contexts. In other words, subjunctive signals that there is at least one non- $p$  world in the logical space where the subjunctive clause occurs.

One problem for Giannakidou's proposal that subjunctive signals non-veridicality is the fact that in some languages (as most Romance languages,

including Portuguese) the subjunctive occurs in complement clauses of factive- emotive predicates, like the equivalents of *regret*.<sup>1</sup> These predicates are veridical (as seen above, factive predicates are a subset of veridical predicates). If subjunctive signals that the context is non-veridical, it shouldn't occur in the complement clause of these predicates. In fact it does not in languages as Modern Greek or Rumanian, but the same is not verified in other languages which also have the indicative / subjunctive opposition.

In Marques (2009) (see Giannakidou, 2015, for a different explanation) the proposal is made that the reason for factive- emotive predicates to take the subjunctive is the counterfactual reasoning that these predicates will involve (cf. Heim, 1992) and that the same kind of explanation can be extended to account for the fact that predicates like the equivalents of *to manage* also take the subjunctive. The proposal advocated there is that subjunctive is licensed by these predicates because, since their meaning involves counterfactual reasoning, non-*p* worlds are also considered. For instance, if, as Heim (1992) proposes, *John regrets that it is raining* means that John knows that it is raining and he would prefer that it were not raining, then the meaning of *regret* (and of the other factive- emotive predicates) includes non-*p* worlds. Likewise, concerning causative predicates, like *to manage*, which is also veridical, if causation involves counterfactual reasoning (A cause B means that if A were not the case, all the rest being equal, then B would not be the case either; cf. e.g. Lewis, 1973), also the meaning of these predicates leads to the consideration of non-*p* worlds. A sentence like *John managed to open the door* conveys the information that John caused the door to be open (if he had not try to open the door, all the rest being equal, the door would not have been opened). Thus, the meaning of veridical predicates like *to manage* also involves the consideration of non-*p* worlds.

In sum, following Giannakidou, and keeping the proposal concerning factive- emotive and causative predicates described in the last paragraph, I assume that the subjunctive signals that at least one non-*p* world is involved in the meaning of the construction. Given this analysis of the subjunctive, I will now return to the subject obviation issue, which, as seen above, only occurs in some subjunctive complementation structures.

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1. There is some variation within the same language and across languages, but, with the exception of Rumanian, all Romance languages at least admit the subjunctive in the complement of factive- emotive predicates.

## 5. Subjunctive, agentivity and obviation

Let us begin by recalling that subject obviation occurs with subjunctive complement clauses of verbs of volition, directive and causative predicates. Moreover, as has been observed in the literature (cf. e.g. Kempchinsky, 2009; Quer, 1998; Ruwet, 1991), agentivity also plays a role. As Quer (1998) observes, for co-reference of embedded and main subjects to be possible “the subject of the matrix predicate cannot be the agent in control of the embedded eventuality” (Quer, 1998, p. 51). In fact, if the subject of the main predicate is not the “agent in control” of the embedded eventuality, even with subjunctive complements of verbs of volition, directive or causative predicates co-reference of subjects is more acceptable:

- (22) a. [A Ana]<sub>i</sub> {quis/pediu/conseguir} que [pro]<sub>i</sub>  
           [the Ana]<sub>i</sub> {wanted/asked/got} that [pro]<sub>i</sub>  
           fosse fotografada  
           was.SBJV photographed  
           ‘Ana {wanted / asked / got} to be photographed.’
- b. [Ele]<sub>i</sub> {quis/pediu/conseguir} que [pro]<sub>i</sub> pudesse entregar o  
           he {wanted/asked/got} that [pro]<sub>i</sub> may.SBJV deliver the  
           texto mais tarde.  
           text more late  
           ‘He {wanted / asked / got} to be allowed to deliver the text later.’

Maybe something stronger that agentivity is needed. Co-reference of subjects is possible in the following example, where the agent of the embedded eventuality is the same entity as the one identified by the main subject:

- (23) Tomara {[pro]<sub>i</sub> / [eu]<sub>i</sub>} que [pro]<sub>i/j</sub> acabasse o trabalho  
           wish {[pro]<sub>i</sub> / [I]<sub>i</sub>} that [pro]<sub>i/j</sub> finish.SBJV the work  
           a tempo!  
           on time  
           ‘I wish that I / (s)he would finish the task on schedule!’

Ability, as defined by Thomason (2005), *apud* Giannakidou and Staraki (2013), may be the relevant condition in Quer’s generalization. According to this definition of ability, “*Can x φ* is equivalent to a conditional ‘If *x* tries to bring about *φ*, then *φ*’” (Giannakidou & Staraki, 2013, p. 15). I assume that what Quer has in mind in his generalization is that to be the agent in control corresponds to having the ability, as defined by Thomason (2005). Quoting Giannakidou and Staraki (2013),

As Thomason puts it: “In general, ability can depend on favorable circumstances, on the presence of appropriate knowledge, and on non-epistemic properties of the agent. I can truly say I can’t write a check either because my bank balance is

negative, or because I don't know where my checkbook is, or because my hand is injured. I believe that the same sense of 'can' is involved in each case."

(Thomason, 2005, p. 3). (Giannakidou & Staraki, 2013, p. 2).

In sum, the following three conditions lead to subject obviation:

- a. the embedded clause is the complement of a verb of volition, a directive, or a causative predicate;
- b. the embedded clause is in the subjunctive;
- c. the (entity referred by the) embedded subject is the agent in control of the embedded eventuality.

These three conditions need to be jointly observed for obviation to occur. The following examples illustrate this:

- (24) a. [A Ana]<sub>i</sub> {quis/pediu/conseguiu} que [pro]<sub>\*i/j</sub> abraße  
[the Ana]<sub>i</sub> {wanted/asked/managed} that [pro]<sub>\*i/j</sub> open.SBJV  
a porta.  
the door  
'Ana {wanted / asked / managed} to open the door.'
- b. [pro]<sub>i</sub> Duvido que alguma vez [pro]<sub>i/j</sub> escreva um livro.  
doubt.1SG that some time write.SBJV a book  
'I doubt that I will ever write a book.'
- c. [A Ana]<sub>i</sub> {quis/pediu para/conseguiu} [pro]<sub>i</sub> ir  
the Ana {wanted/asked to/managed} go.INF  
à festa.  
to.the party  
'Ana {wanted / asked / managed} to go to the party.'
- d. [A Ana]<sub>i</sub> {quis/pediu/conseguiu} que [pro]<sub>i/j</sub>  
[the Ana]<sub>i</sub> {wanted/asked/got} that [pro]<sub>i/j</sub>  
fosse fotografada.  
was.SBJV photographed  
'Ana {wanted / asked / got} to be photographed.'

Non co-reference of subjects is obligatory in (24a), where conditions a.–c. are observed, but not in the other examples. In each of the Examples (24b–d), one of the conditions a.–c. is not fulfilled: condition a. in (24b), b. in (24c) and c. in (24d).

I believe that agentivity (or better, ability, as defined by Thomason, 2005, *apud* Giannakidou & Staraki, 2013) together with non-veridicality might be the key to explain the obviation data. My intuition is that forcing a co-referential interpretation of embedded and main subjects in examples like (25), below, would lead to a

contradiction. It seems that the information would be conveyed that prisoner tried to escape and that he might have not tried:

- (25) [O prisioneiro]<sub>i</sub> tentou que [pro]<sub>\*i/j</sub> fugisse.  
[the prisoner]<sub>i</sub> tried that [pro]<sub>\*i/j</sub> escape.SBJV

To understand what this contradiction might be, let us begin by considering (26), where embedded and main subjects have disjoint reference:

- (26) A Ana tentou que o Pedro falasse com a Rita.  
the Ana tried that the Pedro talk.SBJV with the Rita  
'Ana tried to get Pedro to talk to Rita.'

The main clause indicates that Ana tried to bring the embedded event into existence. *Try* is non-veridical (see Giannakidou, 2013). It introduces a set of worlds formed by p-worlds (i.e., worlds where Pedro talks to Rita) and non p-worlds (worlds where Pedro does not talk to Rita). This subset of non p-worlds might include worlds where Pedro tries to talk to Rita but fails (because Rita refuses to talk to him, because Pedro cannot find Rita, or for some other reason) as it might include worlds where Pedro does not try to talk to Rita. Sentence (26) might be continued in any of the following ways:

- (27) A Ana tentou que o Pedro falasse com a Rita.  
the Ana tried that the Pedro talk.SBJV with the Rita  
'Ana tried to get Pedro to talk to Rita.'
- a. E ele assim fez.  
'And so he did.'
  - b. Mas ele não a encontrou.  
'But he did not find her.'
  - c. Mas ele recusou-se.  
'But he refused.'

The crucial point is that the set of worlds introduced by the main verb includes worlds where the agent of the embedded event does not try to implement this event (hence, the possible continuation (27c)). Given this, if embedded and main subjects were co-referent, the information would be provided that the same entity tried and may have not tried to bring into existence the embedded event. But this is a contradiction. Thus, in (25), non co-reference of subjects is forced. The co-referential reading of embedded and main subjects would amount to express the contradictory information that the prisoner tried to escape plus the information that he might have not tried to escape.

In short terms, the idea is that co-reference of subjects in (25) is impossible because the subjunctive, as seen in the previous section, signals the existence of

non-*p* worlds in the context where it occurs, some of which may be worlds where the agent of the event does not try to perform the event, while the main clause indicates that he does.

But, even if this idea can explain (25), with the obviative predicate *try*, is it extendable to constructions with other obviative predicates, namely other causative predicates, verbs of volition and directives? If these predicates allowed the inference ‘if *x* {wanted / asked / managed} *p*, then *x* tried *p*’, the explanation for obligatory non co-reference of embedded and main subjects could be the same as the one sketched for (25).

Concerning directive predicates, as *to ask* or *to order*, it could be proposed that the event of asking or ordering is an attempt to bring into existence what is asked or ordered. That is, if John asked Mary to leave, then he tried her to leave. Likewise, it is usually assumed that *to manage* presupposes *to try* (and the same can presumably be said about other causative predicates, like *to force* or *to make happen*, unless the main subject refers to a non rational entity, as in *the storm forced us to go back*). However, the explanation envisaged for (25) does not seem to be extendable to other causative predicates (a subject to which I will return below) and seems also problematic when predicates of volition come into consideration.

## 5.1 Predicates of volition

Giannakidou and Staraki (2013) consider the notion of *force*, provided by Copley and Harley (2010):

A force is an *input of energy* into some initial situation. This energy is either generated by an *animate entity*, or it comes from the motion or properties of an inanimate object. *The application of this energy changes the initial situation* into a different situation, as long as no stronger force keeps it from doing so.... *A force's observed final situation is thus contingent on the existence and strength of other forces opposing it.*

Copley and Harley (2010) (Section 3).

In C&H's framework, an event is to be understood as force that brings about a result (provided that nothing external intervenes). Forces are, in the most obvious case, physical forces, i.e. contact forces that result in change in the spatiotemporal properties of the object (i.e. in movement or rest, etc). (...) The innovation in C&H is the idea that *psychological forces*, i.e. desires, intentions, and, we will suggest, *ability*, can also function as physical forces in bringing about change. Surely, though, psychological forces are not ontologically identical to physical forces: intentions and desires involve an agents' beliefs and thoughts, and are not physical themselves. (Giannakidou & Staraki, 2013, p. 18)



Giannakidou (2013) shows that *try* does not involve physical action. A nice example she presents is the following:

- (28) Context: John is severely injured and cannot move his arm:  
John tried to raise his arm. (But he didn't.)

In her words,

TRY is device that triggers a transition from pure intention (psychological force) to an action path. The TRY path thus includes physical force, i.e. actions of an agent in order to materialize the intention, but also an initial stage of mental force where no physical action has taken place. If we go back to the injured person example, trying to raise her hand, we see that it is possible for a TRY-path to refer exclusively to this initial stage of intention, without physical realization at all. (Giannakidou, 2013, p. 20)

So, if *try* refers to a path that initiates with mental force and if, as Copley and Harley (2010) propose, desires are forces, it might be considered that *x wanted p* allows the inference that *x tried p*. This seems to be in accordance with Copley (2010), *apud* Giannakidou and Staraki (2013):

*Law of Rational Action* (Copley, 2010, (16))

If a volitional entity intends something in a situation *s*, and is not prevented by anything from acting in such a way (according to his/her beliefs) as to achieve it, the being acts (exerts a force on *s*) in such a way (according to his/her beliefs) to achieve it. (Giannakidou, 2013, p. 18)

However, Giannakidou and Staraki (2013), as well as Giannakidou (2013), argue against such possibility:

It is important to understand what the law of rational action motivates. It says that whenever there is a volitional agent and the agent intends an action, this intention, *if nothing else prevents it*, will become force. In this general sense, the law is admittedly too strong – since in the normal case, it just doesn't follow from *x* wanting or intending something that *x* will act upon her desire. (...) And conceptually, it is simply true that one may never act on a desire even if there are no forces preventing action. (Giannakidou & Staraki, 2013, p. 18, my underline)

Having a desire by itself does not necessarily entail acting on the desire – and I may well have desires that I know cannot be acted upon. So, although desires and intentions are forces, they do not involve action themselves, physical or mental, and are therefore nonveridical.

Kamp describes the difference between intentional verbs like *try* and pure volitionals as follows: “The situation is different with verbs such as *want*, *wish*, and *desire*. These verbs do not claim the existence of an intention, you can wish or desire to open the door without having an actual intention to that effect. [...] In

the semantic contribution of the *to*-complements of these verbs, we do not want any intention at all, in particular we do not want the one that comes from the action verb.” (Kamp, 1999–2007, p. 63). In other words, *want* is a nonveridical verb without intention for action, but TRY is a nonveridical verb with intention for action. (Giannakidou, 2013, p. 19)

It is unquestionable that having a desire does not imply acting on the desire (i.e., *want* does not necessarily imply *try*). But it also seems reasonable to say that sometimes desires can be a force (as defined by Copley and Harley, 2010) that leads to action. There are, of course, other forces, apart from desires, that may lead to action (for instance, one may be obliged by someone else or by the circumstances to do something against the own desires). That is, *try* does not imply *want*, either. In sum, *want* does not imply *try*, neither *try* implies *want*, but they are compatible with each other. Moreover, if a desire can be (though it does not have to be) a force that triggers action, also *x* not wanting to do  $\phi$  may lead *x* to not try to do  $\phi$ . That is, not wanting *p* might be a reason for not try *p*.

Given this, let us consider the following sentence and continuations of it:

- (29) A Ana quis que o Pedro falasse com a Rita.  
 the Ana wanted that the Pedro talk.SBJV with the Rita  
 ‘Ana wanted Pedro to talk to Rita.’
- a. E ele falou.  
 ‘And he did it.’
- b. Mas ele não a encontrou.  
 ‘But he did not find her.’
- c. Mas ele não quis.  
 ‘But he didn’t want to.’

(29c) allows the inference that Pedro didn’t even try to talk to Rita, whereas (29a) and (29b) convey the information that he tried (successfully or unsuccessfully). In other words, the meaning of *querer que p* (‘to want that *p*’) contains *p*-worlds and non-*p* worlds, some of the non-*p* worlds being worlds where the agent of the embedded event does not want to bring the event into existence (hence the possible continuation of the sentence in (29c)). Therefore, if the embedded and the main subjects were co-referent, a contradiction would be expressed: the information would be conveyed that *x* wants *p* (i.e., all worlds that conform to *x*’s desires are *p*-worlds) and *x* may not want *p* (as shown by (29c), the complement of *want* includes worlds where the embedded subject does not want to act towards the realization of the embedded event). Hence, in (30) the embedded subject cannot have the same reference as the main subject:

- (30) [A Ana]<sub>i</sub> quis que [pro]<sub>\*i/j</sub> saísse  
 [the Ana]<sub>i</sub> wanted that [pro]<sub>\*i/0j</sub> leave.SBJV

Why, then, is it possible embedded and main subjects to be co-referent if the main clause's subject is not an entity that can bring into existence the state of affairs described by the embedded clause, as in the following example?

- (31) [A Ana]<sub>i</sub> quer que [pro]<sub>ij</sub> seja recrutada pelo Exército (não  
[the Ana]<sub>i</sub> wants that [pro]<sub>ij</sub> be.SBJV recruited by.the Army (not  
pela Armada).  
by.the Navy)

'Ana wants to be recruited by the Army (not by the Navy).'

Since *querer que p* ('*x* want that *p*') includes *p*-worlds and non *p*-worlds, and, as seen above, some of these non-*p* worlds are worlds where the embedded subject does not want to bring into existence the state of affairs described in the embedded clause, also (31) indicates that all worlds that conform to Ana's desires are worlds where she is recruited by the Army and some worlds that conform to her desires are worlds where she isn't recruited. So (31) should also express a contradiction. However, the sentence is fine.

Still, if *x want p* does not mean that in all worlds that conform to *x*'s desires are *p*-worlds, but, as Heim (1992) proposes, that, for *x*, doxastically accessible *p*-worlds are better than non *p*-worlds, in (31) this amounts to say that, even if Ana would prefer not to be recruited at all, if she has to be enlisted, then she prefers to be recruited by the Army than to be recruited by the Navy. This seems to be compatible with the consideration of non *p*-worlds where the embedded subject does not try to bring into existence the embedded eventuality. In some worlds she does not try to be recruited because she does not want to be. That is, if, as Heim proposes, *want* involves an ordering of preferences, (31) means that, for Ana, worlds where she is recruited by the Army are better than worlds where she is recruited by the Navy, and maybe in the best (for Ana) worlds she is not recruited either by the Navy or by the Army. In the best worlds, Ana does not try to be recruited because she doesn't want to be. In simple terms, co-reference of subjects in (31) would be possible because the consideration of non *p*-worlds where Ana does not try to be recruited by the Army (because she does not want to be) are not in conflict with the information that she prefers to be recruited by the Army than to be recruited by the Navy.

Contrasting with (31), in examples like (30), since Ana is the agent in control of the embedded eventuality, the consideration of non *p*-worlds where she does not try to leave plus the information, provided by the main clause, that she wants to leave is incongruous. Forcing co-reference of subjects in (30) would express the odd information that Ana wants to leave, she can leave, and maybe she does not try to leave because she does not want to leave.

In summary, both for cases with the main verb *try* as for cases with predicates of volition, the sketched hypothesis is that co-reference of subjects is ruled out

because the subjunctive complement signals the consideration of non *p*-worlds, some of which are worlds where the embedded subject does not want to bring the embedded eventuality into existence, but the same entity has the ability to do the embedded event and the main clause informs that (s)he tries or wants to do it. Let us now consider other obviative predicates.

## 5.2 Directive and causative predicates

Above, the hypothesis was ventured that obviation with causative predicates like (the equivalents of) *to manage* was due to the same reason why obviation occurs with *try*. However, at first sight such hypothesis doesn't seem to be sustainable.

Concerning constructions with *tentar* 'to try', the proposal was made that embedded and main subjects may not refer to the same entity because this would lead to the absurd information that the same entity tried and may have not tried to perform the embedded eventuality. But causative predicates like *conseguir* 'to manage' are veridical, while *tentar* 'to try' is non veridical. Sentence (26), repeated below as (32), allows the possibility that Pedro did not try to talk to Rita, but (33) does not allow this inference:

- (32) A Ana tentou que o Pedro falasse com a Rita.  
 the Ana tried that the Pedro talk.SBJV with the Rita  
 'Ana tried to get Pedro to talk to Rita.'  
 Mas ele nem tentou.  
 'But he didn't even try.'
- (33) A Ana conseguiu que o Pedro falasse com a Rita.  
 the Ana managed that the Pedro talk.SBJV with the Rita  
 'Ana got Pedro to talk to Rita.'  
 #Mas ele nem tentou.  
 'But he didn't even try.'

The complement of *manage* does not include worlds where the subject did not try to perform the embedded eventuality. Therefore, with predicates as (the equivalents of) *to manage* obviation cannot be explained as following from the contradiction, that co-reference of subjects would lead to, that the same entity tried and may have not tried to do *p*.

However, both (32) as (33) allow the inference that maybe Pedro did not want to talk to Rita. Any of these sentences can be continued with *although he didn't want to* [~~talk to Rita~~]. Additionally, *x conseguir p* ('*x* manage *p*') allows the inference that maybe *x* wants *p*. Therefore, co-reference of subjects in (34), below, would lead to contradictory information:

- (34) [A Ana]<sub>i</sub> conseguiu que [pro]<sub>\*i/j</sub> falasse com a Rita.  
 [the Ana]<sub>i</sub> got that [pro]<sub>\*i/j</sub> talk.SBJV with the Rita

Co-reference of subjects would allow the inference that Ana might have wanted and not wanted to talk to Rita.

Likewise, directive predicates allow the inference that if  $x$  {asked / ordered / requested / ...} that  $y$  do  $\varphi$ , then  $x$  expressed the will that  $y$  do  $\varphi$ , even if  $y$  does not want to do  $\varphi$ . Consequently, if  $x$  and  $y$  are the same entity, the anomalous information is conveyed that the same entity has and might not have the desire of doing  $\varphi$ . Hence, obviation occurs.

## 6. Conclusion

In this paper a semantic explanation for (subject) obviation was sketched. As has been stressed in the literature, obviation occurs in subjunctive complementation structures of three classes of predicates: verbs of volition, directives and causatives. Some of these predicates (e.g. *try*, *manage*) indicate that the main subject tries to bring into existence the embedded eventuality. Other obviative predicates (e.g. *want*) indicate the desire of the main subject that the embedded eventuality comes into existence. On the other hand, a subjunctive complement signals the consideration of worlds where the embedded eventuality does not come into existence (i.e., the subjunctive signals the existence of non  $p$ -worlds) and one reason for the embedded eventuality not to become into existence is the agent of the eventuality not wanting to try. Therefore, if main and embedded subjects refer to the same entity and this entity is the agent of the embedded eventuality, the information is conveyed that the same entity tried to do  $p$  and maybe did not try to do  $p$  or that the same entity wants  $p$  and maybe does not want  $p$ . In either case, the information is contradictory. Hence, co-reference of subjects is avoided.

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# Commentary paper





# Comments on complementation in Portuguese

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The six syntax-semantics papers in this volume discuss different aspects of complementation in Portuguese. Three papers deal with infinitival raising and control complements, focussing either on the diachronic emergence of the inflected infinitive in complements of causative and perception verbs in Portuguese or on the distribution of the inflected infinitive in modern European (EP) and Brazilian Portuguese (BP), in particular in contexts not predicted by Raposo's (1987) classic account. One paper presents and discusses EP data from control and raising complements with uninflected infinitives with overt "emphatic" pronouns and uses these data as one of the arguments for a specific analysis of the property identifying consistent null subject languages (NSLs). The two remaining papers consider finite complement clauses; one of them discusses cases of subject raising out of indicative complement clauses (coined as Further-Raising and Hyper-Raising) in Spanish and in BP; the other one argues that a semantic analysis is needed to account for referential obviation in subjunctive complement clauses in EP.

In particular:

- a. Martins' paper sets the diachronic path for the emergence of infinitival complements selected for by causative and perception verbs in Portuguese. Martins shows that, in the thirteenth century, Old Portuguese allowed both the *faire*-infinitive and the ECM constructions; the inflected infinitive, on the other hand, is not attested before the fifteenth century. Martins claims that, in a stage of Portuguese where inflected infinitives could occur in root clauses, the innovative pattern is the result of ambiguous input provided by coordinated structures, allowing a reading wherein the second coordinated member the causative or the perception verb is gapped. Hence, infinitival complements of causative and perception verbs in Portuguese got functionally richer across time, a path of change that must be distinguished from what she calls "apparent" inflected infinitives.
- b. Modesto's paper focuses on the distribution of inflected infinitives in the I-language of what he calls "inflecting speakers" of Brazilian Portuguese (BP).

Modesto presents data (including results from a truth value judgement task) showing that, for such speakers, the inflected infinitive is uniformly accepted only in Obligatory Control (OC) contexts and licenses Partial Control readings. On the basis of such data, Modesto argues against the movement theory of control (MTC) and, although conceding that some object control structures might be derived via movement, he provides an account of the other OC structures resorting to PRO, considered a minimal pronoun.

- c. Sheehan's paper presents the findings of on-line questionnaires sent to European Portuguese (EP) speakers to find out the acceptability of inflected infinitives in OC contexts. Such findings, Sheehan argues, provide strong evidence that both uninflected and inflected infinitives are available in OC complement clauses in EP, each corresponding to a different derivation: the former would involve movement of the embedded subject to some A-position of the upper clause, whereas the latter would involve a phasal CP with phi-features, thus preventing movement of the embedded subject to the upper clause. The fact that the acceptability judgements were not clear cut in most OC contexts is considered by the author an effect of micro-parametric variation.
- d. Pires and Nediger's paper discusses Further-Raising in Spanish and Hyper-Raising in BP. Pires and Nediger claim that both structures rely on the possibility of delaying the valuation of an interpretable Case feature of a DP when it agrees with finite T, thus allowing it to remain active and to undergo further movement. They also show that A-movement is at work in the derivation of these two raising structures, the difference lying in the requirement, imposed by matrix T, of a complete or of a partial phi-feature match, yielding, in the first case, Hyper-Raising and, in the second, Further-Raising. Two microparameters, they argue, account for the variation observed with respect to Case delaying and to the featural specification of T.
- e. Marques' paper deals with the well-known phenomenon of referential obviation in subjunctive clauses in Romance NSLs. Marques shows that obviation in EP is restricted to subjects of subjunctive clauses selected for by implicative, deontic and volition predicates. He argues that the restriction of obviation to the complements of such verbs arises from the combination of two properties: ability and non-veridicality. On one hand, such predicates indicate their subject effort or desire that the embedded eventuality come into existence; on the other hand, the subjunctive mood signals the consideration of worlds where the embedded eventuality does not come into existence. Hence, allowing coreference between the higher and the embedded subject would yield semantic contradiction.
- f. Building on Szabolcsi's (2009) descriptive generalizations concerning the distribution of overt subjects in raising and control infinitival complements,

Barbosa's paper argues that pronouns found in OC complements in EP are genuine postverbal subjects. Barbosa attempts to relate the availability of such pronouns to the property identifying consistent NSLs, namely to the presence of an interpretable D-feature on T (whether finite or non-finite) in these languages. One of the consequences of her approach is the claim that it is the D-feature on T that saturates the predicate; hence, trivial SVO word order clauses in consistent NSLs are argued to be multiple subject structures, the apparent preverbal subjects being analysed as CLLD topics merged in a position outside TP.

First of all, it should be emphasized that all the papers bring innovative contributions to our knowledge of complementation in Portuguese – and ultimately in Romance NSLs. They do so because they present and discuss data which were not given proper attention due to ideological biases or to theoretical corsets. In so doing, they also contribute to the development of the theory of grammar, since such data challenge core assumptions of past or current theoretical accounts that predicted their non-existence.

I will address the issue of the overlooked data that the papers in this volume bring to light and shortly mention major theoretical challenges that their analysis raises.

## 1. Inflecting dialects in BP and pseudo-inflected infinitives in EP

Modesto (this volume) argues that it is “wrong to claim that no BP speaker uses inflected infinitives at home, because that would mean that no BP speaker uses the variant with most social prestige, colloquially.” He claims that the dialects with social prestige in Brazil are inflecting variants, both in finite and in non-finite contexts. He also shows that the results of a truth-value judgement task performed by inflecting BP speakers are consistent with his claim that such speakers do use inflected infinitives not only in contexts required by normative grammar (that is, in the presence of an overt subject and in object control contexts), but also in contexts where normative grammar would disallow them. The example in (1) illustrates the latter type of context.

- (1) *Elas preferem não ficarem mais nesse hotel.*  
 they prefer not stay.INF.PL more in.that hotel  
 ‘They’d rather not stay in that hotel any longer.’ (Modesto, this volume, (28b))

Furthermore, Modesto presents data showing that inflecting BP speakers consistently use inflected infinitives to license partial (PC) control readings – see (2).

- (2) Mesmo depois de muito derrotados nas primárias, o Bill  
 even after of much defeated.PL in.the primaries the Bill  
 Clinton<sub>1</sub> ainda espera ec<sub>1+</sub> ganharem as eleições.  
 Clinton still hopes win.INF.PL the elections  
 ‘Even after losing a lot on the primaries, Bill Clinton still hopes that they  
 will be elected.’ (Modesto, this volume, (8b))

The existence of inflecting dialects in BP is not a surprise. But up to now, generative linguists mostly considered them a product of schooling, in particular in non-finite contexts (see Pires & Rothman, 2009, on inflected infinitives), and not a property of the social variety with more prestige. In other words, the idea that such dialects are the input for language acquisition of Brazilian children born in families of highest classes is new in the generative literature on BP. Hence, Modesto’s findings open a new path in the research of microvariation in BP.

Interestingly, inflecting infinitival forms are also found in dialects of EP, in contexts where standard EP does not allow them. Indeed, according to the survey data on the distribution of the inflected infinitive in EP reported by Sheehan (this volume), examples like (1), repeated here as (3), were judged ungrammatical by all the speakers tested.

- (3) Elas preferem não ficarem mais nesse hotel.  
 they prefer not stay.INF.PL more in.that hotel  
 ‘They’d rather not stay in that hotel any longer.’ (Modesto, this volume, (28b))

This is expected, since the infinitival form in (3) occurs in a context of exhaustive local subject control. In fact, as it is well known, in OC contexts, the inflected infinitive in standard dialects of EP is restricted to independent tense complements of verbs with unspecified temporal orientation. However, such examples are found in *corpora* of EP, and were considered pseudo-inflected infinitives in Gonçalves, Santos, and Duarte (2014), who argued that these are controlled infinitives showing a morphological reflex of the *Agree* operation at stake in OC. It is worth noticing that Martins (this volume) reports that data like (3) can be traced back to the XVIth century, and are also found in dialectal EP.

Getting back to the survey data reported by Sheehan (this volume), in all the other OC contexts tested (non-local subject EC, local and non-local subject PC, object EC and PC), EP speakers accepted both the uninflected and the inflected infinitive; so, given (2), an instance of local subject PC, we might expect this sentence to be judged as grammatical by speakers of substandard EP dialects. The author comments these results as follows:

What is interesting about these results is that (i) it is only in instances of exhaustive control that all speakers consistently reject I[nflected]-infinitives and (ii)

while inflection becomes more acceptable with partial control and less acceptable with exhaustive control, it is not the case either that partial control requires inflection or that inflection implies partial control.

Again, these findings call for extensive research on microvariation in EP, either correlated with colloquial spoken registers or with literacy levels.

Another instance of pseudo-inflected infinitives in EP is found in raising complements of causative and perception verbs, as illustrated in (4).

- (4) Vi-os                      saírem              no      carrito      dele      e  
       saw.1SG-them.ACC leave.INF.3PL in.the little.car of.he and  
       vi-os                      quando      chegaram.  
       saw-them.ACC when      returned.3PL

'I saw them leave in their little car and saw them again when they returned.'  
 (Martins, this volume, (21))

Data like (4) were already reported in Hornstein, Martins, and Nunes (2006, 2008). Indeed, we find here an infinitival form with morphological marking for number co-occurring with a raised subject showing Accusative Case, instead of Nominative. Hornstein et al. (2006, 2008) consider that (4) is an apparent inflected infinitive, with nominal status due to the fact that it is merged with a T head defective for Person and thus unable to value the Case feature of the subject. After presenting examples like (4) taken from XIXth century novels by outstanding Portuguese writers, Martins (this volume) concludes:

The fact that ECM infinitivals displaying inflection are part of the nineteenth century literary standard points to an earlier emergence and diffusion. It remains to understand why these sentences were totally ignored by twentieth century Portuguese grammarians as if they were not part of Portuguese grammar.

As Martins (this volume) rightly points out, these overlooked data are part of the I-language of speakers of standard EP and need to be taken into consideration in any adequate account of the properties of causative and perception verbs complementation.

## 2. Subject extraction out of finite complement clauses

In other contexts with raising verbs, unexpected extraction of the subject out of a finite clause in the indicative, with agreement shown in both the embedded and the raising verb, have been found in BP and considered an instance of hyper-raising (Ferreira, 2004; Martins & Nunes, 2006, 2010) – see (5).

- (5) Eles parecem que compraram um carro novo.  
 they seem.3PL that bought.3PL a car new  
 ‘They kids seem to have bought a new car.’ (Martins & Nunes, 2006, (31a))

The account provided by these authors relies on the non phasal nature of the complement CP, due to the merging in the complement clause of a defective finite T, phi-incomplete wrt to person features. This phi-incomplete T would thus be unable to value the Case feature of the subject, which could then move to the upper clause.

Pires and Nediger (this volume) revisit hyper-raising and argue against such an account, providing an alternative analysis. Interestingly, they report that hyper-raising is accepted in Southern dialects of Peninsular Spanish, exactly what Costa (2010) and Costa and Rooryck (1995) had already reported for EP – see (6).

- (6) a. As pessoas dizem que eu nem pareço que tenho  
 the persons say.3PL that I not even seem.1SG that have.1SG  
 17 anos.  
 17 years  
 ‘People say I do not even look like I am 17 years old.’  
 (www.autohoje.pt, apud Costa, 2010)
- b. Tu pareces que estás parvo.  
 you seem.2SG that are.2SG stupid  
 ‘You look silly.’ (Costa & Rooryck, 1995, (13b))
- c. Os dirigentes do PSD parecem que engoliram um  
 the leaders of.the PSD seem.3PL that swallowed a  
 disco partido.<sup>1</sup>  
 broken record.  
 ‘It seems that the leaders of PSD swallowed a broken record.’  
 (CRPC, A167410)

Data like (6) are common in colloquial EP, and call for an analysis that cannot resort to the possibility of selecting a phi-incomplete T, as argued by Ferreira (2004) and Martins and Nunes (2006, 2010) for sentences like (5) in BP. In fact, in (6), there is morphological evidence that the embedded finite verb has person features, since it shows person agreement features – second person in (6a) and first person in (6b).

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1. I thank Anabela Gonçalves for pointing out to me examples from *corpora* like (6c), with transitive verbs in the embedded clause.

Pires and Nedinger (this volume) also discuss further-raising structures in Spanish and in BP. Such structures were first reported for EP in Perlmutter (1976) under the name 'head start' – see (7).

- (7) a. Tu parece que estás parvo.  
 you seem.3SG that are.2SG stupid  
 'You look silly.'
- b. Esses alunos parece que reprovaram.  
 those students seem.3SG that failed.3PL  
 'Those students seem to have failed.'

Pires and Nedinger (this volume) present diagnostic evidence that further raising in Spanish and in BP is really raising to subject and not a topic construction. Indeed, the behaviour of further raising wrt islands, idioms and quantifier scope are in favour of an analysis involving A-movement. Interestingly, to my judgement, EP further raising structures behave alike, as shown in (8).

- (8) a. \*Os meninos<sub>i</sub> parece que o facto (de) que t<sub>i</sub> venham  
 the kids seem.3SG that the fact of that come.3PL  
 nos alegra. (see Pires & Nedinger, this volume, (17a))  
 us cheer
- b. Tem cuidado, que as paredes parece que têm ouvidos.  
 have care, that the walls seem.3SG that have.3PL ears  
 'Be careful, because the walls seem to have ears.' (Idiom interpretation:  
 because it seems that someone might be listening)  
 (see Pires & Nedinger, this volume, (18d))
- c. Todos os políticos parece que querem esconder  
 all the politicians seem.3SG that want.3PL hide.INF  
 um segredo.  
 a secret  
 'All the politicians seem to want to hide a secret.' [a>all, all>a]  
 (Pires & Nedinger, this volume, (19))
- d. Nenhum dos alunos parece que fez o trabalho.  
 none of.the students seem.3SG that did.3SG the work  
 'None of the students seem to have done their work.'  
 (see Pires & Nedinger, this volume, (20))

If the judgements above are representative of (at least one dialect of) EP, as I believe they are, Pires and Nedinger's account of further raising is appealing, since it would mean that Spanish and EP (as well as BP) would all set the same value for the Case-F Valuation Parameter proposed by Fernández-Salgueiro (2008).



### 3. Multiple subjects and the NSL property

Barbosa's paper (this volume) argues that in Romance NSLs multiple subject structures are possible where the preverbal DP or pronoun is indeed in a topic position and the pronoun that doubles the topic occupies the thematic subject position. Now, in her words,

apparent preverbal subject constructions are either instances of CLLD or instances of A-bar extraction. Neither of these options are readily available in infinitival clauses and this is the reason why the overt subjects of the infinitival complements under discussion in the Romance NSLs (where V raises to T) are postverbal.

To argue in favour of this claim, she first discusses the contrast presented in the b. sentences of (9) and (10).

- (9) a. Não pareço cantar só eu nesta gravação.  
 not seem.1SG to sing only I in.this recording  
 High reading: 'I don't seem to be the only one who sings in this recording.'  
 Low reading: 'It doesn't seem to be the case that only I sing in this recording.'
- b. Não parece cantar só o João nesta gravação.  
 not seem.3SG to sing only the João in.this recording  
 High reading: 'John doesn't seem to be the only one who sings in this recording.'  
 Low reading: 'It doesn't seem to be the case that only John sings in this recording.'  
 (see Barbosa, this volume, (21))
- (10) a. Decidiu ir ao mercado só ele.  
 decided to go to.the market only he  
 High reading: 'He is the only one who decided to go to the market.'  
 Low reading: 'He decided for it to be the case that only he goes to the market.'
- b. Decidiu ir ao mercado só o João.  
 decided to go to.the market only the João  
 High reading: 'João is the only one who decided to go to the market.'  
 Low reading: \*'He decided for it to be the case that only João goes to the market.'  
 (Barbosa, this volume, (3, 5))

She argues that the ambiguity between the high and the low readings in the a. sentences follows from their structural ambiguity: the pronoun / the DP can be either the subject of the upper clause or the subject of the infinitival complement clause. The ungrammaticality of the low reading of (10b) would be predicted by Binding

Theory, inasmuch as a principle C violation would arise under this interpretation: the upper subject *pro* would bind the embedded R-expression ‘o João’.<sup>2</sup>

As she observes, the data in (9)–(10) conform with the generalization proposed in Szabolcsi’s (2009) cross-linguistic study, concerning the difference between raising and control predicates wrt to the type of overt subjects that may occur in infinitival complement clauses: overt subjects of complement clauses selected for by raising predicates can be pronouns or lexical DPs, whereas those selected for by control verbs are restricted to pronouns. As she also points out, this generalization casts doubt on the movement theory of control; in fact, according to the movement approach to control, in both cases the overt subject would be the spelled out copy of the raised subject, hence the observed asymmetry is unpredicted.

Building on this generalization, Barbosa (this volume) attempts to establish an association between the overt subjects in contexts like (9)–(10) and the null subject property. The crux of her reasoning is, I believe, the following: just like the pronouns and DPs in *italic* in (9)–(10) are the subjects of the complement clauses, so are the emphatic pronouns in root clauses like the one in (11).

- (11) A Teresa/ela escreveu só ela o poema.  
       the Teresa/she wrote only she o poema  
       ‘Teresa was the only one who wrote the poem’ = ‘Teresa / she wrote the  
       poem herself’ (Barbosa, this volume, (29))

However, such an association strongly depends on the judgements and interpretations of root clauses like (11). Interestingly, those presented in Barbosa (this volume) are not representative of standard EP, they rather characterize a Northern dialect of EP. In fact, speakers of standard EP do not assign to (11) the reading shown in the first gloss, they only assign it the emphatic one; indeed, in a context where the task of writing the poem is given to Teresa and Maria, (11) does not entail that Maria did not write the poem, it only means that Teresa performed the task without the help of anybody else, a reading suggesting that ‘*só ela*’ is an emphatic adjunct and not the postverbal subject.<sup>3</sup> This conclusion is strengthened

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2. The occurrence of overt subjects with *de se* readings in complement clauses selected for by control verbs was first noticed in EP by Ambar (1992), who considered them an argument against PRO and in favour of Borer’s (1989) analysis of control. Ambar’s example is given in (i) – glosses and translation are mine.

(i) Os meninos<sub>i</sub> decidiram fazer eles<sub>i</sub> o relatório.  
       the children decided.<sub>3PL</sub> make they the report  
       ‘The children decided that they would be the ones to write the report.’

3. On the contrary, a sentence like (i) would unambiguously mean that ‘Teresa was the only one who wrote the poem’.

by the contrast in judgements of sentences like (11) and (12a) vs. sentences like (12b), where the “plain” pronoun internal to TP cannot license an emphatic (and or an anaphoric) reading.<sup>4</sup>

- (12) a. A Teresa escreveu ela própria o poema.  
           the Teresa wrote she self the poem  
           ‘Teresa wrote the poem herself’  
       b. \*A Teresa escreveu ela o poema.  
           the Teresa wrote she the poem

It should also be pointed out that Barbosa relates the impossibility of preverbal subjects in contexts like (9)–(10) to the ban on topicalization or left dislocation in infinitival contexts, independently argued for by several authors (for EP: Duarte, 1987; Raposo & Uriagereka, 1996, a.o.). In this respect, inflected and uninflected infinitival clauses behave alike, as (13) shows.

- (13) a. \*A Teresa quer esse livro ler [-] / lê-lo amanhã.  
           the Teresa wants that book read.INF / read.INF-CL.3SG tomorrow  
       b. \*A Teresa lamenta esse livro não terem  
           the Teresa regrets that book not have.INF.3PL  
           comprador ontem.  
           bought yesterday

However, preverbal subjects are allowed in inflected infinitival clauses selected for by factive predicates (Raposo, 1987), which suggests that it is not the case that definite preverbal subjects are restricted to topic position, a conclusion that weakens Barbosa’s hypothesis (see (14)).

- (14) a. A Teresa lamenta os pais não terem assistido  
           the Teresa regrets the parents not have.INF.3PL watched  
           ao concerto.  
           to.the concert  
           ‘Teresa regrets that her parents did not watch the concert.’

- 
- (i) Só a Teresa / só ela escreveu o poema.  
       only the Teresa / only she wrote the poem.  
       I didn’t really want that I had the look of not having understood anything of  
       this talk  
       ‘I did not really want to look like I did not understand this talk at all’

4. (12b) would only be judged as grammatical with a focus stress on the pronoun licensing a contrast reading, as in “A Teresa escreveu *ELA* o poema”.

- b. Sensibilizou-me muito tu escolheres-me  
 touched-CL.1SG much you.NOM choose.INF-CL.1SG  
 para madrinha.  
 for godmother  
 'I was really touched by the fact that you chose me to be your  
 godmother.'

But it is doubtless that Barbosa's paper brings to attention new or yet unexplored data that have a bearing on her characterization of the NSL property.

#### 4. Challenges for obviation analyses

Marques (this volume) provides a semantic account of referential obviation in subjunctive clauses in EP.

Marques presents new arguments showing that obviation cannot be a consequence of tense dependency, since co-reference of embedded and main subjects may coexist with tense restrictions, as shown in (15).

- (15) [-]<sub>i</sub> Duvidei que [-]<sub>i</sub> conseguisse / \*consiga [-]<sub>i</sub>  
 doubted.PST.1SG that managed.PST.SBJV / \*manage.PRS.SBJV  
 chegar a tempo.  
 arrive on time.  
 'I doubted that I would arrive in time.' (Marques, this volume, (9b))

He then presents arguments against Kempchinsky's (2009) hypothesis on obviation, according to which the core case of (lexically selected) subjunctives in complement clauses are embedded imperatives, yielding an interpretation "anyone other than the matrix subject". In particular, such a hypothesis applies to desiderative, directive and implicative verbs, which are future oriented, that is, "which introduce some sort of alternative worlds which do not hold at the time of the matrix predicate" (Kempchinsky, 2009, p. 1808).

However, as Marques shows, not every verb selecting for a subjunctive complement clause is future oriented. This is the case of doxastic and factive predicates selecting for subjunctive, which accept co-reference of the main and the embedded subject (see (16)).

- (16) a. Ele<sub>i</sub> {receia / teme} que [-]<sub>i/j</sub> não consiga ver filme.  
 'He is afraid that he/you does/do not manage.SBJV to see the movie.'  
 b. [-]<sub>i</sub> Duvido que [-]<sub>i/j</sub> acabe o trabalho no prazo.  
 'I doubt that I/you/he finish.SBJV the work on schedule.'

- c.  $[-]_i$  Lamento que  $[-]_{i/j}$  o tenha ofendido.  
 'I regret that I/(s)he have/has.SBJV offended you.'  
 (see Marques, this volume, (17b, c))

According to him, the restriction of obviation to implicative, deontic and volition verbs arises from the combination of two properties shared by these predicates: ability and non-veridicality. Ability, coined as agentivity in Ruwet (1984/1991), indicates that the subject of these verbs makes an effort or desires that the embedded eventuality come into being. As to non-veridicality, Marques considers that the subjunctive mood signals that one must take into consideration worlds where the embedded eventuality does not obtain, when evaluating the sentence. Hence, if co-reference was allowed between subjects with ability of non-veridical predicates and subjects of their subjunctive complement clause, it would give rise to a contradiction: the same entity  $x$ , would try / desire to make the embedded eventuality come about and try / desire that it would not.<sup>5</sup> This contradiction is illustrated in (17), with a verb which allows co-reference when the main subject does not present the ability property.

