

**Bound variable, split antecedent and ellipsis
interpretations in L2 Portuguese: implications for
L2 acquisition theories**

**Variável ligada, antecedente cindido e interpretações de eclipse em
Português como L2: implicações para as teorias de aquisição de L2**

Jason ROTHMAN*

UNIVERSITY OF IOWA (USA)

Michael IVERSON*

UNIVERSITY OF IOWA (USA)

Tiffany JUDY*

UNIVERSITY OF IOWA (USA)

ABSTRACT

Recently, in light of minimalist assumptions, some partial UG-accessibility accounts to adult second language acquisition have made a distinction between the post-critical period ability to acquire new features based on their LF-interpretability (i.e. interpretable vs. uninterpretable features) (HAWKINS, 2005; HAWKINS; HATTORI, 2006; TSIMPLI; MASTROPAVLOU, 2007; TSIMPLI; DIMITRAKOPOULOU, 2007). The

* About the authors see page 299-300.

Interpretability Hypothesis (TSIMPLI; MASTROPAVLOU, 2007; TSIMPLI; DIMITRAKOPOULOU, 2007) claims that only uninterpretable features suffer a post-critical period failure and, therefore, cannot be acquired. Conversely, Full Access approaches claim that L2 learners have full access to UG's entire inventory of features, and that L1/L2 differences obtain outside the narrow syntax. The phenomenon studied herein, adult acquisition of the Overt Pronoun Constraint (OPC) (MONTALBETTI, 1984) and inflected infinitives in non-native Portuguese, challenges the Interpretability Hypothesis insofar as it makes the wrong predictions for what is observed. The present data demonstrate that advanced learners of L2 Portuguese acquire the OPC and the syntax and semantics of inflected infinitives with native-like accuracy. Since inflected infinitives require the acquisition of new uninterpretable ϕ -features, the present data provide evidence *in contra* Tsimpli and colleagues' Interpretability Hypothesis.

KEYWORDS

Overt Pronoun Constraint. Inflected Infinitives. L2 acquisition. Adult UG-accessibility

RESUMO

Recentemente, no quadro do Programa Minimalista, alguns relatos de acesso parcial à Gramática Universal (GU) na área de aquisição de segunda língua distinguiram entre a habilidade de adquirir novos traços funcionais depois do período crítico, baseando-se na interpretabilidade dos traços de LF (HAWKINS, 2005; HAWKINS; LATTORI, 2006; TSIMPLI; MASTROPAVLOU, 2007; TSIMPLI; DIMITRAKOPOULOU, 2007). Eles afirmam que somente os traços que não sejam interpretáveis não podem ser adquiridos após o período crítico (Interpretability Hypothesis). Ao contrário, propostas de Acesso Completo (Full Access Hypothesis) propõem que pessoas que adquirem uma segunda língua têm acesso completo ao inventário inteiro de traços da GU e que as diferenças entre a L1 e a L2 se obtêm fora da sintaxe. Os fenômenos observados neste trabalho, a aquisição adulta do Overt Pronoun Constraint OPC (MONTALBETTI, 1984) e infinitivos flexionados em português L2, desafiam a Interpretability Hypothesis, já que esta faz predições incorretas sobre os fatos observados. Os resultados desta pesquisa demonstram que estudantes avançados de português como L2 adquirem a OPC e a sintaxe e semântica dos infinitivos flexionados, atingindo um desempenho semelhante ao dos falantes nativos. Posto que os infinitivos flexionados requerem a aquisição de novos traços- ϕ não interpretáveis, os dados fornecem evidência contra a Interpretability Hypothesis de Tsimpli e seus colegas.

PALAVRAS-CHAVE

Overt Pronoun Constraint. Infinitivos flexionados. Aquisição de segunda língua. Acesso adulto à Gramática Universal.

1 Introduction

This article presents data on the adult acquisition of the Overt Pronoun Constraint (MONTALBETTI, 1984), henceforth the OPC, and inflected infinitives in second language (L2) Portuguese, testing the predictions of the Interpretability Hypothesis put forth by Tsimpli and colleagues (TSIMPLI; MASTROPAVLOU, 2007; TSIMPLI; DIMITRAKOPOULOU, 2007). The Interpretability Hypothesis is an updated partial UG-accessibility approach to adult L2 acquisition, which claims that only L1 parametric values associated with uninterpretable features are perpetually resistant to re-setting in light of the proposed critical period affecting these features in particular. The primary goal of this hypothesis is to explain L2 variability/optionality. It makes clear predictions as to where L2 non-convergence should occur (and not occur) and is thus a testable hypothesis.