- (17)  $[-]_i$  Espero que  $[-]_{i/*i}$  não vá à festa.  
 'I {hope / am afraid} that you/he/\*I will not go.SBJV to the party.'  
 (see Marques, this volume, (18a))

This account faces the problem of having to explain why such a contradiction does not arise in infinitival clauses selected for by otherwise obviative predicates, where co-reference of the main and the embedded subject is obligatory.

However, it contributes to our understanding of non-obviative effects first noticed, to my knowledge, in Kempchinsky (1990). Indeed, in languages like Spanish and Catalan, co-reference between the subject of the subjunctive complement clause and an internal argument of the upper clause is either possible or obligatory (see 18).

- (18) a. Animé a Elisa<sub>i</sub> a [que *pro*<sub>i</sub> estudiara en el extranjero].  
 'I encouraged Elisa that she study.SBJV abroad.'  
 b. La<sub>i</sub> animé a [que *pro*<sub>i</sub> estudiara en el extranjero].  
 'I encouraged her.ACC that she study.SBJV abroad.'  
 (Kempchinsky, 2009, (86c, d), p. 1791)

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5. However, as Ruwet (1984/1991) showed for French, obviative effects may be suspended even with volition verbs under certain conditions – (i) is taken from Ruwet (1984/1991, (80b)) and (ii) is a non-literal translation of Ruwet's example.

- (i) Je ne voudrais vraiment pas que j'aie l'air de n'avoir rien compris à cette conférence.  
 (ii) Não queria era que eu tivesse o ar de não perceber nada da conferência.

The same pattern occurs in EP, in object control verbs and even in some indirect object control verbs, as shown in (19).<sup>6</sup>

- (19) a. Os amigos aconselharam [a Maria]<sub>i</sub> a que [-]<sub>i/\*j</sub> não  
 the friends advised the Maria to that not  
 cantasse mais.  
 sing.SBJV.PST.1SG more  
 ‘Maria’s friends advised her not to sing anymore.’  
 (Barbosa, 2013, (191a), p. 1869)
- b. A Maria disse [aos filhos]<sub>i</sub> que [-]<sub>i/\*j</sub> pusessem a mesa.  
 the Maria said to.the sons that put.SBJV.3PL the table  
 Maria told her children to set the table.’

The idea that the ban on co-reference only applies to arguments of the upper clause with the ability to “control” the embedded eventuality straightforwardly accounts for the non-obviative effects resulting from the co-indexation indicated in sentences like (18) and (19).

Finally, it should be stressed that EP provides strong evidence against the competition account of obviation, that goes back to Farkas (1992) and includes the minimalist approach of Hornstein and San Martin (2001). In fact, in EP, the same predicate may allow for co-reference of the upper and the embedded null subject in three different complement structures: a finite subjunctive clause, an uninflected infinitival clause and an inflected infinitival clause, as shown respectively in (20a), (20b) and (20c).

- (20) a. [-]<sub>i</sub> Lamentamos sinceramente que [-]<sub>i</sub> não o  
 regret.1PL sincerely that not CL.3SG.M  
 tenhamos cumprimentado  
 have.SBJV.1PL saluted
- b. [-]<sub>i</sub> Lamentamos sinceramente [-]<sub>i</sub> não o  
 regret.1PL sincerely not CL.3SG.M  
 ter cumprimentado.  
 have.INF saluted
- c. [-]<sub>i</sub> Lamentamos sinceramente [-]<sub>i</sub> não o  
 regret.1PL sincerely not CL.3SG.M  
 termos cumprimentado.  
 have.INF.1PL saluted  
 ‘We sincerely regret that we did not salute you.’

6. With the latter, *dizer que+SUBJ/para* (‘to tell, to order’) induces obligatory co-reference in out of the blue contexts, whereas *pedir que+SUBJ/para* (‘to ask for’) may be constructed as a subject or as an indirect object control verb, depending on pragmatic factors.

So, the idea that obviation is a side effect of the preference for infinitival clauses when the co-reference of subjects is intended, consisting of what we might call an ‘Avoid Subjunctive’ parallel to the ‘Avoid Pronoun Principle’, is not compatible with data like the ones presented in (20).

## 5. Dissociating finiteness, phi-features and Case

Already in *LGB*, was Chomsky obliged to consider exceptions to the generalization that phi-features only show up in an INFL with finite tense, because “In some languages, e.g., Portuguese, AGR may also appear with infinitives, and the subject is indeed nominative.” (Chomsky, 1981, p. 52).<sup>7</sup> Thus, empirical evidence from the inflected infinitive in standard EP resulted in a first dissociation between finiteness, on one hand, and phi-features and Case valuation, on the other.

As a matter of fact, this association was theoretically embodied in the minimalist model of Chomsky (2000, 2001), where an uninterpretable feature of Case “activates the goal of a probe to implement some operation (*Agree* or *Move*). It follows that after structural Case of DP is deleted, the phrase cannot move further to an A-position and its  $\varphi$ -set cannot induce deletion (...)” (Chomsky, 2000, p. 127). In other words, through *Agree*, probes T and *v* seek to value their uninterpretable phi-features against a matching phrase in their minimal domain and when they do, they also value their structural Case (Nominative and Accusative, respectively). Thus, Case valuation is considered a reflex of *Agree*.

Structures with personal infinitives in Spanish and in BP are an obvious problem for the association between *Agree* and Case. But interestingly, accounts of these structures have often been considered dependent on the presence of abstract phi-features – either as *Agr* heads (e.g. Mensching, 2000) or as features on T (e.g. Pires, 2002).

- (21) a. cosas que pasaron antes de yo nacer  
           things that happened before of I.NOM be.INF.born  
           ‘things that happened before I was born’ (Mensching, 2000, p. 152)
- b. A Maria ligou antes de nós/de eu/\*de mim sair.  
           the Maria called before of we.NOM/of I.NOM/\*of I.OBL leave.INF  
           ‘Maria called before we left.’ (Pires, 2002, p. 156)

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7. The dissociation between finiteness and phi-features in the inflected infinitive, the structure referred to in the quotation above, was accounted for by Raposo (1987) in the following way: “In the absence of [+Tense], Infl (or Agr in Infl) is capable of assigning nominative Case to a lexical subject only if it is itself specified for Case.” (Raposo, 1987, p. 92).

Empirical evidence from Caucasian languages also supports the claim that agreement and Case valuation should not be collapsed. For instance, in Tsez, verbs that take a clausal absolutive argument show two different patterns. In the usual pattern, the verb shows class agreement with its absolutive clausal argument, as shown in (22a). But if an absolutive argument of the embedded clause becomes the topic of that clause, the verb agrees with it, as (22b) shows.

- (22) a. enir [uẓ̌ a [magalu ḅac̣'ruɬi] r-iyxo  
 mother [boy bread.III.ABS ate].IV IV-know  
 'The mother knows [the boy ate the bread].'  
 b. enir [uẓ̌ a [magalu ḅac̣'ruɬi] r-iyxo  
 mother [boy bread.III.ABS ate]. III-know  
 'The mother knows [that the bread, the boy ate it].'

(Polinsky & Potsdam, 2001, (1), p. 584)

Cross-linguistic data where a single DP repeatedly triggers agreement on different predicates challenge the strict association between phi-features and Case, in particular, the assumption that once a phrase is Case-valuated, it freezes, being no longer available as a goal for phi-feature valuation. This assumption was challenged by Carstens (2001) for Bantu compound tense structures, where each verb in the verb sequence fully agrees with the subject DP, as shown in (23).

- (23) Juma a-li-kuwa a-me-pika chakula. (Swahili)  
 Juma 3SG-PST-be 3SG-PERF-cook food  
 'Juma had cooked food.' (Carstens, 2001, (5a), p. 150)

The above mentioned assumption was also challenged by Fuss (2005), who suggests an account of complementizer agreement in some varieties of German as the result of a post-syntactic operation of agreement, parasitic on a previous operation of *Agree*.

The data referred to above are, of course, merely illustrative of the empirical problems facing the collapsing of phi-features and Case licensing. Such problems gave rise to more or less radical alternative views: Bobaljik's (2006) proposal that verb agreement is always morphologic is an example of the former, whereas Carstens' (2003) suggestion that the deletion of a checked Case feature may be postponed to a later stage in the derivation is an example of the latter (see also Fuss, 2005).

Now, most of the data presented in the six syntax-semantics papers of this volume require a modification of the strict association between agreement and Case. Let us first consider the structures of standard and substandard dialects of EP where the embedded clause is infinitival and we would not expect agreement to show up on the infinitival verb (ECM contexts and pseudo-inflected inflected infinitives in OC contexts). Along the lines of Gonçalves et al. (2014), we might suggest that this kind of agreement is the result of a post-syntactic operation,



which is parasitic on the *Agree* operation between the relevant functional head of the upper strong phase and the embedded T (*v*, in the ECM case; T, in the case of pseudo-inflected infinitives). In more general terms, phi-feature valuation must be dissociated from agreement.

In EP further-raising structures, as suggested by Pires and Nediger (this volume), although *Agree* applies at the embedded finite clause, valuing the uninterpretable phi-features of probe T (including Person) against the goal DP subject, Nominative Case valuation of the DP subject is delayed. Hence it remains an active goal for a probe in the upper clause. Further- and hyper-raising structures could be considered to differ minimally: in the derivation of the latter, a post-syntactic agreement operation would apply, parasitic on the *Agree* operation between matrix T and the raised subject DP.

The property shared by the four structures is the defective phasal (or even the non-phasal) nature of the embedded clause. So, a promising line of research to account for verb agreement and Nominative Case assignment in complement domains is the inspection of the features that are responsible for strong *vs* defective status of Cs and *vs* in typologically close and distant languages, pursuing work by Landau (2000, 2004) and Pesetsky and Torrego (2001, 2004), a.o.

## 6. Conclusion

The six syntax-semantic papers in this volume are a substantial contribution to our understanding of the syntax of Portuguese complementation. They present and discuss new data, some of which bring empirical evidence to choose between alternative accounts, whilst others challenge widely accepted assumptions of the minimalist theory of syntax. Such innovative contributions will hopefully lead to more work on comparative syntax, which will enhance our understanding of the nature of language.

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# Acquisition papers



# The acquisition of control in European Portuguese

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We offer a new insight on the acquisition of control, by considering data from Portuguese. We explore two main issues: (i) the distinction between obligatory control and non-obligatory control and (ii) choice of controller. Our results show that children distinguish certain obligatory and non-obligatory control contexts: children accepted a sentence-external antecedent in infinitival subjects but not in infinitival complements. Additionally, our study confirms previous results suggesting that subject control in promise-type contexts is delayed. However, it equally shows that there is no absolute bias for object control at early stages. We evaluate predictions made by contemporary accounts of control, namely the movement theory of control (Hornstein, 1999) and the theory of control as Agree (Landau, 2000, and subsequent work).

**Keywords:** control; infinitival complements; acquisition of syntax; European Portuguese

## 1. Introduction

Control may be very broadly defined as an interpretative dependency between a null subject in an embedded clause (PRO) and an antecedent. In Obligatory Control (OC) contexts, this dependency is obligatorily established with an antecedent which is an argument of the superordinate clause (a subject DP, an object DP or an indirect object). In Non-Obligatory Control (NOC), PRO may have a matrix clause antecedent, a semantically or pragmatically salient antecedent or arbitrary reference. Control is usually associated with non-finite clauses, although it may also be found in subjunctive clauses in some languages (see Landau, 2000, 2004, 2006, and references therein). The sentences in (1) exemplify OC and NOC in European Portuguese: (1a) and (1b) are cases of OC; (1c) is a case of NOC.

- (1) a. *OC, Subject control*  
[O João]<sub>i</sub> quer [<sub>i</sub> ir à praia].  
the John wants go.INF to.the beach  
'John wants to go to the beach.'

b. *OC, Object control*

A Maria obrigou [o João]<sub>i</sub> [a <sub>-i</sub> sair].  
 the Maria forced the John PREP leave.INF  
 'Maria forced John to leave.'

c. *NOC*

[<sub>-arb</sub> Fumar no restaurante] é proibido.  
 smoke.INF in.the restaurant is forbidden  
 'It is forbidden to smoke in the restaurant.'

The structures in (1a) and (1b) also exemplify a property of OC structures: the controller in OC structures is determined by the matrix predicate: *querer* 'want', which selects a single internal argument, is a subject control verb; *obrigar* 'force', which selects two internal arguments (a DP and a sentential argument) is an object control verb, as is the case with the majority of ditransitive control verbs (but see discussion in the next section).

Control structures such as (1a) and (1b) may be distinguished from raising structures (raising-to-subject and raising-to-object, respectively), namely on the basis of the number of theta-roles assigned (see Rosenbaum, 1967, for seminal discussion of these structures). In standard Government and Binding terms, a movement analysis of the sentences in (1a) or (1b) would be prohibited, given that the Theta-Criterion disallows movement to theta-marked positions. However, more recently, Hornstein (1999), assuming that arguments may be assigned more than one theta-role, analyzed control as an instantiation of A-movement, weakening the distinction between raising and control. In this case, acquisition of these structures should also be rethought: if control and raising are part of a continuum rather than fundamentally distinct phenomena, we should see some parallels between the acquisition of raising and at least some structures that have traditionally been labeled as control. In this case, control should show the same constraints as structures involving A-movement, namely, intervention effects, to the extent that they may be found in other A-movement structures (Orfitelli, 2012a, 2012b, suggests that the difficulties that children experience with raising over an experimenter argument are due to intervention effects).

Therefore, the study of the acquisition of control must at least include (i) the acquisition of the raising / control distinction, (ii) the distinction between OC and NOC contexts and (iii) the choice of controller in OC contexts. In this study, we will focus on the last two issues. Depending on whether one assumes a movement analysis of control (Hornstein, 1999) or a control as Agree analysis (Landau, 2000 and subsequent work), some of these issues must be conceived in different terms. Namely, Hornstein's movement theory of control entails that we consider the acquisition of OC as parallel to the acquisition of raising and that we treat the null infinitival subject in OC and NOC structures as entirely different categories

(see Section 2 below). On the other hand, Landau's theory of control as Agree entails that young children learn the control properties of each verb (whether it is a subject or an object control verb), as the syntax determines only the domain of control, that is, the locus in which the antecedent may be found (Landau, 2001). In addition, the null infinitival subject in OC and NOC structures belongs to the same category, its differences in interpretation being a consequence of the syntactic context (again, see Section 2 below). In the spirit of a generative approach to acquisition, we may expect acquisition data to feed the theoretical discussion on the nature of control.

The aim of this study is to test children's choice of antecedent in complement clauses (OC) and sentential subjects (NOC), as well as to contribute to the discussion on the nature of control, namely, to ascertain whether children's data is more consistent with a movement theory of control or with a theory of control as Agree. In Section 2, we briefly describe control and complementation in European Portuguese, and we summarize the main current approaches to control. In Section 3, we present some of the main findings of previous research in the acquisition of control and complementation. In Section 4, we list the research questions justifying this study. Section 5 presents the methodology used. The main experimental results are shown in Section 6. The last sections present a discussion of the main findings, as well as the main conclusions of this study.

## 2. On the nature of control: Accounting for EP data

The two main current approaches to control within the minimalist program, Landau's theory of control as Agree (Landau, 2000, 2004, 2006, 2013) and Hornstein's movement theory of control (MTC) (Hornstein, 1999), provide highly divergent accounts of this phenomenon.

Hornstein (1999) radically reassesses the theory of control, and claims that the empty category PRO can be dispensed with, as it is a theory-internal construct. The elimination of D-structure, he argues, provides a basis for a reformulation of the Theta-Criterion, according to which an argument or argument chain must be assigned *at least* one theta-role, not necessarily only one (Hornstein, 1999; Polinsky, 2013). Under Hornstein's movement theory of control (henceforth MTC), this dependency can be reduced to A-movement of the infinitival subject to its final position in the matrix clause. The empty category in OC contexts is then a residue of A-movement, as illustrated in (2) and (3).

- (2) A Maria proibiu o João de [o-]João fazer ski  
 the Maria forbade the João PREP do.INF ski  
 'Maria forbade João to ski.'



- (3) O Manuel quer [~~o-Manuel~~ comprar um computador].  
 the Manuel wants buy.INF a computer  
 'Manuel wants to buy a computer.'

Given that A-movement is subject to the Minimal Link Condition (MLC), the MTC neatly predicts object control with ditransitive control verbs (see 2 above) and subject control with transitive control verbs (see 3). In fact, under the MTC, choice of controller is subject to locality conditions akin to the Minimal Distance Principle (MDP, Rosenbaum, 1967), which states that the null embedded subject's referent is the nearest NP to its left. Thus, under this approach, choice of controller directly derives from general syntactic principles. In this type of approach, ditransitive comissive verbs such as *promise* and *threaten*, which involve subject control despite taking a matrix object DP, are considered exceptions.

In the case of control by objects of prepositions, Hornstein (1999) claims that control involves *sideward movement* (Nunes, 1995, 2001). In this case, the infinitival subject DP is moved and merged with a phrase marker distinct from the one that dominates it in its original position. The final position of the moved element may or may not c-command its base position. This would be the case of the control structures in (4):

- (4) O João disse ao Pedro [para ~~o-Pedro~~ trazer uma mochila].  
 the João told to.the Pedro COMP bring.INF a backpack  
 'João told Pedro to bring a backpack.'

However, the existence of verbs such as *pedir para* 'ask' may pose a challenge for the assumptions of the MTC, as these predicates may involve both subject and object control depending on the pragmatic context (see 5).<sup>1</sup>

- (5) O Pedro pediu à Maria para [~~o-Pedro~~ / ~~a-Maria~~ escrever  
 the Pedro asked to.the Maria COMP write.INF  
 o contrato].  
 the contract  
 'Pedro asked Maria to write the contract.'

This is difficult to accommodate under an almost exclusively syntactic account of obligatory control, independent of (lexical) semantics or of pragmatic considerations. The MTC predicts only object control in these contexts; the possibility of

1. The particular status of "request verbs", with respect to choice of controller, was already noticed by C. Chomsky (1969) in her study on the acquisition of control by English-speaking children. The behavior of these verbs may also be discussed in the broader context of control shift (see Landau, 2013).

subject control in this case would have to be treated as a marked or an exceptional case, like control with comissive verbs.

According to the MTC, OC contexts are A-movement contexts. Consequently, the MTC treats obligatory control and non-obligatory control as fundamentally distinct phenomena. In NOC contexts (namely, infinitival sentential subjects) there must not be A-movement, as there is no local controller. Hence, Hornstein (1999) argues that NOC involves *pro* insertion rather than A-movement.

- (6) [*pro* fumar      no      café] é proibido.  
          smoke.INF in.the café is forbidden  
       ‘It is forbidden to smoke in the café.’

The theory of control as Agree (Landau, 2000, 2004, 2006, 2013), on the other hand, treats obligatory control as a feature agreement system, maintaining PRO as an essential aspect of control grammar. Given that Agree obeys the Phase Impenetrability Condition (PIC), OC is limited to VP-internal infinitives (e.g. complement clauses). VP-external infinitives (e.g. at least certain sentential subjects and adjuncts) are out of Agree’s reach, and thus involve NOC. Consequently, PRO has different properties in these varying syntactic environments: in OC contexts, PRO is anaphoric, whereas in NOC contexts the empty category is interpreted as a logophor (Landau, 2000, 2004, 2006, 2013, following Reinhart & Reuland, 1993). In this sense, the sharp distinction between the nature of the empty infinitival subject in OC and NOC contexts drawn in the MTC is also to some extent reflected in the theory of control as Agree. The distribution of OC and NOC is still open to discussion (see Landau, 2013). Based on cross-linguistic data, Landau (2013) argues that complement clauses fall under OC, whereas subject and adjoined (extraposed) clauses fall under NOC. However, the distribution of OC and NOC in subject and adjoined clauses is more complex: in general, NOC occurs in higher, TP-adjoined adjuncts; as for sentential subjects, they are generally a case of NOC, except for postposed subjects of psychological verbs (see discussion in Landau, 2001, also Landau, 2013, pp. 39–40).

Another relevant point for the discussion carried on in the present paper is that, according to this view of control, the choice of a particular controller in OC contexts (namely complement clauses) is guided by the semantics of the matrix verb: the syntax only establishes the domain where the controller must be found (the clause immediately dominating the one in which PRO occurs). As Landau (2013, p. 124) points out, in ditransitive control structures, there are two matrix clause arguments that satisfy the locality conditions on OC. In these cases, some verbs show subject control (this would be the case of ‘promise’ and other comissive verbs), some verbs show object control (such as ‘persuade’; in Portuguese, *persuadir* ‘persuade’ or *proibir* ‘forbid’) and some verbs allow either subject or object

control, depending on the context (such as ‘propose’ or, in Portuguese, *pedir para* ‘ask’). Choice of controller in these contexts follows from the semantic class membership of these control verbs (Landau, 2013, pp. 124–5). In the case of transitive control verbs with a single internal argument (e.g. *querer* ‘want’), only the matrix subject satisfies OC’s locality conditions. In contrast, in NOC contexts, the choice of controller involves both the semantics of the predicate and the pragmatic context, including the discursive and pragmatic saliency of a potential antecedent.

### 3. Previous studies on the acquisition of control and complementation

The acquisition of control has been explored from two points of view: raising vs. control (Becker, 2005, 2006; Hirsch, Orfitelli, & Wexler, 2007, 2008; Kirby, 2011) and control in different contexts (complement vs. adverbial clauses; complement clauses of different subclasses of verbs) (Cairns, McDaniel, Hsu, & Rapp, 1994; Chomsky, 1969; Eisenberg & Cairns, 1994; McDaniel, Cairns, & Hsu, 1990/1991). The second point of view could be subdivided into two issues, although this is not the approach taken in the references just cited: identification of obligatory (vs. non-obligatory) control contexts and choice of controller. We will focus on the results regarding the acquisition of control in different syntactic contexts, which are the most relevant for the present study.

There has been ample study of English-speaking children’s choice of antecedent in control complement and adverbial clauses. The first study to appear on the acquisition of control focused solely on complement control: C. Chomsky (1969) studied children’s interpretation of the understood subject of the infinitive in complements of *tell* and *promise* by children aged 5–10 years. Her basic finding – that in ditransitive control structures object control seems to be overgeneralized to complements of *promise* by children until school age – has been replicated in several subsequent studies (e.g. Eisenberg & Cairns, 1994; Hsu, Cairns, & Fiengo, 1985 *apud* Hsu, Cairns, Eisenberg, & Schlisselberg, 1989; McDaniel et al., 1990/1991; Sherman & Lust, 1986). C. Chomsky’s (1969) also assigns a pivotal role to Rosenbaum’s (1967) MDP in explaining children’s acquisition of control complements, an option that is followed by some of these studies, despite the fact that this principle was challenged by syntacticians very early on (see Landau, 2013, and references therein).

Some of these subsequent studies approach both complement and adverbial control (e.g. McDaniel et al., 1990/1991). These studies have assessed children’s choice of antecedent in these structures, also with focus on control of the subject of an adverbial clause, here treated as an instantiation of OC. Their results show that children acquire control in complement clauses early on (with the exception

of complements of *promise*, a marked exception to the MDP), while control into adverbials is protracted. These authors also claim that children have an early stage of “free” control, in which they allow a subject DP, an object DP or a sentence-external antecedent to control PRO. McDaniel et al. (1990/1991) claim that, in these cases, the reference of PRO is established by linear strategies such as the “nearest noun” strategy, yielding children’s preferred reading of PRO. However, some of these authors note that children generally do not use a sentence-external antecedent strategy, which they interpret as the result of a bias favoring sentence-internal antecedents (e.g. McDaniel et al., 1990/1991, p. 307). As we will see below (Section 7), these results may be reinterpreted under current theories of control and taking new acquisition data into account.

Contra this line of research, Sherman and Lust (1986, 1993) argue that the complexity of control phenomena and the problems it poses to the acquisition device cannot be assessed by focusing only on choice of antecedent. Other relevant aspects of control concern the distribution of PRO and whether it is obligatorily controlled or arbitrary. The results of a production and comprehension study with children aged 3–8 years (Sherman, 1983, cited in Sherman, 1987, and Sherman & Lust, 1986, 1993) also challenge the assumption that young children’s overgeneralization of object control is due to a linear strategy or to the MDP. Further, children treat PRO in infinitival complement structures as obligatorily co-referent with a specific matrix antecedent, while treating overt pronouns as having free reference (that is, as being able to co-refer with either the matrix subject or the matrix object), as shown by a comprehension task using a pragmatic lead (Sherman & Lust, 1993, pp. 22–24). These facts, the authors claim, show that children know that PRO in OC contexts cannot freely co-refer with any matrix clause potential antecedent. Although sentence-external antecedent choice in OC contexts was not tested, the authors claim that these results suggest that children are unlikely to allow these readings (Sherman & Lust, 1993, pp. 24).

However, Sherman (1983) does not focus NOC contexts, in which PRO may or may not be co-referent with a matrix antecedent. Furthermore, more recent accounts of control, such as the movement theory of control (MTC: Hornstein, p. 1999), may entail consequences for acquisition that have not yet been considered and empirically tested. Given that under this account obligatory control is akin to raising, claims that have been made for the acquisition of raising may also be verified in control contexts. Namely, Orfitelli (2012a, 2012b) claims that children are delayed in acquiring RtS with an intervening experiencer argument, whether it is pronounced or not. If we assume that control is an instance of A-movement, we may equally explain children’s protracted acquisition of subject control with *promise*-type verbs by assuming that it is a consequence of A-moving a DP across an intervener argument. Indeed, similarly to movement crossing experiencer-phrases

in RtS with verbs such as *seem*, which Orfitelli (2012a) claims to be the source of children's difficulties with RtS rather than raising itself (see Hirsch & Wexler, 2007), movement crossing the *goal* argument selected by *prometer* 'promise' (if one assumes a movement analysis of control) may lead to a violation of locality conditions. Notice that it has already been suggested that movement across an intervener is difficult for children in the case of A'-movement structures, namely relatives and interrogatives (Friedmann, Belletti, & Rizzi, 2009). We would be suggesting that a similar effect may be observed with A-movement in control structures: in this case, the goal argument of *prometer* 'promise' would act as an intervener. In fact, this hypothesis predicts similar results to those obtained by C. Chomsky (1969), that is, an overgeneralization of object control and delayed acquisition of subject control with ditransitive verbs such as *promise*.

Other recent acquisition studies also make predictions concerning early comprehension of control contexts. This is the case of Santos, Gonçalves, and Hyams's (2015) suggestion on children's acquisition of ditransitive control verbs. These authors tested Portuguese-speaking children's production of infinitival complements of object control verbs and suggest that they are biased to assume that verbs select a single (propositional) internal argument (see 7):

- (7) *Single Argument Selection Hypothesis (SASH)*: Children initially assume a verb selects only a single (propositional) argument. Santos et al. (2015)

This claim is based on sentences such as (8), produced by preschool children.

- (8) (A mãe pata) proibiu de os patinhos irem ao pé  
the mother duck forbade PREP the little ducks go.INF.3PL to.the close  
do crocodilo (5;01.00)  
of.the crocodile

Target: A mãe pata proibiu os patinhos de irem  
the mother duck forbade the ducks PREP go.INF.3PL  
ao pé do crocodilo. Santos et al. (2015)  
to.the close of.the crocodile

According to Santos et al. (2015), productions such as (8), with missing or misplaced prepositions and overt nominative subjects, suggest that children reanalyze object control verbs as verbs with a single propositional argument and may reanalyze the object DP in the target structure as the subject of an inflected infinitive (see the person and number inflection on the infinitive). The inflected infinitive is available in European Portuguese and is indeed a case in which an embedded domain is projected which can license a nominative subject. It is interesting to note that certain verbs in European Portuguese, namely *dizer para* 'tell', may allow two different argument structures, one corresponding to an object control ditransitive structure (9a) and the other corresponding to a structure with a single internal

argument, which is an inflected infinitive clause (9b). Both sentences have the same meaning. This type of data indeed suggests the possibility of this reanalysis.

- (9) a. O pato disse aos esquilos para saltarem.  
 the duck told to.the squirrels COMP jump.INF.3PL  
 'The duck told the squirrels to jump.'
- b. O pato disse para os esquilos saltarem.  
 the duck told COMP the squirrels jump.INF.3PL  
 'The duck told the squirrels to jump.'

The relevant fact for the discussion in this paper is that the reanalysis of a ditransitive verb's argument structure as a verb taking a single internal argument in the terms defined by the SASH predicts readings similar to object control with ditransitive control verbs: children may take the object controller in a ditransitive object control structure as the subject of the infinitive. These readings would not be true object control readings but would result in a similar interpretation and apply both to object control verbs such as *proibir de* 'forbid' in (8) and to *promise*-type verbs. To some extent, this hypothesis makes predictions similar to those made by the MTC, as both predict a generalization of object control to complements of *promise*-type verbs, even though the hypotheses differ radically. However, Santos et al. (2015) also found that the rates of these non-adult responses vary according to the matrix verb – the predicate *proibir de* 'forbid' elicits more of these responses than *ensinar a* 'teach' –, in agreement with the idea that what is at stake here is the acquisition of the particular argument structure of each verb. Apparently, knowledge of the argument structure of *proibir de* 'forbid' stabilizes later in children's grammar than knowledge of *ensinar a* 'teach'. Thus the prediction is that not all verbs will show similar behavior with respect to a generalization of "apparent" object control readings.

Both the MTC (particularly if combined with the idea of intervention effects affecting A-movement) and the SASH predict an advantage of object control readings over subject control readings. However, we can find in older literature on adult processing of control structures a suggestion of an advantage of subject control. Boland, Tanenhaus, and Garnsey (1990, p. 429), even though testing structures which are not exactly the same as the ones under discussion in this paper, suggest a processing advantage of subject control, which derives from semantics:

For a subject control verb, the same entity functions as the 'doer' in two related events, the event denoted by the matrix verb and the embedded event denoted by the verb in the infinitive complement. In contrast, for an object control verb, the two events have different 'doers' and there is an additional relationship because the subject of the matrix verb is in some sense responsible for the embedded event (following Farkas, 1988).  
 (Boland et al., 1990, p. 429)

In this sense, it might be that subject control readings may indeed be preferred, when and if the child takes the matrix verb as a ditransitive verb, i.e. when the argument structure attributed to the sentence by the child converges with the adult's. In addition, there is evidence that children may have greater difficulty than adults to perform sentence comprehension revision, namely when there is a need to overcome an initial processing bias, an effect of an immature parser (see Omaki & Lidz, 2015, for a summary of relevant literature).<sup>2</sup> The effects of a bias favoring subject control, combined with a difficulty in overcoming this initial comprehension bias, predict an initial preference for subject control, independently of the matrix verb.

In the following section, we list the predictions made on the basis of the different hypotheses laid down in this section.

#### 4. Research questions

Given that acquisition of control has not been assessed in European Portuguese children before, and taking into account previous claims for English, our goals in this study are: (i) to assess whether children understand the OC and NOC distinction, an issue that bears on their knowledge of the syntax of control and (ii) to assess children's choice of antecedent in control complements with predicates belonging to different semantic classes and presenting different control properties.

Both the MTC and Landau's theory of control as Agree derive the fundamental difference between OC and NOC contexts from general syntactic knowledge. To this extent, both hypotheses predict an early distinction of OC and NOC contexts. We thus hypothesize that young children acquiring European Portuguese will display: (i) in general, grammatically based interpretations of PRO at early stages, and specifically (ii) the ability to distinguish between control in OC contexts (e.g. complement clauses) and control in NOC contexts (e.g. sentential subjects). Therefore, we predict that:

- a. Children will show unrestricted interpretation of PRO (by allowing a sentence-external antecedent) only in NOC contexts.

Regarding choice of controller, and assuming that Portuguese-speaking children do display grammatically determined interpretations of PRO, we may find an overgeneralization of object control with ditransitive control verbs, in accordance with the literature for the acquisition of English. This performance may be accounted for in (at least) two different ways: as a consequence of the Single

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2. For further development of this line of reasoning applied to control structures, see Santos, Jesus, and Abalada (2017).



Argument Selection Hypothesis (SASH: Santos et al., 2015) or as a consequence of argument intervention (building on Orfitelli's, 2012a, 2012b, proposal for children's delay with raising-to-subject complements of *seem*), if we assume that control is movement, on the basis of Hornstein (1999).

However, the SASH and the MTC make different predictions concerning the particular patterns of overgeneralization of object control. The MTC derives object control from the Minimal Link Condition, a general principle of grammar. Therefore, if we assume that control is derived through movement and that argument intervention (such as in the case of *promise*-type verbs) may be a problem for children (or more simply and alternatively, that children must acquire control with *promise*-type as an exception), we predict that:

- b. In initial stages, children will generalize object control to subject control with ditransitive verbs (*promise*-type verbs);
- c. Children will behave as adults in the comprehension of object control verbs from the earliest ages tested, showing no developmental effects in the case of object control.

The SASH (Santos et al., 2015) makes a different prediction. The SASH implies that some fluctuation may be initially found in children's analysis of the argument structure of ditransitive verbs selecting a propositional internal argument, which may lead to readings similar to object control readings (but which are not true object control readings) contingent on the acquisition of each verb's argument structure. If we combine the SASH with Landau's approach to control, we may say that it is only when children assume that the verb projects a ditransitive argument structure that they will have to determine, on the basis of lexical semantics (now in the spirit of Landau's approach to control), whether the verb is a subject control or an object control verb. In this case, we predict that:

- d. In initial stages, children will generalize object control to subject control with ditransitive verbs (*promise*-type verbs) (= b);
- e. Developmental effects will be found, in the case of ditransitive subject control verbs, but also possibly in the case of object control verbs: depending on the stabilization of the knowledge of the particular verbs' argument structure, children may show different rates of object control with different verbs.

Therefore, even though the first prediction is common to a MTC and argument intervention approach to the acquisition of control and to the SASH (combined with Landau's approach to control), the second prediction is fundamentally different. According to the SASH, children's initial analysis of the verb's argument structure makes them admit argument structures not available in the adult grammar but which may lead to what looks like an object control reading. However, if (and when) the child interprets the verb's argument structure as a ditransitive argument



structure, he must determine the controller of PRO in the infinitival complement and decide if the verb is an object or a subject control verb.

If we assume this type of approach, which assumes that choice of controller in OC must be learned (possibly inferred from lexical semantics) – and not derived from general syntactic principles –, we can also integrate the hypothesis that children’s interpretation of control structures may also be affected by other factors, namely general processing preferences defined precisely in terms of the association of different entities to particular thematic roles. In this case, if the suggestion in Boland et al. (1990) concerning a preference for subject control does hold, it might be that we will find an initial preference for subject control both in target and in non-target contexts. This preference should be more visible in the younger groups of children, since younger children should be less likely to revise their initial analysis of the sentence, which were based on initial biases. This hypothesis makes the following prediction:

- f. A preference for subject control is found in complement clauses independently of the matrix verb, particularly in the younger groups of children.

The data presented in the following sections will contribute to evaluate the different predictions made by the different hypotheses outlined in this section.

5. The experimental task

The data under discussion in this paper were obtained through the application of an experimental task, which was a reference judgment task based on McDaniel and Cairns (1990a, 1990b). Both OC in complement clauses and NOC in sentential subjects were tested. The test conditions and the verbs used in the task are systematized in Table 1 (for more details, see Agostinho, 2014). Example sentences for each condition are provided below Table 1:

Table 1. Test conditions and verbs

Condition	Verbs
1a Subject control with <i>want</i> -type verbs	<i>querer</i> ‘want’, <i>conseguir</i> ‘manage to’
1b Subject control with <i>prometer</i> ‘promise’	<i>prometer</i> ‘promise’
2a Object control with direct objects	<i>ensinar a</i> ‘teach’, <i> pôr a</i> ‘put to’, <i>proibir de</i> ‘forbid’
2b Object control with indirect objects	<i>dizer para</i> ‘tell’
3 Sentential subjects (pre-posed/ post-posed)	<i>chatear</i> ‘bother’, <i>assustar</i> ‘scare’
4 Control with <i>pedir para</i> ‘ask’	<i>pedir para</i> ‘ask’

- (10) *Condition 1a (subject control with want-type verbs)*  
 O porco quer nadar no lago.  
 the pig wants swim.INF in.the lake  
 'The pig wants to swim in the lake.'
- (11) *Condition 1b (subject control with prometer 'promise')*  
 O burro promete ao cavalo trazer muita palha.  
 the donkey promises to.the horse bring.INF a lot hay  
 'The donkey promises the horse to bring a lot of hay.'
- (12) *Condition 2a (object control with direct objects)*  
 O ouriço ensina o galo a andar de bicicleta.  
 the hedgehog teaches the rooster PREP ride.INF PREP bicycle  
 'The hedgehog teaches the rooster to ride the bicycle.'
- (13) *Condition 2b (object control with indirect objects)*  
 O cisne diz ao pato para arranjar comida.  
 the swan tells to.the duck COMP get.INF food  
 'The swan tells the duck to get food.'
- (14) *Condition 3 (sentential subjects)*  
 Chateia o bambi apanhar madeira.  
 bothers the bambi gather.INF wood  
 'It bothers the bambi to gather wood.'
- (15) *Condition 4 (control with pedir para 'ask')*  
 A pata pede à lebre para ir buscar farinha.  
 the duck asks to.the hare COMP go.INF get.INF flour  
 'The duck asks the hare to go get flour.'

Five of these six conditions and subconditions (1a, 1b, 2a, 2b and 4) test OC into complement clauses, while condition 3 tests NOC in sentential subjects. In each condition, two items were included per verb used, with the exception of conditions 1b, 2b and 4: in these cases, since only one verb was tested (there was no other verb with a similar behavior which could be part of children's vocabulary), four items were included for the same verb. Whenever allowed by the methodology, the verbs were selected from the *corpus* SANTOS of spontaneous child production and child-directed speech (Santos, 2009; Santos, Généréux, Cardoso, Agostinho, & Abalada, 2014).<sup>3</sup>

The correct analysis of NOC structures still requires more investigation for Portuguese, but since these sentential subjects are tested in sentences with psychological predicates (these are among the ones that more typically occur with sentential subjects), and postposed sentential subjects of this type of predicates

3. The *corpus* SANTOS is available online on the CHILDES database.

may show OC behavior (at least in English and some other languages – see Landau, 2013; see also Section 2), half of the test items presented preposed sentential subjects and half of the items presented postposed subjects. The inclusion of sentential subjects in different positions allows us to assess if there are contrasts in interpretation or acquisition rates between them, also giving us some indications towards their correct analysis.

In conjunction with the OC conditions, the inclusion of an NOC condition allows us to fully assess whether children's interpretation of PRO is syntactically guided at early stages or guided by linear strategies, given that it has been claimed for the acquisition of English that children do allow NOC readings of PRO in obligatory control contexts (e.g., McDaniel et al., 1990/1991). We rely on the comparison of the results from this condition with those from the OC conditions: if children restrict their third-character readings to sentential subjects, then there is reason to think that they do not allow sentence-external antecedents in OC contexts due to their grammatical knowledge rather than due to an early bias towards sentence-internal antecedents.

The condition testing subject control with transitive verbs (1a) allows us to establish if the child has the grammar of control at all, in the absence of other complicating factors. This condition is essential for ascertaining if children have problems with the grammar of control itself or only with control structures with two internal arguments (condition 1b, testing subject control with *prometer* 'promise'; condition 2a, testing object control with direct objects; and condition 2b, testing object control with indirect objects).

The condition testing *prometer* 'promise' (1b) replicates the contexts that have been found to display delayed acquisition in English (starting with C. Chomsky, 1969). The direct object control condition (condition 2a) tests three matrix verbs, *proibir de* 'forbid', *ensinar a* 'teach' and *pôr a* 'put to'. The inclusion of the verbs *proibir de* 'forbid' and *ensinar a* 'teach' allows us to compare the comprehension data obtained in this study with the production data from Santos, Gonçalves, and Hyams' (2014, 2015) study. A third verb – *pôr a* 'put to' – was also included in this condition.<sup>4</sup> The indirect object control condition includes only one verb, *dizer para* 'tell', as we considered that this was the only one of this type that would be

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4. This verb shows up early in child production (SANTOS corpus of child production and child-directed speech – see Santos, 2009; Santos et al., 2014). However, there is no consensus that this is a control verb. Although we acknowledge its special status (in a pair with *deixar a* 'leave'), we consider that this verb does not select a Prepositional Infinitival Construction (PIC) (see Raposo, 1989, for tests). We thus follow Raposo (1989) in considering that the sequence following this verb in the contexts considered here is closer to object control.

understood by children.<sup>5</sup> Even though *dizer para* ‘tell’ may be either a ditransitive or a transitive verb taking a single propositional argument (see 9a and 9b in Section 3, respectively), the sentences included in the experiment were always of the ditransitive type (such as 9a) but with an embedded uninflected infinitive, since these are the cases in which there is a control structure.

Finally, condition 4 tests control with *pedir para* ‘ask’. This verb involves obligatory control, as the controller must be found in the clause adjacent to the infinitival complement. However, it allows both subject and object control readings, depending on the pragmatic and discourse context. Given that this study does not concern children’s sensitivity to pragmatic factors, the contexts used in the experimental task were designed to be neutral, i.e. the contexts didn’t particularly favor subject or object control. In order to achieve this, we avoided characters that could implicate authority relations between them (e.g. parents and children); we also avoided any assertions indicating that a character had a particular wish, a greater capacity, or an obligation to perform the action denoted by the main verb. This option was maintained in all conditions. The particular results obtained in condition 4 will allow us to determine which of the two available readings is preferred by children and adults, in the absence of pragmatic factors justifying a particular choice.

The subjects tested were 64 children aged 3 to 5 and a control group of 20 adults (see Table 2). All the subjects were monolingual speakers of European Portuguese, and none of them had reports of language impairment or cognitive deficits. The adult subjects were enrolled in undergraduate or graduate courses at the time of testing, but none of them had a relevant background in linguistics.

Table 2. Subjects

Age group	Number	Age: range (mean)
3 year-olds	20 (11 girls/ 9 boys)	3;0.12–3;11.27 (3;6)
4 year-olds	21 (13 girls/ 8 boys)	4;1.01–4;11.27 (4;5)
5 year-olds	23 (11 girls/ 12 boys)	5;0.08–5;11.27 (5;4)
adults	20	≥ 18

5. In addition to *dizer para* ‘tell’, Barbosa and Raposo (2013, pp. 1945–1956) list the verbs *insistir com* ‘insist’, *implorar para* ‘beg’ and *pedir para* ‘ask’ as those that determine (or may allow, in the case of *implorar para* ‘beg’ and *pedir para* ‘ask’) control by an indirect object. A search on the SANTOS corpus of child speech and child-directed speech (Santos, 2009; Santos et al., 2014) shows that neither *insistir* nor *implorar* occur in any of the files that make up this corpus, while *pedir* and *dizer* occur multiple times. *Pedir para* ‘ask’ is treated separately in this experiment, given its special behavior.

In this task, the main experimenter tells a story to the child, while simultaneously acting it out with a set of dolls. The second experimenter manipulates a silly puppet (Benny). Unlike the rest of the story, the test sentence, which is the conclusion of the story, is never acted out by the main experimenter. Failing to fully understand the story, the puppet asks the child which character will perform the action denoted by the embedded predicate in the test sentence. An example item is given in (16):

(16) *Test item 5, Condition 1b (subject control with prometer ‘promise’)*

Exp. 1: Three animals live in a house in the woods: a duck, a rooster and a rabbit. They are neighbors of the farm animals. One day, the duck says: “How about we invite some friends over for dinner?” The others say: “Yes, that’s a great idea!” Then they divide tasks, and...

Test item: *O galo promete ao coelho cozinhar o jantar.*  
 the rooster promises to.the rabbit cook.INF the dinner.  
 ‘The rooster promises the rabbit to cook dinner.’

Exp. 2 (using the puppet): Who is going to cook dinner?<sup>6</sup>



Figure 1. Scenario for item 5, Condition 1b (*prometer* ‘promise’)

6. The original Portuguese version is the following:

Exp. 1: Numa casa vivem três animais: o pato, o galo e o coelho. São vizinhos dos animais da quinta. O pato diz um dia: “E se convidássemos alguns amigos para virem cá jantar?” Os outros dizem: “Sim! Sim! É uma ótima ideia!” Então, dividem as tarefas, e...

Item de teste: *O galo promete ao coelho cozinhar o jantar.*

Exp. 2 (usando o fantoche): Quem é que vai cozinhar o jantar?

Each story has three characters, all of which are animals. This allows us to test three possible readings – subject control, object control (with ditransitive verbs) and reference to a sentence-external antecedent – while avoiding the interference of pragmatic factors such as hierarchical relations, which the use of human or human-like characters would imply (see also the discussion concerning condition 4). This is especially important in the items with *pedir para* ‘ask’ and *dizer para* ‘tell’.

The data was scored considering the choice of antecedent, and then statistically analyzed. A Generalized Linear Mixed Model (GLMM) was built for each experimental condition, using Rbrul (version 2.24) (Johnson, 2009), a text-based interface to existing functions in the R environment.

## 6. Results

The general results, treated in terms of correctness rates, show a discrepancy between structures involving subject control with *prometer* ‘promise’ and obligatory object control versus all other conditions, including subject control with transitive verbs, sentential subjects and cases of control with request verbs such as *pedir para* ‘ask’, which may involve a pragmatically determined interpretation (see Figure 2).

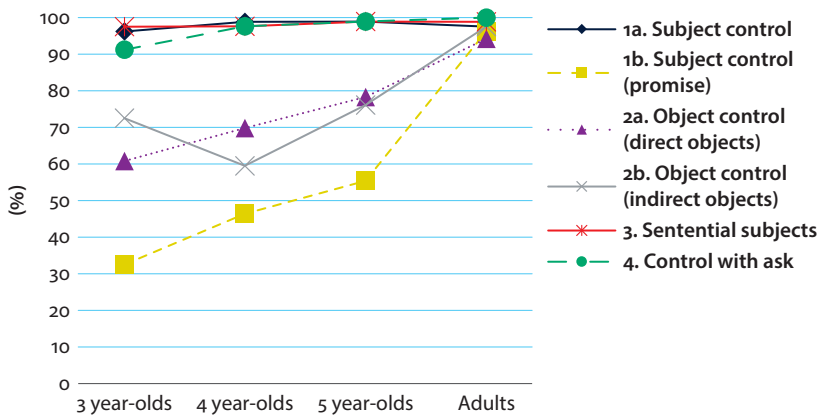


Figure 2. Proportion of correct answers in each condition per age group

From the earliest age tested, high rates of correct responses are observed in subject control with *want*-type verbs (condition 1a), as opposed to object control verbs (conditions 2a, 2b) and subject control with *prometer* ‘promise’ (condition 1b). For the other conditions (sentential subjects and control with *pedir para* ‘ask’),

to simply look at rates of correct responses is not sufficient to assess children's behavior as opposed to adult behavior. High rates of correct answers are observed in the condition involving control with *pedir para* 'ask' (condition 4), but in this case, the choice of two out of three characters (that is, the two corresponding to sentence-internal potential antecedents) corresponds to a correct answer. In the case of sentential subjects (condition 3), both characters mentioned in the test sentences and non-mentioned characters could act as antecedents. Thus, in this condition all answers were acceptable.<sup>7</sup> Importantly, this initial look at the results already shows that the conditions involving subject control with *prometer* 'promise' (1b), object control with direct objects (2a) and object control with indirect objects (2b) all show developmental effects. In fact, even at age 5 children are still below adult level in these three conditions (subject control with *prometer* 'promise' presenting the widest gap between child and adult subjects, in line with results obtained in previous studies for English). In what follows, we will look at each condition individually.

First, we look at the only condition that did not show development: subject control (1a). In this condition, the 3 year-old group, with 96.2% subject control responses, is already at an adult level (97.5% subject control responses), as can be seen in Figure 3:

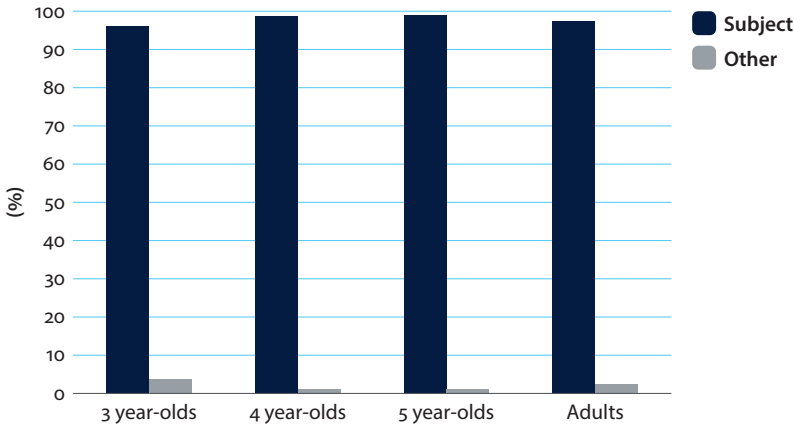


Figure 3. Subject control verbs (*querer* 'want', *conseguir* 'manage to')

7. In Figure 2, none of the groups shows a 100% rate of correctness in this condition because instances of refusal to respond were not excluded from this graph, although they were later excluded from the statistical modeling.

In all groups, rates of co-reference with a sentence-external character are marginal, all child groups responded accordingly to target. Hence, there is no evidence from this condition suggesting that children do not know the basic properties of control, contra Cairns et al. (1994), Eisenberg and Cairns (1994) and McDaniel et al. (1990/1991), among others. The results of a Generalized Linear Mixed Model applied to these data confirm these conclusions, as *subject*, a random predictor, was the only predictor that had a significant effect on response patterns in this condition, while *verb* and *age group* did not show significant effects on response variation (GLMM: subject [random]).

It could be argued, as has been done before for the acquisition of English (e.g. McDaniel et al., 1990/1991), that these near-perfect results are due to a sentence-internal bias. However, the data from the condition involving a NOC context, sentential subjects (condition 3) show that this is not the case. All child groups, as well as the adult control group, gave higher rates of *other* responses (that is, third-character responses) in this condition than in any other condition, as shown in Figure 4.

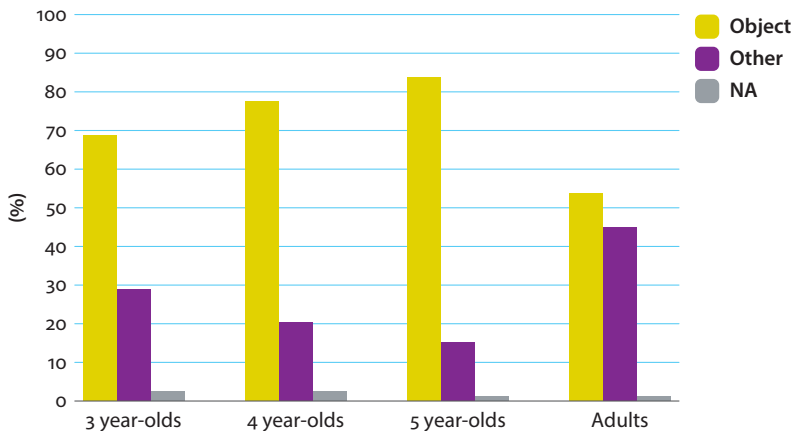


Figure 4. Sentential subjects (*chatear* 'bother', *assustar* 'scare')

Even though it was the adult group that gave the highest rates of sentence-external antecedent responses, and despite the fact that children show a preference for sentence-internal antecedents, it is also clear that children are able to choose sentence-external antecedents. Importantly, it was only in this condition that children gave appreciable rates of sentence-external antecedent responses. Hence, children know the varying properties of PRO in OC and NOC contexts and they obey this knowledge. As far as the position of the sentential subject is concerned, children gave more sentence-external antecedent responses in preposed than in postposed



sentential subjects, a fact which would be in agreement with the idea that these preposed (but not postposed) sentential subjects of psychological predicates are true NOC contexts (see discussion in Landau, 2013, also Section 2). However, the adults did not show the same behavior: they instead gave more third-character answers in the case of postposed than preposed sentential subjects. Thus, more research is needed concerning the status of sentential subjects in different positions. In general, the comparison between the results in this condition and the results in other conditions shows that (i) children can choose external antecedents, but (ii) they restrict them to particular contexts, namely sentential subjects, in general a context of NOC, at least according to some analyses. The statistical analysis confirms significant effects of the factors *Age group* and *Position of the sentential subject* (GLMM: subject [random] + group ( $p < 0.001$ ) + position of the sentential subject ( $p = 0.0324$ ) + verb ( $p = 0.0324$ )).

The contrast between the two previous conditions argues in favor of an early recognition of (at least) certain OC and NOC contexts, in line with the idea that in these two contexts the null category may be of a different nature. However, the conditions with ditransitive verbs show that the choice of controller is not completely stabilized in certain OC contexts.

This is apparent in the data from condition 1b, subject control with *prometer* ‘promise’, in which children’s results were predictably poor (see Figure 5).

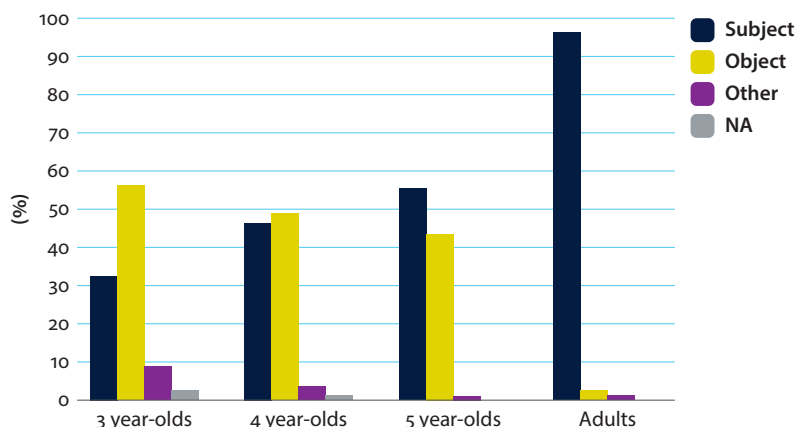


Figure 5. Subject control verbs (*prometer* ‘promise’)

Notably, the 3 year-old group gave more object control responses (56.2%) than subject control responses (32.5%). In fact, the 5-year-old group is the only child group that gave more subject control (55.4%) than object control (43.5%) responses. Nonetheless, they are still far below adult level (96.2%)

subject control responses).<sup>8</sup> It is clear that age is a determining factor for the ability to interpret the controlled subject in complements of *prometer* 'promise' (GLMM: subject [random] + group ( $p < 0.001$ )). This is also in line with previous research on the acquisition of English (starting with C. Chomsky, 1969), which suggests that children do not acquire subject control with *prometer* 'promise' until school age.

More surprisingly, in the condition involving object control with direct objects (condition 2a), children's results show object control rates below adult levels and considerable rates of subject control, although the general tendency of children's response patterns is convergent with the adult grammar (Figure 6):

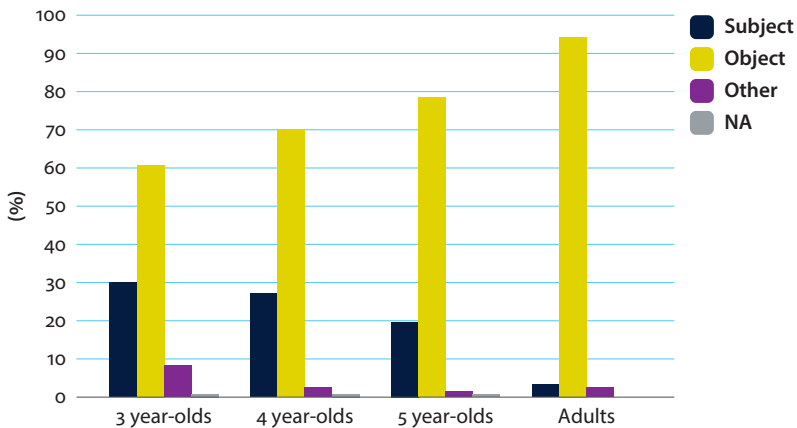
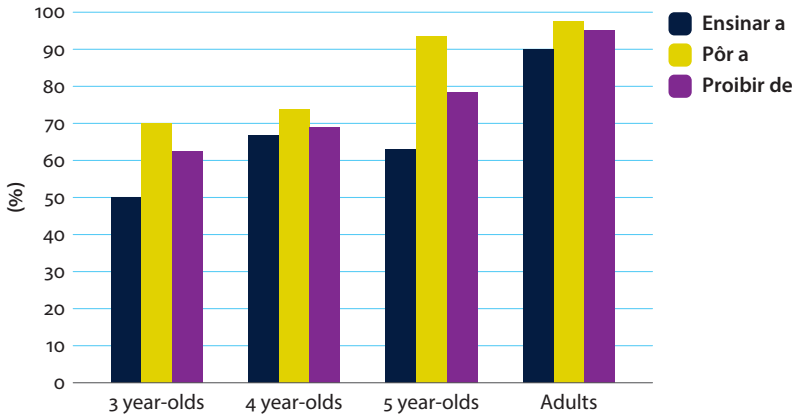


Figure 6. Object control verbs with direct objects (*ensinar a* 'teach', *pôr a* 'put to', *proibir de* 'forbid')

Children from the age of 3 consistently gave more object control (60.8%) than subject control (30%) responses in this condition, resulting in a generally convergent behavior. Nonetheless, all child groups gave substantial rates of subject control responses, which gradually decrease with age.

It is equally noteworthy that both children and adults gave varying rates of object control responses with individual object control verbs, as can be seen in Figure 7:

8. As noted by N. Hyams (p.c.), in the case of English, many speakers do not allow *promise* to take a DP object and some speakers allow the interpretation of this verb as an object control verb. In Portuguese, we have not found this pattern, as shown by an adult rate of more than 95% subject control answers (see Figure 5).



**Figure 7.** Object control rates with each object control verb (*ensinar a* ‘teach’, *pôr a* ‘put to’, *proibir de* ‘forbid’)

The verb *ensinar a* ‘teach’ shows the lowest rates of object control, in all age groups. In fact, children aged 3 are at chance level with this verb, with an object control rate of 50%. With the verb *proibir de* ‘forbid’, children, especially 3 and 5 year-olds, had better results than with *ensinar a* ‘teach’. The 5 year-old group, with 78.3% object control responses, is approaching adult level (95% object control). Finally, the verb *pôr a* ‘put to’ shows the highest rates of object control of all three predicates: children aged 3 already display a rate of 70% object control responses with this verb. However, as pointed out above, the status of *pôr a* ‘put to’ as an object control verb is open to discussion. Different rates of object control answers were also found in the control group, but in this case object control represented at least 90% of the answers for each verb tested. The development effect found for object control and the differences between verbs are confirmed by the statistical analysis, which shows that both *age group* and *verb* are predictors of response patterns in this condition (GLMM: subject [random] + group ( $p < 0.001$ ) + verb ( $p < 0.001$ )).

In the condition involving object control with indirect objects (condition 2b), the general tendency of the results is again convergent with the adult grammar (see Figure 8). However, the child participants show a U-shaped developmental pattern, as the 4-year-old group gave fewer object control responses (59.5%) than the 3-year-old group (72.5%) and the 5-year-old group (76.1%). The role of age in determining performance is statistically significant (GLMM: subject [random] + group ( $p < 0.001$ )).

It is noteworthy that the 3-year-old group shows higher rates of object control (72.5%) in this condition than in the other conditions with ditransitive verbs: children aged 3 show around 30% subject control responses both with *prometer*

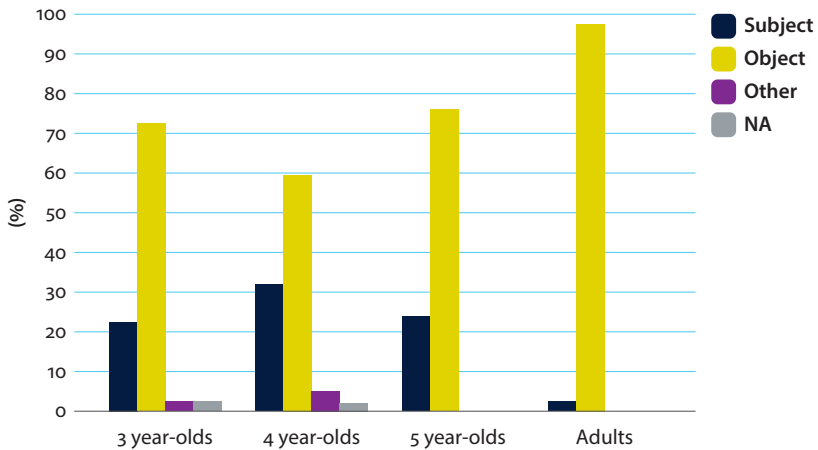


Figure 8. Object control verbs with indirect objects (*dizer para* 'tell')

'promise' (32.5%) and with direct object control verbs (30%) (we will see that the results with *pedir para* 'ask' show the same pattern).

Finally, we tested a context in which choice of controller may be pragmatically determined (condition 4), corresponding to contexts with the request verb *pedir para* 'ask'. In this case, choice of controller is not completely determined by syntax or the lexicon and the verb may exhibit subject or (indirect) object control depending on the context or inferences based on that context. As indicated before, in this experiment, test items in this condition were designed to not allow those inferences so that we could identify children's and adults' preferences for subject or object control in the absence of pragmatic guidance. Figure 9 shows the results from this condition:

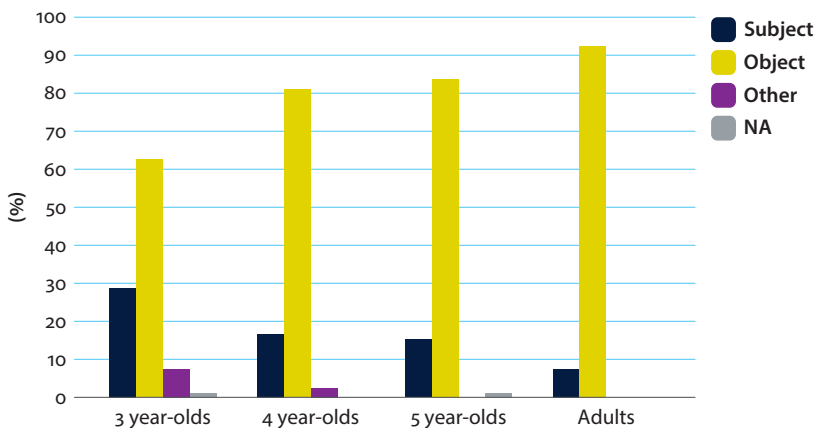


Figure 9. Control with *pedir para* 'ask'

In this case, all age groups displayed higher object control rates than subject control rates. However, this general tendency is more marked in the adult group (92.5% object control responses) than in the child groups. As hinted at above, the 3 year-old group showed the highest rate of subject control responses in this condition: 28.8%, i.e. around the 30% level of subject control readings also found with object control verbs and *prometer* 'promise'. Object control rates consistently increased with age, and the 5 year-olds are already relatively close to adult level (83.7%). As in all other conditions with ditransitive obligatory control verbs, the statistical analysis shows that *age group* is predictive of behavior with these structures (GLMM: subject [random] + group ( $p < 0.001$ )). Also similarly to all other conditions involving OC, choice of an unmentioned character as the antecedent of PRO is either marginal or nonexistent in all age groups.

The results from this condition, coupled with the results from the other conditions involving ditransitive verbs, show a general preference for object control in control complements with two internal arguments. However, there are also considerable rates of subject control in the 3 year-old group across conditions, a fact to which we will return in the discussion section. These difficulties in establishing the controller in complements of ditransitive control verbs (including subject and object control verbs) are not due to an inability to comprehend the control relation in itself: the combined results from the condition testing subject control with *want*-type verbs and the condition testing control in sentential subjects show that children have knowledge of the grammar of control and of PRO's varying properties in different control contexts.

## 7. Discussion

The experimental results show (i) a distinction between OC and NOC; (ii) in the case of OC, a distinction between subject control with *want*-type verbs, on the one hand, and subject control with *promise* as well as object control, on the other hand.

Firstly, we will contrast the results from subject control with *want*-type verbs (condition 1a) with the results obtained with sentential subjects (condition 3). We have seen that with subject control verbs even the youngest group (3 year-olds) was already at adult level. There is no evidence of development in this condition, and nothing suggests that children (at least as young as 3 years) do not have knowledge of PRO's properties and of the grammar of control. Nonetheless, it could be argued, as has been done for English (e.g. McDaniel et al., 1990/1991), that this is due to a preference for sentence-internal antecedents. The data from the sentential subjects (condition 3) suggest that this is not the case: in this condition, the only

NOC condition in this task, children and adults alike displayed far higher rates of sentence-external antecedent choice than in any other condition. To suggest that children's performance in the subject control condition is due to an inability to choose sentence-external antecedents is thus inconsistent with these results.

The data from these two conditions provides an answer to one of the research questions that guided our study: in agreement with prediction a., Section 4, children showed unrestricted interpretation of PRO (by allowing a sentence-external antecedent) only in NOC contexts, which means that they have early knowledge of the grammar of control, and they can distinguish between OC and NOC contexts.<sup>9</sup> These data are in line with the results from Sherman (1983), reported in Sherman and Lust (1986, 1993), as they too suggest that children have early knowledge of syntactic constraints relevant for control.

The remaining conditions allow us to evaluate children's choice of controller in OC contexts and thus to answer the other research questions guiding this study, namely by assessing the results in light of predictions made by the MTC, the SASH or a processing bias towards subject control.

In all conditions with ditransitive verbs (subject control with *prometer* 'promise', object control with direct and indirect objects, and control with *pedir para* 'ask') children displayed a general preference for object control over subject control. Taken in isolation, this seems to confirm prediction b. (= prediction d., defined in Section 4, and is in accord with what is expected according to the MTC as well as the SASH (even though assuming the SASH means that some of these object control readings may not be true object control readings, since they may correspond to misanalyses of the matrix verb's argument structure).

However, there is a complicating factor: children, especially the younger children, also displayed considerable rates of subject control, including in contexts with matrix object control verbs. In itself, this fact is sufficient to show that prediction c. (Section 4), derived from the MTC, does not hold. Indeed, subject control readings in object control contexts are unexpected under the Minimal Link Condition, in the spirit of the Movement Theory of Control. This hypothesis predicts avoidance of subject control across an intervening object: once children acquire the mechanism of control, they should apply it across predicates, and generalized

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9. It is unlikely that children's good results with subject control verbs are due to a restructuring analysis of structures with *querer* 'want' and *conseguir* 'manage to'. While it was not possible in this task to control for this possibility, given that it would involve the insertion of a clitic pronoun adjacent to the lower verb and clitics are known to show delayed acquisition in EP, previous studies (Landau & Thornton, 2011; Santos et al., 2015) suggest that children have a bias against truncated embedded structures. Namely, in Santos et al.'s (2015) study children produced very low rates of complex predicates.

object control would be expected, especially in the younger groups. The subject control results are also unexpected if one assumes that argument intervention explains a preference for object control (inspired by Orfitelli, 2012a, 2012b), since this preference should be visible especially in the younger groups.

In contrast, prediction e. (Section 4), derived from the SASH, seems to be confirmed by the data: developmental effects are indeed found in the case of object control verbs and children show different rates of object control with different verbs. The predicate *ensinar a* ‘teach’ shows the worst results in all age groups, including the adult group, the predicate *pôr a* ‘put to’ shows the best results (but as pointed out above, the status of this verb as a control verb is open to discussion), and finally the predicate *proibir de* ‘forbid’ lies in between. These variations may be taken as in line with the predictions made by the SASH (Santos et al., 2015): since SASH is an hypothesis concerning the acquisition of the verbs’ argument structure, which suggests a tendency to project a single internal clausal argument, we can derive the prediction that different rates of object control will be obtained with different verbs, according to the rhythm of acquisition of argument structure. Importantly, these comprehension results are the mirror image of the production results in the Santos et al.’s (2015) study: in their elicited production task, children had worse results with *proibir de* ‘forbid’ than with *ensinar a* ‘teach’. That is, they produced infinitival complements with an internally licensed overt subject and a misplaced or absent preposition more often with *proibir de* ‘forbid’ than with *ensinar a* ‘teach’ (see Section 3). This apparent discrepancy is actually expected under the Single Argument Selection Hypothesis: children are achieving adult-like interpretation of object control structures with a non-adult analysis. If at some point in development the adult grammar object DP may be interpreted by children as an embedded infinitival subject, the control relation will not even be computed. There is no referential dependency to establish.

However, the SASH cannot explain the entire set of results obtained in the experiment: even though the SASH correctly predicts developmental effects in the case of object control verbs (and different rates of development in the case of different verbs), it predicts higher levels of object control answers among younger children, i.e. it does not explain the appreciable rates of subject control in the 3 year-old group. In fact, a closer look at the data shows that the 3 year-old children gave about the same percentage (around 30%) of subject control responses in three of the conditions involving ditransitive verbs, the exception being indirect object control with *dizer para* ‘tell’. Instead, these results are in agreement with prediction f. (Section 4), derived from Boland et al.’s (1990) suggestion of a processing preference for subject control.

How can we reconcile these results, namely how can we understand that both prediction f. and prediction e. seem to be confirmed by the data to some extent? In this case, more questions are raised by the results obtained with 3 year-old children:

these children show around 30% subject control and around 60% object control in conditions involving ditransitive verbs, independently of the subject / object control status of the verb. We should first highlight the fact that, although the SASH assumes that children analyze ditransitive control structures as corresponding to a single propositional argument with an inflected infinitive and an internally licensed subject, it does not claim that this is the only analysis that children entertain of these strings. Therefore, we can imagine the following explanation for the results obtained by 3-year-olds: the majority of what is classified as object control, which corresponds to the majority of the answers, probably corresponds to a misanalysis of the verb argument structure as a transitive structure with a single internal argument; the 30% subject control readings reveal that at the same stage children can also project these matrix verbs as verbs with a ditransitive argument structure and, in this case, they still did not determine the control properties of the particular verb (i.e. they do not distinguish the different verbs), a situation in which they fall back in a preference for subject control.

If our interpretation of these data is on the right track, it means that a very diverse set of factors must be taken into account to explain children's behavior: knowledge of the syntactic restrictions on OC, lexical learning concerning the argument structure of the different verbs and also their semantic properties, which may be relevant to infer choice of controller, as well as general processing biases. It is also clear that more research is needed to confirm our suggestions and to achieve a better understanding of the acquisition of control.

## 8. Conclusions

The data from our comprehension task suggest that European Portuguese-speaking children aged 3 to 5 have the syntactic knowledge relevant to define obligatory control. Their interpretations of PRO are grammatically constrained at all stages. Namely, children assign obligatory co-reference with a matrix argument to PRO only in OC structures, suggesting that they are sensitive to different control contexts and to the varying interpretative properties of PRO in these contexts.

However, choice of controller may be problematic for children, even in cases of object control, suggesting that choice of controller does not directly follow from the syntax of control, as the Movement Theory of Control and the Minimal Link Condition would predict. Our data is more in agreement with an approach separating choice of controller from the general mechanism of control and seeing choice of controller as dependent on lexical (namely lexical semantics) learning: this is in line with Landau's (2000, 2001) suggestion that choice of controller derives from semantic and pragmatic factors, rather than a syntactic operation such as Agree, which drives the OC/NOC distinction (that is, whether the controller may be



found within the domain of obligatory control or whether it is free of any syntactic constraints, in the case of NOC). Landau (2013, p. 154) also suggests that control shift phenomena may be taken as evidence that choice of controller cannot be fully captured by a syntactic account. Rather, choice of controller is determined by a combination of semantic and pragmatic considerations. Children's early biases on argument structure may lead to a misanalysis of ditransitive control structures. That is, they may misanalyse object control verbs, verbs such as *prometer* 'promise' or *pedir para* 'ask' as taking a single propositional argument rather than two internal arguments – this propositional argument has a DP subject (the adult grammar DP object), which is internally licensed as a subject of the inflected infinitive. Under this analysis, there is no control relation to compute: what appear to be adult-like object control readings are in fact interpretations available to the child as a result of a bias leading to misanalyses of ditransitive control structures.

Given that children (especially the 3 year-olds) also display considerable rates of subject control with ditransitive control verbs, irrespective of their control properties, this analysis cannot be the only analysis they entertain of these structures. It is rather a possibility in their grammar that meets certain early biases. Children must also be able to interpret these structures as taking two internal arguments. Subject control readings in object control contexts arise under this analysis, and may be the result of a processing bias favoring subject control, which the younger children, who are more cognitively immature, have more difficulty to overcome. Hence, although children know the grammar of control, as shown by their performance with subject control structures without an intervening object, combined with their performance on sentential subjects, there are other factors that complicate the acquisition of control with ditransitive verbs, namely knowledge of the argument structure of the verb and its lexical semantics or even processing factors.

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# The acquisition of infinitival complements to causative verbs in Mozambican Portuguese

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This chapter aims at analyzing the acquisition of complements to causative verbs in Mozambican Portuguese (MozP) as L1 by pre-school children. By presenting the results of a completion task (Santos, Gonçalves, & Hyams, 2016), we show that Mozambican children, like Portuguese ones, take propositional complements as complete functional domains, which explains the high occurrence of inflected infinitives. However, MozP presents an innovative pattern in which the causative verb selects for a complement with the structure [DP XP]. We claim that this complement corresponds to a pseudo-relative, a structure which is severely constrained in Portuguese.

**Keywords:** acquisition; causative verbs; infinitival complements; Mozambican Portuguese

## 1. Introduction

Mozambican Portuguese (henceforth MozP) is a variety of Portuguese spoken as L1 by a minority of the population in Mozambique. The status of Portuguese as the official language and a symbol of national unity (Firmino, 2002) as well as the widening of the education network contributed to the quick expansion of MozP, particularly in urban contexts (Gonçalves, 2001, 2013), in a country where part of the population is bilingual and has a Bantu language as their L1. Data from the 2007 census pertaining to subjects at 5 years of age or older confirm this linguistic characterization (see Chimbutane, 2012): in Mozambique, Portuguese is the second language most frequently spoken as L1 (by 10.7% of the population), immediately after Emakhuwa (25.2% of the population); in contrast, if urban areas are considered, Portuguese is the L1 of 26.3% of the population, and in Maputo in particular it is the L1 of 42.9%. In addition, the same census reveals that the higher rates of use of Portuguese at home are found in young subjects, between 15 and 29 years old.

The formation of a new variety of a language in this type of multilingual situation is a particularly relevant situation for those interested in the interplay of language acquisition and language change. A large part of the population (39.7%) in Mozambique speaks Portuguese as L2 and some of these individuals are the parents providing the input to children who acquire the language as L1. In this context, it is our goal to characterize and explain the grammar of those who have acquired Portuguese as (child) L2 but also the grammar of those who have acquired or are acquiring it as L1, specifically concerning infinitival complements to causative verbs.<sup>1</sup>

In this work, we will be interested in evaluating general hypotheses concerning development. We will look at an understudied area, the set of complements to causatives.<sup>2</sup> This set includes (i) raising structures, which have been argued to be late acquired, and (ii) inflected infinitives, a typologically rare structure found in European Portuguese (EP), which according to available descriptions (Duarte, Gonçalves, Miguel, & Mota, 1999) is retained in other syntactic contexts in MozP. Previous work (Santos et al., 2016) has suggested that a preference for inflected infinitive complements exists in child EP along with difficulties with Raising-to-Object (RtO) structures, something that would result from initial biases determining the developmental path. According to this hypothesis, we expect the preservation of inflected infinitives in MozP to be favored. This work will thus discuss to what extent the language change process resulting in this new variety, MozP, is in agreement with what is expected according to this general hypothesis concerning language acquisition and previous analyses based on the acquisition of EP. We will systematically compare adult MozP (acquired as L1 or child L2) to child MozP. This is, to the best of our knowledge, the first available study on the acquisition of MozP as L1 by pre-school children.

## 2. Complements to causative verbs in Portuguese

We will take EP as a starting point, since this is a variety for which extensive descriptive work is available. In EP causative verbs may select for different types of complements, which at least include finite complements (1), inflected infinitive

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1. In this study we focus on the acquisition of MozP as L1. Thus, although we do not deny the effects of language contact on the emergence of this new variety, we will not discuss this matter here.

2. Although several studies on MozP syntax have been carried out in recent years (see a list in Gonçalves & Vicente, s/d), descriptions of causative verbs are scarce and do not cover the acquisition of causative structures by speakers of MozP as L1.

complements (2) and uninflected infinitive complements, which correspond to RtO derivations (3).

- (1) A mãe deixou que eles comessem os bolos.  
the mother let that they eat.SBJV the cakes  
'The mother let them eat the cakes.'
- (2) A mãe deixou {eles/os meninos} comerem os bolos.  
the mother let they/the kids eat.INF.3PL the cakes  
'The mother let {them / the kids} eat the cakes.'
- (3) A mãe deixou{-os/os miúdos} comer os bolos.  
the mother let-CL.ACC/the kids eat.INF the cakes  
'The mother let {them / the kids} eat the cakes.'

In the case of finite complements in (1), causatives select for a subjunctive complement. Preceding work on MozP has already uncovered innovative patterns in this variety concerning complementizer specialization: whereas the finite complementizer in EP is invariably *que* 'that', in MozP the complex complementizer *para que* occurs in subjunctive complements (see 4) and the complex complementizer *de que* occurs with at least some indicative complements (see 5) – see Gonçalves and Maciel (1998) and Issak (1998).

- (4) Acompanhou-me até à dactilógrafa e ordenou para que  
accompanied-CL.ACC till to.the typist and ordered for that  
fizesse o documento.  
make.SBJV the document  
'(S)He walked with me towards the typist and made her type the document.'  
(Issak, 1998, p. 69)
- (5) Isto é fora daquilo que se diz de que a educação é de  
this is out of.that that CL.NOM say of that the education be.IND from  
todos nós.  
all us  
'This is different from what people say that education belongs to all.'  
(Issak, 1998, p. 69)

The inflected infinitive complements in (2) are identified by overt person / number inflection on the verb (with the exception of 1st and 3rd singular, which does not exhibit overt inflection) and a nominative subject (nominative morphology is identified in pronominal forms). This contrasts with the cases in (3): in this case, the infinitive is uninflected and the overt DP selected by the embedded verb alternates with an accusative clitic. The contexts in (3) have been treated as Exceptional Case Marking (ECM) structures (see Chomsky, 1981), a case in which the embedded subject does not get Case clause internally, instead it is the matrix verb



that assigns accusative Case to it. However, Chomsky (2008), Lasnik and Saito (1991) and Postal (1974) claim that the DP raises to the relevant object position of the main clause in order to get (accusative) Case, in a configuration known as Raising-to-Object (RtO). In this paper, and following Santos et al. (2016), we assume the RtO analysis, on the basis of facts such as the impossibility of the infinitival complement to be clefted as a whole, which suggest that the DP has been raised out of this complement (see (6)). This contrasts with the possibility of clefting the complement in the case of an inflected infinitive complement (see (7)) – see Santos et al. (2016).

- (6) \*Os meninos comer bolos é que a mãe deixou.  
       the kids eat.INF cakes is that the mother let
- (7) Os meninos comerem bolos é que a mãe deixou.  
       the kids eat.INF.3PL cakes is that the mother let  
       ‘The mother let the kids eat cakes.’

As for MozP, there is no descriptive work identifying the types of complements which may be selected by causative verbs. To this extent, the results obtained in this work with the adult control group will be particularly important, as they will be the first results on what is possible as the complement to such a verb in this variety of Portuguese and, in particular, on the properties of the input Mozambican children are exposed to.

### 3. Acquisition of Portuguese causative verbs: Facts and questions

#### 3.1 Previous work on European Portuguese

The acquisition of complement clauses selected by causative verbs constitutes a fertile ground of inquiry in language acquisition. As shown in the previous section, those verbs may select complements involving RtO. The language acquisition literature has debated the availability of raising in the grammar of preschool children. Based on comprehension results, a particular line of inquiry suggests that raising is difficult for children because it involves some degree of defectiveness: this is the case of Hirsch, Orfitelli, and Wexler (2007, 2008) and Hirsch and Wexler (2007), who propose an explanation of children’s difficulties with raising to subject with *seem* in terms of Wexler’s (2004) Universal Phase Requirement (UPR).<sup>3</sup> In different terms, Landau and Thornton (2011) suggest that RtO with *want* may

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3. More recently, Orfitelli (2012a, 2012b) suggested that only structures involving raising over an experiencer (either phonologically present or implicit) are difficult for children. She suggests that children cannot raise over an intervening argument.

emerge later in spontaneous production because it implies that children recognize that the complement of *want* may be a structure smaller than a CP and they do not initially truncate the embedded CP.

The opposing claim is made by Becker (2005, 2006), who argues that children comprehend raising, and by Kirby (2011), specifically on RtO. In the particular case of RtO, Kirby suggests that RtO verbs carry fewer internal theta-roles than object control verbs, which are ditransitive verbs, and this explains why, according to Kirby's results, children prefer RtO over object control structures (in fact, leading children to reanalyze object control verbs as RtO verbs).

More recently, Santos et al. (2016) developed experimental work eliciting complements to causative, perception verbs and object control verbs in European Portuguese.<sup>4</sup> The results they obtained show very low production of RtO in the complement to causatives in the child groups (contrasting with adults) and a preference for inflected infinitives in the same context. The authors argue that children's avoidance of RtO and their preference for inflected infinitives supports the hypothesis that children are initially biased to favor complete functional complements, as defined in (8). This is the Complete Functional Complement hypothesis (CFC) (9).

(8) *Complete Functional Complement*

A complement clause whose subject values its structural Case feature through agreement with a probe inside the clause. (Santos et al., 2016)

(9) *Complete Functional Complement Hypothesis (CFC)*

Children prefer a complement clause which is a complete functional complement. (Santos et al., 2016)

The results of the same experiment also revealed that object control structures might be problematic for preschool children. When forced to complete sentences with object control verbs, children sometimes produced non-target complements, reinterpreting object control verbs as verbs selecting a single internal argument and producing the DP which corresponds to the verb's internal argument as the subject of an inflected infinitive complement (see examples in (10)).

- (10) a. (O pai) proibiu eles irem para o lago. (5;06.12)  
 the father forbade they go.INF.3PL to the lake  
 (target:... proibiu-*os* de irem para o lago.)  
 'The father forbade them to go to the lake.'

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4. Complements to subject control verbs were also elicited, but that is orthogonal to the present discussion.

- b. (O macaco) ensinou a eles irem para cima  
the monkey taught PREP they go.INF.3PL to top  
da mesa. (5;1.18)  
of.the table  
(target: ... ensinou-os a irem para cima da mesa.)  
'The monkey taught them to jump to the table.' (Santos et al., 2016)

The authors interpreted this fact as a result of a bias favoring structures with a single internal argument. This is what they call the Single Argument Selection Hypothesis (SASH) defined in (11).

- (11) *Single Argument Selection Hypothesis (SASH)*  
Children will initially assume that a verb selects a single internal argument,  
if the relevant syntactic structure can be generated by the child's grammar.

In this study, we replicate Santos et al.'s (2016) experiment with adult speakers of MozP and child speakers of L1 MozP. This will allow us to evaluate the predictions made by the SASH and the CFC, as we will show.

### 3.2 Causative verbs in (the acquisition of) Mozambican Portuguese: Research questions

As stated in Section 2, there is no work describing the types of complements which may be selected by causative verbs in MozP. This is true for adult MozP, which was acquired as L2 during childhood in the majority of the cases, as well as for child MozP (acquired either as L1 or as L2). However, the existing descriptions of MozP indicate that inflected infinitives are productive in this variety and that they may even occur in contexts in which they are not possible in (standard) EP, such as complements to modal verbs (Duarte et al., 1999).

The general goals of the present work are twofold: contributing to characterize adult MozP and discussing, for the first time, the acquisition of this variety as L1. More specifically, we aim at identifying the set of complements to causative verbs in adult MozP and to compare it to EP. In light of the existing descriptions, which indicate that MozP tends to maintain the morphological option of an inflected infinitive, we expect inflected infinitives to have survived also in the complements to causatives. This prediction is particularly justified given that inflected infinitive complements to such verbs are Complete Functional Complements and these conform to initial acquisition biases (at least child acquisition biases). Evaluating this prediction is one of the goals of this study.

We also aim at evaluating the acquisition of infinitival complements to causative verbs by the generation of children presently acquiring MozP as their L1 in Maputo. If Santos et al. (2016) are on the right track, and both the CFC and the

SASH are initial biases in acquisition, the prediction is that child initial preferences in MozP should conform to EP initial preferences. The evaluation of this prediction is the second goal of this study. We will show that the predictions made by these two different hypotheses are relevant to interpret the set of complements to causatives that may occur in child and adult MozP.

#### 4. Methodology

The experimental task which is the basis of the present study is the one described in Santos et al. (2016). This is an elicited production task in which the child is asked to help a puppet by completing what he says about a story that the experimenter acts out. An example is presented in (12), a case corresponding to an experimental item eliciting the complement to a causative verb:

(12) Experimental item

**Policeman:** My car doesn't work, I need your help.

**Big elephant:** I'm big and strong and my kids are small but they are strong too. Push. Come on.

**Small elephants:** Yes, dad, we can do it.

**Experimenter:** O pai é que manda nos elefantezinhos.

'Dad is the one who gives the orders to the little elephants.'

**Puppet:** O pai mandou o quê? O pai...  
the father made what? The father...

In all the experimental items, the DP which may occur as the logical subject of the embedded clause (e.g. *the elephants* in (12)) is plural, making visible the contrast between inflected and uninflected infinitives (3rd singular forms of the inflected infinitive do not take overt inflection and are therefore indistinguishable from the uninflected infinitive). Additionally, in all test items the puppet's (eliciting) sentence only contains the matrix subject, not the verb. This test design allows the elicitation of structures containing clitics, such as (3), in Section 2, a possibility conveying clear evidence of the presence of accusative case, hence of a RtO structure.

The task was applied to a group of 42 Mozambican children attending pre-schools in Maputo. These were children growing up in an urban setting, from parents from upper-middle or high socio-cultural and economic class, which had Portuguese as their L1 (even though they may speak other languages as L1).<sup>5</sup>

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5. The data was collected at Colégio Nyamunda and Centro Infantil 29 de Setembro, both in Maputo.

The number of children in the different age groups is presented in Table 1. Children have an uneven distribution between groups, as a result of the difficulty in obtaining authorization from schools and the difficulty in selecting children with a homogeneous sociolinguistic profile. The adults were University students having Portuguese as their L1 or L2, but who were, in any case, highly instructed in Portuguese. Their profile corresponds to the typical linguistic profile of the parents of children participating in the experiment and are thus an ideal control group. The subjects were interviewed by two speakers of MozP, one of them, Vítor Justino, is one of the co-authors of this paper.

Table 1. Subjects

Age (in years)	Range	Number
3	3;5–3;11	8
4	4;0–4;10	22
5	5;0–5;11	12
Adults	> 18	20

Even though the task elicits complements to causatives, perception verbs, subject control verbs (in subject control contexts and in contexts where a finite complement is expected) and complements to object control verbs, in this paper we will discuss only the results obtained with causative verbs. The group of items testing complements to causative verbs consists of 8 sentence completion items, 4 presenting the matrix causative *mandar* ‘make’ (see (12)) and 4 presenting the matrix causative *deixar* ‘let’.<sup>6</sup>

5. Results

In this section, we present the results obtained by adults and children, when sentences with matrix causatives are elicited. These complements raise interesting questions, as we will show below.

As we have already remarked, some studies on MozP finite complement clauses showed that this variety presents some innovative patterns when compared to EP (see Gonçalves, 2010; Gonçalves & Maciel, 1998; Issak, 1998). However, as far as

6. The meaning of the verb *mandar*, the canonical verb used in syntactic causatives, is equivalent to the meaning of the English verb *order*.

we know, there is no systematic description of infinitival complements selected for by causative verbs. Thus, when presenting the results, we begin by describing the answers of the adult group, in order to get a picture as complete as possible of the types of complements these verbs select for in MozP. This enables us to figure out the expected target answers of the child groups.

Figure 1 shows the results for matrix causative verbs by all groups. Answers were coded according to the structures produced by the subjects: inflected infinitive (INFL\_INF), when an overtly inflected infinitive verb form was used, either with an overt nominative pronoun, a null subject or a lexical DP subject; personal infinitives (PERS\_INF), when an uninflected infinitive was used either with a nominative pronoun or a lexical DP subject (the latter case was restricted to complements introduced by the complementizer *para* and containing the DP, as we will explain later in this section); DP+Clause, when a DP was followed by a finite clause or an (uninflected or inflected) infinitival clause introduced by a preposition; Raising-to-Object (RtO), when an uninflected infinitive was used with either an accusative pronoun or a lexical DP subject; infinitive with no Causee (Inf\_no\_Causee), when an uninflected infinitive was used with no overt subject; finite clause with a subjunctive (Finite\_SUBJ), when a finite complement with subjunctive mood was used; complex predicate or subject-verb inversion (CP\_SVInv), when the structure was compatible with both analyses; ambiguous (AMB), when it was not clear which of the previous structures was used. All remaining cases were coded as *Other*, including answers that are not compatible with the structure that is being elicited, namely when the target verb was replaced by another verb. In what follows, we present each of these structures.