There is no debate as to the existence of L2 variability or optionality (SORACE, 2005); however, there is disagreement as to what it indicates, where it is predicted to occur and why. Capitalizing on minimalist assumptions with respect to the architecture of the language system, recent accounts of L2 variability have been able to make more precise and verifiable predictions in an effort to determine what is/are the source(s) of the widely observed L2 variability/optionality.

Full Access accounts maintain that the narrow syntax is acquired straightforwardly (i.e. L2ers acquire the abstract syntactic properties of the target L2 including new interpretable and uninterpretable features). As a result, the commonly observed L2 variability/optionality is argued to be best understood, for example, as problems at the syntax-morpho-phonology (PRÉVOST; WHITE, 2000; LARDIERE, 1998, 2005), the syntax-prosody/phonology (GOAD; WHITE, 2006) and/or the

syntax-pragmatics (PAPP, 2000; SORACE, 2003; 2005) interfaces. The Prosodic Transfer Hypothesis (GOAD; WHITE, 2006) and the Missing Surface Inflection Hypothesis (HAZDENAR; SCHWARTZ, 1997; PRÉVOST; WHITE, 2000) both claim that L2 feature specification is target-like, at least in advanced grammars. The latter maintains that L2 variability/optionality ensues from a failure to properly map features onto their corresponding morpho-phonological forms (a mapping problem or problem at the level of spell-out, but not within the syntax itself) while the former claims that L2 speakers have difficulty producing some functional morphology based on L1 prosodic interference. This is to say, problems arise when the L2 morphology requires a prosodic representation absent from the L1.

Based on the observation that the syntax-pragmatics interface is vulnerable even in L1 monolingual and bilingual acquisition (e.g. PLATZACK, 2001; HULK; MÜLLER, 2000; MÜLLER; HULK, 2001), SORACE and colleagues (e.g. BELLETTI; SORACE; BENNATI, 2005; SORACE, 2000, 2003, 2005; SORACE; FILIACI, 2006; VALENZUELA, 2006) have offered a complementary hypothesis for particular L2 variability/optionality. They maintain that adults have difficulty specifically with the acquisition of features interpreted at the syntax-discourse interface (uninterpretable ones are argued to be unproblematic), demonstrating residual optionality with pronominal subject distribution in near-native Italian and other properties within the left periphery. Their data are particularly interesting in light of the fact that the Interpretability Hypothesis claims that there is no problem with the acquisition of any interpretable features (see Tsimplici and Dimitrakopoulou, henceforth T&D, 2007, p. 218, for how Sorace and colleagues' data can be accounted for differently¹).

In sharp contrast, Partial Accessibility (PA) accounts (TSIMPLI; ROUSSOU, 1991; BECK, 1998; HAWKINS; CHAN, 1997; LICERAS;

¹ The claim is that the difference in predictions could be reconciled if one assumes a principled distinction between LF and the syntax-pragmatics interface, which would figure as a post-LF level where subjects find their referents. As such, L2 optionality could ensue from a "vague" pragmatic representation where overt and null pronouns may share the same source of discourse antecedents" (TSIMPLI; DIMITRAKOPOULOU, 2007, p. 218).

DÍAZ, 1999; HAWKINS; LISZKA, 2003), which differentiate between principles and parameters of UG, maintain continued accessibility to the former congruent with problems in the resetting of the latter. In minimalist terminology, this means that adults continue to have access to Merge/Agree and all universal economy constraints for the selection of derivations; however, the acquisition of [some] L2 features is problematic.