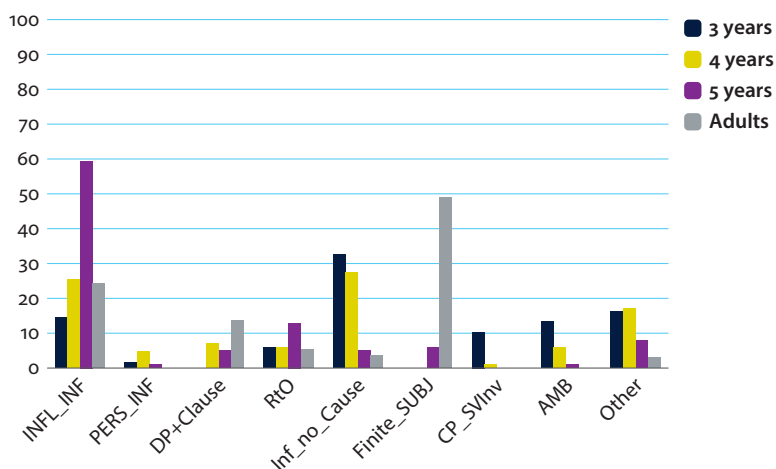


Figure 1. Results for causative verbs in all groups

As we already said, when looking at these results, we first describe those obtained with the adult control group, since they provide the patterns to which L1 MozP children are exposed. As shown below, the set of complements to causatives in the adult grammar of MozP only partially overlaps the set available in the grammar of EP.

To begin with, the adult data collected in this experiment show that, like in EP, causative verbs occur in a wide array of syntactic structures, instantiating what we can call the multiple frames problem in acquisition. Some of these structures are similar to the ones Santos et al. (2016) found in EP, namely finite complements with subjunctive (13), inflected infinitival complements (14), RtO structures (15) and uninflected infinitives without an overt *causee* (16):

- (13) O pai deixou que os tigrinhos empurrassem a carrinha.  
the father let that the little tigers push.SBJV the van  
'The father let the little tigers push the van.'
- (14) O pai mandou os elefantinhos empurrarem o carro.  
the father made the little elephants push.INF.3PL the car  
'The father made the little elephants push the car.'
- (15) O pai manda os tigrinhos sair.  
the father makes the little tigers leave.INF  
'The father makes the little tigers leave.'
- (16) ...mandou empurrar o carro.  
made.3SG push.INF the car  
'...made someone push the car.'

However, the results obtained with MozP contrast with the results for EP described in Santos et al. (2016) in two ways. First, there is a contrast in the adults' preferences concerning the structures that are produced in both varieties: in EP, the most frequent complement structure is the inflected infinitive (50.5%), followed by RtO (26%), the finite clause (17.2%) and the infinitive without overt *causee* (5.7%); in MozP, the highest preference is the finite complement (47.5%), followed by the inflected infinitive (25.6%), RtO (5.6%) and the infinitive without overt *causee* (3.75%).

The second difference between the two varieties regards innovative structures in the adult grammar of the tested MozP subjects. The first one is the already mentioned occurrence of the complex complementizer *para que* 'for that' in subjunctive complements, which indeed occurred in finite subjunctive complements to causatives:

- (17) ...mandou para que os porquinhos dormissem.  
made.3SG for that the piglets sleep.SBJV  
'He made the piglets sleep.'

Notwithstanding, the rate of occurrence of the complex complementizer *para que* is very low (2 occurrences in a total of 76 finite complements) in light of the observations in Gonçalves (2010), Gonçalves and Maciel (1998) and Issak (1998). According to the description offered in these studies, the subjunctive finite complement of other verb classes (declarative and epistemic verbs) typically occurs with the complex complementizer *para que*, hence we expected to find a higher rate of this complex complementizer in complements to causative verbs.<sup>7</sup> Nevertheless, since our experimental protocol also included the elicitation of complements to perception verbs, a set of results which we do not explore in the present paper, we can offer a complementary observation: in our data the complex complementizer does not occur with perception verbs, a context which forces the indicative in the embedded complement clause, in line with the authors' description – that complementizer is to a certain extent specialized for subjunctive complements, even if its use is not widespread.

The second structure specific to MozP in what concerns complements to causatives consists of a sequence of a DP followed by an XP ('DP+Clause' in the graph, 14.4%), this XP being a finite sentence with subjunctive (see (18)) or an (uninflected or inflected) infinitival complement introduced by the prepositions/complementizers *para*, in (19a), or *a*, in (19b). Neither (18) nor (19) are found in the EP results described by Santos et al. (2016). Nevertheless, data similar to (18) are attested in Latin America Spanish, as exemplified in (20).

- (18) O pai mandou os tigrinhos que saíssem de casa.  
the father made the little tigers that leave.SBJV of home  
'The father made the little tigers leave home.'

- (19) a. ...deixou os filhotes para saírem à rua.  
let.3SG the children for leave.INF.3PL to.the street  
'...let the children leave home.'

- b. A mãe mandou os porquinhos a dormir.  
the mother made the piglets to sleep.INF  
'The mother made the piglets sleep.'

- (20) Hizo a los Contras que depusieran las armas.  
made to the Contras that lay down.INF the weapons  
'He made the enemies lay down the weapons.'

(Treviño, 1994, *apud* Hernanz, 1999)

7. Notice, however, that the aforementioned works differ from our study in the kind of data under consideration: written productions by children (Gonçalves & Maciel, 1998) and Portuguese L2 adults (Issak, 1998), which are combined with child spontaneous data in Gonçalves (2010).



We now turn to the results obtained by children in this task. Out of all the child groups, only 5 year-olds produce finite complements, although at low rates (6.3%). The finite structure is always introduced by the complementizer *que*, which shows that children are not marking the subjunctive finite complement with the complex complementizer *para que*. The rate of occurrence of finite complements was even lower in EP 5 year-olds (0.6%), in Santos et al.'s (2016) results.

The uninflected infinitive without an overt *causee* (a pragmatically odd strategy in the context of the test) is the structure preferred by 3 and 4 year-olds (see (21, 22)), achieving a rate of 34.4% and 29%, respectively; within the 5 year-old group, the occurrence of this type of complement is residual (5.3%).

- (21) ...deixou sair (3;11.03)  
 let.3SG leave.INF

- (22) O pai deixou empurrar aquela coisa que se (4;10.17)  
 the father let push.INF that thing that SE  
 pôe compras.  
 put purchases

'The father let them push that thing where we put the purchases.'

It is worth noting that this is also the preferred option in the case of EP 3 year-olds (49.2%), but not of 4 year-olds, who produce more inflected infinitival complements (44.6%), followed by the uninflected infinitive without an overt *causee* (26.2%), as described in Santos et al. (2016).

In turn, Mozambican 5 year-olds prefer the inflected infinitival complement (58.9%) exemplified in (23) – the rate of production of this structure by Mozambican 5 year-olds is close to the results presented in Santos et al. (2016) for EP 5 year-olds (63.1%):

- (23) mandou os tigres saírem da casinha (5;4.01)  
 made the tigers leave.INF.3PL of.the little house  
 dos animais.  
 of.the animals

'[The father] made the tigers leave the animals' little house.'

RtO occurred in all the groups (see (24–26)), but it is an infrequent option: 6.3% for 3 and 4 year-olds, 13.7% for 5 year-olds. This is again in line with EP results: 7.8% (3 year-olds), 11.3% (4 year-olds), and 3.6% (5 year-olds).

- (24) ... mandou as ovelhinha comer. (3;08.08)  
 made.3SG the little sheep eat.INF  
 '[The mother] made the little sheep eat.'

- (25) ...mandou os tigrinhos sair da casinha. (4;09.01)  
 made.3SG the little tigers leave.INF of.the little house  
 '[The father] made the little tigers leave the little house.'
- (26) A mãe mandou os porquinhos dormir. (5;10.08)  
 the mother made the piglets sleep.INF  
 'The mother made the piglets sleep.'

In the context of causative verbs, 4 and 5 year-olds produced uninflected infinitival domains which contained nominative pronouns (see (27)), as well as uninflected infinitival domains which were introduced by *para* 'for' and contained a full DP subject (see (28)). These are deviant structures in EP.

- (27) a. ... deixou eles não entrar na casa (3;07.26)  
 let they not enter in.the house  
 b. O pai mandou eles ir para fora. (4;5.24)  
 the father made them go.INF out  
 'The father made them leave.'
- (28) a. ... mandou para sair os tigrinhos (4;06.27)  
 made for leave the little tigers  
 '[The father] made the little tigers leave.'
- b. ... para as ovelhas comer. (5;5.18)  
 ... for the sheep eat.INF  
 '[The mother made] the sheep eat.'

Although this is a rarely used strategy among Mozambican children (3 year-olds: 1.6%; 4 year-olds: 5.1%; 5 year-olds: 1.1%), it is worth noticing that EP children do not use it in the same experiment. The question here is whether these sentences instantiate the personal infinitive construction, also possible in other Romance languages, such as Spanish (29), which lacks inflected infinitives, and colloquial Brazilian Portuguese (30), or a case of RtO with nominative as a default Case (see Rothman, Duarte, Pires, & Santos, 2013, on personal infinitives in the acquisition of BP).

- (29) a. Al despertar Simona, lo primero que hizo fue leer la carta de Urbano.  
 'When Simona woke up, the first thing she did was to read Urbano's letter.'
- b. Ir yo a la Facultad mañana va a ser imposible.  
 'It will be imposible for me to go to the Faculty tomorrow.'  
 (Hernanz, 1999, p. 2268)
- (30) Ele disse para você e eu sair. (colloquial BP)  
 he said for you and I leave.INF  
 'He told you and me to leave.'  
 (Rothman et al., 2013)

It should first be noted that the cases in (28) could not be analyzed as cases of RtO or of some ECM structure, given the presence of an overt complementizer, *para* (see Santos, Rothman, Pires, & Duarte, 2013, for the complementizer status of *para*), which defines a CP domain. Thus, this is a strong argument for the co-existence of personal and inflected infinitives in MozP. In light of (28), (27) might also be analyzed as a case of personal infinitive. In any case, personal infinitives may be seen as syntactically equivalent to inflected infinitives, a case in which abstract features with no overt morphological counterpart license a nominative subject (see Rothman et al., 2013). Due to the scarce occurrence of this kind of sentences in our data, we will not pursue this discussion here. We will instead focus our discussion in another innovative structure in the data.

The innovative structure [DP XP] already described for the adult group is also present in MozP children's productions. In fact, even though the production of this structure does not reach high rates, except for the 3-years-olds all the other groups resort to it (4 year-olds: 7.4%; 5 year-olds: 5.3%; adults: 14.4%), which may lead us to conclude that it is becoming part of the MozP grammar. In the child groups, XP corresponds to an (uninflected or inflected) infinitival domain introduced by *para* 'for', a preposition or a preposition reanalyzed as a complementizer (31), or *a* 'to' (32). MozP adults also produce XP as finite clauses (see (18) above).

- (31) a. ...mandou os elefantes para empurrar o carro. (4;5.24)  
           made.3SG the elephants for push.INF the car  
           'The father] made the elephants push the car.'
- b. ...mandou os filhos para empurrarem o carro. (5;5.18)  
           made.3SG the children for push.INF.3PL the car  
           'The father] made the children push the car.'
- c. A mãe mandou os porquinhos para dormirem. (adult)  
           the mother made the piglets for sleep.INF.3PL
- (32) a. A mãe deixou os porquinhos a comerem  
           the mother let the piglets to eat.INF.3PL  
           a cenoura. (4;4.05)  
           the carrot  
           'The mother let the piglets eat the carrot.'
- b. A mãe deixou ovelhas a dançarem. (5;5.18)  
           the mother let sheep to dance.INF.3PL  
           'The mother let the sheep dance.'
- c. A mãe mandou os porquinhos a dormir. (adult)  
           the mother made the piglets to sleep.INF  
           'The mother made the piglets sleep.'

At first glance, the data in (31) and (32) may challenge the *single argument selection hypothesis* (SASH) stated in (11), to the extent that this structure may be analyzed as a case in which the matrix causative takes two internal arguments, a DP and clause. Notice that in children's productions, XP is always introduced by *a* 'to' or *para* 'for'; in this case we could argue that they are lexically marking a clausal boundary, as it happens in the object control construction. The possibility that the structures under description should be considered in tandem with object control seems to be consistent with (33a), in which the DP bears accusative Case, and (33b), with inflected infinitive. Indeed, their interpretation seems to be equivalent to the one assigned to RtO structures and, at first glance, their final syntactic representation looks like the one associated to object control verbs.<sup>8</sup>

- (33) a. ...mandou-as a comer a cenoura. (4;5.24)  
           made-CL.F.PL to eat.INF the carrot  
           'He made them eat the carrot.'
- b. A mãe deixou os porquinhos a comerem  
    the mother let the piglets to eat.INF.3PL  
    a cenoura.<sup>9</sup> (4;4.05)  
    the carrot  
    'The mother let the piglets eat the carrot.'

Given the relevance of evaluating these structures in order to answer the research questions in Section 3.2, in the next section we will come back to [DP XP] structures in a detailed way, after evaluating the general results obtained for MozP in light of the hypotheses put forward by Santos et al. (2016).

8. See the examples in (i) with the object control verb *ensinar* 'to teach': (ia) is superficially equivalent to (33a), with the accusative clitic; (ib) is superficially equivalent to (33b), with an inflected infinitive:

- (i) a. A mãe ensinou-os a nadar.  
       the mother taught-CL.M.PL to swim.INF  
       'The mother taught them to swim.'
- b. A mãe ensinou os filhos a nadarem.  
    the mother taught the children to swim.INF.3PL  
    'The mother taught her children to swim.'

9. In EP, (33b) is grammatical under an interpretation of *deixar* not equivalent to the causative *let*, the sentence meaning 'When the mother left, the piglets were eating the carrot'. However, this interpretation was not compatible with the context given to children in the task.

## 6. Discussion

The first general result obtained in this experiment is that, exactly like EP children, MozP children tend to prefer complete functional complements (that is, complements whose subject values its structural Case feature through agreement with a probe inside the clause), in line with the CFC hypothesis. As a consequence, RtO is less frequent than inflected infinitives in MozP children's results. As remarked by Santos et al. (2016), even the infinitive without an overt *causee* (34), which is the preferred structure of MozP 3 and 4 year-olds, may correspond in their grammar to a CFC, namely a CP with an arbitrary PRO in subject position.<sup>10</sup>

- (34) a. ...deixou sair (3;11.03)  
           let.3SG leave.INF  
       b. O pai deixou empurrar aquela coisa que se  
           the father let push.INF that thing that se  
           põe compras. (4;10.17)  
           put purchases  
           'The father let them push that thing where we put the purchases.'

Santos et al. (2016) argue that these sentences should not be analyzed as cases of object omission, a stage that has been observed in the acquisition of several languages. They remark that the phenomenon described in the literature as object omission (see Pérez-Leroux, Pirvulescu, & Roberge, 2008) targets logical objects and not logical subjects, which is what occurs in the context of causative verbs exemplified in (34). Additionally, the authors consider that if object omission is seen as object clitic omission, which would be accounted for in terms of a difficulty in producing accusative clitics, it would not be clear why children scarcely produce RtO with a lexical DP subject, a strategy that would allow them to overcome that difficulty. Thus, in agreement with Santos et al. (2016), the sentences in (34) may correspond to a structure such as (35), where a PRO with arbitrary reading occupies the subject position of the embedded complement. As we have already said, in this case, the embedded complement would correspond to a CFC.

- (35) mandou 'made' [<sub>CP/TP</sub> PRO<sub>arb</sub> V]

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10. We could hypothesize that the cases in (34) are instances of complex predicates. However, there is no evidence for such a hypothesis: first, the fact that the *causee* is never produced does not allow to check one of the major properties of this construction (the post-verbal position of the *causee* and its realization as an accusative or dative clitic); second, complex predicates with other verb classes (e.g. restructuring verbs) are not a preference for MozP speakers (Gonçalves, 2003).

Let us now consider our most relevant result in this paper: the innovative [DP XP] structure of MozP, which was produced both by adults and by children and is exemplified in (31) and (32), partly repeated in (36).

- (36) a. ...mandou os *elefantes* para empurrar o carro. (4;5.24)  
           made.3SG the elephants for push.INF the car  
           ‘[The father] made the elephants push the car.’
- b. ...mandou os *filhos* para empurrarem o carro. (5;5.18)  
           made.3SG the children for push.INF.3PL the car  
           ‘[The father] made the children push the car.’
- c. A mãe mandou os *porquinhos* para dormirem. (adult)  
           the mother made the piglets for sleep.INF.3PL  
           ‘The mother made the piglets sleep.’

Santos et al. (2016) suggested that children prefer to assume that a verb selects a single propositional internal argument than to assume that the verb selects two internal arguments. This is predicted by the SASH (see (11), above), whose rationale is that fewer internal arguments correspond to fewer theta-roles and fewer theta-roles may carry a lower cognitive load. In principle, if there is a language acquisition bias favoring single internal arguments, a language change scenario such as the one giving rise to a new variety of a language (MozP, in this case) should not show a situation in which a verb taking a single internal argument (a causative) is reinterpreted as taking two internal arguments. However, adult MozP resulted from the acquisition of Portuguese as L2, most often child L2, whereas the SASH has been suggested to be a bias in L1 acquisition. Other factors (namely the presence of a L1, different age) may equally justify differences between L1 and L2 acquisition and this might justify that the innovative structures in MozP run against what have been argued to be L1 acquisition biases. Notwithstanding, before we proceed further into this discussion, we should determine whether the innovative [DP XP] pattern is indeed a two argument structure. Only then will we discuss whether sentences like (31) and (32), illustrating the [DP XP] structure, actually challenge the SASH. We therefore must decide whether this structure corresponds to (37a) or to (37b):

- (37) a. V [DP] [XP]  
       b. V [DP XP]

The fact that adult MozP speakers who accept sentences of this type do not accept XP clefting (38) constitutes a strong argument for considering that [DP XP] is a single internal argument of the causative verb:

- (38) \*Para comerem a sopa é que a mãe mandou os filhos.  
       for eat.INF.3PL the soup is that the mother made the children

The ungrammaticality of (38) suggests that the innovative [DP XP] structure indeed corresponds to a single argument (the structure in (37b)). To this extent, innovation in the formation of MozP as a variety, even if resulted from the acquisition of the language as child L2, occurred within the limits determined by SASH. This also means that the acquisition data concerning production of complements to causative verbs is accounted for by the same general hypotheses (CFCH and SASH) both in EP and in MozP, although the speakers of these varieties may resort to different structures.

However, the V [DP XP] structure deserves more discussion. Therefore, the next question is whether we are dealing with an innovative instance of the Prepositional Infinitival Construction (PIC; Raposo, 1989), in which the XP is introduced by *a/para*. This would bring causatives and perception verbs in PIC structures (39) together.

- (39) A mãe viu os miúdos a comer(em) os bolos.  
 the mother saw the kids ASP eat.INF(3PL) the cakes  
 'The mother saw the kids eating the cakes.'

The PIC structure is a possible complement to perception verbs and may be analyzed as a small clause whose predicate is headed by *a*, an aspectual marker (see Barbosa & Cochofel, 2005, who follow Duarte, 1993, in analyzing *a* as an aspectual marker rather than a preposition). The data in (40) and (41), collected from a group of MozP adults, show that a PIC analysis does not account for the [DP XP] structure. First, the [XP] introduced by *a / para* 'to / for' cannot be clefted when selected by a causative verb, as we have already shown in (38) when discussing the autonomy of the XP constituent (see also (40a)). This contrasts with the behavior of PIC structures, selected by perception verbs: in this case, the prepositional infinitival domain can be clefted (40b).

- (40) a. \*A/Para comerem a sopa é que a mãe mandou  
 to/for eat.INF.3PL the soup is that the mother made  
 os filhos.  
 the children
- b. A comer(em) a sopa é que a mãe viu os filhos.  
 to eat.INF.(3PL) the soup is that the mother saw the children  
 'Their mother saw the children eating soup.'

Furthermore, the XP in these structures does not allow wh-extraction (41a), contrary to what happens with the PIC (41b):

- (41) a. \*O que é que a mãe mandou [as ovelhinhas a/  
 what is that the mother made the little sheep to/

para comerem ~~o-que~~ ]?

for eat.INF.3PL

- b. O que é que a mãe viu [as ovelhinhas  
what is that the mother saw the little sheep

a comer(em) ~~o-que~~ ]?

to eat.INF(.3PL)

‘What did the mother see the little sheep eating?’

On the basis of these data, we would like to suggest that [DP XP] in (36) is not an instance of the PIC. Instead, the XP in [DP XP] is a CP embedded in a DP which is the argument of the matrix verb, that is, XP is a pseudo-relative.

The properties of pseudo-relatives have been extensively studied in Casalicchio (2011, 2013), Cinque (1992), Guasti (1988), Radford (1975), Rizzi (2000), among others; for EP, see Brito (1995), Costa, Fernandes, Vaz, and Grillo (2016), Fernandes (2012), Grillo and Coswta (2014). As it is well-known, pseudo-relatives are found in some Romance languages (e.g., French, Spanish and Italian) and partly behave as relative clauses, but they are restricted to a set of contexts including the complement to perception verbs.<sup>11</sup>

If the embedded clause in (36) is a pseudo-relative, the behavior of this clause with respect to clefting (40) and *wh*-extraction (41) is explained: the clause is embedded in a DP and thus behaves as an island for extraction (explaining the impossibility of *wh*-movement out of this domain). The impossibility of clefting the XP and of extracting a *wh*-constituent from this XP is indeed a shared feature with typical pseudo-relatives. Compare (40) and (41) with (42) and (43), respectively; the latter illustrate the behavior of pseudo-relatives in French:

- (42) a. J’ai vu Jean qui mangeait la soupe.  
I have seen Jean that eat.IMPERF the soup  
‘I saw Jean eating the soup.’

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11. Brito (1995) mentions two other contexts where pseudo-relatives can occur, namely presentation contexts introduced by the adverb *eis* (i) and certain independent sentences (ii):

- (i) Eis o comboio que chega.  
here’s the train that arrives  
‘Here’s the train arriving.’  
(ii) E eu que não consigo deixar de fumar!  
and I that not can stop of smoke.INF  
‘And I can’t stop smoking!’

In this paper, we leave aside these contexts.



- b. \*C'est qui mangeait la soupe que j'ai vu Jean.  
 it is who eat.IMPERF the soup that I have seen Jean
- (43) \*Qu' est-ce que tu as vu [Jean qui mangeait ~~que~~]?  
 what is that you have seen Jean that eat.IMPERF

Even in EP, a language in which pseudo-relatives do not present all the properties of Italian, French and Spanish pseudo-relatives (see Brito, 1995, for a complete picture of the construction in EP), there is a clear contrast between them and the PIC, although they are close in some respects. Thus, as in the PIC, pseudo-relatives exhibit some restrictions on tense specifications (the tense of the pseudo-relative is dependent on the matrix one), a fact linked to the direct perception interpretation also involved in the PIC. Furthermore, not all semantic classes of predicates are allowed either in pseudo-relatives or in the PIC (stative verbs are not allowed). However, according to Brito (1995), pseudo-relatives are islands to *wh*-movement, contrary to the PIC. This leads the author to argue that pseudo-relatives are nominal in nature, involving CP embedding inside the DP. This is what we are assuming for the [DP *para* XP] structure in the context of causative verbs in MozP.

In a work on the acquisition of (pseudo-)relatives and the PIC in EP, Costa et al. (2016) also signal the similarities between pseudo-relatives and the PIC, and assume that the former are a projection of DP, the CP being embedded in this DP. The proposal of the authors concerning the internal structure of the DP containing the pseudo-relative is identical to the one of Brito (1995), the difference being that Costa et al. (2016) consider that the DP is a small clause (we will not discuss this claim since it is not relevant to the discussion). Thus, we assume that the structure of sentences like (44a) is represented in a simplified way in (44b), a structure similar to the one suggested by Brito (1995) and Costa et al. (2016) for pseudo-relatives.

- (44) a. A mãe mandou os *porquinhos* para dormirem. (adult)  
 the mother made the piglets for sleep.INF.3PL  
 'The mother made the piglets sleep.'
- b. ... *mandou* [<sub>DP</sub> [<sub>DP</sub> os *porquinhos*] [<sub>CP</sub> para dormirem]]

The representation in (44b) accounts for the fact that pseudo-relatives form a constituent with the antecedent, thus, this hypothesis is compatible with the [DP XP] analysis in MozP, explaining the impossibility of extraction in (40a). The fact that the CP is embedded in a DP accounts for the ban on *wh*-extraction – the complex DP is an island for movement.

Finally, it is worth noting that in the MozP data the occurrence of the complementizer *para* 'for', resulting from the reanalysis of a preposition, is often associated with inflected (and personal) infinitives, either introducing a CP embedded

in a DP (in the case of the [DP XP] structure that we have just discussed) or introducing an inflected or a personal infinitive complement to a causative (see (28)). The saliency of this complementizer with inflected infinitives was already noticed by Santos et al. (2013): purpose clauses introduced by *para* (including both VP adjunct clauses and purpose relatives – see Duarte, Santos, & Alexandre, 2015) are the first context in which EP children spontaneously produce inflected infinitives. In MozP, the occurrence of *para* in this context may also correspond to the tendency for marking complement clauses (including finite complement clauses) with prepositions or complex complementizers (Gonçalves, 2010; Gonçalves & Maciel, 1998; Issak, 1998). Still, the data presented in this paper reveal new specificities of MozP: on the one hand, the complementizer *para* also emerges in infinitival complements, besides subjunctive contexts described in Gonçalves and Maciel (1998) and Issak (1998); on the other hand, a new preposition – *a* – is added to the previously noticed ones (*de* and *para*), in the context of infinitival complement clauses.

## 7. Final remarks

In this paper, we have discussed both adult and child MozP, focusing on the set of complements to causative verbs available in this variety. The experimental data collected with both adults and children allowed to identify structures common to EP and to the new MozP variety, as well as innovative structures in MozP. These structures were analyzed in light of the predictions made by the Complete Functional Complement Hypothesis (CFC) and the Single Argument Selection Hypothesis (SASH), suggested by Santos et al. (2016) for L1 acquisition. If these are universal biases in acquisition, they should play a role in language change, either because they affect initial preferences in L1 acquisition or because they might also play a role in child L2 acquisition (MozP was acquired by the adults in our study as an L1 or an L2 during childhood).

The first observation when comparing adult EP and adult MozP data concerns the set of common structures in the two varieties. In the case of complements to causatives, these include finite complements with subjunctive, RtO structures and inflected infinitives. The main observation concerning these common structures in the adult data has to do with the survival of inflected infinitives as complements to causatives in the language change process resulting in the new variety, MozP: this was indeed expected if inflected infinitives exist in this variety and if inflected infinitive clauses are complete functional complements. In fact, the more detailed observation of the frequency of the different types of complements to causatives in adult MozP shows that the types of complements most frequently produced are finite (subjunctive) clauses and inflected infinitives, both cases in which the

embedded subject internally values its structural Case. In contrast, RtO achieves very low frequencies in adult production, exactly as found for EP. Thus the result of language change is in agreement with the Complete Functional Complement Hypothesis (CFC), as we expected.

If inflected infinitives, even though typological rare, are favored by an initial acquisition bias, this should also be seen when child MozP is considered. In fact, we have shown that inflected infinitives are produced as complements to causatives by all child groups, sometimes at rates comparable to adults (in the case of 4 year-olds) or at much higher rates (as it is the case of the 5-year-old group). In agreement with the same hypothesis, RtO, which does not conform to the CFC, achieves lower production rates also in child production.

The innovative structures, identified in adult MozP and also found in child L1 MozP, concern complements to causatives and are: (i) a few cases of personal infinitives; (ii) the new [DP XP] structure. If personal infinitives are cases in which a subject values its nominative Case feature inside the embedded clause, even though agreement is not morphologically overt, nothing in this type of structure argues against the CFC. On the contrary, if the innovative [DP XP] structure corresponded to a structure in which a causative selects two internal arguments, this would have shown that the language change process giving rise to the new MozP variety had been determined by other factors, which had superimposed themselves to any admissible relevancy of an initial bias such as the SASH. However, further discussion of this structure, based on grammaticality judgments of adult speakers of MozP, has shown that the [DP XP] structure corresponds instead to a single argument, presumably a complex DP, akin to a pseudo-relative. This finding has allowed suggesting that as far as these data show, the language change process resulting in MozP has operated within the limits imposed by the SASH.

In addition, the data analyzed in this paper also allowed to confirm two findings reported in previous work: the saliency of *para* as a complementizer introducing inflected or personal infinitives (the first case is found in both EP and MozP; the latter in MozP); the specialization of the complex complementizer *para que*, also involving the reanalysis of the preposition *para* as a complementizer associated to subjunctive finite clauses, thus associated to particular mood features.

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# Inflected infinitives in L2 Portuguese

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This study investigates the acquisition of morphosyntactic and interpretative properties of the Portuguese inflected infinitive by Chinese and Spanish speakers, using three experimental tasks. Assuming a Full Access approach (Schwartz & Sprouse, 1996) and the Interface Hypothesis (Sorace, 2011), we predict that full acquisition of the morphosyntactic properties is possible, albeit showing L1 effects, and that interpretative properties develop later than narrow syntactic properties. Both predictions are supported. Our findings show that the advanced learners have largely acquired the relevant morphosyntactic properties, although there is evidence of developmental delays, particularly in the Spanish group. Moreover, both advanced groups performed non-targetlike regarding the interpretation of overt subjects; however, the Spanish group showed an advantage over the Chinese group with null subjects.

**Keywords:** inflected infinitive; European Portuguese; L2 acquisition; Full Access; Interface Hypothesis

## 1. Introduction

One of the core questions in language acquisition research is how speakers construct a mental grammar from the linguistic input to which they are exposed. This is a question which is relevant both for L1 and L2 acquisition, although the answer may not be necessarily the same one for each of the two domains. Even though similar developmental paths are frequently observed in the L1 and L2 acquisition of some grammatical properties, it is well known that, in the case of L2 acquisition, which takes place outside the critical period for language development, attaining full knowledge of the language is less likely (Schachter, 1990): although second language learners (L2ers) are often able to achieve near-native competence with respect to certain grammatical properties, this is less likely to happen in certain domains (Long, 1990), which often exhibit fossilization effects, i.e., evidence of non-native grammatical patterns which have stabilised prematurely even in the presence of appropriate input (Lardiere, 2006; Selinker, 1972). Another aspect which distinguishes L2 from L1 acquisition relates to the availability of previous



linguistic knowledge, whose effects are often observed in interlanguage grammars even at advanced developmental stages.

Two types of approaches which have been proposed, within a generative framework, to explain the process of acquisition of the L2 grammar are the representational deficit approaches (e.g. Hawkins & Chan, 1997; Hawkins & Hattori, 2006; Tsimpli & Dimitrakopoulou, 2007; Tsimpli & Mastropavlou, 2007) and the full access approaches (e.g. Schwartz & Sprouse, 1996; White, 2003). The two are based on contrasting views regarding the nature of the process of L2 acquisition and, therefore, make different predictions regarding what can and cannot be acquired.

According to the representational deficit approaches, interlanguage representations are inevitably defective, given the post-critical-period unavailability of at least some aspects of grammatical knowledge, i.e., at least some syntactic features which are not present in the L1 are no longer accessible to the learner in L2 acquisition and parameter resetting may not always be possible. It is therefore predicted that achieving full nativelike competence is not possible for non-native speakers due to permanent representational deficits. One of the hypotheses which have been proposed within this type of approach is the Interpretability Hypothesis (Tsimpli & Dimitrakopoulou, 2007), according to which uninterpretable features, i.e., syntax-internal features which are not relevant to semantic interpretation (Chomsky, 1995), unlike interpretable features, are subject to critical period effects and are therefore not available in L2 acquisition, unless they are present in the learner's L1.

Unlike representational deficit accounts, full access approaches propose that it is possible for non-native speakers to achieve full nativelike competence, given that they still have access to the complete inventory of features/feature values made available by Universal Grammar (UG). Hence, it is predicted that grammatical features which are not present in the learner's L1 can be acquired and parameter resetting is always possible. Full access approaches, however, differ among themselves with respect to the role which they attribute to the L1: while some assume that the learner's L1 does not play a role in L2 acquisition and hence learners follow the same developmental course as in L1 acquisition (Epstein, Flynn, & Martohardjono, 1996), others argue that the process of L2 acquisition is influenced by the L1, which may constitute the initial state for the L2 (e.g. Schwartz & Sprouse, 1996).

In contrast to the lack of agreement found in the literature on whether full knowledge of narrow syntactic properties can be attained, there is a broad consensus that properties which involve an interface between the syntax and other cognitive domains may present developmental delays and be particularly susceptible to fossilization; these properties may also show optionality effects, as well as effects

of cross-linguistic influence at very advanced stages of linguistic development. This insight corresponds to a hypothesis known as the 'Interface Hypothesis' (e.g. Sorace & Filiaci, 2006), which proposes that, in contrast to narrow syntactic properties, which are fully acquirable, properties at the interface between the syntax and other domains may never be completely acquired. In the face of a rich body of evidence which suggests that not all interface properties may be equally hard to acquire (e.g. Slabakova, 2006, 2013; Slabakova, Kempchinsky, & Rothman, 2012), a revised formulation of the Interface Hypothesis has claimed that interfaces which are external to the grammar (e.g. grammar-discourse) may present more difficulties in acquisition than those which are internal to the grammar (e.g. syntax-semantics or syntax-morphology), as they require the integration of linguistic and non-linguistic information and are therefore more costly in terms of the cognitive load placed on the learner (Sorace, 2011; Tsimpli & Sorace, 2006).

For example, many studies have shown that, although the morphosyntactic properties which follow from a positive specification of the pro-drop parameter develop early in the L2 acquisition of pro-drop languages by L1 speakers of non-pro-drop languages, indicating early parameter resetting, the discourse/pragmatic conditions which determine the distribution of overt and null subject pronouns tend to develop late (e.g. Montrul & Rodríguez Louro, 2006). Null and overt pronominal subjects, as has been extensively shown, have different antecedent biases (e.g. Carminati, 2002): while null subjects prefer highly prominent antecedents (favouring antecedents in (local) subject position), overt subject pronouns tend to select less prominent antecedents (e.g. antecedents in object position or in the previous discourse) (see the examples in (1), where the indices indicate the preferred interpretations).

- (1) a. O João<sub>i</sub> disse ao Miguel<sub>j</sub> que *pro*<sub>i</sub> reprovou  
 the João tell.PST.IND.3SG to.the Miguel that *pro* fail.PST.IND.3SG  
 no exame.  
 in.the exam  
 'João<sub>i</sub> told Miguel<sub>j</sub> that he<sub>i</sub> failed the exam.'
- b. O João<sub>i</sub> disse ao Miguel<sub>j</sub> que ele<sub>j/k</sub> reprovou  
 the João tell.PST.IND.3SG to.the Miguel that he fail.PST.IND.3SG  
 no exame.  
 in.the exam  
 'João<sub>i</sub> told Miguel<sub>j</sub> that he<sub>j/k</sub> failed the exam.'

Many studies have concluded that, whereas learners generally show targetlike use of null subjects, they appear to have difficulties in the production and interpretation of overt pronouns (e.g. Belletti, Bennati, & Sorace, 2007). These difficulties are not necessarily due to differences between the L1 and the L2 in this domain,

as they have also been observed in learners who are L1 speakers of a pro-drop language (e.g. Margaza & Bel, 2006). Difficulties with interface properties have been shown to occur in other domains (such as bilingual and heritage language acquisition, and language attrition) and have been attributed either to representational deficits (e.g. Tsimpli, Sorace, Heycock, & Filiaci, 2004) or to differences in the processing strategies used by bilinguals (e.g. Sorace & Filiaci, 2006).

In this study, I aim to contribute to the debate on the status of different properties in interlanguage grammars and on the role played by the learner's L1 in the development of these properties, by investigating the L2 acquisition of certain properties of the inflected infinitive in European Portuguese (EP), as well as certain aspects of the interpretation of inflected infinitival subjects, by L1 speakers of Chinese and Spanish. The inflected infinitive offers a particularly good ground for investigating those questions, given that its acquisition requires developing knowledge of different grammatical properties – morphological, syntactic and semantic –, as well as knowledge of the discourse conditions which govern the interpretation of pronominal inflected infinitival subjects (which are the same as those which determine the interpretation of subject pronouns in finite clauses). It is also a typologically marked option, which is known to develop late in L1 acquisition (Pires & Rothman, 2009; Pires, Rothman, & Santos, 2011). Nevertheless, previous studies on the acquisition of the inflected infinitive in Brazilian Portuguese (BP) (e.g. Iverson & Rothman, 2008; Rothman & Iverson, 2007) have shown that the morphological, syntactic and semantic properties which characterise the inflected infinitive can be fully acquired (with no significant L1 effects), even when evidence for these properties is restricted in the input to which learners are exposed (as Pires, 2006, claims to be the case with contemporary colloquial BP). Given that in EP the inflected infinitive is widely available in the input, it is expected that it may emerge earlier in the learners' grammars than it does in L2 BP. The present study reports on learners at the elementary and upper intermediate/lower advanced proficiency levels and aims to investigate how knowledge of the morphosyntactic and discourse-related interpretative properties of the inflected infinite develops in L2 EP. By comparing the performances of learners from two different language groups – Spanish and Chinese –, it also aims to determine what the effect of the differences in the grammatical properties of their L1s may be on the acquisition of the inflected infinitive.

The study is based on three tasks, two of which are grammaticality judgement tasks – the morphological recognition task (adapted from Pires & Rothman, 2009), which tested for knowledge of the morphological and syntactic properties of the inflected infinitive (namely, association with person/number morphology, ability to license nominative subjects and exclusion from finite contexts), and the context task, which assessed the participants' knowledge of their distributional

restrictions. The third task was a preference task testing for learners' preferences regarding the interpretation of inflected infinitival pronominal subjects.

The paper is organised as follows: Section 2 details the properties of the inflected infinitive in Portuguese and describes some of the theoretical analyses which have been proposed to account for these properties; Section 3 summarises some of the studies which have been conducted on the L1 and L2 acquisition of the Portuguese inflected infinitive; Section 4 details the methodology used in the study; finally, the experimental results of the three tasks are described in Section 5 and discussed in Section 6, which also presents the conclusions.

## 2. The inflected infinitive

Together with Galician and Sardinian, Portuguese is unique among the Romance languages in having an inflected infinitive, which, similarly to finite verb forms, inflects for person/number agreement and licenses nominative subjects (see (2)). Unlike finite verb forms, however, it is restricted to infinitival contexts, i.e., it cannot occur in independent clauses (see (3)) or in embedded clauses introduced by a complementiser (see (4)).

- (2) Eu        pedi                    para tu            vires.  
 I.NOM ask.PST.IND.1SG for you.NOM come.INF.2SG  
 'I asked for you to come.'
- (3) \*A que horas eles            virem?  
 at what hours they.NOM come.INF.3PL  
 'At what time do they come?'
- (4) \*Eu        pedi                    para que eles            virem.  
 I.NOM ask.PST.IND.1SG for that they.NOM come.INF.3PL  
 'I asked for them to come.'

The inflected infinitive is restricted to a subset of the contexts in which uninflected infinitives may occur – they are found, for example, in subject clauses (5), adjunct clauses (6) and some complement clauses (e.g. complements to nouns, adjectives, as well as propositional, factive and object control verbs) (see the example in (7)); however, they are excluded from the complement position of certain verbs (e.g. volitional verbs, as illustrated in (8), and modal and aspectual auxiliaries), as well as from interrogative and relative clauses (9).

- (5) É difícil aprendermos irlandês.  
 is difficult learn.INF.1PL Irish  
 'It is difficult for us to learn Irish.'

- (6) Não podes viver na Irlanda sem  
not can.PRS.IND.2SG live.INF in.the Ireland without  
saberes irlandês.  
know.INF.2SG Irish  
'You cannot live in Ireland without knowing Irish.'
- (7) Lamento tu estares triste.  
regret.PRS.IND.1SG you.NOM be.INF.2SG sad  
'I am sorry that you are sad.'
- (8) \*Não quero tu estares triste.  
not want.PRS.IND.1SG you.NOM be.INF.2SG sad  
'I don't want you to be sad.'
- (9) \*Não sei quem avisarmos.  
not know.PRS.IND.1SG who warn.INF.1PL  
'I don't know who we should warn.'

Unlike uninflected infinitival subjects, the (null) subject of inflected infinitival clauses does not require a local c-commanding antecedent and, therefore, may be disjoint in reference from the higher subject/object (10); it allows split antecedents (11); and it does not allow a sloppy reading under ellipsis (12) (Pires, 2006).

- (10) O Pedro<sub>i</sub> lamenta [-]<sub>j</sub> terem mentido.  
the Pedro regret.PRS.IND.3SG have.INF.3PL lied  
'Pedro is sorry that they lied.'
- (11) Ele<sub>i</sub> pediu ao Rui<sub>j</sub> para [-]<sub>i+j</sub> saírem cedo.  
he.NOM ask.PST.IND.3SG to.the Rui for leave.INF.3PL early  
'He asked Rui for them to leave early.'
- (12) Lamento [-]<sub>i</sub> teres reprovado no exame e a  
regret.PRS.IND.1SG have.INF.2SG failed in.the exam and the  
Isabel também [-].  
Isabel also  
'I am sorry that you failed the exam and Isabel is too.' (i.e., Isabel is sorry that you failed the exam vs. #Isabel is sorry that she failed the exam)

These are properties which, according to Pires (2006), are typical of non-obligatory control. They are also the properties which characterise null subjects in finite contexts, as shown in the corresponding examples in (13–15) below.

- (13) O Pedro<sub>i</sub> lamenta que [-]<sub>j</sub> tenham mentido.  
the Pedro regret.PRS.IND.3SG that have.PRS.SBJV.3PL lied  
'Pedro is sorry that they lied.'

- (14) Ele<sub>i</sub> pediu ao Rui<sub>j</sub> que [-]<sub>i+j</sub> saíssem cedo.  
 he.NOM asked.3SG to.the Rui that leave.PRS.SBJV.3PL early  
 'He asked Rui for them to leave early.'
- (15) Lamento que [-]<sub>i</sub> tenhas reprovado no exame  
 regret.PRS.IND.1SG that have.PRS.SBJV.2SG failed in.the exam  
 e a Isabel também [-].  
 and the Isabel also  
 'I am sorry that you failed the exam and Isabel is too.' (= Isabel is sorry that  
 you failed the exam vs. #Isabel is sorry that she failed the exam)

Furthermore, as first observed by Quicoli (1996), while A-movement of the subject is impossible out of an inflected infinitival clause (but possible out of an uninflected infinitival clause), A-bar movement is possible with inflected infinitives (but not with uninflected infinitives), as shown in (16) and (17) below.

- (16) As meninas parecem gostar(\*em) do filme.  
 the girls appear.PRS.IND.3PL like.INF.(\*3PL) of.the film  
 'The girls appear to like the film.' (Rothman, 2009, p. 126)
- (17) Que meninos você acha ser\*(em) os mais  
 which boys you.NOM think.PRS.IND.3SG be.INF.\*(3PL) the most  
 inteligentes do grupo?  
 intelligent of.the group  
 'Which boys do you think are the most intelligent from the group?'  
 (Rothman, 2009, p. 127)

Pronominal subjects of inflected infinitival clauses also differ from those of their (controlled) uninflected counterparts because their interpretation is sensitive to discourse conditions: as described for finite subjects in Section 1, null subjects in inflected infinitival clauses favour antecedents which are highly prominent in the previous discourse (e.g. antecedents in a (local) subject position), unlike overt pronominal subjects, which prefer antecedents in less prominent positions. See the examples in (18) and the indication in parentheses of the favoured interpretation of the embedded subject (this is the only possible interpretation in the case of (18c)).

- (18) Ontem os meus pais foram jantar fora com uns amigos. Os meus pais  
 ficaram aliviados...  
 'Yesterday my parents went out to dinner with some friends. My parents  
 were relieved...'
- a. por *pro*/eles chegarem cedo ao restaurante (*pro*=os  
 for *pro*/they.NOM arrive.INF.3PL early at.the restaurant (*pro*=my  
 meus pais; eles=uns amigos)  
 parents; they=some friends)  
 'because they arrived at the restaurant on time'

- b. porque *pro*/eles chegaram cedo ao restaurante  
 because *pro*/they.NOM arrive.PST.IND.3PL early at.the restaurant  
 (*pro*=os meus pais; eles=uns amigos)  
 (*pro*=my parents; they=some friends)  
 'because they arrived at the restaurant on time'
- c. por PRO chegar cedo ao restaurante (PRO=os meus pais)  
 for PRO arrive.INF early at.the restaurant (PRO=my parents)  
 'because they arrived at the restaurant on time'

According to Raposo (1987), the inflected infinitive depends both on a positive setting for the *pro*-drop parameter, which allows for the morphological realization of the  $\phi$ -features of I, and on an Infl-parameter, which is responsible for the association of a complete set of  $\phi$ -features with an infinitival I which licenses nominative subjects if it is itself case-marked (and, hence, infinitival clauses are restricted to case positions). Therefore, this analysis establishes an association between the presence of overt person/number morphology and the licensing of nominative subjects, on the one hand, and predicts that inflected infinitival clauses are subject to stricter distributional restrictions than their uninflected counterparts.

Most analyses which have been proposed for the inflected infinitive build on Raposo's (1987) proposal (e.g. Cowper, 2002; Madeira, 1994; Sitaridou, 2002), with some of them concentrating on the link between the inflected infinitive and control (Gonçalves, Santos, & Duarte, 2014; Landau, 2004; Modesto, 2010; Pires, 2006; Sheehan, 2014). For example, Cowper (2002) also proposes that, in *pro*-drop languages, non-finite I may bear an uninterpretable case feature, which enters an AGREE relation with a case-assigner in a higher clause. After checking this feature, the infinitival I is able to value and delete the uninterpretable case feature on the DP subject, which is then not allowed to undergo further A-movement. The overt agreement morphology is hence the overt reflex of  $\phi$ -feature valuation on the infinitival I.

Although Raposo assumes that inflected infinitives are untensed, he argues that certain inflected infinitival clauses (e.g. complements to declarative and epis-temic verbs) may be associated with a Tense operator. However, Gonçalves et al. (2014) and Landau (2004), for example, argue that inflected infinitival clauses are tensed. Landau (2004) explains the distribution of inflected infinitives by assuming that infinitives may be associated with agreement morphology in clauses in which I bears a [+T] feature (be it dependent or independent tense), but not with the irrealis tense associated with volitional predicates. On the other hand, Gonçalves et al. (2014) account for the distribution of the inflected infinitive in complement clauses by linking it to the temporal orientation of the complement: it is argued that inflected infinitives are only permitted in cases in which the

temporal orientation of the infinitival complement is not specified by the selecting verb. Given the possibility of controlled inflected infinitives with object control verbs (19a), as well as with other verbs in non-standard varieties of EP (19b), they also propose that there is no necessary association between the presence of overt agreement morphology and the licensing of nominative subjects.

- (19) a. Eu convenci as meninas a irem  
 I.NOM convince.PST.IND.1SG the girls to go.INF.3PL  
 ao parque.  
 to.the park  
 'I convinced the girls to go to the park.'
- b. Decidiram irem todos os presentes à Lagoa.  
 decide.PST.IND.3PL go.INF.3PL all the presents to.the Lagoa  
 'All those who were present decided to go to Lagoa.'
- (Gonçalves et al., 2014, p. 173)

Following Raposo (1987) and others, it will, nevertheless, be assumed in this paper that, in the case of the standard inflected infinitive, there is a correlation between the two properties.

Given the properties which characterise the inflected infinitive, and considering the analyses which have been proposed to explain these properties, it is assumed that acquisition of inflected infinitives involves developing knowledge of the following:

- a. the relevant paradigms of person/number morphology;
- b. null subject properties;
- c. parametric option which allows the association of an uninterpretable case feature with a non-finite I;
- d. discourse conditions on the distribution of null/overt subjects.

### 3. The acquisition of the inflected infinitive

In this section, I review some of the studies which have been conducted on the acquisition of the inflected infinitive in L1 and L2 Portuguese, and set out the goals for the present study.

#### 3.1 Previous studies

There is evidence that knowledge of the inflected infinitive develops late in L1 EP (according to Pires et al., 2011, children do not show complete knowledge of the properties of the inflected infinitive until the ages 6–7) and even more so in BP



(see Pires & Rothman, 2009, who, assuming that inflected infinitives are no longer available in colloquial dialects of BP, argue that they are not acquired until the ages of 10–12, after children have been exposed to the standard dialect through schooling). Several studies on the L2 acquisition of BP have shown that advanced learners achieve target knowledge of the relevant morphosyntactic and interpretative properties of the inflected infinitive and are able to make the distinction between the inflected and uninflected infinitives. These studies, carried out by Rothman and colleagues, focused on learners who were participating in study abroad programmes in Brazil – hence, they were exposed not only to colloquial varieties of BP but also to the standard variety.

For instance, Rothman and Iverson (2007) investigated the acquisition of inflected infinitives in BP by 25 adult advanced learners of BP (17 English monolingual speakers and 8 Spanish/English bilinguals), using a grammaticality judgment task, which tested for knowledge of the morphological and syntactic properties of the inflected infinitive, and a context match task, which tested for knowledge of the different properties of inflected and uninflected infinitives with respect to their control properties. They concluded that their L2 learners displayed nativelike knowledge both of the grammatical properties of the inflected infinitive, which they take to constitute evidence for parameter resetting, and of their control properties.

In another study, Rothman (2009) investigated the syntactic asymmetry displayed by inflected and uninflected infinitives with respect to subject movement. A comparison of the performance of 21 advanced English-speaking learners of BP in a grammaticality judgment task with that of a native control group confirmed that the L2 learners displayed targetlike behaviour with respect to the distinction between inflected and uninflected infinitives with A- and A'-movement. Taken together, these findings are argued to support a Full Access approach to L2 acquisition.

In another study on L2 BP inflected infinitives, Iverson and Rothman (2008) investigated knowledge of certain interpretative restrictions which characterise eventive verbs in the inflected infinitival complements of declarative and epistemic verbs (Ambar, 1998): in these contexts, the inflected infinitive is incompatible with a single event reading (20a) and must be associated with a generic reading (which in (20b) is forced by the bare plural complement and the adverbial).

- (20) a. \*Penso lerem o jornal.  
           think.PRS.IND.1SG read.INF.3PL the newspaper  
           'I think that they read the newspaper.'
- b. Penso lerem jornais todos os dias.  
           think.PRS.IND.1SG read.INF.3PL newspapers all the days  
           'I think that they read newspapers every day.'

Iverson and Rothman (2008) used a truth value judgment task to test 17 advanced English-speaking learners of BP. The results revealed no significant differences between the L2 learners and a group of native controls, showing that the genericity restrictions on inflected infinitival complements to declarative/epistemic verbs, which involve integration of syntactic and semantic knowledge, had been fully acquired by these learners, who displayed targetlike knowledge of the relevant properties.

### 3.2 Goals of the present study

The general conclusion which can be drawn from the studies described in the previous section appears to be that, although the inflected infinitive represents a marked grammatical option, both its morphosyntactic and semantic properties appear to have been fully acquired by advanced learners of BP on study abroad programmes, who were also exposed to the standard variety of the language in a formal learning context. Given that, unlike BP, the inflected infinitive in EP is used productively, it might be expected that L2 learners of EP, in a similar learning situation, will also have developed knowledge of the properties of the inflected infinitive – and, possibly, this knowledge will have been developed at an earlier stage, similarly to what has been observed in L1 acquisition, given the amount of evidence for inflected infinitives available in the input which they receive through natural exposure to the language (as well as through explicit instruction). In this paper, I report on a study conducted with L2 learners of EP who are university students participating in a study abroad programme in Portugal and aim to investigate whether knowledge of the properties of the inflected infinitive develops as early for this group as for the L2 learners of BP in the studies described above.

One question which has not been addressed by the existing L2 studies relates to the way in which knowledge of the properties of the inflected infinitive develops. Pires et al. (2011) suggest that, in the case of the L1 acquisition of EP, although children acquire the morphosyntactic properties of inflected infinitives fairly early (when compared to their BP counterparts), there may be a delay in developing knowledge of certain aspects of interpretation which are dependent on the discourse and pragmatic context. Given the available empirical evidence regarding the status which different types of grammatical properties may have in acquisition (see the discussion in Section 1), it is possible that not all the properties associated with the inflected infinitive develop simultaneously in the grammars of L2 learners. The studies described above show that learners at an advanced stage display knowledge of morphological properties, syntactic distribution, properties of control and other semantic restrictions. However, only an investigation which considers learners at different developmental stages will be able to shed some light on this

question. The study described in this paper includes learners at two proficiency levels, elementary and upper intermediate/lower advanced, and seeks to investigate how their knowledge of both morphosyntactic and certain interpretative properties of the inflected infinitive in EP develops.

Finally, another question which will be considered has to do with the effect which the learners' L1 may have on the acquisition of the inflected infinitive. If, as Raposo (1987) claims, a positive value for the pro-drop parameter is a necessary condition for a language to have inflected infinitives, then L1 speakers of a pro-drop language may have an advantage over speakers of non-pro-drop languages. Furthermore, if the L1 allows nominative subjects in some infinitival contexts, it is expected that this knowledge may have an effect on the acquisition of inflected infinitives. Rothman and Iverson (2007) found no differences which might be attributed to L1 influence between their English-speaking learners and their Spanish/English bilinguals. A third goal of the study described here is to compare the performances of Spanish-speaking learners of EP (Spanish being a pro-drop language with restricted personal infinitives) and those of Chinese-speaking learners of EP (Chinese not being a pro-drop language and not allowing nominative subjects in infinitival contexts) and determine whether the grammatical differences of their L1s have an effect on their development in the L2 with respect to this grammatical phenomenon.

## 4. The current study

This section presents the methodology adopted in the present study, describing the three tasks used for the data collection, the participants and, finally, the hypotheses which guide the study.

### 4.1 Tasks

The study was based on two grammaticality judgement tasks (the morphological recognition task and the context task, described in 4.1.1 and 4.1.2 respectively) and a preference task (the interpretation task, described in 4.1.3 below). The first two tasks tested for knowledge of the morphological and distributional properties of inflected infinitives, whereas the third task assessed learners' preferences regarding certain aspects of the interpretation of inflected infinitival clauses.

#### 4.1.1 *The morphological recognition task*

The first grammaticality judgement task was an adaptation of the morphological recognition task used by Pires and Rothman (2009). Its aim was to assess whether

learners have developed knowledge of the specific morphosyntactic properties of inflected infinitives, namely, that they (i) are associated with person/number morphology; (ii) license nominative subjects; and (iii) are restricted to non-finite contexts. Hence, this task sought to ascertain whether learners make a distinction between inflected and uninflected infinitives, on the one hand, and between inflected infinitives and finite verbs, on the other hand.

The test items were presented in writing and no time limit was set for completion of the task. It consisted of 24 test items (11 of which were grammatical and 13 ungrammatical): 16 infinitival clauses, all of which are permissible inflected infinitival contexts (complement or adjunct clauses introduced by a preposition), and 8 embedded finite clauses. The task was composed of the following sentence types:

1. Infinitival contexts with an overt subject and:

- a. an inflected infinitive (3 items) [grammatical] (see the example in (21))
- b. an uninflected infinitive (3 items) [ungrammatical]
- c. a finite verb form (2 items) [ungrammatical]

- (21) Ela pediu                      bacalhau para eles                      provar<sub>em</sub>                      um  
 she ask.PST.IND.3SG cod                      for they.NOM taste.INF.3PL a  
 prato português.  
 dish Portuguese  
 'She asked for cod so they could try a Portuguese dish.'

2. Infinitival contexts with a null subject and:

- a. an inflected infinitive (3 items) [grammatical] (see the example in (22))
- b. an uninflected infinitive (3 items) [grammatical]
- c. a finite verb form (2 items) [ungrammatical]

- (22) Já                      é                      demasiado tarde para chamare<sub>m</sub>                      um táxi.  
 already be.PRS.IND.3SG too                      late for call.INF.3PL a taxi  
 'It is already too late to call a taxi.'

3. Embedded finite contexts with an overt subject and:

- a. an inflected infinitive (3 items) [ungrammatical] (see the example in (23))
- b. an uninflected infinitive (3 items) [ungrammatical]
- c. a finite verb form (2 items) [grammatical]

- (23) \*Ele perguntou                      se eles                      já                      fazer<sub>em</sub>                      as malas.  
 he ask.PST.IND.3SG if they.NOM already make.INF.3PL the bags  
 'She asked if they had already packed their bags.'

Each test item was preceded by a paragraph setting the context. Participants were asked to indicate whether they considered the sentence acceptable (the options

were 'yes' or 'no') and, if not, they were asked to provide a correction (in order to ascertain whether, if they rejected a sentence, they were doing it for the relevant reasons). See the example in (24):

- (24) Há muito tempo que não vejo o Pedro e o Miguel. Sabes o que lhes aconteceu?  
'It's been a long time since I've seen Pedro and Miguel. Do you know what's happened to them?'

\*O pai disse-me que eles estar em Paris.  
the father tell.PST.IND.3SG-me.DAT that they.NOM be.INF in Paris  
'Their father told me that they are in Paris.'

Expected answer: No

Correction

O pai disse-me que eles estão  
the father tell.PST.IND.3SG-me.DAT that they.NOM be.PRS.IND.3PL  
em Paris.  
in Paris  
'Their father told me that they are in Paris.'

#### 4.1.2 *The context task*

The goal of the second grammaticality judgement task was to test for knowledge of the syntactic restrictions on the occurrence of inflected infinitives. It consisted of 33 test items: 18 sentences which constitute grammatical contexts for the inflected infinitive (subject and adjunct clauses, and complements to nouns, adjectives, factive and object control verbs), 12 of which contained inflected infinitives (see (25)) and 6 uninflected infinitives (see (26)); and 15 sentences which constitute contexts from which inflected (but not uninflected) infinitives are excluded (complements to volitional verbs, modal and aspectual auxiliaries, embedded interrogative and relative clauses), 10 of which included inflected infinitives (see (27)) and 5 uninflected infinitives (see (28)). In all the sentences, the infinitival subject was null. Participants were instructed to judge whether each sentence was acceptable or not, by selecting a 'yes' or 'no' option. The items were presented in writing and no time limit was set for the completion of the task.

- (25) A mãe comprou-nos vestidos novos para levarmos  
the mother buy.PST.IND.3SG-US.DAT dresses new for take.INF.1PL  
à festa.  
to.the party  
'Our mother bought us new dresses to take to the party.'

- (26) Os presidentes reuniram-se para discutir a crise.  
the presidents meet.PST.IND.3PL-SE for discuss.INF the crisis  
'The presidents met to discuss the crisis.'

- (27) \*Não podemos acabar<sub>mos</sub> o trabalho até amanhã.  
not can.PRS.IND.1PL finish.INF.1PL the work until tomorrow  
'We can't finish the work until tomorrow.'
- (28) Podemos ir ao cinema esta noite.  
can.PRS.IND.1PL go.INF to.the cinema this evening  
'We can go to the cinema tonight.'

#### 4.1.3 *The interpretation task*

The third task (which was also completed in writing with no time limit) aimed to test for knowledge of the interpretative properties of inflected infinitival subjects – specifically, whether learners differentiate between inflected and uninflected infinitival subjects with respect to preferred choice of antecedent.

The task was composed of 20 test items in which the target verb occurred in a complement or an adjunct clause: 8 contained an inflected infinitive (4 with a lexical subject and 4 with a null subject), 8 contained a finite verb (4 with a lexical subject and 4 with a null subject) and 4 contained an uninflected infinitive. Each item was presented in a neutral context, and was followed by a question. Participants were asked to choose which of the three alternative options best corresponded to their interpretation of the sentence: the antecedent of the embedded subject was the matrix subject, another expression present in the previous discourse or both. This is illustrated in (29) below:

- (29) Na minha família, ninguém é muito pontual. Ontem, os meus pais foram jantar fora com os meus avós.  
'In my family nobody is very punctual. Yesterday, my parents went out for dinner with my grandparents.'
- Os meus pais ficaram contentes por (eles)  
the my parents be.PST.IND.3PL happy for (they.NOM)  
chegarem cedo ao restaurante.  
arrive.INF.3PL early at.the restaurant  
'My parents were happy that they arrived early at the restaurant.'
- Quem é que chegou cedo ao restaurante?  
'Who arrived early at the restaurant?'
- A. Os meus pais e os meus avós ('My parents and my grandparents')  
B. Os meus avós ('My grandparents')  
C. Os meus pais ('My parents')

## 4.2 Participants

A total of 40 L2 learners of EP completed the two grammaticality judgement tasks – 20 L1 Chinese and 20 L1 Spanish speakers.

Spanish is a pro-drop language which allows personal infinitives, i.e., infinitives which license overt nominative subjects but do not display overt agreement morphology (see, e.g. Mensching, 2000; Torrego, 1998). The distribution of the Spanish personal infinitive is more restricted than that of the Portuguese inflected infinitive: it can only occur in unsubcategory contexts, for example, in subject (30a) or adverbial clauses, but not in complement clauses. The lexical subject is mostly postverbal, although pronominal subjects may occur preverbally in adverbial clauses (30b).

- (30) a. [Irse Maribel a Alemania] supone que su  
 go.INF.SE Maribel to Germany presuppose.PRS.IND.3SG that her  
 marido se quede al cuidado de los niños.  
 husband SE remain.PRS.SBJV.3SG at.the care of the children  
 'The fact that Maribel goes to Germany means that her husband must  
 stay in order to take care of the children.'  
 (cf. Hernanz Carbó, 1982, p. 337, *apud* Mensching, 2000, p. 24)
- b. Todo por culpa de cosas que pasaron [antes de  
 all by guilt of things which happen.PST.IND.3PL before of  
 yo nacer].  
 I.NOM be born.INF  
 'All that (was) due to things which happened before I was born.'  
 (Skydsgaard, 1977, p. 655, *apud* Mensching, 2000, p. 26)

As for Chinese, it presents no overt tense or agreement marking and there is some debate on whether it exhibits a finiteness/non-finiteness distinction. Although some researchers (e.g. Hu, Pan, & Xu, 2001) have argued against such a distinction, others (e.g. Huang, 1989) have claimed that there are a number of syntactic phenomena which can only be explained if a contrast between finite and non-finite contexts is assumed – for instance, the fact that there are clauses in which the subject must be obligatorily null, as illustrated in (31) below.

- (31) a. wo bi Lisi [(\*)ta lai].  
 I force Lisi (\*he) come  
 'I forced Lisi to come.'
- b. Lisi sheaf [(\*)ta lai].  
 Lisi try (\*he) come  
 'Lisi tried to come.'
- (Huang, 1989, pp. 189–190)

According to Huang (1984), an embedded null subject can be either a variable bound by a (null) topic (32a) or pro, in which case it must be co-indexed with the closest potential antecedent (as illustrated in (32b), in which pro is co-indexed with the matrix subject).

- (32) a. Zhangsan<sub>i</sub> shuo [*pro*<sub>i</sub> mai shu le].  
 Zhangsan say *pro* buy book PST  
 ‘Zhangsan<sub>i</sub> said that he<sub>i</sub> bought the books.’  
 b. (Zhege ren<sub>i</sub>) Zhangsan<sub>j</sub> shuo [*ec*<sub>i</sub> neng ying].  
 this person Zhangsan say *ec* can win  
 ‘(This person<sub>i</sub>.) Zhangsan<sub>j</sub> says that he<sub>i</sub> can win.’ (Zheng, 2014, p. 234)

Hence, the two languages display different grammatical properties: whereas Spanish is a *pro*-drop language which allows infinitives not bearing agreement morphology to occur with nominative subjects in a very restricted set of syntactic contexts, Chinese does not have agreement morphology and, although it allows null subjects, these may have different properties from those found in *pro*-drop languages such as Portuguese and Spanish. Given that these are properties that are relevant to the acquisition of the inflected infinitive, these differences may have an effect on how L1 speakers of Spanish and Chinese develop their knowledge of inflected infinitival constructions.

All the participants were university students on a study abroad programme in Portugal with a duration from 6 months to 1 year. Each language group was divided into two proficiency groups: one group was composed of learners who were placed at the elementary level – corresponding to the A2 level of the *Common European Framework of Reference* (CEFR)<sup>1</sup> – and the other group included upper intermediate and lower advanced learners – equivalent to the B2 and C1 levels of the CEFR (henceforth designated as the ‘advanced group’). The proficiency level of the participants was determined on the basis of a placement test taken at the beginning of the semester. The study also included a control group composed of monolingual native speakers of EP. Table 1 below characterises each group of participants in the study regarding proficiency level, age, age of onset of learning (AOL) and other L2s.<sup>2</sup>

1. The *Common European Framework of Reference for languages*, published in 2001 by the Council of Europe, can be consulted at: [http://www.coe.int/t/dg4/linguistic/Source/Framework\\_EN.pdf](http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf)

2. The potential role which other languages known by the learners may play in the acquisition of EP (and the status of EP as an L3, rather than as an L2, for these learners) will not be considered in this study. Nevertheless, it is worth mentioning that, if we assume the view that languages have to exhibit (or be perceived as exhibiting) structural similarities in order for transfer to occur (e.g. Rothman’s, 2015, Typological Primacy Model), it is expected that English (the only L2 for most of the participants in our study) and French, being neither null subject languages nor languages which license nominative subjects in infinitival clauses, will not play a significant role in the acquisition of the properties under investigation. Only a small number of participants reported having knowledge of other languages, some of which



**Table 1.** Participants (morphological recognition task and context task)

L1	Proficiency	Age	AOL	Other L2s
Chinese	elementary ( <i>N</i> = 10)	range 19–21, mean = 19.9 (SD = 0.57)	range 18–19, mean = 18.5 (SD = 0.53)	English ( <i>N</i> = 10)
	advanced ( <i>N</i> = 10)	range 19–26, mean = 21.9 (SD = 2.28)	range 16–25, mean = 19.3 (SD = 2.63)	English ( <i>N</i> = 10)
Spanish	elementary ( <i>N</i> = 10)	range 20–35, mean = 23.8 (SD = 4.49)	range 19–30, mean = 23 (SD = 3.43)	English ( <i>N</i> = 8), French ( <i>N</i> = 2)
	advanced ( <i>N</i> = 10)	range 29–57, mean = 43.2 (SD = 10.05)	range 22–50, mean = 33.8 (SD = 8.97)	English ( <i>N</i> = 7), French ( <i>N</i> = 4), Italian ( <i>N</i> = 2), Galician ( <i>N</i> = 1)
Native speakers ( <i>N</i> = 10)		range 22–42, mean = 30.8 (SD = 7.828)	–	–

For practical reasons beyond our control, the interpretation task was administered only to advanced students. The L2 learner groups, which were composed of 14 participants each, included some of the upper intermediate and lower advanced students who participated in the two grammaticality judgement tasks. Their characteristics are as detailed in Table 2 below (5 Spanish speakers and 1 Chinese speaker did not provide any information on their other L2s).

4.3 Hypotheses

As discussed in Section 1, representational deficit approaches and full access approaches make different predictions regarding the possibility of L2 learners acquiring grammatical properties which are not instantiated in their L1. In particular, if one assumes the view taken under the Interpretability Hypothesis (Tsimpili & Dimitrakopoulou, 2007), it should not be possible for L2 learners of EP whose L1 does not license nominative subjects in infinitival contexts to reset the parameter which allows a language to associate an uninterpretable case feature with a non-finite I. On the other hand, if one assumes a full access approach, it

(e.g. Italian and Galician) are null subject languages that allow nominative subjects in certain infinitival contexts (in the case of Galician, with very similar properties to those of the Portuguese inflected infinitive).

**Table 2.** Participants (interpretation task)

L1	Age	AOL	Other L2s
Chinese ( <i>N</i> = 14)	range 19–39, mean = 21.357 (SD = 5.123)	range 17–36, mean = 19.5 (SD = 4.799)	English ( <i>N</i> = 13)
Spanish ( <i>N</i> = 14)	range 21–56, mean = 34.429 (SD = 12.678)	range 20–44, mean = 27.285 (SD = 7.868)	English ( <i>N</i> = 7), French ( <i>N</i> = 3), Italian ( <i>N</i> = 2), Catalan ( <i>N</i> = 2), German ( <i>N</i> = 1)
Native speakers ( <i>N</i> = 14)	range 21–42, mean = 29.857 (SD = 7.036)	–	–

should be possible for the learners to reset the relevant parameter to a value not available in their L1. This may not happen in the initial stages of acquisition, given that, in order for parameter resetting to take place, learners need to be exposed to input which will trigger the resetting. However, if there is sufficient exposure to linguistic input, and if the universal inventory of features/feature values made available by UG remains accessible for L2 learners and they are not restricted to the options represented in their L1, then acquisition of new functional properties will be possible and learners will be expected to have acquired knowledge of the morphosyntactic properties of the inflected infinitive (i.e., that they are associated with person/number morphology, license nominative subjects and are restricted to a subset of the contexts in which infinitives may occur) by the advanced level. Therefore, in the present study, it is predicted that each of the two elementary groups will differ from the corresponding L1 advanced group in their performance both on the morphological recognition task and on the context task, with each of the elementary groups performing significantly worse than the advanced group, who are expected to achieve targetlike results and should therefore not differ from the control groups. Hence, we formulate the following hypothesis:

### *Hypothesis 1*

On the morphological recognition task and on the context task:

- 1a. the Chinese elementary group will differ significantly from the Chinese advanced group and the Spanish elementary group will differ significantly from the Spanish advanced group;
- 1b. there will be no differences between the two advanced groups and the controls.

If the L1 grammar is assumed to be a potential source of influence in L2 acquisition (following, for example, Schwartz & Sprouse's, 1996, hypothesis that the L1

grammar constitutes the initial state in L2 acquisition), it is predicted that there will be differences between the two L1 groups at the elementary level, and possibly still at the advanced level, in their knowledge of the grammatical properties of the inflected infinitive. However, it is not inevitable that the fact that EP and Spanish have common properties, such as a positive value for the pro-drop parameter and an infinitive which licenses nominative subjects (albeit with a restricted distribution in Spanish), guarantees that Spanish speakers will have an advantage over Chinese speakers in the acquisition of the inflected infinitive. As Rothman and Iverson (2007) suggest regarding the Spanish/English bilinguals in their study on L2 BP, there is the possibility that the fact that agreement morphology in Spanish is always associated with finite verb forms may actually hinder the acquisition of the inflected infinitive, as learners may be misled into interpreting it as a finite verb form. Nevertheless, as described in Section 3.1, they observed no evidence of L1 transfer in their study. In the present study, I will hypothesise that there are L1-related differences, in the acquisition of the grammatical properties of the inflected infinitive, between the Chinese and the Spanish groups; however, no predictions are advanced as to the direction which this L1 effect might take. Our second hypothesis will therefore be the following:

### *Hypothesis 2*

Both the two elementary groups and the two advanced groups will differ significantly on the morphological recognition task and on the context task.

Assuming that the morphosyntactic properties of the inflected infinitive are acquired early, the L2 learners who completed the interpretation task in the present study will have developed the knowledge that the subject of inflected infinitives is the nominative subject typically found in finite clauses, realised overtly or as *pro*, and not the *PRO* subject of uninflected infinitives. However, a different course of development is predicted for the discourse-related properties which are associated with this subject. As discussed in Section 1, according to the Interface Hypothesis (Sorace & Filiaci, 2006, a.o.), there should be a delay in the development of these properties, which are unlikely to have been fully acquired by the upper intermediate/lower advanced learners who participated in the study. In accordance with the findings of earlier studies on the acquisition of the discourse conditions which determine the interpretation of null and overt pronominal subjects (see Section 1), it is expected that, both in inflected infinitival and finite contexts, learners will have difficulties with overt subjects, but not with null subjects, and, moreover, that these difficulties may also be observed in L1 speakers of pro-drop languages. Hence, it is predicted that the two learner groups will not differ in their performance on the interpretation task, but both should differ significantly from the

native controls with respect to the interpretation of overt subjects in these contexts. Hence, our third hypothesis is as follows:

### *Hypothesis 3*

In the interpretation of overt subjects in inflected infinitival and finite contexts (on the interpretation task):

- 3a. there will be no differences between the Chinese and the Spanish groups;
- 3b. the performance of the two learner groups will differ significantly from that of the native control group.

## 5. Results

This section describes the results of the three tasks. Statistical analyses were conducted on R (version 3.3.3) using mixed logit models (function *glmer* with specification “family=binomial”) with crossed random effects for subjects and items. Analyses included random intercepts for subjects and items and, where appropriate, by-subject random slopes for within-subjects variables.<sup>3</sup> For the interpretation task, each of the three options (subject antecedent/discourse antecedent/both) was treated as a yes/no question (yes = option selected / no = option not selected) and the answers were coded as 0 = no or 1 = yes. A fixed effect was considered significant if the *p*-value was lower than or equal to 0.05; in the description of the results below, values greater than 0.05 and lower than or equal to 0.1 are reported as marginally significant.

In some cases, the model failed to produce stable results even after the optimizing functions “bobyqa”, “Nelder\_Mead” and “nloptwrap” were used. This may have been due to the small sample size and/or high degree of similarity of response patterns. These cases will be indicated explicitly below.

### 5.1 The morphological recognition task

The three graphs below show the acceptance rates of all the groups of the three verb forms (inflected infinitive, uninflected infinitive and finite verb) in the three contexts tested in the morphological recognition task: infinitival contexts with an overt subject (Figure 1) and with a null subject (Figure 2), and finite contexts (Figure 3).

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3. The levels within each fixed effect were contrast coded as in the following examples: control group = 0.5 vs. Spanish advanced group = -0.5; Fin = 0.5 vs. Infl Inf = -0.5.

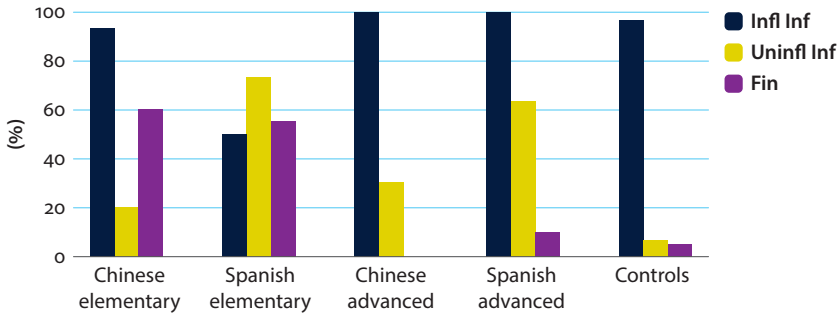


Figure 1. Infinitival contexts with an overt subject (morphological recognition task)

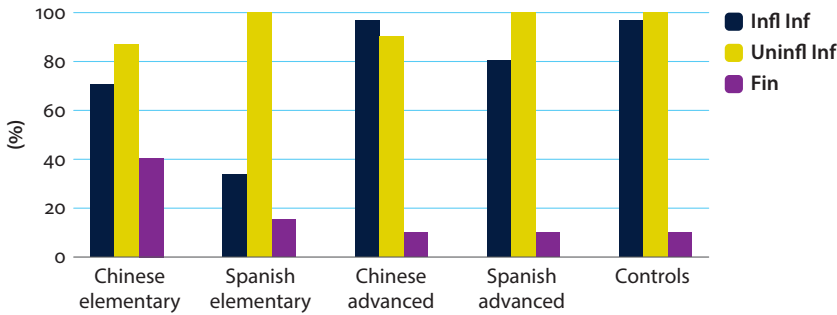


Figure 2. Infinitival contexts with a null subject (morphological recognition task)

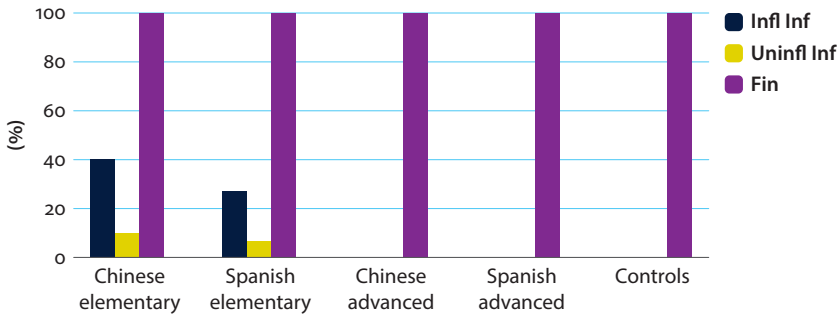


Figure 3. Finite contexts with an overt subject (morphological recognition task)

As shown in Figure 1, with the exception of the Spanish elementary group, which exhibits a rate of 50%, all the groups show high acceptance rates of inflected infinitives (the only grammatical option) in infinitival clauses with an overt subject, ranging between 93.3% and 100%. Intergroup comparisons showed that

the differences between the Spanish elementary group and the other groups are statistically significant (Chinese elementary: estimate = 3.4471,  $SD = 1.4220$ ,  $p = 0.0153$ ; Chinese advanced: estimate = 4.2754,  $SD = 1.6524$ ,  $p = 0.00967$ ; Spanish advanced: estimate = 4.2754,  $SD = 1.6524$ ,  $p = 0.00967$ ; controls: estimate = -5.118,  $SD = 2.268$ ,  $p = 0.0240$ ). Regarding the (ungrammatical) finite verb option, the elementary groups significantly differ from both the Spanish advanced group and the control group in their (higher) acceptance of finite verbs in inflected infinitival contexts – this is the case both for the Chinese elementary (Spanish advanced: estimate = -5.149,  $SD = 2.972$ ,  $p = 0.0832$  [marginal]; controls: estimate = 3.6461,  $SD = 1.5089$ ,  $p = 0.0157$ ) and for the Spanish elementary group (Spanish advanced: estimate = -22.0551,  $SD = 12.6905$ ,  $p = 0.0822$  [marginal]; controls: estimate = -32.347,  $SD = 14.815$ ,  $p = 0.029$ ).<sup>4</sup> No such developmental effect is observed with respect to uninflected infinitives. With respect to this option, the performances of the two elementary groups were found to differ significantly from each other (estimate = 2.8256,  $SD = 1.2052$ ,  $p = 0.019$ ), as well as from that of the advanced speakers of the other L1 group (Chinese elementary/Spanish advanced: estimate = 3.0238,  $SD = 1.0066$ ,  $p = 0.00266$ ; Spanish elementary/Chinese advanced: estimate = -3.65749,  $SD = 1.85715$ ,  $p = 0.0489$ ). Only the two Spanish groups differ significantly from the controls (Spanish elementary: estimate = 55.916,  $SD = 21.534$ ,  $p = 0.00941$ ; Spanish advanced: estimate = 4.803,  $SD = 1.953$ ,  $p = 0.0139$ ).

In infinitival contexts with a null subject (see Figure 2), the acceptance rates of (grammatical) inflected infinitives remain high for all groups except the Spanish elementary group, which, again, significantly differs from all the other groups (Chinese elementary: estimate = 1.7006,  $SD = 0.6935$ ,  $p = 0.0142$ ; Chinese advanced: estimate = 4.0730,  $SD = 1.1108$ ,  $p = 0.000246$ ; Spanish advanced: estimate = 2.0794,  $SD = 0.5986$ ,  $p = 0.000513$ ; controls: estimate = 4.0730,  $SD = 1.1108$ ,  $p = 0.000246$ ). In this context, the Chinese elementary group also reveals significant differences from both the Chinese advanced group (estimate = 2.7794,  $SD = 1.2934$ ,  $p = 0.03164$ ) and from the controls (estimate = 2.7890,  $SD = 1.3103$ ,  $p = 0.03330$ ). All the groups show high rates of acceptance of uninflected infinitives and, overall, lower rates of acceptance of finite verbs than in the previous

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4. In the following comparisons, the models failed to converge: Chinese elementary vs. Chinese advanced; Spanish elementary vs. Chinese advanced (in both cases,  $p > 0.9$ ). It should be noted, nevertheless, that the Chinese advanced group registered a 0% acceptance rate of finite verb forms in this context, as opposed to 60% for the Chinese elementary group and 55% for the Spanish elementary group.

condition (only the Chinese elementary group shows a higher rate of 40%, revealing a marginally significant difference from the Chinese advanced group (estimate =  $-1.9783$ ,  $SD = 1.1139$ ,  $p = 0.0757$ )).

Finally, in finite contexts (see Figure 3) all the groups clearly favour the finite verb option. Only the elementary groups allow infinitives in this context, but their performance does not differ significantly from that of the other groups.

Intragroup comparisons reveal that, in infinitival contexts, the Chinese elementary group is sensitive to the presence of an overt nominative subject, showing significantly lower rates of acceptance of uninflected infinitives when the subject is realised than when it is not (estimate =  $4.1880$ ,  $SD = 1.6716$ ,  $p = 0.0122$ ).<sup>5,6</sup> If we compare the acceptance of inflected and uninflected infinitives in each of the two infinitival contexts, in the absence of an overt subject only the Spanish elementary group shows a contrast between the two infinitives, clearly favouring the uninflected infinitive (with an acceptance rate of 100%) over the inflected infinitive (33.3%);<sup>7</sup> however, this group fails to make a significant distinction between the two infinitives in infinitival sentences with an overt subject (estimate =  $1.4777$ ,  $SD = 1.5570$ ,  $p = 0.343$ ), unlike the Chinese elementary learners (estimate =  $-5.2157$ ,  $SD = 1.8644$ ,  $p = 0.00515$ ), the Chinese advanced learners (estimate =  $-10.452$ ,  $SD = 3.534$ ,  $p = 0.00311$ ) and the native controls (estimate =  $-65.629$ ,  $SD = 13.082$ ,  $p < 0.001$ ).

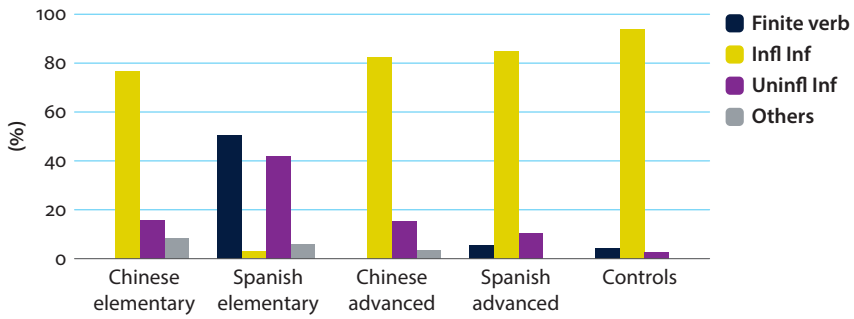
An analysis of the correction strategies which learners favour in each of the three contexts also reveals some asymmetries among the groups. The distribution of the correction strategies used in the three contexts is shown in Figures 4, 5 and 6 below.

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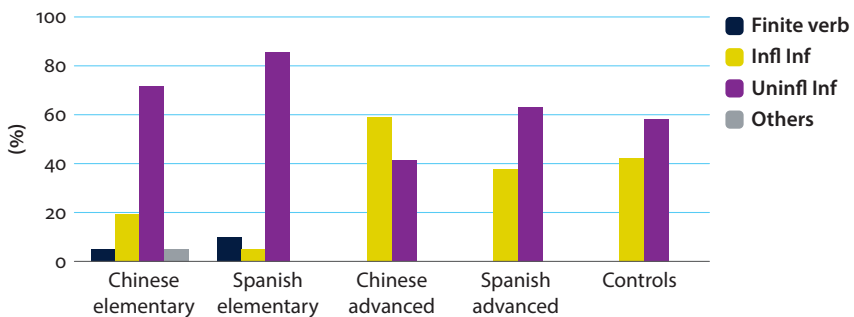
5. Although the Chinese advanced group also registers a marked increase in their acceptance of uninflected infinitives in the absence of an overt subject (their acceptance rates rise from 30% with overt subjects to 90% with null subjects), this difference was found to be not significant (estimate =  $9.1462$ ,  $SD = 10.3781$ ,  $p = 0.378$ ). This may have been the result of the distribution of scores in this group.

6. In the comparisons for the Spanish advanced and the control groups, the models failed to converge (in both cases,  $p > 0.9$ ). Notice, however, that, in the case of the control group, there is a strong contrast between the two contexts: the uninflected infinitival option is clearly rejected in the presence of an overt subject (6.66% acceptance rate) and accepted with a null subject (100%).

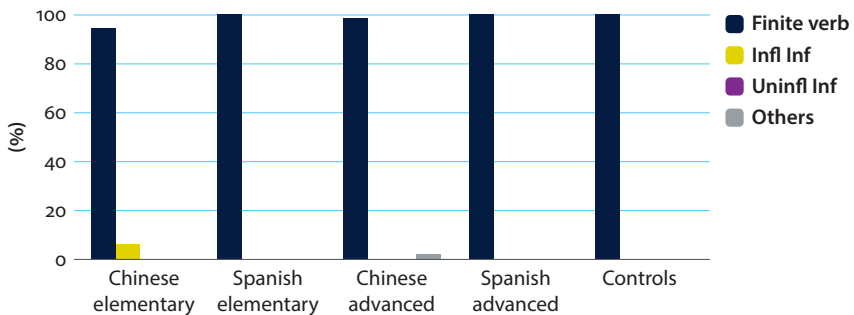
7. The model did not converge with this data set ( $p > 0.9$ ).



**Figure 4.** Correction strategies used in infinitival contexts with an overt subject (morphological recognition task)



**Figure 5.** Correction strategies used in infinitival contexts with a null subject (morphological recognition task)



**Figure 6.** Correction strategies used in finite contexts (morphological recognition task)

In infinitival contexts with an overt subject (Figure 4), the inflected infinitive was the favourite option for all groups, except the Spanish elementary group, which fluctuated between finite verb forms, without inserting a complementiser (50% of the total number of corrected sentences), and uninflected infinitives (42.1%),



both ungrammatical options. As for uninflected infinitival contexts (Figure 5), all groups favour the uninflected infinitive, except the Chinese advanced group, which oscillates between the inflected infinitive (59.1%) and the uninflected infinitive (40.9%), both grammatical options; both the Spanish advanced group and the native controls also produce higher rates of inflected infinitives than the two elementary groups. In finite contexts (Figure 6), finite verb forms are the favourite option for all groups.

## 5.2 The context task

In the analysis of the results for this task, the individual contexts included are not considered separately. Instead, the test sentences have been grouped into two types: those which constitute legitimate contexts for inflected infinitives and those which do not.

As on the morphological recognition task, in sentences in which inflected infinitives are allowed (with the subject not realised) (see Figure 7 below), all the groups allow both inflected and uninflected infinitives on the context task. However, the Spanish elementary group performs significantly worse than the other groups with respect to acceptance of inflected infinitives (Chinese elementary: estimate = 2.5934,  $SD = 0.3824$ ,  $p < 0.001$ ; Chinese advanced group: estimate = 2.2411,  $SD = 0.4435$ ,  $p < 0.001$ ; Spanish advanced: estimate = 2.4663,  $SD = 0.4841$ ,  $p < 0.001$ ; controls: estimate = 3.0288,  $SD = 0.5487$ ,  $p < 0.001$ ). On the other hand, the Chinese elementary group differs significantly from the other groups in their acceptance of uninflected infinitives, namely, from the Chinese advanced group (estimate = 1.3489,  $SD = 0.5130$ ,  $p = 0.00856$ ), the Spanish advanced group (estimate = 2.0762,  $SD = 0.5265$ ,  $p < 0.001$ ) and the controls (estimate = 3.3024,  $SD = 0.7903$ ,  $p < 0.001$ ).<sup>8</sup>

Regarding the contexts in which inflected infinitives are not allowed (see Figure 8), the Chinese elementary group shows significantly higher rates of acceptance of inflected infinitives in illegitimate contexts than the Spanish elementary group (estimate = -1.4624,  $SD = 0.6595$ ,  $p = 0.02659$ ), the Chinese advanced group (estimate = -2.4670,  $SD = 0.8936$ ,  $p = 0.005766$ ) and the control group (estimate = -3.2164,  $SD = 0.8057$ ,  $p < 0.001$ ). On the other hand, the two advanced groups also differ significantly in their acceptance of inflected infinitives (estimate = 1.2601,  $SD = 0.5624$ ,  $p = 0.0251$ ), but only the Spanish advanced

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8. In the comparison with the results of the Spanish elementary group, the model failed to converge and produced a  $p$ -value  $> 0.9$ . Nevertheless, it should be noted that the Spanish elementary group has a 100% acceptance rate of uninflected infinitives in these contexts (as opposed to 56.66% in the Chinese elementary group).

group differs significantly from the controls (estimate =  $-2.1756$ ,  $SD = 0.5629$ ,  $p = 0.000111$ ).