Under standard minimalist assumptions, the locus for parameterization is assumed to be the functional lexicon of particular grammars (CHOMSKY, 1995; 2000), which is to say, parametric differences arise at the level of language-to-language lexical feature specification. Since language-specific lexicons vary in terms of which functional categories and related features they instantiate (and whether or not a feature is spelled-out and how spell-out occurs (via Merge or Agree)), parametric differences obtain cross-linguistically. And so, in minimalist terms, PA hypotheses translate into a so-called post-pubescent inability to acquire some or all L2 functional features from the target-language functional lexicon. The Interpretability Hypothesis is a specific partial access approach, maintaining that accessibility to L2 features is determined via their interpretability at the LF-interface (see also HAWKINS, 2005; HAWKINS; HATTORI, 2006) whereby all interpretable features are unproblematic (but see SORACE, 2005) while uninterpretable ones are unacquirable.

The computational processes of Merge and Agree are purported to be universal, available to the speaker/learner within the narrow syntax. LF-interpretable features are those that are visible at the LF-interface because of their semantic import, while the role of uninterpretable features is restricted to syntactic derivations that may or may not have PF-realizations. In other words, interpretable and uninterpretable features are differentiated by their LF-function in that only the former have a role at LF. The distinction between interpretable and uninterpretable features can be taken to be related to how these features interact to trigger different operations in narrow syntax. Under the recent Probe-Goal/Agree approach to feature checking/valuation, only uninterpretable/

unvalued features meet the dual activation condition for Agree to apply.² The Interpretability Hypothesis maintains that Merge and Agree remain available to L2 learners, but are operative in L2 acquisition based upon an interpretability distinction between features, questioning the notion that uninterpretable features are unproblematic for adult L2 learners. If the Interpretability Hypothesis is correct, then L2 variability/optionality is representational within the narrow syntax, but is predicted only in the case that a particular L1/L2 parametric difference is dependent on the acquisition of uninterpretable L2 features.

As a result, the Interpretability Hypothesis makes falsifiable predictions as to what L2 properties can and cannot be acquired by adult learners. In section II, we provide an account of the OPC and inflected infinitives in terms of feature interpretability.³ In light of this approach, the Interpretability Hypothesis clearly predicts that English learners of Portuguese should be able to acquire the OPC, but not be able to acquire inflected infinitives. However, data from advanced adult learners demonstrate otherwise for the latter part of this asymmetric prediction (ROTHMAN; IVERSON, 2007a; IVERSON; ROTHMAN, 2008; ROTHMAN, 2009), bringing into question the tenability/generalizability of the Interpretability Hypothesis.

The remainder of this article is structured as follows. Section II reviews the OPC and the syntax and semantics of inflected infinitives in Brazilian Portuguese. Section III briefly reviews some relevant previous studies. Sections IV and V describe and discuss the methodology, results and their implications for the Interpretability Hypothesis and L2 theorizing in general.

2 The OPC and inflected infinitives in Portuguese

⁴This section describes the two grammatical properties

²This excludes the satisfaction of EPP requirements, which in Chomsky (2000, 2001) DBP does not presuppose Match or Agree explicitly, different from the earlier D feature approach.

³We are extremely grateful to Acrísio Pires and Carlos Quicoli for the help, comments and suggestions with regard to the syntactic analysis offered in Section II.

⁴The pro-drop status of BP is unclear (see KATO; NEGRÃO, 2000). Duarte (2000) shows that overt subjects increases from 20-25% at the beginning of the century to 67-74% in the second half of the century. Differences in the use of overt subjects are also found in different generations of speakers. Duarte found that speakers over 45 years old expressed subjects between 50% and 80% of the time while speakers between 25-35 years expressed subjects between 71% and 92%, suggesting that BP is currently changing from pro-drop to non-pro-drop. Nevertheless, both the

under investigation. As we will see, they are indirectly related to each other in that both properties are restricted to null-subject languages. The OPC is a syntactically derived constraint on co-reference interpretations related directly to the [+ null-subject] setting of the Null Subject Parameter (NSP), which we assume is acquired via the acquisition of interpretable features (CHOMSKY, 2000; ALEXIADOU; AGNOSTOPOULOU, 1998). Inflected infinitives obtain as the result of two separate parameters: the [+ null-subject] setting of the NSP and the positive setting of the Inflection Parameter (RAPOSO, 1987). We provide an analysis of how inflected infinitives involve the acquisition of uninterpretable features. As a result, the Interpretability Hypothesis predicts that the OPC is acquirable (i.e. that the NSP can be reset), but that the Inflection Parameter will be resistant to resetting, which means L2 learners should not be able to acquire inflected infinitives.