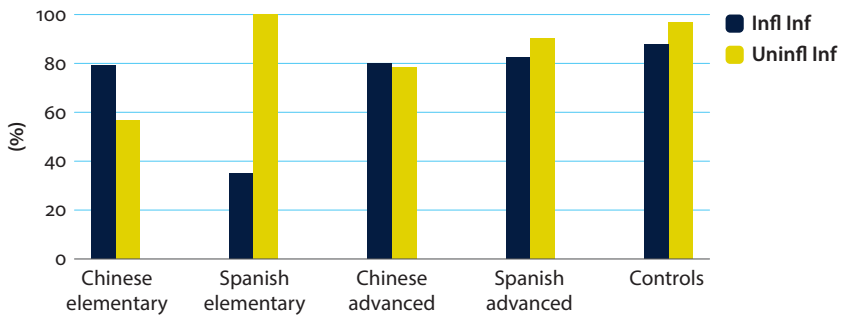


Figure 7. Legitimate inflected infinitival contexts (context task)

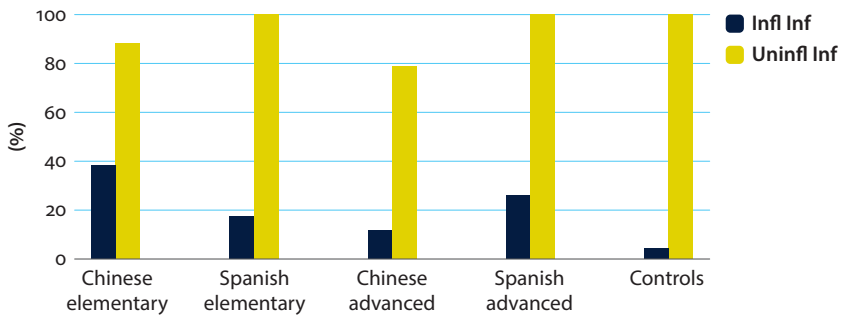


Figure 8. Illegitimate inflected infinitival contexts (context task)

Intragroup comparisons show that all the groups make a significant distinction between legitimate and illegitimate contexts in their acceptance of inflected infinitives (Chinese elementary: estimate =  $-2.3602$ ,  $SD = 0.5296$ ,  $p < 0.001$ ; Spanish elementary: estimate =  $-1.2826$ ,  $SD = 0.4745$ ,  $p = 0.00687$ ; Chinese advanced: estimate =  $-6.934$ ,  $SD = 2.514$ ,  $p = 0.00581$ ; Spanish advanced: estimate =  $-2.9611$ ,  $SD = 0.5243$ ,  $p < 0.001$ ; controls: estimate =  $-7.2593$ ,  $SD = 1.4036$ ,  $p < 0.001$ ).

### 5.3 The interpretation task

The graphs below show the results of the preference task designed to test for learners' preferences regarding the interpretation of the embedded subject in the contexts under investigation. Figures 9 and 10 represent the percentage rates of choice of antecedent (matrix subject, discourse antecedent or split antecedent) for the pronominal subject in inflected infinitival clauses with null and overt subjects, respectively; Figures 11 and 12 show the rates of preference in finite clauses; and, finally, Figure 13 shows the results for uninflected infinitival clauses.

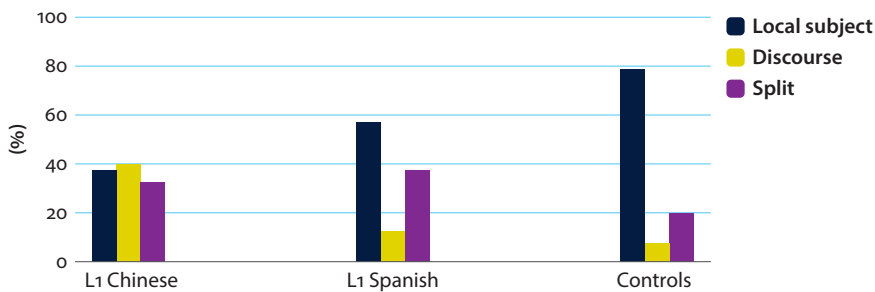


Figure 9. Inflected infinitive (null subject)

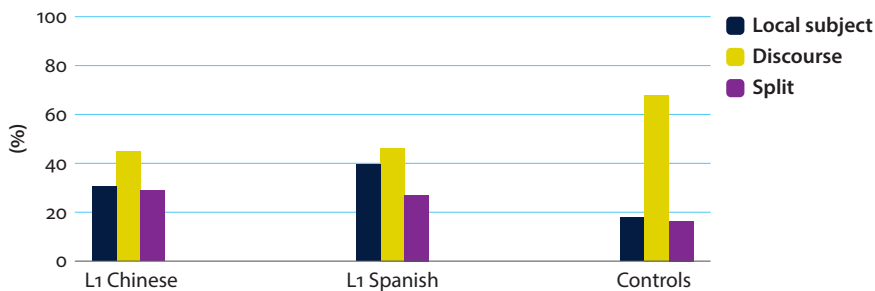


Figure 10. Inflected infinitive (overt subject)

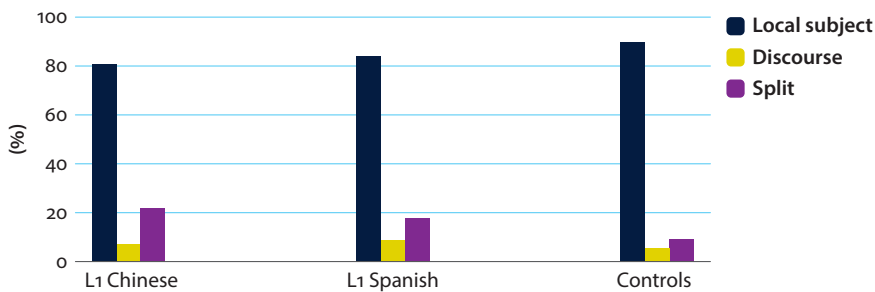


Figure 11. Finite verb (null subject)

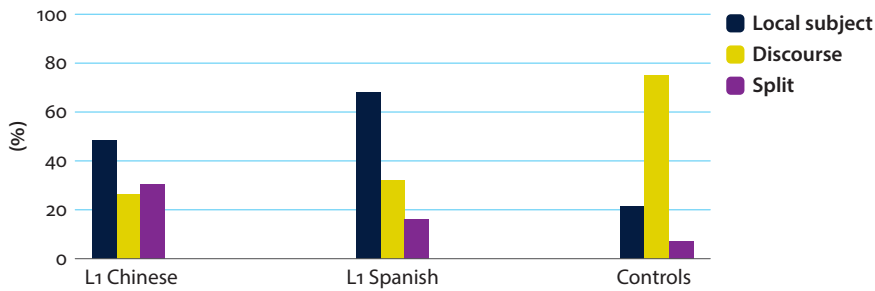


Figure 12. Finite verb (overt subject)

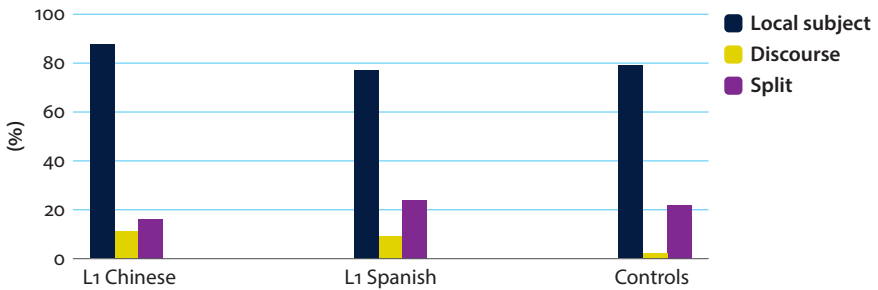


Figure 13. Uninflected infinitive

Similarly to the native control group, the two learner groups reveal a clear preference for a local antecedent for the null subject both in uninflected infinitival and in finite clauses (and no significant differences were found among the groups in these contexts). However, regarding the null subject of inflected infinitival clauses, the three groups show different preferences in their choice of a local subject antecedent: 37.5% for the L1 Chinese speakers, 57.14% for the Spanish speakers and 78.57% for the controls. Intragroup comparisons show that preference for this option over a discourse antecedent is significantly higher for the native controls (estimate = 5.1082,  $SD = 1.4372$ ,  $p = 0.000379$ ) and for the Spanish group (estimate = 2.6049,  $SD = 0.6830$ ,  $p = 0.000137$ ), but not for the Chinese group (estimate = 0.1108,  $SD = 1.7665$ ,  $p = 0.9500$ ). Moreover, intergroup comparisons revealed statistically significant differences between the Chinese and the control groups regarding their choice of a local antecedent for the null (but not for the overt) infinitival subject (estimate = 3.0895,  $SD = 1.1390$ ,  $p = 0.00668$ ). These two groups also differ significantly in their choice of a discourse antecedent for the subject of the inflected infinitive both when it is null (estimate = -2.156,  $SD = 0.839$ ,  $p = 0.01017$ ) and when it is overt (estimate = 1.5401,  $SD = 0.7037$ ,  $p = 0.0286$ ). Significant differences were also found between the Spanish group and the native controls in their choice of a local antecedent for the null inflected infinitival subject (estimate = 1.1672,  $SD = 0.4620$ ,  $p = 0.0115$ ), as well as of both a local antecedent (estimate = -1.3491,  $SD = 0.4856$ ,  $p = 0.00546$ ) and a discourse antecedent (estimate = 1.3639,  $SD = 0.4707$ ,  $p = 0.00376$ ) for the overt subject of inflected infinitives. As for the two learner groups, they only differ significantly with respect to their selection of a discourse antecedent for the null inflected infinitival subject (estimate = -2.156,  $SD = 0.839$ ,  $p = 0.01017$ ).

Moreover, the Chinese group differs significantly from the controls with respect to their choice of antecedent for the overt pronominal subject of finite embedded clauses – they show a significantly higher preference for local subject antecedents (estimate = -1.8491,  $SD = 0.8831$ ,  $p = 0.0363$ ) and for split antecedents (estimate = -2.5624,  $SD = 1.2397$ ,  $p = 0.038740$ ), and their choice of a

discourse antecedent is significantly lower (estimate = 3.6976,  $SD = 1.2096$ ,  $p = 0.00224$ ). A comparison between the results of the controls and the Spanish group also revealed an identical effect for their choice both of a local antecedent (estimate =  $-2.6796$ ,  $SD = 0.5871$ ,  $p < 0.001$ ) and of a discourse antecedent (estimate =  $2.4728$ ,  $SD = 0.5661$ ,  $p < 0.001$ ) for the overt finite subject. No significant differences were found between the two learner groups in finite contexts. Intragroup comparisons confirm that the two learner groups do not display a significant preference for a discourse antecedent for the overt subject in finite contexts, unlike the native controls, who prefer a discourse antecedent over a local antecedent (estimate =  $-2.9399$ ,  $SD = 0.8310$ ,  $p = 0.000403$ ) and a split antecedent (estimate =  $4.8714$ ,  $SD = 1.8133$ ,  $p = 0.00722$ ). Again, unlike the two learner groups, the control group also significantly prefers a discourse antecedent over a local antecedent for the overt subject of inflected infinitival clauses (estimate =  $-2.7084$ ,  $SD = 0.6561$ ,  $p < 0.001$ ).

A comparison of the preferences shown by each of the groups in inflected infinitival and finite contexts reveals a clear asymmetry, on the one hand, between the native controls, whose performance in the two contexts does not differ significantly, and the two learner groups, on the other hand, whose results in equivalent conditions differ in the two contexts. Hence, the Chinese group exhibits a statistically significant difference with respect to their choice of a local antecedent for the null subject, which is higher in finite than in inflected infinitival contexts (estimate =  $2.4822$ ,  $SD = 0.8817$ ,  $p = 0.00487$ ). On the other hand, the Spanish group shows a significantly higher preference for a local antecedent in finite clauses both for the null subject (estimate =  $1.5143$ ,  $SD = 0.7253$ ,  $p = 0.03680$ ) and for the overt pronominal subject (estimate =  $1.5638$ ,  $SD = 0.6235$ ,  $p = 0.0121$ ).

## 6. Discussion and conclusions

In this section, I summarise the results from the three tasks described in the previous section and discuss them considering the research goals of the study.

As described in Section 1, unlike representational deficit approaches, which assume that interlanguage grammars are inevitably defective and that at least certain functional properties (namely those which are associated with uninterpretable features, according to Tsimpli & Dimitrakopoulou's, 2007, Interpretability Hypothesis) cannot be acquired by L2 learners unless they are present in their L1 grammar, full access approaches (e.g. Schwartz & Sprouse, 1996) argue that all UG options remain accessible in L2 acquisition and that it should be possible for learners to develop knowledge of grammatical properties not instantiated in their L1. These two approaches give rise to contrasting predictions regarding the

acquisition of the morphosyntactic properties of the inflected infinitive: assuming Raposo's (1987) analysis of the inflected infinitive, according to which this grammatical option is dependent on a positive specification for the null subject parameter, as well as on an Infl-parameter which allows a language to associate an uninterpretable case feature with a non-finite I, only a full access approach predicts parameter resetting with concomitant successful acquisition (although eventually subject to effects of L1 influence) of the relevant morphosyntactic properties – namely, the association of a non-finite I with person/number agreement morphology, the ability to license nominative subjects and the distributional restrictions on the occurrence of inflected infinitives. This is the approach which has been assumed in this paper.

An analysis of the results obtained by the two advanced learner groups on the two grammaticality judgement tasks, and a comparison of their results with those of the native controls, confirms that the morphosyntactic properties of the inflected infinitive have been largely acquired. Hence, the results of the advanced learners on the morphological recognition task revealed that they make a clear distinction between inflected infinitives and finite verbs, given that, in finite contexts (i.e., clauses introduced by a complementiser), they show high rates of acceptance of finite verb forms, while rejecting inflected infinitives; at the same time, in infinitival contexts (i.e., clauses not introduced by a complementiser), they show high rates of acceptance of inflected infinitives, while rejecting finite verb forms. These tendencies were also observed in the corrections which advanced learners provided on this task. However, only the Chinese group appears to clearly distinguish inflected from uninflected infinitives; as for the Spanish group, there is some indication that their knowledge that the infinitive can occur with an overt nominative subject only if it bears agreement morphology, and, hence, that the two infinitives do not have the same distribution, has not fully developed by the advanced stage: it was observed that this group's acceptance of the ungrammatical uninflected infinitival option in infinitival clauses with an overt subject is significantly higher than that of the native controls; nevertheless, there is an increase in their rates of acceptance of uninflected infinitives when the subject is not overtly realised; and, similarly, in the corrections they provide they produce only a small number of uninflected infinitives with overt subjects. Both groups also exhibit a distinction between inflected and uninflected infinitives on the context task; and, although the Spanish group accepts significantly more inflected infinitives in illegitimate contexts than the control group, their acceptance of inflected infinitives in legitimate contexts is significantly higher than in illegitimate ones.

Taken together, these facts indicate that the advanced learners have acquired the relevant properties, supporting a full access approach to L2 acquisition. However, the hypothesis that there would be no differences between the two advanced

groups and the controls on the two grammaticality judgement tasks (hypothesis 1b) is only partially confirmed, as the Spanish advanced learners show difficulties with morphological agreement marking, allowing infinitives which bear no agreement to occur with overt nominative subjects, on the one hand, and allowing infinitives with agreement marking to appear in contexts from which inflected infinitives are excluded in EP, on the other hand. These difficulties suggest that the learners' L1 may be interfering with the acquisition of these properties, as suggested by Rothman and Iverson (2007) (see Section 4.3). However, what appears to be the source of the difficulty is not the learners' inability to dissociate the agreement morphology from finiteness, as they clearly distinguish inflected infinitives from finite verb forms, but rather the availability of a personal infinitive in Spanish, i.e., an infinitival form which is able to license nominative subjects in a restricted number of contexts without being associated with person/number inflection. In this case, the fact that the L1 displays a construction which shares some of the properties of the inflected infinitive actually appears to delay its acquisition.

Although there are indications that knowledge of the morphosyntactic properties of the inflected infinitive starts to emerge early, there are clear developmental effects visible in the performances of the learner groups, as is evidenced by a comparison of the differences found between the elementary and the advanced groups. Hence, both elementary groups accept inflected infinitives in finite contexts, unlike the corresponding advanced groups, and their rates of acceptance of finite verbs in inflected infinitival clauses with an overt subject are higher than those of the advanced groups, which indicates that at this early stage they may still be having difficulties in making a clear distinction between finite verbs and inflected infinitives. The Spanish elementary group, when compared to the Spanish advanced group, showed a significantly lower acceptance of (grammatical) inflected infinitives in infinitival contexts in the presence of either an overt subject or a null subject on the morphological recognition task. This group also favours ungrammatical options in the corrections which they provide in infinitival contexts in the presence of an overt subject, namely, illicit finite verb forms and uninflected infinitives. The Chinese elementary group also displayed significantly lower rates of acceptance of inflected infinitives than the Chinese advanced group in infinitival clauses with null subjects. On the context task, the Spanish elementary group accepted significantly less inflected infinitives in legitimate contexts than the Spanish advanced group, and the Chinese elementary group accepted significantly more inflected infinitives in illegitimate contexts than the Chinese advanced group. Hence hypothesis 1a, which predicted significant differences between the elementary groups and the corresponding L1 advanced group appears to be confirmed, indicating that grammatical properties develop gradually and have not been fully acquired by the elementary learners.

Nevertheless, there are indications that the elementary learners may already be making a distinction between inflected and uninflected infinitives. For example, the findings of the context task showed that acceptance of inflected infinitives in legitimate contexts is significantly higher than in illegitimate ones for both groups. Furthermore, we observed above that, although the Chinese elementary group accepted inflected infinitives in infinitival clauses significantly less than the advanced group, this only happened when the subject of the infinitival clause was not realised. This group displayed a significant preference for inflected over uninflected infinitives in the presence of an overt subject (but not in its absence); and their acceptance of uninflected infinitives in infinitival clauses with a null subject was significantly higher than in clauses with an overt subject. These facts suggest that the Chinese elementary learners may be using the presence of an overt nominative subject as a cue for legitimising the agreement marking on the infinitive.

One piece of evidence suggests that the Spanish elementary group may also be sensitive to the presence of an overt subject and may be developing the knowledge that, in infinitival contexts, overt nominative subjects are not licensed in the absence of agreement: they show a significant preference for uninflected over inflected infinitives in the absence of an overt subject, whereas no such preference was observed in the presence of an overt subject.

Hypothesis 2, which predicted L1-related differences between the learner groups on the two grammaticality judgement tasks, was also partially confirmed. On the morphological recognition task, it was observed that, in infinitival clauses with either an overt or a null subject, the Spanish elementary group performed significantly worse than the Chinese elementary group with respect to their acceptance of inflected infinitives (and also with respect to acceptance of uninflected infinitives in the presence of an overt subject). These two groups also performed differently on the context task, where the Spanish elementary group was found to accept significantly less inflected infinitives in legitimate contexts than the Chinese elementary group. On this task, the two advanced groups also contrasted with respect to their acceptance of inflected infinitives in illegitimate contexts, which was significantly higher for the Spanish group. These results corroborate what was observed above, namely that there is evidence of a developmental delay in the case of the Spanish-speaking learners, which may be related to the availability of a superficially similar construction in their L1 (the personal infinitive), which, nevertheless, presents distinctive properties, particularly with respect to the absence of agreement morphology and syntactic distribution.

As for properties of the inflected infinitive which are relevant to the interpretation, according to the Interface Hypothesis (e.g. Sorace, 2011; Sorace & Filiaci, 2006), the development of these properties is expected to be delayed when compared to that of morphosyntactic properties (see Section 1). Therefore, advanced



L2 learners, independently of their L1, are still expected to have difficulties with the discourse conditions which govern the interpretation of (at least) overt subject pronouns (see Sections 1 and 2).

No differences were found among the groups with respect to their interpretation of uninflected infinitival subjects: the three groups exhibit a strong preference for a local *c*-commanding antecedent for the infinitival PRO subject. These results are in accordance with the predictions of the Interface Hypothesis, as the interpretation of the PRO subject is determined by control and is therefore dependent on syntactic knowledge, which is expected to develop early.

In finite clauses with a null subject, no differences were found among the groups either: the three groups significantly prefer a local subject antecedent for the null subject in this context. Again, these results are expected, given that, as described in Section 1 above, many studies have shown that L2 learners have no difficulties in interpreting null subjects (e.g. Belletti et al., 2007; Sorace & Filiaci, 2006).

However, regarding the interpretation of the overt pronominal subjects of finite verbs by the two learner groups, as well as the interpretation of both the null and overt subjects of inflected infinitives, the picture which emerges is quite different. In these contexts, the native controls behave as expected: they significantly prefer a discourse antecedent for the overt subject both in finite and in inflected infinitival contexts, and a local subject antecedent for the null subject with inflected infinitives, similarly to what was observed with finite verbs. In a nutshell, they display a clear asymmetry in their interpretation of null and overt subjects and, as expected, do not make a distinction, in the interpretation of subjects, between finite and inflected infinitival contexts.

However, the learner groups do not behave targetlike in all of these contexts. In inflected infinitival clauses with a null subject, only the Spanish learners perform similarly to the native controls, significantly preferring a local subject antecedent over a discourse antecedent, whereas the Chinese learners do not favour any of the options, revealing indeterminate intuitions regarding the interpretation of the null subject in this context. Hence the Chinese group not only performs differently both from the control group and from the Spanish group, but they also exhibit a different behaviour from that shown in finite contexts (as detailed in Section 5.3, their selection of a local subject antecedent for the null subject is significantly higher in finite clauses than with inflected infinitives).

In finite contexts with overt subjects, both learner groups differ from the control group (but not from each other), showing a significantly higher preference for a local subject antecedent and a significantly lower preference for a discourse antecedent. However, their intuitions are indeterminate and neither group shows a significant preference for any of the options. This is largely similar to what we

find with inflected infinitival clauses with an overt subject. However, in this context, the Chinese group does not differ significantly from the control group with respect to their choice of a local antecedent for the infinitival subject; and the Spanish group's acceptance of a local subject for the overt subject is significantly higher in finite than in inflected infinitival contexts. Hence, with overt subjects, there appears to be an asymmetry between finite and inflected infinitival contexts regarding the acceptance of local antecedents.

We may conclude that both hypothesis 3a, which predicted that the two learner groups would not differ in the interpretation of overt subjects in inflected infinitival and finite contexts, and hypothesis 3b, according to which the two learner groups should perform differently from the native controls in this respect, were partially confirmed. These results demonstrate that the development of these interpretative properties is delayed, and are therefore consistent with the conclusions of many empirical subjects on the L2 acquisition of finite subject pronouns (e.g. Belletti et al., 2007; Montrul & Rodríguez Louro, 2006; Sorace & Filiaci, 2006).

Regarding the interpretation of null subjects, there are differences between finite and inflected infinitival contexts in the behaviour of both learner groups: their acceptance of a local antecedent for the null subject is significantly higher in finite than in inflected infinitival clauses (and the two groups do not differ from each other). However, the two groups do not behave alike with respect to their selection of a discourse antecedent for the null subject. On the one hand, the choice of a discourse antecedent with inflected infinitives is significantly higher for the Chinese learners than for both the Spanish learners and the control group (no differences are found between the Spanish and the control groups). On the other hand, similarly to the control group, the Spanish (but not the Chinese) learners significantly prefer a local to a discourse antecedent for the null inflected infinitival subject.

These findings, which run counter to what was found with respect to the morphosyntactic properties, indicate that, for the Spanish-speaking learners of EP, having a pro-drop language as their L1 has a facilitating effect, as far as knowledge of the discourse conditions which determine the interpretation of null subjects is concerned. Hence, despite their difficulties with morphological agreement marking, they appear to have identified the subject of the inflected infinitive as a nominative subject (and, in the case of the null subject, as *pro* rather than *PRO*). On the other hand, the L1 Chinese speakers, who, on the two grammaticality judgement tasks, make a clear distinction between inflected and uninflected infinitives, actually show more difficulties than the Spanish-speaking learners with respect to the interpretation of the null inflected infinitival subject. The fact that this group displays no equivalent difficulties regarding the interpretation of null subjects in finite contexts suggests that these difficulties cannot be attributed to lack of knowledge

of the relevant discourse conditions, but rather to a failure to identify the null subject of the inflected infinitive as *pro*. The contrast found between the results of the two grammaticality judgement tasks and those of the interpretation task raises the question of whether these learners' performance on the grammaticality judgement tasks should be taken to be an accurate reflection of their competence. Given that they have mostly acquired EP in a classroom setting and the grammatical properties of the inflected infinitive will have been explicitly taught by the upper intermediate level/lower advanced level, it is possible that the targetlike performance observed in those two tasks has been at least partly influenced by the learners' explicit knowledge of these properties. In order to come to a conclusion as to whether this might have been the case, it would be necessary to either replicate the study with naturalistic learners or to conduct another study using different experimental tasks which are less likely to tap into learners' explicit knowledge.

This study set out to investigate how knowledge both of the morphosyntactic and of certain discourse-related interpretative properties of the inflected infinitive develops in L2 EP and whether this development is influenced by the learners' L1. The findings of the study support a full access approach to L2 acquisition, showing that the advanced learners have largely acquired the relevant morphosyntactic properties. However, these properties appear to develop gradually and have not been fully acquired by the elementary learners. There is also evidence of a developmental delay in the case of the Spanish-speaking learners, which may be related to the availability of a personal infinitive in their L1, which, although similar to the inflected infinitive in some ways, is associated with distinctive properties. The results of the study also support the predictions of the Interface Hypothesis with respect to the acquisition of discourse-related interpretative properties: both advanced groups performed non-targetlike with respect to the interpretation of overt subjects in finite and inflected infinitival. However, regarding the interpretation of null inflected infinitival subjects, the Spanish group showed a clear advantage over the Chinese group, which may be due to the *pro*-drop status of their L1.

The findings of our study are not totally consistent with those of previous studies on the inflected infinitive in L2 BP (e.g. Rothman & Iverson, 2007). As described in Section 3.1, these studies concluded that advanced L2 learners of BP show evidence of full acquisition of the morphosyntactic properties of the inflected infinitive (and also of semantic properties which were not the focus of the present study), but no evidence of L1 effects. However, the learners in those studies were clearly advanced learners, whereas the 'advanced' learners in our study may have a lower level of proficiency (remember that what we have been designating as the 'advanced' group is actually composed of both upper intermediate and lower advanced learners of EP). Hence, some of the effects which we have observed,

including the L1 effects, may be typical of earlier stages of development and may disappear as learners become more proficient. Nevertheless, given that it has been shown that, in the domain of L1 acquisition, knowledge of the properties of the inflected infinitive develops earlier in EP than in BP (Pires et al., 2011), the upper intermediate/lower advanced learners in our study might have been expected to have developed this knowledge, since they were participating in a study abroad programme and should therefore have received sufficient evidence of the properties of inflected infinitives by this stage, both through exposure to natural input (given that, unlike in BP, the inflected infinitive is fairly productive in EP) and through explicit instruction. In order to better understand the reasons behind the differences found between the results of the present study and those which have been conducted on L2 BP and, more generally, in order to gain a broader and more detailed picture of the development of the properties of the inflected infinitive in interlanguage grammars, further studies are necessary, which will allow us to compare L2 learners of these two varieties of Portuguese at different stages of development.

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# How Portuguese children interpret subject pronouns in complement clauses

## Effects of mood selection and position of antecedent

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This study aimed to verify if Portuguese children show an interpretative asymmetry between null and overt subject pronouns in indicative and subjunctive complement clauses. In the indicative, children overaccepted the dispreferred coreferential reading with overt pronouns (argued to be licensed post-syntactically); children performed more adult-like with null pronouns (considered to be licensed in syntax) when there was only one intrasentential antecedent (the matrix subject). However, when a matrix object antecedent was added between the preferred matrix subject antecedent and the null embedded subject pronoun, they often accepted the dispreferred reading of disjoint reference. In subjunctive clauses, children incorrectly assigned coreferential readings to both pronouns. We assume that subjunctive obviation is partly dependent on lexical-semantic knowledge, taking time to be acquired.

**Keywords:** interpretation; null subject pronouns; overt subject pronouns; indicative; subjunctive

### 1. Introduction

The current study investigates how the interpretation of null and overt subject pronouns in indicative and subjunctive complement clauses by typically developing Portuguese preschool children is influenced by the grammatical status of those forms.<sup>1</sup> Therefore, the main goal of this research is to determine if there is an interpretative asymmetry between both types of subject pronouns (null or overt), regarding referential antecedents, in different embedded contexts (indicative or subjunctive) in the acquisition of European Portuguese (EP). This study

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1. This research is part of the PhD dissertation by Silva (2015).



also intends to verify if children's performance is affected by the type of matrix verb that selects the subjunctive and by the presence of one or two available antecedents in the sentence.

The interpretation of null and overt pronouns in first language acquisition is a domain *par excellence* for the study of linguistic interfaces, raising relevant questions in the articulation between core syntax and other components of grammar. It involves not only mastery of syntactic rules, semantic knowledge and pragmatic information but also the interaction among these different linguistic components. The purpose is to contribute, through the study of the acquisition of the pronominal system, for a finer definition of the role played by the several interfaces and by processing constraints in the initial stages of linguistic development.

## 2. Interpreting subject pronouns in finite complement clauses in EP

In a null subject language like EP, it is possible to alternate phonetically null pronouns with phonetically overt pronouns. The null or overt status of the subject pronoun can condition distinct interpretations.

When the verb of a finite complement clause is in the *indicative* mood, a null embedded pronominal subject is preferentially interpreted as having the same reference as the subject of the main clause (Brito, 1991):

- (1) O Pedro disse que *pro* caiu.  
       the Pedro said that *pro* fell  
       'Pedro said that he fell.'

With the indicative, the interpretation of an overt embedded pronominal subject is preferentially interpreted as having a distinct reference from the subject of the matrix clause (Brito, 1991):

- (2) O Pedro disse que *ele* desmaiou.  
       the Pedro said that he fainted  
       'Pedro said that he fainted.'

However, these interpretations in indicative complement clauses correspond to preferential readings. The null subject of the embedded clause of (1) may also have a disjoint reading referring to the 2nd person singular of formal treatment (cf. (3a)) or relating to the 3rd person singular (cf. (3b)). As for sentence (2), the interpretation of coreference may also occur (cf. (4)).

- (3) a. O Pedro disse que *você* desmaiou.  
       the Pedro said that you fainted  
       'Pedro said that you fainted.'

- b. O Pedro disse que *ele/ela* desmaiou.  
 the Pedro said that he/she fainted  
 'Pedro said that he/she fainted.'
- (4) O Pedro disse que *ele próprio* desmaiou.  
 the Pedro said that he himself fainted  
 'Pedro said that he himself fainted.'

According to the *Avoid Pronoun Principle* (Chomsky, 1982, p. 65), the use of an overt pronoun should be avoided where possible. Additionally, Cardinaletti and Starke (1999, p. 198–199) propose a principle named *Minimize Structure* (or *Economy of Representations*), through which preference is always given to the most deficient pronominal form where possible. In indicative complement clauses, these principles establish the choice of a null pronoun (which is a weak deficient form) over an overt strong pronoun in order to express an interpretation of coreference with regard to the matrix subject.

The shown interpretative effects refer to indicative contexts in which the antecedent of subject pronouns is referential. The predictions described for the interpretation of null and overt pronominal subjects within indicative complement clauses in EP, which involves preferential readings, are similar to those suggested by Carminati (2002) in the Position of Antecedent Hypothesis. This hypothesis is considered to be active when there are one or two available antecedents in the sentence for subject pronouns in finite complement clauses with the indicative mood in EP. It states that embedded subject pronouns are associated with antecedents that occupy specific syntactic positions in the sentence, with the null pronoun preferring a more prominent antecedent than the overt pronoun. Prominence is attributed to the Spec IP position, occupied by a preverbal subject. In consequence, the null embedded subject pronoun generally retrieves the subject antecedent, whereas the overt embedded subject pronoun generally retrieves a non-subject antecedent. Both sentences (5) and (6) have two potential antecedents in the matrix clause: one in subject position and another in object position.

- (5) O Pedro disse ao avô que *pro* emagreceu.  
 the Pedro said to.the grandpa that *pro* lost weight  
 'Pedro told grandpa that he lost weight.'
- (6) O Pedro disse ao avô que *ele* emagreceu.  
 the Pedro said to.the grandpa that he lost weight  
 'Pedro told grandpa that he lost weight.'

Consequently, the null embedded pronominal subject of sentence (5) is preferentially interpreted as being coreferential with the subject of the main clause *o Pedro*. In sentence (6), the overt embedded subject pronoun *ele* is preferentially interpreted as having the same reference as the indirect object of the main clause *o avô*, presenting therefore disjoint reference in relation to the matrix subject *o Pedro*.

When a finite complement clause has the *subjunctive* mood selected by volitional verbs (like *querer* 'to want') or declarative verbs of order (like *pedir* 'to request'), the differences of interpretation between the null pronoun and the overt pronoun change in relation to what happens in the indicative. In this subjunctive context both pronominal forms present, in general, obviation effects, that is, the embedded pronominal subject is necessarily disjoint in relation to the subject of the main clause (Meireles & Raposo, 1983; Raposo, 1985):

- (7) O Pedro quer que *pro* salte. / O Nuno pediu que  
the Pedro wants that *pro* jumps / the Nuno requested that  
*pro* cantasse.  
*pro* sang  
'Pedro wants him to jump.' / 'Nuno asked him to sing.'
- (8) O Pedro quer que *ele* salte. / O Nuno pediu que  
the Pedro wants that he jumps / the Nuno requested that  
*ele* cantasse.  
he sang  
'Pedro wants him to jump.' / 'Nuno asked him to sing.'

The subject of the complement clauses in (7) and (8) can present the same interpretation of 3rd person singular, referring to an extrasentential antecedent, which is in fact the only one possible in (8). Nevertheless, the null embedded subject of both sentences in (7) can also be associated with the readings referring to the 1st person singular (cf. (9)) and to the 2nd person singular of formal treatment (cf. (10)).

- (9) O Pedro quer que *eu* salte. / O Nuno pediu que  
the Pedro wants that I jump / the Nuno requested that  
*eu* cantasse.  
I sang  
'Pedro wants me to jump.' / 'Nuno asked me to sing.'
- (10) O Pedro quer que *você* salte. / O Nuno pediu que  
the Pedro wants that you jump / the Nuno requested that  
*você* cantasse.  
you sang  
'Pedro wants you to jump.' / 'Nuno asked you to sing.'

Meireles and Raposo (1983) and Raposo (1985) argue that the obviation phenomenon, a property of the subjunctive, is derived from the anaphoric nature of Tense. Accordingly, volitional verbs or declarative verbs of order select subjunctive complement clauses with [-TENSE]. This operator [-T] is anaphoric and needs to be bound by the higher [+T]. Consequently, the binding domain

of the embedded clause is extended to the matrix clause with [+T] by necessity of legitimation of the anaphoric tense of the subjunctive with [-T]. In this case, the possibility of the embedded subject to be bound by the matrix subject is excluded, since the subject of the subjunctive clause must be free within a TENSED domain.

However, there are exceptions to the subjunctive obviation, which makes Ambar and Vasconcelos (2012) state that it may not result only from the anaphoric or dependent nature of Tense in subjunctive clauses. Lobo (2013, p. 2202) reports that some EP speakers may allow a coreferential reading between the matrix subject and the null subject pronoun of subjunctive clauses selected by verbs such as the factive psychological verb *lamentar* 'to regret', the verb of expectation *esperar* 'to hope' or the declarative verb of order *pedir* 'to request' in specific contexts: when the embedded clause has a stative predicate like *ficar* 'to stay' (cf. (11)), a modal semi-auxiliary verb like *poder* 'can' (cf. (12)), the auxiliary verb *ter* 'to have' (cf. (13)) or certain temporal-aspectual adverbs as *ainda* 'still' (cf. (14)). In the following sentences, the null embedded subject is generally interpreted as disjoint from the matrix subject *o Pedro*, although some EP speakers may also interpret the null subject pronoun as coreferential with the matrix subject (*pro* ≠ *o Pedro*; *pro* = *o Pedro*).<sup>2</sup>

- (11) O Pedro lamenta que *pro* fique pouco tempo no Porto.  
the Pedro regrets that *pro* stays short time in.the Porto  
'Pedro regrets that he is staying a short time in Porto.'
- (12) O Pedro lamenta que *pro* não possa ir ao concerto.  
the Pedro regrets that *pro* not can go to.the concert  
'Pedro regrets that he can't go to the concert.'
- (13) O Pedro lamenta que *pro* tenha perdido o avião.  
the Pedro regrets that *pro* has lost the plane  
'Pedro regrets that he has lost the plane.'
- (14) O Pedro lamenta que *pro* ainda não saiba nadar.  
the Pedro regrets that *pro* still not knows to swim  
'Pedro regrets that he still doesn't know how to swim.'

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2. Although Lobo (2013, p. 2202) considers that with the matrix verb *pedir* the possibility of interpreting a null subject of a subjunctive clause as coreferential (in relation to the main subject) increases substantially for some EP speakers in the mentioned exceptional contexts, this linguist does not present illustrative examples with this verb. The author of this paper does not show examples with the verb *pedir* in these specific contexts as well, because she is not included in the group of EP speakers that allow coreference.

In contrast, this phenomenon does not affect the subjunctive complement clauses selected by the volitional verb *querer* 'to want', in which coreference with the subject of the main clause is not possible (Lobo, 2013, p. 2202).

### 3. Cross-linguistic research in the acquisition of pronominal subjects in complement clauses: Some interpretative patterns

In indicative complement clauses and with only one antecedent in the sentence, Italian and Portuguese monolingual children's interpretation more often deviates from adults' performance when the pronoun is an overt form than when the pronoun is a null form (Costa & Ambulate, 2010; Sorace, Serratrice, Filiaci, & Baldo, 2009). Accordingly, it is legitimate to claim that children seem to be less efficient in rejecting the dispreferred reading of coreference with overt subject pronouns than the dispreferred reading of disjoint reference with null subject pronouns. This pattern provides evidence for the pertinence of the asymmetry between weak and strong pronouns (taking into consideration the pronominal classification proposed by Cardinaletti and Starke, 1999) in the interpretation of those forms. In consequence, Costa and Ambulate (2010) argue that the grammatical status of the pronominal form involved (null or overt) is important. These authors have also tested Portuguese children's interpretation of null subjects in indicative clauses and with two intrasentential antecedents (this condition did not include a counterpart with overt subject pronouns). In this specific context, children's preference for coreference between the matrix subject antecedent and the null embedded subject pronoun decreased. Thus, in the interpretation of null pronominal subjects, adding another possible antecedent (an indirect object) to the main clause weakened children's performance when these results are compared with results obtained in the interpretation of sentences with only one intrasentential antecedent.

In subjunctive complement clauses (selected by volitional verbs or declarative verbs of order) and with one or two referential antecedents in the sentence, children incorrectly assign coreferential readings to both null and overt subject pronouns. This is observed with null pronouns in EP (Costa & Ambulate, 2010) and in Spanish (Padilla, 1990), and with overt pronouns in Russian (Avrutin & Wexler, 1999/2000). Consequently, the subjunctive appears to be a problem by itself. If that is the case, then mood selection (determined by lexical and semantic properties of the matrix verbs) matters in the interpretation of embedded pronominal subjects. However, Avrutin and Wexler (1999/2000) have described that Russian-speaking children's interpretation of overt subject pronouns in subjunctive clauses (selected by a volitional verb) improves when the antecedent is a quantifier. In consequence, these linguists suggest that children seem to know the syntactic properties of the

subjunctive mood with volitional matrix verbs, since they have a better performance in subjunctive clauses with a quantified antecedent. Avrutin and Wexler (1999/2000, p. 95) further argue that the higher acceptance of coreference when the antecedent is a referential expression reflects an incorrect deictic use of pronouns. Hence, these authors defend that Russian-speaking children make mistakes when an interaction between syntactic and discourse-related restrictions is required. In turn, Padilla (1990) considers that Spanish-speaking children do not yet master the lexical properties of the matrix verbs, which are relevant for a correct analysis of subjunctive clauses.

#### 4. Hypotheses and predictions

In view of the results obtained in previous cross-linguistic studies on the acquisition of embedded subject pronouns (cf. Section 3) and following the typology of Cardinaletti and Starke (1999), we assume that null pronominal subjects correspond to weak deficient pronouns (with no phonetic realization), contrasting with overt strong pronouns. Consequently, we consider that the grammatical status of pronouns (null or overt) is relevant for their interpretation, especially in indicative contexts. If acquisition is guided by complexity principles, then null forms (deficient pronouns) are acquired before overt strong forms because they are less complex.<sup>3</sup> In addition, subjunctive obviation (with both null and overt subject pronouns) is considered to be more difficult for children, since it involves not only syntactic knowledge of the anaphoric nature of Tense (Meireles & Raposo, 1983; Raposo, 1985) but also lexical and semantic knowledge of the matrix verbs (Padilla, 1990). The availability of two antecedents in the sentence is regarded as having impact in children's interpretation of embedded pronominal subjects, particularly with null pronouns (Costa & Ambulate, 2010). In this case, the position of the matrix indirect object antecedent (occurring before the pronoun) appears to play an influential role in their performance. Possible difficulties may arise in indicative clauses when the object antecedent is added between the preferred

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3. Here, we are taking into account the morphological complexity of pronouns. We can consider that overt subject pronouns are more complex in the sense that, morphologically, they present a high specification of phi-features such as person, number and gender. In turn, null subject pronouns can be considered to be less complex since they are dependent on verbal inflection in order to be specified for phi-features of person and number agreement. This syntactic dependency of null pronouns may suggest they involve less costs in terms of processing for children.

matrix subject antecedent and the null embedded subject pronoun. Hence, in the present investigation, the following hypotheses are formulated for EP:

- a. In indicative complement clauses (with referential antecedents in the sentence), we predict that children will display a performance close to the adults' behavior when interpreting null embedded pronominal subjects (especially when there is only one intrasentential antecedent – the matrix subject), but they will deviate from the adults in the interpretation of overt embedded pronominal subjects;
- b. The prediction for the interpretation of pronominal subjects in subjunctive complement clauses (with referential antecedents in the sentence) is that both null and overt pronouns will be problematic for children, with an overacceptance of coreference with the matrix subject;
- c. If the type of matrix verb that selects the subjunctive clause has an effect in the interpretation of null and overt subjects, differences in children's performance are predicted when only the matrix verb differs in the same context. In this case, the prediction is that children will less often accept coreferential readings with the volitional verb *querer* 'to want' than with the declarative verb of order *pedir* 'to request'. Assuming that with the volitional verb *querer* there is no (or at least hardly any) exceptions to the obviation phenomenon of the embedded subject with the subjunctive, we can consider that *querer* is more categorical in determining subjunctive obviation than the declarative verb of order *pedir*;
- d. If children's interpretation of embedded subject pronouns in the *indicative* is influenced by the addition of another potential antecedent (the matrix indirect object) before the pronoun, we expect that children's acceptance of the dispreferred disjoint reference will increase in the case of null subject pronouns while their acceptance of the dispreferred coreference will decrease in the case of overt subject pronouns. In the first case, we assume that the matrix indirect object antecedent is often accepted due to its closest position to the null pronoun in the sentence. In the second case, we assume that the presence of the object antecedent in the sentence makes the pragmatically appropriate antecedent more accessible for the overt pronoun;
- e. If children's interpretation of embedded subject pronouns in the *subjunctive* is influenced by the addition of another potential antecedent (the matrix indirect object) before the pronoun, we expect that they will get closer to the adults' responses with both null and overt subject pronouns, increasing their disjoint readings and decreasing their coreferential readings (i.e. coreferential readings with respect to the matrix subject). Here, we assume that the presence of the object antecedent in the sentence makes the legitimate antecedent more accessible (by preceding the pronoun).

## 5. Experiment

The interpretation of null and overt subject pronouns in indicative and subjunctive complement clauses was evaluated through three experimental tests (A1, A2 and B). These tests differed in the possible referential antecedents for the (null or overt) embedded pronominal subject. Accordingly, test A1 (cf. (15) and (16)) and test A2 (cf. (17)) had only one intrasentential antecedent (the subject of the main clause) and the alternative was an extrasentential antecedent. Test B (cf. (18) and (19)) had two available antecedents in the sentence: subject antecedent and indirect object antecedent occurring before the pronoun.

Test A1 and test B contained both indicative and subjunctive clauses. Test A2 included only subjunctive clauses (replicating the subjunctive context of test A1 with a different matrix verb), because the correspondent indicative context was already considered in test A1.

The indicative mood was always selected by the declarative verb *dizer* 'to say' in tests A1 and B. The subjunctive mood was selected by the volitional verb *querer* 'to want' in test A1, and by the declarative verb of order *pedir* 'to request' in tests A2 and B.

- (15) *Test A1: one intrasentential antecedent* (Indicative)  
 O bombeiro disse que *pro/ele* adormeceu.  
 the fireman said that *pro/he* fell asleep  
 'The fireman said that he fell asleep.'
- (16) *Test A1: one intrasentential antecedent* (*querer* + Subjunctive)  
 O príncipe quer que *pro/ele* salte.  
 the prince wants that *pro/he* jumps  
 'The prince wants him to jump.'
- (17) *Test A2: one intrasentential antecedent* (*pedir* + Subjunctive)  
 O bombeiro pediu que *pro/ele* cantasse.  
 the fireman requested that *pro/he* sang  
 'The fireman asked him to sing.'
- (18) *Test B: two intrasentential antecedents* (Indicative)  
 O avô disse ao bombeiro que *pro/ele* emagreceu.  
 the grandpa said to.the fireman that *pro/he* lost weight  
 'Grandpa told the fireman that he lost weight.'
- (19) *Test B: two intrasentential antecedents* (Subjunctive)  
 O bombeiro pediu ao avô que *pro/ele* assobiasse.  
 the fireman requested to.the grandpa that *pro/he* whistled  
 'The fireman asked grandpa to whistle.'

The test conditions for the interpretation of embedded subject pronouns either in the indicative (selected by the verb *dizer*) or in the subjunctive (selected



by the verbs *querer* and *pedir*) were the following: (a) Coreferential reading between the null embedded subject and the matrix subject; (b) Disjoint reference reading between the null embedded subject and the matrix subject; (c) Coreferential reading between the overt embedded subject and the matrix subject; (d) Disjoint reference reading between the overt embedded subject and the matrix subject.

Accordingly, in each of the verbal moods (indicative and subjunctive), the interpretation of null and overt embedded pronominal subjects was tested in contexts of coreference and of disjoint reference with respect to the matrix subject (see Figure 1).

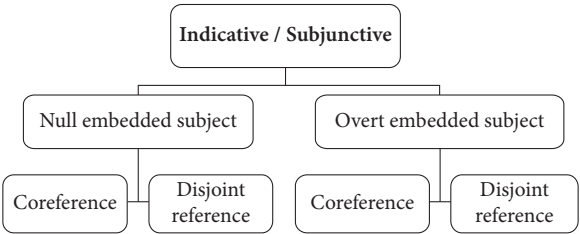


Figure 1. Test conditions in the indicative and in the subjunctive moods

Concerning test A1 and test B, each one of them included 30 questions in total, corresponding to 24 test items (three items per condition in both indicative and subjunctive moods) and to six control items with embedded subject DPs (see Table 1 and Table 2). These control items were used in order to minimize children’s tendency to give affirmative answers because they do not wish to contradict the researcher (known as *yes bias* effect). The main purpose was necessarily to trigger “no” answers, checking if children paid attention and/or understood the task. In turn, test A2 contained 16 questions in total, which corresponded to 12 test items (three items per condition, only in the subjunctive mood) and to four control items with embedded subject DPs (see Table 1 and Table 2).

Table 1. Structure of the test items

12 test items in the indicative				12 test items in the subjunctive			
6 null embedded subjects		6 overt embedded subjects		6 null embedded subjects		6 overt embedded subjects	
3 in coreference	3 in disjoint reference	3 in coreference	3 in disjoint reference	3 in coreference	3 in disjoint reference	3 in coreference	3 in disjoint reference

Table 2. Structure of the control items

6 control items (DPs) – Tests A1 and B		4 control items (DPs) – Test A2	
3 “yes” answers	3 “no” answers	2 “yes” answers	2 “no” answers

Table 3 indicates, for the referred test conditions, the expected interpretation of null and overt embedded pronominal subjects (in relation to the matrix subject) according to the adult grammar of EP

Table 3. Expected interpretation in the adult grammar of EP

	Null embedded subject		Overt embedded subject	
	Coreference	Disjoint reference	Coreference	Disjoint reference
Indicative (matrix verb <i>dizer</i> )	preferred	dispreferred	dispreferred	preferred
Subjunctive (matrix verbs <i>querer</i> and <i>pedir</i> )	false with the matrix verb <i>querer</i> / strongly dispreferred with the matrix verb <i>pedir</i>	true with 3rd person singular (or false with interpretation of 2nd person singular of formal treatment <i>você</i> ‘you’)	false	true

In indicative complement clauses, an overt pronoun with contrastive stress improves the possibility of coreference (Montalbetti, 1986, p. 143). Therefore, emphatic stress or any other intonational clues were avoided when asking questions with the overt pronoun *ele* (he).

## 5.1 Methodology

The methodology consisted of a set of truth value judgment tasks, using yes/no questions in order to obtain the child’s answer. In each task, there was a short animated representation with two toy figures (introduced at the beginning of the task) in order to provide the adequate context for the interpretation of the embedded pronominal subjects. After the short animated representation, a Puppet (Pinocchio), who was usually distracted, produced the interjection “hum” (in English, “hmm”) to denote thinking or pondering and always mentioned the two characters (corresponding to the two toy figures) contextually present in the test. This happened immediately before the yes/no test question was posed to the child by the Puppet (Pinocchio). The goal was to make the participant aware of both characters (always visually available), taking them both into consideration as

potential antecedents when interpreting the embedded subject pronoun. The two characters always shared features of the same grammatical gender. Examples of test items are presented in each section that refers respectively to Test A1 (cf. 5.3), Test A2 (cf. 5.4) and Test B (cf. 5.5).

5.2 Participants

The participants (children and adults) of these three tests were the same in each age group. Tests A1, A2 and B were applied to 84 children between 3;1 and 6;4 years old (split into four age groups), and to 28 adults who constituted the control group (see Table 4). Both children and adults were monolingual native speakers of EP.

Table 4. Description of the participants in Tests A1, A2 and B

Tests A1, A2 and B					
Age group	Age range	Mean age	Girls	Boys	Total
3	3;1–3;11	3;7	10	11	21
4	4;0–4;11	4;6	10	12	22
5	5;0–5;11	5;5	12	16	28
6	6;0–6;4	6;1	7	6	13
Adults	20–64	31	16	12	28
Total	–	–	55	57	112

All these children successfully rejected the control items that induced a “no” answer in each of the tests, minimizing the *yes bias* effect.

The graphics presented in the next sections indicate values that result from an analysis of acceptance rates (percentages of “yes” answers) in relation to each of the subject pronouns, null or overt, in contexts of coreference and of disjoint reference. We are dealing with non-categorical readings (preferred or dispreferred), not only in the indicative but also in the subjunctive with the null subject. In consequence, the adults’ performance is the reference for the analysis of children’s results.

5.3 Test A1

Test A1 examined the interpretation of null and overt embedded pronominal subjects in the indicative (matrix verb *dizer* ‘to say’) and in the subjunctive (matrix verb *querer* ‘to want’) with one antecedent in the sentence (subject antecedent before the pronoun). Examples of items from test A1, in which the two toy figures were a prince and a fireman, are presented in Table 5. Figures 2 and 3 display the results in the indicative, and Figures 4 and 5 show those in the subjunctive.

Table 5. Examples of items organized by condition from Test A1

		Test A1	
		Indicative	Subjunctive
Null pronoun	Coreference	<b>Prince:</b> Hey Fireman, I sneezed! <b>Puppet (Pinocchio):</b> Hmm... The Prince... The Fireman... <i>O Príncipe disse que pro espirrou?</i> the Prince said that <i>pro</i> sneezed <b>Expected interpretation:</b> yes	<b>Prince:</b> Hey Fireman, I want to rest! <b>Puppet (Pinocchio):</b> Hmm... The Prince... The Fireman... <i>O Príncipe quer que pro descanse?</i> the Prince wants that <i>pro</i> rests <b>Expected interpretation:</b> no
	Disjoint reference	<b>Fireman:</b> Look! The Prince fell asleep! <b>Puppet (Pinocchio):</b> Hmm... The Fireman... The Prince... <i>O Bombeiro disse que pro adormeceu?</i> the Fireman said that <i>pro</i> fell asleep <b>Expected interpretation:</b> no	<b>Prince:</b> Hey Fireman, jump! <b>Puppet (Pinocchio):</b> Hmm... The Prince... The Fireman... <i>O Príncipe quer que pro salte?</i> the Prince wants that <i>pro</i> jumps <b>Expected interpretation:</b> yes
Overt pronoun	Coreference	<b>Fireman:</b> Hey Prince, I gained weight! <b>Puppet (Pinocchio):</b> Hmm... The Fireman... The Prince... <i>O Bombeiro disse que ele engordou?</i> the Fireman said that he gained weight <b>Expected interpretation:</b> no	<b>Fireman:</b> Hey Prince, I want to dance! <b>Puppet (Pinocchio):</b> Hmm... The Fireman... The Prince... <i>O Bombeiro quer que ele dance?</i> the Fireman wants that he dances <b>Expected interpretation:</b> no
	Disjoint reference	<b>Prince:</b> Look! The Fireman cried! <b>Puppet (Pinocchio):</b> Hmm... The Prince... The Fireman... <i>O Príncipe disse que ele chorou?</i> the Prince said that he cried <b>Expected interpretation:</b> yes	<b>Fireman:</b> Hey Prince, sing! <b>Puppet (Pinocchio):</b> Hmm... The Fireman... The Prince... <i>O Bombeiro quer que ele cante?</i> the Fireman wants that he sings <b>Expected interpretation:</b> yes

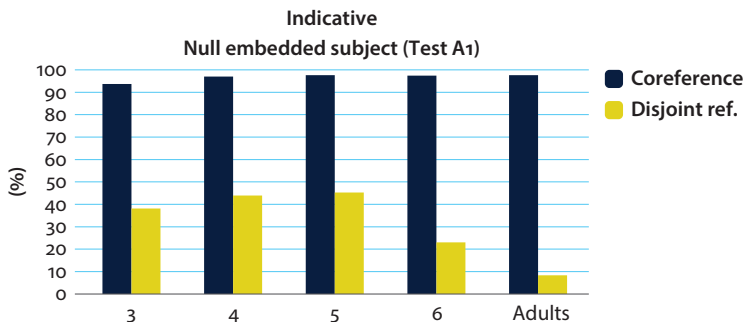


Figure 2. Acceptance rates for null subjects in the indicative (Test A1)

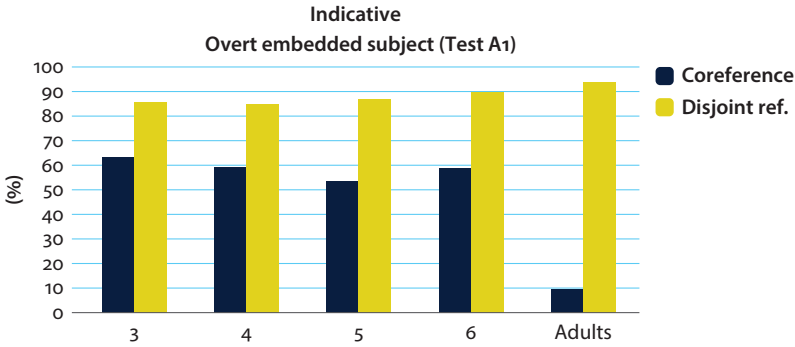


Figure 3. Acceptance rates for overt subjects in the indicative (Test A1)

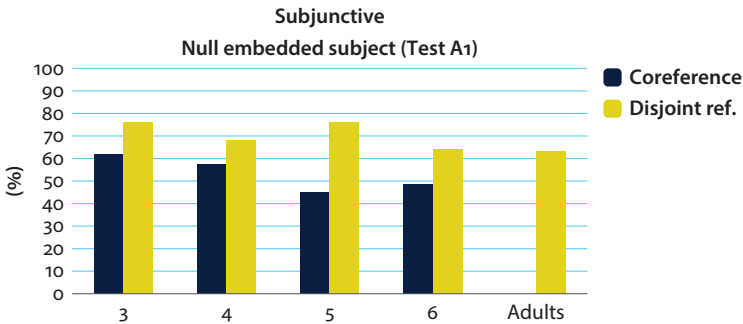


Figure 4. Acceptance rates for null subjects in the subjunctive (Test A1)

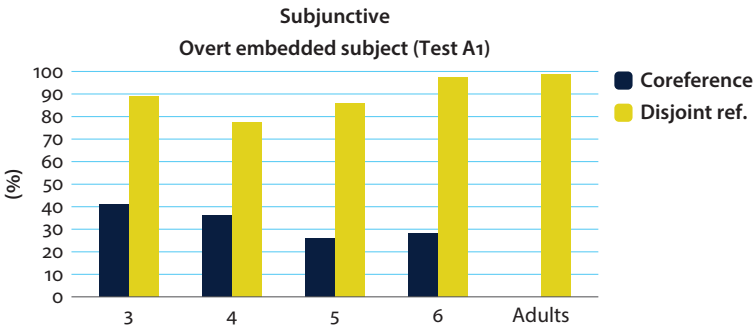


Figure 5. Acceptance rates for overt subjects in the subjunctive (Test A1)

With the indicative, adults clearly distinguished null pronouns from overt pronouns: their preferred interpretations were consistent with those described in the literature. In turn, children did not establish the interpretative distinction between null and overt pronouns in the same way. Their acceptance rates concerning either the dispreferred reading of disjoint reference for null pronouns (23–45%) or the

dispreferred reading of coreference for overt pronouns (54–63%) were higher than the adults' acceptance rates (8% and 10%, respectively). In spite of that, the difference between children and adults was more evident with the overt subject pronoun than with the null subject pronoun. Children's acceptance of the dispreferred reading of coreference with overt pronouns was always higher than their acceptance of the dispreferred reading of disjoint reference with null pronouns. This observation appears to suggest that children performed less adult-like with overt subject pronouns in the indicative. In this case, chi-square ( $\chi^2$ ) tests showed that there was a statistically significant difference between overt and null subjects in the 3-year-olds ( $\chi^2 = 7.15, p = 0.01$ ) and in the 6-year-olds ( $\chi^2 = 8.96, p < 0.01$ ).<sup>4</sup> In the interpretation of null embedded subjects, children's high acceptance rates of the preferred reading of coreference (94–98%) were leveled in relation to the adults' performance (98%). Additionally, in each group of children, the preferred interpretation of coreference with null subjects was always more accepted than the preferred interpretation of disjoint reference with overt subjects. This difference was statistically significant in the 4-year-olds ( $\chi^2 = 4.49, p = 0.03$ ) and in the 5-year-olds ( $\chi^2 = 5.34, p = 0.02$ ).<sup>5</sup>

With the subjunctive selected by the volitional verb *querer* 'to want', adults did not accept coreference with both null and overt subject pronouns (0%). Their acceptance rate of disjoint reference with the overt embedded pronominal subject was 99%, while the rate of disjoint reference with the null embedded pronominal subject was 63%. This difference may be due to the fact that, in the subjunctive, the alternative interpretation of the null pronoun as the 2nd person singular used for formal treatment (*você* 'you') was made available to some of the adults of the control group.<sup>6</sup>

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4. Within the same age group, the statistical comparison between two different conditions was done through Pearson's chi-square test with Yates' continuity correction. In this research, a difference is considered to be significant when  $p < 0.05$ . In the information regarding the statistical results, CO means *coreference* and DJ means *disjoint reference*. The comparison between conditions DJ/Null/Indicative (test A1) and CO/Overt/Indicative (test A1) provided the following results: 3-year-olds  $\chi^2 = 7.15, p = 0.01$ ; 4-year-olds  $\chi^2 = 2.46, p = 0.12$ ; 5-year-olds  $\chi^2 = 0.86, p = 0.36$ ; 6-year-olds  $\chi^2 = 8.96, p < 0.01$ .

5. CO/Null/Indicative (test A1) vs. DJ/Overt/Indicative (test A1): 3-year-olds  $\chi^2 = 1.37, p = 0.24$ ; 4-year-olds  $\chi^2 = 4.49, p = 0.03$ ; 5-year-olds  $\chi^2 = 5.34, p = 0.02$ ; 6-year-olds  $\chi^2 = 0.86, p = 0.36$ .

6. We do not want to imply that, with null subject pronouns in subjunctive clauses, the potential intrusion of the interpretation of 2nd person singular of formal treatment *você* 'you' is not available to children (which was questioned by one of the reviewers). The *você* interpretation may be available to some children, but the fact is that it seems to be difficult in general for young Portuguese children to deal with this pronoun of formal treatment in parallel to the use of the familiar form of address of the 2nd person singular *tu* 'you' in EP. In spite of that, other factors appear to affect children's performance in subjunctive contexts such as knowledge of

Children did not yet associate the subjunctive, selected by the volitional verb *querer*, only with disjoint reference. Unlike adults (who obtained 0% of coreferential readings with both subject pronouns), they incorrectly accepted coreference either with null pronouns or with overt pronouns (26–62%), which was more evident with the null embedded subject. This fact was not surprising, since overt pronouns are generally associated with disjoint reference (which is the preferred interpretation in the indicative).

In the context of interpretation of the null embedded subject, children appear to be sensitive to the contrast between subjunctive clauses selected by the verb *querer* (in which the null form is necessarily disjoint) and indicative clauses selected by the verb *dizer* (in which coreference is the preferred reading and disjoint reference is the dispreferred one). The percentages of acceptance of coreference for the null subject pronoun were lower in the subjunctive (Figure 4) in comparison to those in the indicative (Figure 2), with  $p < 0.05$  for each comparison inside each age group, using chi-square tests.<sup>7</sup> Furthermore, within each age group, in general children displayed higher rates of acceptance of disjoint reference for the null form in the subjunctive (Figure 4) than in the indicative (Figure 2), with chi-square tests showing that  $p < 0.05$  in each comparison.<sup>8</sup> In the context of interpretation of the overt embedded subject, children accepted coreference in the subjunctive (Figure 5), but at a lower percentage than that obtained in the indicative (Figure 3). Within each age group, the comparison between the indicative and the subjunctive, regarding the specific case of the overt pronoun in the coreference context, always provided a  $p < 0.05$  using chi-square tests.<sup>9</sup> This seems to indicate that children differentiate the subjunctive context selected by the verb *querer* (in which *ele* is necessarily disjoint) from the indicative context selected by the verb *dizer* (in which *ele* is preferentially disjoint).

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lexical and semantic properties of the matrix verbs selecting the subjunctive, which is considered to be relevant in determining obviation (cf. Sections 6.3 and 6.4). Nevertheless, what should be emphasized is the high acceptance of coreference by children, in contrast with 0% of acceptance of coreference by adults.

7. CO/Null/Indicative (test A1) vs. CO/Null/Subjunctive (test A1): 3-year-olds  $\chi^2 = 16.58, p < 0.01$ ; 4-year-olds  $\chi^2 = 26.96, p < 0.01$ ; 5-year-olds  $\chi^2 = 53.93, p < 0.01$ ; 6-year-olds  $\chi^2 = 21.11, p < 0.01$ .

8. DJ/Null/Indicative (test A1) vs. DJ/Null/Subjunctive (test A1): 3-year-olds  $\chi^2 = 17.14, p < 0.01$ ; 4-year-olds  $\chi^2 = 6.92, p = 0.01$ ; 5-year-olds  $\chi^2 = 15.60, p < 0.01$ ; 6-year-olds  $\chi^2 = 11.73, p < 0.01$ .

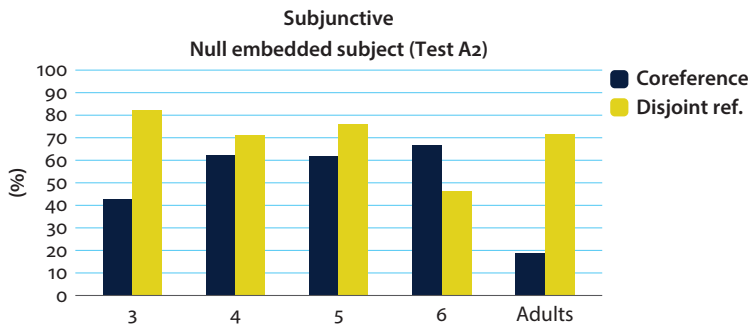
9. CO/Overt/Indicative (test A1) vs. CO/Overt/Subjunctive (test A1): 3-year-olds  $\chi^2 = 5.38, p = 0.02$ ; 4-year-olds  $\chi^2 = 5.95, p = 0.02$ ; 5-year-olds  $\chi^2 = 12.02, p < 0.01$ ; 6-year-olds  $\chi^2 = 6.31, p = 0.01$ .

## 5.4 Test A2

Test A2 addressed the interpretation of null and overt embedded pronominal subjects only in the subjunctive (matrix verb *pedir* ‘to request’) with one antecedent in the sentence (subject antecedent before the pronoun); the results are displayed in Figures 6 and 7. In Table 6 there are examples of items from test A2, in which the two toy figures were a pirate and a fireman.

**Table 6.** Examples of items organized by condition from Test A2

		Test A2
		Subjunctive
Null pronoun	Coreference	Pirate: Hey Fireman, may I jump?! Puppet (Pinocchio): Hmm... The Pirate... The Fireman... <i>O Pirata pediu que pro saltasse?</i> the Pirate requested that <i>pro</i> jumped Expected interpretation: no
	Disjoint reference	Pirate: Hey Fireman, sing! Puppet (Pinocchio): Hmm... The Pirate... The Fireman... <i>O Pirata pediu que pro cantasse?</i> the Pirate requested that <i>pro</i> sang Expected interpretation: yes
Overt pronoun	Coreference	Pirate: Hey Fireman, may I scream?! Puppet (Pinocchio): Hmm... The Pirate... The Fireman... <i>O Pirata pediu que ele gritasse?</i> the Pirate requested that he screamed Expected interpretation: no
	Disjoint reference	Fireman: Hey Pirate, whistle! Puppet (Pinocchio): Hmm... The Fireman... The Pirate... <i>O Bombeiro pediu que ele assobiasse?</i> the Fireman requested that he whistled Expected interpretation: yes



**Figure 6.** Acceptance rates for null subjects in the subjunctive (Test A2)



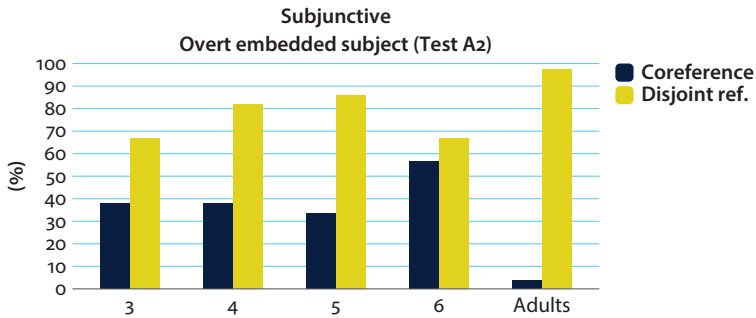


Figure 7. Acceptance rates for overt subjects in the subjunctive (Test A2)

The results seem to suggest that there is some lexical-semantic interference that derives from the type of matrix verb used in test A2. Some differences were registered in the acceptance rates of coreference and of disjoint reference, either with null or with overt subject pronouns, when the subjunctive is selected by the verb *querer* (test A1) and when the subjunctive is selected by the verb *pedir* (test A2). The adults changed from 0% of acceptance of coreference in the subjunctive with the matrix verb *querer* to 19% in the subjunctive with the matrix verb *pedir*, concerning the interpretation of the null form (which appears to be more ambiguous for the control group in this context). This ambiguity was reflected in the performance of the oldest group of children tested (the 6-year-olds), who accepted coreference more (67%) than disjoint reference (46%) regarding the null subject in subjunctive clauses selected by the declarative verb of order *pedir* ‘to request’. However, there was no statistical difference in this comparison within the age of 6 ( $\chi^2 = 2.56, p = 0.11$ ).

As we can observe in Figure 6 and Figure 7, there is no regularity in the progress of children concerning a decrease in the acceptance of coreference and an increase in the acceptance of disjoint reference. In all conditions, the 6-year-olds displayed the least close performance to the adults’ results, contrarily to what one might expect. This performance by the oldest group of children may suggest that there is a negative developmental trend with the verb *pedir* ‘to request’.

In spite of the observed lexical-semantic differences derived from the type of verb selecting the subjunctive, the general interpretative tendency with the matrix verb *pedir* (test A2) was similar to that found with the matrix verb *querer* (test A1).

Comparing the results obtained by children in the indicative selected by the verb *dizer* (test A1) with the results in the subjunctive selected by the verb

*pedir* (test A2), some sensitivity to the syntactic context with one intrasentential antecedent can be observed. Accordingly, children seem to be sensitive to the distinction between the indicative and the subjunctive. Within each age group, the acceptance rates of coreference regarding the null embedded subject pronoun was lower in the subjunctive (in which the null form is generally disjoint) than in the indicative (in which the null form is preferentially coreferential), with chi-square ( $\chi^2$ ) tests providing a  $p < 0.05$  in each comparison.<sup>10</sup> The acceptance of disjoint reference for the null pronouns was higher in the subjunctive than in the indicative, and this comparison showed a  $p < 0.05$  in each age group with the exception of the 6-year-olds ( $\chi^2 = 3.63$ ,  $p = 0.06$ ).<sup>11</sup> Concerning the interpretation of the overt embedded subject, coreference was accepted at lower percentages in the subjunctive (in which the overt form is necessarily disjoint) than in the indicative (in which the overt form is preferentially disjoint). In this comparison, chi-square tests showed  $p < 0.05$  in each age group, except for the 6-year-olds ( $\chi^2 = 0.00$ ,  $p = 1.00$ ).<sup>12</sup>

## 5.5 Test B

Test B investigated the interpretation of null and overt embedded pronominal subjects in the indicative (matrix verb *dizer* 'to say') and in the subjunctive (matrix verb *pedir* 'to request') with two available antecedents in the sentence (subject antecedent and object antecedent before the pronoun). Examples of items from test B, in which the two toy figures were a fireman and a grandpa, are shown in Table 7. Figures 8 and 9 present the results in the indicative, and Figures 10 and 11 give those in the subjunctive.

In the indicative, children were clearly different from adults, even in the 6-year-old group, accepting the disjoint reading more easily with the null pronoun (attributing to it the reference of the closest antecedent, the matrix indirect

10. CO/Null/Indicative (test A1) vs. CO/Null/Subjunctive (test A2): 3-year-olds  $\chi^2 = 35.20$ ,  $p < 0.01$ ; 4-year-olds  $\chi^2 = 22.54$ ,  $p < 0.01$ ; 5-year-olds  $\chi^2 = 31.01$ ,  $p < 0.01$ ; 6-year-olds  $\chi^2 = 10.53$ ,  $p < 0.01$ .

11. DJ/Null/Indicative (test A1) vs. DJ/Null/Subjunctive (test A2): 3-year-olds  $\chi^2 = 24.17$ ,  $p < 0.01$ ; 4-year-olds  $\chi^2 = 8.96$ ,  $p < 0.01$ ; 5-year-olds  $\chi^2 = 15.60$ ,  $p < 0.01$ ; 6-year-olds  $\chi^2 = 3.63$ ,  $p = 0.06$ .

12. CO/Overt/Indicative (test A1) vs. CO/Overt/Subjunctive (test A2): 3-year-olds  $\chi^2 = 7.15$ ,  $p = 0.01$ ; 4-year-olds  $\chi^2 = 5.13$ ,  $p = 0.02$ ; 5-year-olds  $\chi^2 = 6.20$ ,  $p = 0.01$ ; 6-year-olds  $\chi^2 = 0.00$ ,  $p = 1.00$ .

Table 7. Examples of items organized by condition from Test B

		Test B		
		Indicative	Subjunctive	
Null pronoun	Coreference	Grandpa: Hey Fireman, I slipped! Puppet (Pinocchio): Hmm... The Grandpa... The Fireman... <i>O Avô disse ao Bombeiro que pro escorregou?</i> the Grandpa said to-the Fireman that <i>pro</i> slipped Expected interpretation: yes	Fireman: Hey Grandpa, may I whistle?! Puppet (Pinocchio): Hmm... The Fireman... The Grandpa... <i>O Bombeiro pediu ao Avô que pro assobiasse?</i> the Fireman requested to-the Grandpa that <i>pro</i> whistled Expected interpretation: no	
		Disjoint reference	Fireman: You sneezed, Grandpa! Puppet (Pinocchio): Hmm... The Fireman... The Grandpa... <i>O Bombeiro disse ao Avô que pro espirrou?</i> the Fireman said to-the Grandpa that <i>pro</i> sneezed Expected interpretation: no	Fireman: Hey Grandpa, jump! Puppet (Pinocchio): Hmm... The Fireman... The Grandpa... <i>O Bombeiro pediu ao Avô que pro saltasse?</i> the Fireman requested to-the Grandpa that <i>pro</i> jumped Expected interpretation: yes
	Overt pronoun	Coreference	Fireman: Hey Grandpa, I tripped! Puppet (Pinocchio): Hmm... The Fireman... The Grandpa... <i>O Bombeiro disse ao Avô que ele tropeçou?</i> the Fireman said to-the Grandpa that he tripped Expected interpretation: no	Fireman: Hey Grandpa, may I jump?! Puppet (Pinocchio): Hmm... The Fireman... The Grandpa... <i>O Bombeiro pediu ao Avô que ele saltasse?</i> the Fireman requested to-the Grandpa that he jumped Expected interpretation: no
			Disjoint reference	Grandpa: You lost weight, Fireman! Puppet (Pinocchio): Hmm... The Grandpa... The Fireman... <i>O Avô disse ao Bombeiro que ele emagreceu?</i> the Grandpa said to-the Fireman that he lost-weight Expected interpretation: yes

object). Concerning the overt pronoun, once again children frequently accepted the dispreferred interpretation of coreference.

The subjunctive (selected by the declarative verb of order *pedir* ‘to request’) continued to be problematic for children, but in this test they got closer to the adults’ performance in the interpretation of null embedded subjects.

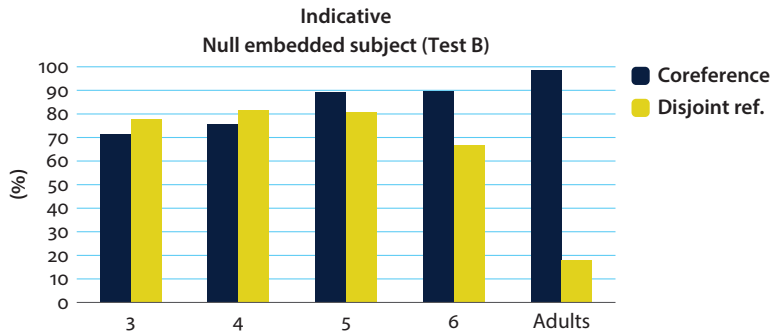


Figure 8. Acceptance rates for null subjects in the indicative (Test B)

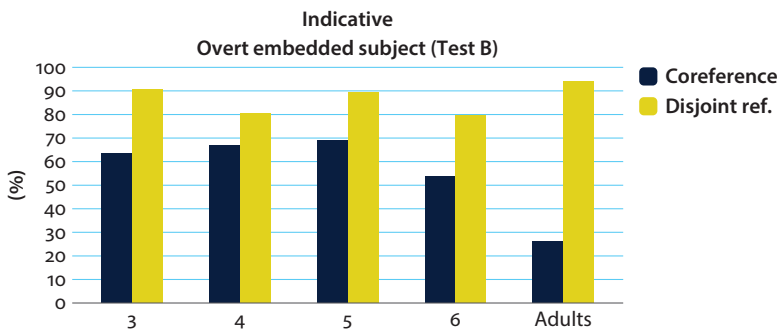


Figure 9. Acceptance rates for overt subjects in the indicative (Test B)

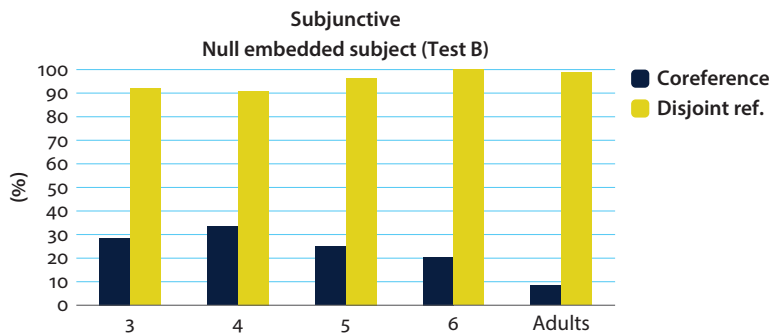


Figure 10. Acceptance rates for null subjects in the subjunctive (Test B)

The introduction of an object antecedent before the pronoun (following the matrix verb – test B) was relevant especially with respect to the interpretation of the null embedded pronominal subject by children, in both indicative and subjunctive clauses. Within each age group, the acceptance rates of the dispreferred disjoint

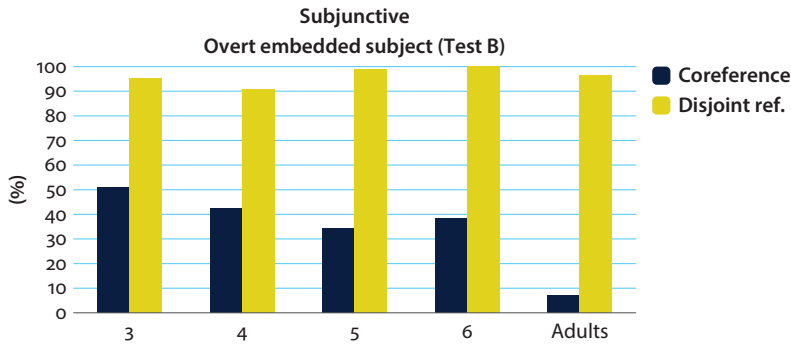


Figure 11. Acceptance rates for overt subjects in the subjunctive (Test B)

reference for the null pronoun increased in the indicative of test B (Figure 8), making children’s results deviate more from those of adults when compared with the indicative of test A1 (Figure 2). In turn, within each group of children, the acceptance rates of coreference with the null pronoun decreased in the subjunctive of test B (Figure 10), improving the results when compared with the subjunctive of test A1 (Figure 4) and test A2 (Figure 6). Therefore, it seems possible to claim that children often identified the pronominal reference with the closest antecedent that precedes the null pronoun. In the indicative, children deviated more from the adults’ responses when the matrix object antecedent was added in the referential dependency between the preferred matrix subject antecedent and the null embedded subject pronoun. In the subjunctive, the addition of the matrix object antecedent before the pronoun made the legitimate antecedent more accessible for null pronominal subjects.

In test B (with subject and object antecedents before the pronoun), children also appear to show some sensitivity to the distinction between the indicative selected by the verb *dizer* and the subjunctive selected by the verb *pedir*. In the interpretation of the null embedded subject pronoun, each group of children exhibited lower rates of acceptance of coreference in the subjunctive (in which the null form is generally disjoint) in comparison to those in the indicative (in which coreference is the preferred reading and disjoint reference is the dispreferred one), with  $p < 0.05$  for each comparison inside each age group using chi-square ( $\chi^2$ ) tests.<sup>13</sup> The percentages of acceptance of disjoint reference increased in the subjunctive in relation to the indicative in all the child groups for the null

13. CO/Null/Indicative (test B) vs. CO/Null/Subjunctive (test B): 3-year-olds  $\chi^2 = 21.46$ ,  $p < 0.01$ ; 4-year-olds  $\chi^2 = 22.28$ ,  $p < 0.01$ ; 5-year-olds  $\chi^2 = 68.27$ ,  $p < 0.01$ ; 6-year-olds  $\chi^2 = 35.04$ ,  $p < 0.01$ .

pronoun. Chi-square tests showed that this comparison is statistically significant in the case of the 5-year-olds ( $\chi^2 = 8.55, p < 0.01$ ) and the 6-year-olds ( $\chi^2 = 13.29, p < 0.01$ ).<sup>14</sup> In the interpretation of the overt embedded subject pronoun, children accepted coreference in the subjunctive (in which *ele* is necessarily disjoint), but at a lower percentage than that obtained in the indicative (in which *ele* is preferentially disjoint). In the comparison between the indicative and the subjunctive, regarding the specific case of the overt pronoun in coreference context, chi-square tests provided a significant difference in the 4-year-olds ( $\chi^2 = 6.88, p = 0.01$ ) and in the 5-year-olds ( $\chi^2 = 18.69, p < 0.01$ ).<sup>15</sup> Furthermore, the acceptance rates of disjoint reference were superior in the subjunctive in comparison with those in the indicative for the overt pronoun, with a statistically significant difference in the 5-year-olds ( $\chi^2 = 5.21, p = 0.02$ ) and in the 6-year-olds ( $\chi^2 = 6.83, p = 0.01$ ).<sup>16</sup>

## 6. Discussion

The results show that, in indicative complement clauses and with one or two available intrasentential antecedents, the Portuguese children's performance in general exhibited a deviation from the adults' behavior, presenting an overacceptance of the pragmatically dispreferred reading of coreference (with respect to the matrix subject) for overt strong subject pronouns.

Children had an interpretation close to that of adults with null subject pronouns in indicative clauses, when there is only one intrasentential antecedent (the matrix subject); this finding confirms hypothesis a. of Section 4. However, they often accepted the dispreferred reading of disjoint reference with null pronominal subjects in the indicative, in the presence of two potential antecedents (the matrix subject and the matrix object) in the sentence. This happened when the matrix object antecedent was added between the preferred matrix subject antecedent and the null embedded subject pronoun.

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14. DJ/Null/Indicative (test B) vs. DJ/Null/Subjunctive (test B): 3-year-olds  $\chi^2 = 3.97, p = 0.05$ ; 4-year-olds  $\chi^2 = 1.61, p = 0.21$ ; 5-year-olds  $\chi^2 = 8.55, p < 0.01$ ; 6-year-olds  $\chi^2 = 13.29, p < 0.01$ .

15. CO/Overt/Indicative (test B) vs. CO/Overt/Subjunctive (test B): 3-year-olds  $\chi^2 = 1.59, p = 0.21$ ; 4-year-olds  $\chi^2 = 6.88, p = 0.01$ ; 5-year-olds  $\chi^2 = 18.69, p < 0.01$ ; 6-year-olds  $\chi^2 = 1.29, p = 0.26$ .

16. DJ/Overt/Indicative (test B) vs. DJ/Overt/Subjunctive (test B): 3-year-olds  $\chi^2 = 0.48, p = 0.49$ ; 4-year-olds  $\chi^2 = 2.21, p = 0.14$ ; 5-year-olds  $\chi^2 = 5.21, p = 0.02$ ; 6-year-olds  $\chi^2 = 6.83, p = 0.01$ .

In the subjunctive (selected by volitional verbs or declarative verbs of order), children incorrectly assigned coreferential readings to both types of subject pronouns (null and overt); this was predicted in hypothesis b. of Section 4. Nevertheless, the introduction of the matrix indirect object antecedent in the main clause improved children's results with the null pronominal subject in subjunctive clauses, since it makes the legitimate object antecedent more accessible (by preceding the null pronoun): the acceptance of coreference decreased and the acceptance of disjoint reference increased.

Some interpretative differences arose when the matrix verb differed in the same context: subjunctive complement clauses selected by the verbs *querer* (test A1) or *pedir* (test A2), with only one intrasentential antecedent for the embedded subject. In this case, children in general less often accepted coreferential readings with the volitional verb *querer* 'to want' than with the declarative verb of order *pedir* 'to request'; these results are consistent with hypothesis c. of Section 4.<sup>17</sup>

The collected data suggest that there are cumulative effects: the overt forms in indicative clauses, the position of the matrix object antecedent preceding the null pronoun in the sentence, the subjunctive mood and the type of matrix verb that selects the subjunctive. Taken separately, each one of these factors may not be very problematic but, when they come together, children's interpretation becomes more distant from that of adults. The interplay between these factors, which appears to be relevant in understanding why children's performance is not more adult-like, will be discussed below. This discussion takes into account the status of subject pronouns (null vs. overt) in the indicative, the position of the indirect object antecedent that precedes the null subject in indicative and subjunctive complement clauses, lexical-semantic properties of the matrix verbs that select the subjunctive (volitional verb *querer* 'to want' vs. declarative verb of order *pedir* 'to request') and the specificities of the subjunctive obviation.

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17. An anonymous reviewer stated that the stories from the applied tests may not be completely appropriate from a pragmatic point of view. First of all, we would like to make clear that the characters from the stories usually said their lines to each other, after performing an action or when wanting something. Although the applied tests may have some flaws, the results show that children are sensitive to different pronominal forms and to different syntactic contexts. The test conditions for the interpretation of null and overt subject pronouns have the same pragmatic setting. In spite of that, different results were obtained by children when compared with those obtained by adults, depending on the type of pronoun (null or overt) and on the syntactic context (indicative or subjunctive; one or two intrasentential antecedents). Because children's interpretation of coreference displays more difficulties in specific conditions, we can assume that their performance cannot only be due to pragmatic issues. Furthermore, our methodology is pragmatically similar to the method used by Sorace et al. (2009) when testing Italian children's interpretation of null and overt subjects in indicative clauses and with only one intrasentential antecedent.

## 6.1 The status of subject pronouns in the indicative

In the current investigation, the finding that children's performance differs from the adults' behavior with overt subject pronouns in indicative complement clauses (overacceptance of coreference) is argued to result from the fact that the licensing of overt strong forms is post-syntactic. We assume that overt strong pronouns are licensed after syntax, whenever the evaluation of alternative syntactic structures is needed, leading to interface operations (Grolla, 2006; Hornstein, 2001). The referential dependency of overt pronominal subjects in indicative clauses is established post-syntactically (at the interface level), since their interpretation is constrained by discourse pragmatics. In the indicative context, both disjoint and coreferential readings are possible. This availability of readings is partly determined by the independent nature of Tense in indicative complement clauses, which is an autonomous binding domain due to its feature [+T]. Hence, Principle B of Binding Theory does not rule out binding between the subject of the embedded clause and the subject of the matrix clause, because the latter is outside the binding domain of the former (Meireles & Raposo, 1983; Raposo, 1985). In the particular case of overt embedded pronominal subjects in the indicative, the preferred interpretation of disjoint reference with respect to the main subject is pragmatically appropriate, while the dispreferred interpretation of coreference in relation to the matrix subject is pragmatically inappropriate. However, the tested children overaccepted the dispreferred interpretation of coreference. Accordingly, the rejection of the dispreferred coreferential reading involves an interaction between syntax and discourse pragmatics. This post-syntactic operation, which occurs at the interface level, requires the construction of a comparison set in order to evaluate whether the coreferential interpretation is pragmatically adequate with the overt subject pronoun in the indicative, which can cause additional processing costs. Thus, one needs to hold in memory two convergent syntactic derivations (one with the overt pronoun and another with the null pronoun) at the same time, make comparisons between them and realize that coreference is pragmatically inappropriate with the overt subject (considering that the coreferential reading is more adequate with the null subject). The execution of all these steps represents a heavy burden for the children's limited working memory (which is less developed when compared to that of adults, according to Reinhart, 2004). This is reflected in their deviating performance with respect to that of adults in the interpretation of overt pronominal subjects in indicative complement clauses.

For adults, with only one antecedent in the sentence, the extrasentential (discourse) non-subject antecedent is the preferred one for the overt pronoun. With two antecedents in the sentence, the matrix indirect object antecedent is the preferred one for the overt pronoun. However, the deviation of children's interpretation of overt pronouns in the indicative with regard to the adults' performance



(overacceptance of coreference) was observed in the presence of one or two possible intrasentential antecedents. This means that the addition of another potential antecedent (a matrix indirect object antecedent) in the sentence did not cause impact in children's results with overt subjects in indicative complement clauses (not confirming the hypothesis d. of Section 4 for the overt pronoun). In this specific context, the overacceptance of dispreferred coreferential readings remained, in general, even when the pragmatically appropriate object antecedent for the overt subject pronoun was present in the sentence.

In turn, children's interpretation of null subject pronouns, in both indicative and subjunctive clauses, is particularly affected by the presence of one or two potential antecedents in the sentence. This indicates that null pronouns are more dependent on the syntactic context. When there is only one intrasentential antecedent (the matrix subject – test A1), children performed more adult-like with null pronominal subjects than with overt pronominal subjects, in indicative complement clauses (as was predicted in hypothesis a. of Section 4). They always less often accepted the dispreferred reading of disjoint reference with null pronouns than the dispreferred reading of coreference with overt pronouns. Moreover, in each group of children, the preferred interpretation of coreference with null subjects was always more often accepted than the preferred interpretation of disjoint reference with overt subjects. In the indicative and with only one intrasentential antecedent in subject position, children's acceptance of coreference for the null pronoun was leveled in relation to that of adults.

We assume that null subject pronouns are syntactically licensed in the sense that they are associated with functional categories, as inflection. In fact, there are authors (e.g. Barbosa, 2009) who argue that, for consistent null subject languages like EP, *pro* is redundant and the set of phi-features of Infl (person and number agreement inflection) is itself interpretable. In this case, the morphologically rich verbal agreement (Agr) is a referential definite pronoun, phonologically expressed as an affix. The basic idea of this analysis is that Agr is an affix-like pronominal category. In turn, Holmberg (2005) assumes that the null subject *pro* is a weak deficient pronoun (Cardinaletti & Starke, 1999). For consistent null subject languages like EP, Holmberg (2005) argues there is a D(eterminer)-feature in Infl. The null subject pronoun (specified for interpretable phi-features such as person and number) has to enter an Agree relation with Infl (containing D, which encodes definiteness) in order to be interpreted as a definite argument. Because it lacks descriptive content, the null pronominal subject is dependent on an antecedent in order to have its reference fixed. In this proposal, the null subject is a pronoun that is not pronounced. These two different hypotheses show that the null subject construction depends on inflection. In the present research, null subjects are regarded

as a type of deficient pronoun, being syntactically licensed by a functional head. In this perspective, the licensing of null pronouns is different from that of overt strong pronouns. We consider that children's interpretation of null subjects, in indicative clauses and with only one intrasentential antecedent, less often deviates from the adults' behavior due to the fact that the licensing of *pro* occurs in syntax.<sup>18</sup> In contrast, overt pronominal subjects are argued to be licensed post-syntactically. For this reason, overt forms require the computation of alternative derivations at the interface level, which represents a great effort for children due to limitations in their working memory.

## 6.2 Position of the matrix indirect object antecedent preceding the null subject pronoun

When there are two available antecedents (a subject and an object) in the main clause, children experience some processing constraints in the interpretation of null subject pronouns in indicative complement clauses. This is observable in the case of the subject and object antecedents occurring before the null pronoun (test B). Children deviated more from the adults' performance, concerning a high acceptance of the dispreferred reading of disjoint reference for null subject pronouns in indicative clauses, when the matrix object antecedent was added between the preferred matrix subject antecedent and the null embedded subject pronoun (as was expected in hypothesis d. of Section 4). This is illustrated in the following sentence:

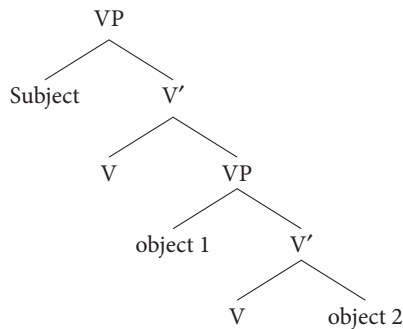
- (20) O bombeiro disse ao avô que *pro* emagreceu.  
 the fireman said to.the grandpa that *pro* lost weight  
 'The fireman told grandpa that he lost weight.'

18. Although the licensing of null subject pronouns is considered to be syntactic, their interpretation (involving preferential readings) is restricted by discourse. One of the reviewers questioned how reference between a null pronominal subject and an extrasentential non-subject antecedent is established, presenting the example *O Pedro<sub>1</sub> disse que pro<sub>2</sub> está grávida* – 'Pedro<sub>1</sub> said that *pro*<sub>2</sub> is pregnant'. Here, there is no morphological compatibility in gender between the matrix subject antecedent *o Pedro* (masculine) and the predicative adjective of the null embedded subject *grávida* (feminine). Besides, pragmatically, it is not possible for *Pedro* (a man) to be pregnant, since only women have that possibility. Consequently, an extrasentential entity is the antecedent of *pro* and not the main subject of the sentence *o Pedro*. By hypothesis, this could involve computation at the interface level since discourse restrictions influence the choice between alternative readings. Nevertheless, what is at issue in the current research is to understand if children preferentially interpreted the null subject pronoun as being coreferential with the antecedent in the position of syntactic subject (Spec IP), according to the context provided.

The results suggest that children often established a referential dependency with the antecedent that is closer to the null pronoun, the matrix indirect object. This was reflected in the frequent acceptance of dispreferred disjoint readings. In consequence, it is admissible to say that they often accepted an antecedent according to its precedence to the null pronoun in the sentence. In conclusion, when two available antecedents (a subject and an object) are present in the sentence, children's interpretation of null pronominal subjects in indicative complement clauses appears to be sensitive to the position of the antecedent preceding the null pronoun. Hence, they often accepted the closest potential antecedent (the dispreferred matrix object) that precedes the null subject pronoun in the sentence.<sup>19</sup>

In subjunctive complement clauses (test B), the introduction of another potential antecedent (the matrix indirect object) before the null subject pronoun also had an influence in children's performance, improving their results when compared to the same condition with only the matrix subject antecedent in the sentence (tests A1 and A2). In test B (with subject antecedent and object antecedent before the pronoun), children's incorrect acceptance of coreference with the null subject decreases, whereas the acceptance of disjoint readings increases in the subjunctive (as was expected in hypothesis e. of Section 4.). Consequently, the addition of the object antecedent in the main clause made the legitimate antecedent more accessible, by preceding the null pronoun in subjunctive clauses. This further confirms that the interpretation of null pronouns (in both indicative and subjunctive clauses) is more dependent on the syntactic context.<sup>20</sup>

19. If we assume a VP-shell structure (Larson, 1988, 1990) in this case, we can consider that the matrix indirect object antecedent c-commands the complement clause:



20. An anonymous reviewer suggested that the improvement of children's results with null pronominal subjects, in subjunctive complement clauses selected by the verb *pedir* and with two intrasentential antecedents (*O bombeiro pediu ao avô que pro assobiasse* – 'The fireman asked grandpa to whistle'), could be related to children's knowledge of *pedir* in control structures (*O Pedro pediu ao Nuno para PRO sair* – 'Pedro asked Nuno PRO to leave'). Agostinho

### 6.3 Lexical-semantic properties of the matrix verbs selecting the subjunctive

The declarative verb of order *pedir* selecting the subjunctive seems to be more ambiguous for some adults regarding the possibility of accepting coreferential readings with null subject pronouns. This ambiguity was reflected by the oldest group of children who were tested (the 6-year-olds), who more often accepted coreference than disjoint reference with the null subject in subjunctive clauses when the matrix verb was *pedir*. These 6-year-old children also increased their acceptance of coreference and diminished their acceptance of disjoint reference with overt subject pronouns in the subjunctive selected by *pedir*. We can consider that the volitional verb *querer* is more categorical in determining subjunctive obviation than the declarative verb of order *pedir*, if we assume that with *querer* there is no (or at least hardly any) exceptions to the obviation phenomenon of the embedded subject pronoun in the subjunctive. In turn, as reported by Lobo (2013, p. 2202), some EP speakers may allow coreference relations between the matrix subject and the null subject pronoun of the subjunctive clause selected by the verb *pedir*, when the embedded clause has a stative predicate like *ficar* 'to stay', a modal semi-auxiliary verb like *poder* 'can', the auxiliary verb *ter* 'to have' or certain temporal-aspectual adverbs as *ainda* 'still'. This makes, by hypothesis, the matrix verb *pedir* less categorical in determining obviation for some EP speakers, particularly with null pronouns. Nevertheless, the general interpretative tendency in subjunctive clauses with the matrix verb *pedir* (test A2) was similar to that found with the matrix verb *querer* (test A1).

### 6.4 Specificities of the subjunctive obviation

In subjunctive complement clauses (selected by the volitional verb *querer* and the declarative verb of order *pedir*), the obviation effects with both types of subject pronouns (null and overt) were not completely acquired by children. In a general manner, there were no major developmental effects in the children tested, which suggests that the subjunctive obviation is a phenomenon of relatively late

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(2014) (see also Agostinho, Santos, & Duarte, this volume) has shown that, when interpreting PRO, both children and adults have preference for object control in sentences with the verb *pedir* and two antecedents in the sentence. However, this hypothesis does not provide an explanation for the weak results found with null pronouns in subjunctive complement clauses selected by *pedir* when there is only one intrasentential antecedent. We believe that only an explanation considering the presence of one or two available antecedents in the sentence (with the position of the intrasentential object antecedent playing an important role) seems to account for the interpretative effects found not only in the subjunctive but also in the indicative.

development (after 6 years old). Nevertheless, they were sensitive to the contrast between the indicative (when selected by the verb *dizer*) and the subjunctive (when selected by the verbs *querer* and *pedir*). Children did not ignore the temporal properties of the subjunctive (characterized by the anaphoric or dependent nature of Tense), but this acquisition was not stabilized yet. The ability to distinguish between the indicative and the subjunctive is not enough to assure a full mastery of the subjunctive obviation. The semantics of the matrix verbs also appears to play an important role in mood selection and in determining obviation. The fact that the coreferential and disjoint readings in the subjunctive are in part dependent on lexical and semantic knowledge (not just syntactic) can explain that the mastery of these readings takes some time to be acquired. Children have to determine for each verb the type of properties associated with it. Although there are general syntactic trends, there is lexical knowledge involved, which presumably takes time to master.

## 7. Conclusions

In sum, the categorial status of pronominal forms (null or overt) is important, but it also interacts with the way pronouns are licensed (in syntax or post-syntactically), with the presence of an overt matrix object antecedent preceding the null pronoun in the sentence, with verbal mood selection (indicative or subjunctive) in the embedded clause and with the semantic class of the matrix verb that selects the subjunctive. As shown, each of these factors conditions the interpretation of pronouns by children, making them not to perform in an adult-like manner.

We assume that Portuguese children's difficulties in the interpretation of pronouns do not result from the lack of syntactic knowledge. According to our hypothesis, children have processing limitations when dealing with the interpretation of a pronoun that involves the integration of syntactic, semantic and pragmatic knowledge. We may generalize that, in the pronominal system, the more pronouns are syntactically licensed, the less problematic their acquisition becomes.

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# Commentary paper





# Comments on the acquisition of complementation in Portuguese

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The four acquisition papers in this volume deal with different facets of complementation in the L1 and L2 development of Portuguese. The backdrop for two of these papers is an earlier study by Santos, Gonçalves, and Hyams (2016) that looked broadly at the question of which complement types are acquired earliest by European Portuguese-speaking (EP) children and why. Recognizing that a verb may select for a variety of complement types (and Portuguese is especially rich in this regard), Santos et al. wanted to see which complements children would use when given a choice in a sentence completion task. The children were told a story accompanied by pictures and then asked to complete a lead-in sentence with the complement of their choosing. The verbs in the lead-in allowed for various complement types, including finite indicative, subjunctive, inflected infinitive, raising to object (RtO), among others. The guiding assumption was that the complement types that children used most often are easier for them and hence mastered earlier than those which occurred less frequently in their answers.

In the current volume, Agostinho, Santos, and Duarte investigate children's comprehension of control in EP, complementing the production study just described. Gonçalves, Santos, Duarte, and Justino replicate a portion of the Santos et al. production study in children acquiring Mozambican Portuguese, (MozP). Silva's contribution looks at a different aspect of complementation, how children interpret null and overt subject pronouns in indicative and subjunctive complements. Finally, Madeira's study investigates the acquisition of inflected infinitives by Spanish and Chinese L2 learners of EP, evaluating competing hypotheses concerning the degree to which adult L2 learners can successfully acquire structures not available in their L1.

Collectively, these papers represent a substantial contribution to the literature on children's development of complementation, and they broaden considerably the empirical base of research into Portuguese L1 and L2 acquisition, specifically. As would be expected, some of the findings and claims raise additional questions, especially as regards the status of principles like the Single

Argument Selection Hypothesis (SASH) and the Complete Functional Complement Hypothesis (CFC) (Santos et al., 2016), discussed below, and the possible influence of extra-grammatical factors such as frequency, as well as processing and pragmatic effects in the acquisition of complementation. In what follows I offer some brief remarks on these issues. My comments are intended to open up areas for discussion in the hope of pushing forward this ambitious research program on the acquisition of complements in Portuguese and also possibly extending it to other languages.

## 1. Universal biases: SASH and the CFC in European and Mozambican Portuguese

A central finding of Santos et al. (2016) was that EP children (ages 3–5) showed a preference to produce finite complements and inflected infinitives over other complement types. EP-speaking children used inflected infinitives both in target and non-target environments, a somewhat surprising result given the typologically marked nature of this construction. These preferences showed up alongside a general avoidance of both raising-to-object (ECM) and object control complements. These results led Santos et al. to formulate two hypotheses concerning children's biases in representing complement structure. The first – the *Single Argument Selection Hypothesis* (SASH) – pertains to argument structure and says that a verb selects only one internal (propositional) argument. The second – the *Complete Functional Complement Hypothesis* (CFC) – applies to syntactic structure and proposes that children's propositional complements are 'complete functional complements', defined as complement clauses whose subject values its structural Case feature though agreement with a probe inside the clause.

SASH and the CFC provide an account of why children eschew complement structures with more than one internal argument, for example, object control structures as in (1a), in favor of the structure in (1b) with the object DP *os patinhos* (the ducklings) reanalyzed as the subject of an inflected infinitive clause (a single argument and a complete functional complement). [Note that the preposition *de* which marks the onset of an embedded clause occurs before the DP *the ducklings* in (1b), in contrast to the adult target in (1a)]. Sometimes the children mistakenly marked the embedded DP with nominative case, as in (1c).

- (1) a. A mãe pata proibiu [os patinhos] [de \_\_ ir(em) ao pé  
 the mother duck forbade the ducklings PREP go.INF(.3PL) close  
 do crocodilo]. (target)  
 of.the crocodile

- b. A mãe pata proibiu [de os patinhos irem ao pé  
the mother duck forbade PREP the ducklings go.INF.3PL close  
do crocodilo] (age 5;01)  
of.the crocodile  
'The mother duck forbade the ducklings to go close to the crocodile.'
- c. O pai proibiu eles irem para o lago.  
the father forbade they go.INF.3PL to the lake  
'The father forbade them to go to the lake.'  
(target: O pai proibiu-os de irem para o lago.)

Similarly, the CFC leads them to generally avoid RtO complements under causative (and perception) verbs as in (2a), in contrast to adults, and to produce inflected infinitive complements (also possible in the adult language) as in (2b):

- (2) a. A mãe deixou{-os/os miúdos} comer os bolos.  
the mother let-CL.ACC/the kids eat.INF the cakes  
'The mother let them/the kids eat the cakes.'
- b. A mãe deixou {eles/os miúdos} comerem os bolos.  
the mother let they.NOM/the kids eat.INF.3PL the cakes  
'The mother let them/the kids eat the cakes.'

In other instances children produced uninflected infinitive complements that lacked an overt causee (e.g. (*O pai*) *mandou* \_\_ *empurrar o carro* – the father let.3s \_\_ push.INF the cart), grammatical but pragmatically odd in the context of the test. Santos et al. analyze these as clausal complements containing a *PRO*<sub>arb</sub> in embedded subject position, a structure also consistent with SASH and the CFC.

Gonçalves et al. (this volume) carry out the same sentence completion task with children acquiring Mozambican Portuguese, though they limit their attention in this paper to complements under causative verbs. MozP is close to EP in relevant respects, allowing inflected infinitives and RtO under causatives, as well as an innovative structure (not previously documented and not possible in EP) that Gonçalves et al. analyze as a pseudo-relative. Similar to the EP results in Santos et al., Mozambican 3–5 year olds conform to the predictions of SASH and the CFC. They overwhelmingly prefer inflected infinitives (59% of responses) (and uninflected infinitives without overt causee – 26% of responses) over RtO (6% for 3&4 year olds and 11% for 5 year olds).

Gonçalves et al. suggest that principles like SASH and the CFC have potential implications for the direction of language change. MozP is a variety of Portuguese spoken as an L1 by a minority of the population in Mozambique and as an L2 by a part of the population that has a Bantu L1. The authors note that if SASH and the CFC are universal biases in acquisition, we expect structures conforming to these principles to be preserved under language change and those that don't to be

under less pressure to persevere. And indeed, as we have seen, inflected infinitives are robustly present in this new variety of Portuguese, while RtO, though still preserved, seems to be strongly dispreferred in complements to causatives.

An interesting question concerns the behavior of the adult controls in this study. As Gonçalves et al. describe them, the 18 adult participants were university students “having Portuguese as their L1 or L2, but who were in any case highly instructed in Portuguese” (p. 10). The adult results were also largely in line with SASH and the CFC; adults most often produced finite subjunctive complements under causatives (47.5% of responses), followed by the inflected infinitive (25.6%), and substantially fewer RtOs (5.6%). It would be instructive to know whether the response rates differed among the adults who acquired MozP as an L1 and those who acquired it as an L2, either as children or as adults. The results of such an analysis would speak to the issue of whether the same biases that are found in L1 acquisition also operate in L2 acquisition (e.g. White, 1996), and also whether there are age effects in L2 acquisition (child vs. adult L2ers) with respect to these principles (e.g. Schwartz, 2003). Though there are probably too few adults in this study to get a significant result, future studies might investigate this question.

## 2. What about frequency?

Despite the converging results from two varieties of Portuguese in support of SASH and the CFC, many questions remain. For example, do children differ from adults with regard to their complement preferences? We just noted that the adult MozP speakers showed the same preference for inflected infinitives over RtO as children. We might therefore infer that inflected infinitives are also more robust in the input to children and thus that the MozP (and EP) complement preferences are an effect of input frequency rather than innate structural biases. However, such an explanation would not get very far. For one thing, it would fail to explain why the by-far most frequent structure chosen by adults (close to 50%) – the finite subjunctive – was virtually never (re)produced by the children. Subjunctive complements were totally lacking in children below age 5 and reached 6.3% in 5 year olds. The converse is also true – children produced a high rate (>30%) of infinitives with no overt causee, which was exceedingly rare among the adult responses. Similar observations hold for the EP results in Santos et al., who also provide many examples of structures that are nowhere to be found in the input, for example, the sentence in (1b).

It is a commonplace observation that input frequency/matching accounts fail to explain children’s innovations. It has also often been noted that when children

“match” adults in terms of frequency, this relationship need not be causal. Rather, both children and adults might be constrained by similar factors. However, equally problematic for frequency accounts are cases in which children fail to produce structures that are highly frequent in adult language. This is especially difficult to explain when – as in this case – the subjunctive structure children avoid occurs in the same syntactic environment as the inflected infinitives they embrace. The MozP (and EP) results on children’s complement selection clearly show that input frequency is not determinative of acquisition order or ease, and that such frequency effects that may exist are clearly mediated by the child’s analytic biases. In other words, children may be sensitive to frequency, but only for those structures that are grammatically accessible to them.

Having said that, it should be noted that children’s late development of subjunctive complements is not accounted for by SASH or the CFC. The finite subjunctive is a complete functional complement in the sense defined above. We’ll return to the subjunctive below.

### 3. SASH and a verb-centric parser

Much previous research on children’s parsing strategies, as measured in eye-tracking experiments, has shown that children rely very heavily on the selectional properties of verbs to resolve structural ambiguities. Trueswell, Sekerina, Hill, and Logrip (1999) have demonstrated that given a temporary attachment ambiguity in sentences like *Put the frog on the napkin in the box*, children have a strong preference to interpret the prepositional phrase *on the napkin* as the goal of *put*, even when the accompanying scene (viz. two frogs one on a napkin) supported the alternative, modifier interpretation. This bias is so strong that even when the ambiguity is resolved, upon presentation of *in the box*, children’s eye movements and actions show that they are unable to revise their initial parse. In some instances the children moved the frog to the napkin and then hop it to the box. Studies of this sort show that for children verb-specific lexical properties, especially complement selection, take precedence over other, more top-down types of parsing considerations that operate in adult parsing (see Trueswell & Gleitman, 2004, for review of relevant studies). Moreover, children are known to track and use syntactic frame information to help them learn the meanings of verbs, so-called ‘syntactic bootstrapping’ (e.g. Gleitman, 1990).

The hypothesis that children assign a single internal argument to verbs which in the target language select two internal arguments (SASH) would seem to run counter to all the evidence that 5-year olds rely almost exclusively on verb argument structure to inform their parsing decisions. If children are closely tracking

verb information, why would they systematically ignore the evidence in the input telling them that object control verbs, for example, select more than one argument? On the other hand, the results from MozP and EP point squarely in the direction of an initial predisposition to assume a single (clausal) complement. Is there a way to reconcile these conflicting findings? Gonçalves et al. suggest, roughly following ideas of Kirby (2011), that adhering to SASH lessens the number of theta roles to be assigned (fewer internal arguments) which, according to Kirby, is a cognitively costly operation. Thus, a reduction in cognitive load might trump the verb-centric parsing strategies. However, this explanation does not jibe with the findings concerning ditransitive verbs like *put* which also assign multiple theta roles. Perhaps clausal arguments have a different status, something that might be explored in an eye-tracking experiment of the sort that has been carried out with ditransitive verbs like *put*. It would be interesting to see if on-line results mirror the behavioral data in EP and MozP.

#### 4. Control in EP: Intervention vs. SASH

In their elicited production study, Santos et al. (2016) found that children produced few object control complements, strongly preferring inflected infinitives instead. This is in accordance with SASH (and the CFC, as inflected infinitives are complete functional complements) (cf. (1a–b)). We might therefore expect children to have problems in their comprehension of object control as well.

Agostinho, Santos, and Duarte (this volume) tested 3 to 5-year olds on their interpretation of subject and object control, the first study of its kind in European Portuguese. They tested the predictions of SASH and the CFC. They also tested intervention-type accounts (e.g. Orfitelli, 2012; Mateu 2016), which under a movement theory of control (MTC) (Hornstein, 1999) predict that children will do fine with object control verbs like *proibir* ‘forbid’ (no intervener to cross over) (3a), but will have difficulty with subject control verbs like *prometer* ‘promise’, which select an (intervening) object in addition to a sentential argument, as in (3b).

- (3) a. A pato proibiu o esquilo de saltar.  
       the duck forbid.IND.PST the squirrel for jump.INF  
       ‘The duck forbade the squirrels to jump.’  
       b. O galo promete ao coelho \_\_ cozinhar o jantar.  
       the rooster promise.IND.PRS to.the rabbit cook.INF the dinner  
       ‘The rooster promises the rabbit to cook dinner.’

Poor performance with *promise*-type verbs is also predicted by SASH. More specifically, the principle leads us to expect that children will reanalyze the object of

*promise* (i.e. *o coelho* in (3b)) as the subject of the embedded clause, giving rise to an “apparent” object control reading. On the other hand, we expect that children will do well on *forbid*-type verbs, under a similar object-to-subject reanalysis, but which in this case has no effect on interpretation. So children should get control with *forbid*-type verbs right but for the wrong reason.

Agostinho et al. claim that the two approaches (intervention vs. SASH) make different predictions with respect to how well findings will generalize across verbs. Intervention is a structural constraint so it predicts that children will be uniformly biased towards object control. Under SASH children’s responses might be more variable because argument structure has to be learned on a verb-by-verb basis. Indeed, Agostinho et al. found that children do show different success rates with different verbs, and also that “verb” is a factor in the GLMM model they produced. Their results also show children incorrectly chose the subject as controller for object control verbs 20–30% of the time (depending on age) (cf. (3a)), which, they maintain, is also not predicted by a structural intervention-type account. To explain the high rate of subject control Agostinho et al. appeal to two factors: (i) Children must learn the control properties of individual verbs, whether subject or object control, and (ii) there may be a processing advantage to subject control over object control (Boland, Tanenhaus, & Garnsey, 1990). However, it seems to me that both these factors are independent of SASH and intervention, and might be at play under either scenario.

Thus, it is not immediately obvious what the 20–30% subject control with object control verbs mean. On its face SASH does not directly predict subject control responses to *forbid*-type verbs, as Agostinho et al. also point out. In fact, subject control in this case should be impossible; if SASH coerces the direct object of *forbid* into an embedded subject (cf. 1), there is no PRO for the matrix subject to control. So what exactly is the source of the subject “control” interpretation?

Let me offer a speculation. As Agostinho et al. note, under the object-to-subject conversion induced by SASH, object control readings are only apparent; children derive the adult interpretation but by different rules. But suppose that SASH can be satisfied in more than one way. One option is the object-to-subject conversion already discussed, leaving only a clausal argument. A second option is for children to keep the DP argument and get rid of the clausal complement. For example, they might reanalyze the complement as an adjunct. The high attachment of a VP adjunct makes the matrix subject the only possible controller for PRO, hence the subject control error. This suggestion harkens back to the various high attachment hypotheses proposed, for example, by Solan and Roeper’s (1978) ‘highest S hypothesis’, Tavakolian’s (1981) ‘conjoined clause analysis’ (see also Goodluck & Tavakolian, 1982; and more recently, Trueswell, Papafragou, & Choi, 2011). The idea behind these hypotheses is that flatter structures are easier



for children to process, lending conceptual support to Agostinho et al.'s suggestion that children's subject control responses are due to a processing bias (cf. Boland et al., 1990).

It's also interesting to observe that whatever option is chosen to satisfy SASH any potential intervention problem for *promise*-type verbs disappears. Either the object is analyzed as an embedded subject, resulting in an apparent object control reading, or the clausal argument becomes an adjunct resulting in a subject control reading, but different from the adult's. We might therefore think of SASH not as a mechanism for reducing cognitive load (Gonçalves et al.) or even as a universal bias in the sense intended by Santos et al., but rather as a heuristic for circumventing intervention (on the assumption that intervention plays a role in control (Hornstein, 1999; but see Mateu, 2016)).

Left unexplained by this proposal is the apparent cross-linguistic difference in children's performance in this area. Years of research into English-speaking children's comprehension of control (through act-out and judgment tasks) have shown that object control is acquired very early and with few errors (e.g. Cairns, McDaniel, Hsu, & Rapp, 1994; Cohen Sherman & Lust, 1993; McDaniel, Cairns, & Hsu, 1990/1991). More recently, Mateu (2016) found that both English- and Spanish-speaking 4–6 year olds children are nearly target-like on control with *tell/ordenar* 'order' in a truth value judgment task (TVJT). If SASH is a universal bias and if high S attachment is a mechanism to satisfy SASH (or avoid intervention), why do we see subject control responses in EP, but not in English or Spanish object control sentences? One possibility is that there is some sort of interference from inflected infinitives, which are also selected by verbs like *proibir* 'forbid', and which are also object control complements. Control of the subject of the inflected infinitive in this case is exceptional; in other structures, the subject of an inflected infinitive has free reference (4b) (example from Madeira, this volume).

- (4) a. O pato proibiu [os esquilos [de \_\_ saltarem].  
       the duck forbid.IND.PST the squirrels of jump.INF.3PL  
       'The duck told the squirrels to jump.'
- b. O Pedro lamenta [ \_\_ terem mentido].  
       the Pedro regret.IND.PRS.3SG have.INF.3PL lied  
       'Pedro is sorry that they lied.'

In EP, but not in English or Spanish, both PRO and *pro* are subject to obligatory control (albeit the latter in only complements to object control verbs). In addition, EP verbs like *proibir* 'forbid' also select for finite indicative and subjunctive complements with different grammatical and pragmatic constraints operating on the embedded *pro* subject in each case, as discussed below (cf. (10)–(11)). Sorting out the properties of the different empty categories might contribute to the

protracted development of object control in EP. Santos et al. (2016) refer to this as the ‘multiple frames problem’.

## 5. The CFC hypothesis and raising

Let me now discuss the complete functional complement hypothesis (CFC) in more detail. An important finding in both MozP (Gonçalves et al.) and EP (Santos et al., 2016) is that children strongly disprefer RtO responses (cf. (2a)), producing inflected infinitives (2b) instead, though both are possible in the respective adult targets. The CFC is intended to account for this finding, viz. children want the subject of the complement clause to value its structural Case feature through agreement with a probe inside the clause. The Portuguese results seems to run counter to Kirby (2011), who argues that English-speaking children have no difficulty with RtO (and in fact misanalyze object control verbs as RtO verbs). It is important to bear in mind, however, that Kirby’s study tested comprehension while the Portuguese studies involve elicited production. It is therefore fully possible that children understand RtO, though avoid it if given a chance.

Having said that, the CFC leads us to expect that children will also avoid raising to subject (RtS) – at least in production. Orfitelli (2012) shows that as far as comprehension is concerned English-speaking children (ages 4 to 6) have no difficulty with RtS with predicates like *about to*, *going to*, and *tend*, performing well above chance at all ages. These predicates, in contrast to *seem*, do not select an intervening experiencer object (cf. (5a–b)).

- (5) a. Cookie Monster seems to Ernie to love cookies.
- b. Cookie Monster is about/going/tends (\*to Ernie) to eat cookies.

Thus, while children show a delay in adultlike understanding of raised sentences with *seem* (Hirsch, Orfitelli, & Wexler, 2007; Orfitelli, 2012, to appear), Orfitelli shows that what separates good and poor performance in RtS by children under 6 years old is the presence vs. absence of an intervening argument. This is predicted by her Argument Intervention Hypothesis (AIH), which says “children are delayed in acquiring those structures which require A-movement across a structurally intervening argument”. There is no general constraint against RtS in comprehension.

Orfitelli also conducted a CHILDES study of children’s (and adult interlocutors’) spontaneous production of RtS (McWhinney & Snow, 1985), both with *seem* and the other raising predicates mentioned above that do not select an experiencer argument. Her results showed that adults tend to raise subjects; 76% of their 260 *seem/appear* sentences had a raised subject. Children showed the opposite pattern;

of their 33 *seem* sentences 65% were unraised (6a), 35% raised (6b) (examples from Orfitelli, 2012).

- (6) a. It seems that there should be a line that goes up in the mountains.  
b. This doesn't seem to go anywhere in the puzzle.

This result is consistent with the CFC insofar as children tend to favor unraised *seem* sentences, contrary to what they hear in the input, viz. children prefer a structure in which the embedded subject values its structural Case feature through agreement with a probe inside the (lower) clause. This result is also consistent with the AIH proposed by Orfitelli.<sup>1</sup>

Mateu (2016), however, found a different result in Spanish RtS constructions with *parecer* 'seem', one of whose variants does not take an experiencer argument – which she refers to as 'bare' *parecer*. In this case no intervention effects are expected (see Mateu for discussion). In a TVJT task the children aged 4 to 6 performed at nearly adult rates (around 89%) with bare *parecer* with a raised subject. Similarly, in production (CHILDES) 78% of their bare *parecer* sentences had a raised subject, as in (7a), even though the unraised (7b) is fully grammatical (see note 1).

- (7) a. Éste parece igual que la ot(r)a.<sup>2</sup>  
this one seems same than the other  
'This one seems the same as to the other one.'

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1. Orfitelli's CHILDES results for other raising predicates – those that do not take an experiencer, including *be about*, *be used*, *tend*, *be likely*, went in the opposite direction. Both children (and adults) overwhelmingly produced raised subjects, as in (i) (from Orfitelli, 2012). This is as predicted by intervention accounts. And it is also consistent with the CFC insofar as most of these predicates do not have an alternative conforming to the CFC (*be likely* is an exception) (cf. (ii)).

- (i) He used to be in Mommy's school.  
(cf. \* It used to that he was in Mommy's school.)  
(ii) Ernie is likely to visit Bert.  
(cf. It is likely that Ernie will visit Bert.)

Thanks to Ana Santos for bringing this to my attention.

2. In their spontaneous (CHILDES) productions Spanish-speaking children produced raised (overt) subjects out of small clause AP and NP complements but not with non-finite clausal complements. In the experimental results children produced raised sentences with clausal complements and the raised subject was always *pro* (as was pragmatically appropriate), as in (i) (Mateu, 2016).

- (i) Sí, parece ser vieja.  
yes seems be old  
'Yes, she seems to be old.'

- b. Parece que este é igual que la outra.  
 seems that this one is same than the other  
 '(It) seems that this one is the same as the other one.'

Thus, spontaneous production data (as well as judgment data) from RtS in both English and Spanish suggest that children are willing to violate the CFC. On the other hand, an intervention account along the lines proposed by Orfittelli (2012), and also assumed by Mateu (2016), will not explain the tendency of Portuguese-speaking children to avoid RtO, where there is obviously no intervener (cf. (2a)).

## 6. Inflected infinitives in L2 acquisition

Although inflected infinitives are typologically marked, occurring in only a very few languages (e.g. Portuguese, Galician, Sardinian), they have been shown to be a default complement type for children, due to pressure from SASH and the CFC, by hypothesis. It would therefore be interesting to know whether inflected infinitives are an early development in adult L2 learners acquiring EP. We would expect this to be the case if the biases shown by children still operate in adulthood, all else being equal.

Madeira tested Spanish- and Chinese-speaking L2 learners on their knowledge of the (morpho-)syntax and interpretive properties of inflected infinitives in EP. In a morphological recognition task subjects were tested on the agreement paradigm, and whether they would accept inflected infinitives with nominative subjects (grammatical) and in finite contexts (ungrammatical). In a second 'context task' Madeira tested subjects on their recognition of verbs that select inflected infinitives vs. those that don't. Finally, the interpretation task looked at L2ers' antecedent preferences for pronouns and null subjects (*pro*) of inflected infinitives. Though all antecedents are possible, native speaker controls prefer a local subject antecedent for *pro* (*my parents* in (8)) and a discourse antecedent for overt pronouns (*some friends* in (8)). This is also the pattern for finite complements. The following example is from Madeira.

- (8) Ontem os meus pais foram jantar fora com uns amigos. Os meus pais ficaram aliviados  
 'Yesterday my parents went out to dinner with friends. My parents were relieved  
 por *pro* /eles chegaram cedo ao restaurante. (*pro* = meus  
 for *pro*/they.NOM arrive.INF.3PL early at.the restaurant (*pro* = my  
 pais; eles = uns amigos)  
 parents; eles = some friends)  
 'because they arrived at the restaurant on time.'

Madeira's results showed that advanced L2 learners did well on the first two tests and beginning learners much less well. Because L2ers were able to learn the essential (morpho-)syntactic properties of inflected infinitives, she concludes that 'deficit' models of L2 acquisition (e.g. Tsimpli & Mastropavlou, 2007) are wrong and that the results support full access (to UG) models (e.g. Schwartz & Sprouse, 1996).

The subjects were less target-like with respect to interpretation. Simplifying somewhat, the results showed that (in examples like (8)) the Chinese L2ers showed no preference for local vs. discourse antecedents for the null subject of the inflected infinitive, and neither L2 group showed a strong preference for local vs. discourse antecedent for overt pronouns. Madeira concludes that L2ers have a harder time acquiring interpretive properties than (morpho-)syntax, and takes this as support for the Interface Hypothesis (Sorace, 2011), which says that "discourse-related interpretive properties will be acquired (by L2 learners and bilinguals) later than narrow syntactic properties."

It seems clear that the Chinese- and Spanish-speaking L2 learners in this study acquired the inflected infinitive, arguing against deficit models. But the results do not necessarily support full access models. The strongest argument for UG access is based on the 'poverty of the stimulus' (e.g. Schwartz & Sprouse, 2013), that is, evidence that the L2 learner has acquired something that cannot be learned from the input. The (morpho-)syntax of the inflected infinitive and the contexts in which it is selected are mostly learnable on the basis of input/positive evidence. And the gradualness of the acquisition, viz. the difference in performance between beginning and advanced L2ers, is consistent with learning (though this in itself is not an argument against access). The results of the interpretation task provide a somewhat better argument for access insofar as knowing when to *avoid* an overt pronoun might require negative evidence. However, the pragmatic conditions under which *pro* vs. overt pronouns are felicitous in EP are more or less the same as in finite indicative clauses in Romance in general. Hence, for the Spanish speakers at least, these results might provide a better argument for the transfer part of Full Transfer-Full Access (Schwartz & Sprouse, 1996).

A much stronger case for UG access could be made by showing that the L2 learners have acquired more abstract properties of the inflected infinitive. Interestingly, Madeira discusses various properties of inflected infinitives that are not so obviously learnable from the input: (i) Raising is possible from subject position of an uninflected infinitive, but not from an inflected infinitive (9a); (ii) the null subject of an inflected infinitive does not permit a sloppy identity reading under ellipsis (9b); and (iii) inflected infinitives are incompatible with a single

event reading in sentences like (9c) and must be associated with a generic reading (9d) (Rothman & Iverson, 2007).<sup>3</sup>

- (9) a. As meninas parecem gostar(\*em) do filme.  
 the girls appear.PRS.IND.3PL like.INF(\*3PL) of.the film  
 'The girls appear to like the film.' (Rothman, 2009)
- b. Lamento teres reprovado no exame e a  
 regret.PRS.IND.1SG have.INF.2SG failed in.the exam and the  
 Isabel também.  
 Isabel also  
 'I am sorry that you failed the exam and Isabel does too.' (= Isabel is sorry  
 that you failed the exam vs. #Isabel is sorry that she failed the exam)  
 (Pires, 2006)
- c. \*Penso lerem o jornal.  
 think.PRS.IND.1SG read.INF.3PL the newspaper  
 'I think that they read the newspaper.'
- d. Penso lerem jornais todos os dias.  
 think.PRS.IND.1SG read.INF.3PL newspapers all the days  
 'I think that they read newspapers every day.'

A follow-up study looking at some or all of these properties in L2 learners of EP could strengthen the conclusions and support for UG access models. I will discuss the implications of the L2 findings for the Interface Hypothesis below.

## 7. Obviation effects in subjunctive complements

Silva's contribution to this volume discusses EP-speaking children's interpretation of null and overt pronoun subjects in indicative and subjunctive complements. Using a truth value judgment task (with y/n questions), she found that with indicative complements (10a) children (ages 3–6) tend to over-accept disjoint reference between the embedded *pro* subject and the matrix subject and they also overaccepted coreference between the embedded overt pronoun subject and the matrix subject. Both of these response types are dispreferred by adults, but are not ungrammatical. When an indirect object was added (10b), children happily accepted the indirect object as antecedent for *pro*, again grammatical but

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3. Rothman (2009) tested A-movement properties of inflected infinitives in L2 learners of Brazilian Portuguese, and Rothman and Iverson looked at the genericity constraint, illustrated in (9c–d), in this same population.

dispreferred by adults, and they also accepted the indirect object as antecedent to an embedded overt pronoun, in line with adult preferences.

- (10) a. O príncipe disse que *pro/ele* espirrou?<sup>4</sup>  
 ‘The prince said that *pro/he* sneezed.’  
 b. O príncipe disse ao bombeiro que *pro/ele* espirrou?  
 ‘The prince said to the fireman that *pro/he* sneezed.’

On their face the results suggest that children are not all that sensitive to the discourse principles governing the choice of antecedent for null and overt subjects in indicative complements. However, they more often accepted the dispreferred reading with overt subjects than with null subjects, prompting Silva (like Madeira) to interpret the results as supporting the Interface Hypothesis (Sorace, 2011). I return to this point below.

With subjunctive complements, children clearly were not sensitive to the grammatical constraint against coreference between the embedded pronoun (whether null or overt) and the matrix subject (11), so called obviation effects, and freely allowed coreference in both cases.

- (11) \*O pirata<sub>i</sub> pediu que *pro/ele<sub>i</sub>* saltasse?  
 ‘The pirate requested that *pro/he* jumped.’ (= the pirate asked to jump)

The children seemed to recognize the difference between subjunctive and indicative contexts in that they allowed coreference between the embedded null subject and the matrix subject far more readily in indicative complements (between 70–90%) than in subjunctives (20–30%). Their ability to distinguish the two complement types may be based on strictly morphosyntactic cues, for example, agreement morphology. As Silva notes, “the ability to distinguish between the indicative and subjunctive is not enough to assure full mastery of the subjunctive obviation”. What children seem not to know (assuming Raposo’s, 1985, analysis) is that subjunctive tense is anaphoric on the matrix tense and hence that the binding domain is extended to include the higher clause. However, this would not explain why they are much less likely to allow coreference in subjunctives than indicatives, as just noted.<sup>5</sup>

An alternative interpretation is that they know the extended binding domain, but freely chose an illicit antecedent for the pronoun for the same reason they do so in simple indicative clauses, viz. *Ernie washes him*: They either don’t know or fail

4. Silva was careful to provide two possible discourse antecedents (e.g. the fireman and the prince), so the matrix subject was not the only possible antecedent for *pro*/overt pronoun.

5. Thanks to Ana Santos for pointing this out.

to compute Rule I – the constraint against local coreference (cf. Avrutin & Wexler, 1999/2000; Grodzinsky & Reinhart, 1993). Silva's finding of a roughly 30% local coreference rate in EP subjunctives is consistent with local binding rates in simple indicative clauses in English and other languages (e.g. Chien & Wexler, 1990).

If children don't know the binding properties of subjunctive clauses their problem is syntactic. If they know the binding domain, but are unable to carry out the reference set computations that would block a local antecedent, then we might assume their problem is in the computing of pragmatic information (cf. Grodzinsky & Reinhart, 1993). One way to tease apart these alternatives is to follow Chien and Wexler's lead (and also Avrutin and Wexler who looked at obviation in Russian) and test pronoun resolution with quantified antecedents, as in (12).

- (12) \*Todos os piratas<sub>i</sub> pediram que *pro*<sub>i</sub> saltassem?  
 Every pirate requested that *pro* jumped.SBJV.3PL  
 (=every pirate asked to jump)

If children know the syntax of subjunctives and obviation (but have difficulty with computing coreference), then they will not allow a quantified subject as antecedent to *pro* in (12) (in contrast to their behavior with (11)). They will only allow a discourse antecedent. Importantly, however, it is necessary to first establish whether children's poor performance with *pro*/overt pronouns is purely syntactic or a function of interface computations, before the subjunctive results can be taken as support for the Interface Hypothesis.

## 8. The Interface Hypothesis: Evidence from Portuguese?

Both Silva (for L1) and Madeira (for L2) appeal to the Interface Hypothesis (IH) to explain learners' non-targetlike pronoun resolution. Silva's finding is that EP-speaking children do worse with overt pronouns than null pronouns in indicative and subjunctive complement. Madeira shows that L2 learners do worse with both *pro* and overt pronouns in inflected infinitives than with the morphosyntactic properties and takes this as support for the IH (following Sorace & Filiaci, 2006).

The canonical argument for the IH comes from precisely the null/overt asymmetry that Silva finds (e.g. Belletti, Bennati, & Sorace, 2007). Silva lays out the reasoning that renders such results compatible with the IH: *pro* is a weak deficient pronoun licensed in the syntax, e.g. by inflection (e.g. Cardinaletti & Starke, 1999; Holmberg, 2005, among others). On the other hand, the licensing of overt pronouns (and strong pronouns in general) is 'post-syntactic', as their interpretation is dependent on discourse context. The post-syntactic operation may involve



an evaluation of alternative derivations (in the manner of Reinhart, 2004) with respect to something like Chomsky's (1982) Avoid Pronoun Principle.

However, as Silva also notes (her note 17), although the licensing of null subjects is considered to be syntactic, their interpretation is restricted by discourse. In a similar vein, Madeira points out that null subjects of inflected infinitives (as is also the case for null subjects in finite clauses) favor antecedents that are highly prominent in the previous discourse, generally the local subject position. Overt pronouns (and strong pronouns, in general), by contrast, prefer less prominent antecedents, i.e. in object position or previous discourse. The notion of *prominence* is clearly a discourse construct, which makes the division of *pro* and overt pronouns into syntax and post-syntax/interface, respectively, rather suspect as an explanation for the learners' non-targetlike behavior with overt pronouns.

More generally, these two very interesting papers highlight a deeper challenge facing the IH, which is that for any particular syntactic (or discourse-interpretive) property that is being evaluated, it is not clear a priori what its comparison set should be. For Silva, for example, the relevant comparison to evaluate the IH is between null and overt pronouns, while for Madeira, the contrast is between pronoun interpretation (null and overt) and morphosyntax. In the case of null vs. overt pronouns, the comparison set is quite intuitive. Put more broadly, if the prediction is that syntactic property *x* will be acquired earlier than interface property *y*, how are the values for *x* and *y* to be determined? As any beginning linguist has learned, just because [h] and [ŋ] are in complementary distribution in English, it does not follow that they are allophones of the same phoneme – precisely because they are not “relevantly alike” in terms of features or whatever. But how do we determine when syntactic property *x* and interface property *y* are “relevantly alike” such that their uneven acquisition can be construed as support for the IH. To my knowledge the IH does not specify the relevant features, and hence has no predictive value.

The acquisition papers in this volume add substantially to our understanding of children's acquisition of Portuguese, and the development of complementation more generally. It is to be hoped that similar studies of complementation patterns in early language will be carried out in other languages so that the various hypotheses presented here can be put to further empirical test.

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This volume addresses core issues on complement clauses, focusing on Portuguese (European, Brazilian and Mozambican varieties). It contributes to the discussion of complementation, providing an overview of how theoretical syntax and acquisition studies may combine to broaden our knowledge about the topic. The articles are organized in two sections, each one followed by a comment paper: the first section, more theoretical in its nature, gathers contributions analyzing major syntactic aspects of complementation in Portuguese, from a synchronic and a diachronic point of view; the second section includes articles on L1 and L2 acquisition of Portuguese complementation. Both sections especially focus on infinitival structures; mood selection and the interpretation of subjects in finite complement clauses are also topics of particular relevance. The volume is meant for researchers and students interested in formal syntax and acquisition in general and Portuguese syntax and acquisition in particular.

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