1 The Overt Pronoun Constraint (OPC)

The OPC (MONTALBETTI, 1984) is a syntactic principle of grammar, which in [+ null-subject] languages blocks co-reference interpretations between quantified DPs and *wh*-subjects and overt embedded pronouns.

- (1)
- a) Who_i believes that he_{i/j} is better than everyone?
 - b) John_i thinks that he_{i/j} is better than everyone.
 - c) The boy_i thinks that he_{i/j} is better than everyone.
 - d) *¿Quem_i acha que ele_{i/j} é o melhor de todos?*
 - e) *¿Quem_i acha que Ø_{i/j} é o melhor de todos?*
 - f) *O João_i acha que ele_{i/j} é o melhor de todos.*
 - g) *O João_i acha que Ø_{i/j} é o melhor de todos.*
 - h) *O menino_i acha que ele_{i/j} é o melhor de todos.*
 - i) *O menino_i acha que Ø_{i/j} é o melhor de todos.*

OPC and inflected infinitives are instantiated in standard BP, as confirmed by the native controls, which is the dialect to which these L2 learners are exposed. Although there has been a sharp increase in overt subject use, unlike other pro-drop Romance languages such as Spanish and Italian, this is due to shifts in the discourse conditions for pronominal subject distribution, but this does not mean that BP does not license null-subjects syntactically. We take the OPC and inflected infinitives as evidence that BP, at least the standard dialect, is still a full null-subject language.

In pro-drop languages, co-reference interpretations are always available between referential expressions with fixed referents (o João, a Clara and o menino) and embedded subject pronouns whether overt or null (1f-1i). However, unlike in [- null-subject] languages, like English for example, if the matrix subject is a QDP/*wh*-phrase, co-reference is possible only with null embedded subjects (1e); that is, the OPC blocks co-reference interpretations in these sentences if the embedded subject is overt, as seen in (1d). While anaphora resolution is essentially restricted by the discourse, it is further restricted grammatically in pro-drop languages via the OPC; that is, notwithstanding possible co-reference antecedents from the discourse in OPC environments. The OPC is a true *poverty-of-the-stimulus* property that is acquired via its underlying association to the positive setting of the NSP (see KANNO, 1998; PÉREZ-LEROUX; GLASS, 1999; ROTHMAN; IVERSON, 2007 b and c). In other words, if the L2 learner can reset the NSP, the OPC comes for free.

Differently from earlier PA approaches, the Interpretability Hypothesis predicts that the NSP can be reset from the English to the Portuguese setting since this parametric difference involves the acquisition of new interpretable features. Portuguese verbal agreement morphology encodes a [+ person, + interpretable] set of ϕ -features. In other words, the verbal inflectional affixes of Brazilian Portuguese, as in (2a), are thought to share the identical status of English pronouns, as in (2b).

2) a. fal-**o** fal-**amos**
 fal-**a** fal-**am**

(2) b. **I** speak **we** speak
 you/he speak **you/they** speak

Alexiadou and Agnostopoulou (1998) maintain that “EPP-checking is D-feature checking in a non-substantive category by a [nominal] lexical category (1998, p. 157).” Given the fact that agreement morphology is assumed to have a nominal quality in languages like Portuguese, it follows that T would serve as the locus

for EPP-feature checking. In Portuguese, head-to-head movement of the verb to T in and of itself is able to check the EPP-feature since the agreement morpheme of the inflected verb checks the EPP requirement of T. Conversely, languages such as English, with ‘weak’ verbal morphology, have [- person, - interpretable] ϕ -features. As a result, the nominal feature of T must be checked by merging an overt subject DP to the Spec of TP. Since the EPP-feature is argued to be universally strong,⁵ the observable difference between language types in regards to syntactic null-subject licensing (and all that this entails) involves a parametric difference in how this feature is checked. Within more recent minimalist terminology, the EPP requirement is taken to involve an uninterpretable feature [- person] on T (CHOMSKY, 2000; 2001; 2005). In Portuguese, the [- person] feature of T is checked via ν to T movement, via [+ person] verbal agreement morphology (ORDÓÑEZ; TREVIÑO, 1999; KATO, 2000). That is to say, the [- person] feature of T is checked by head movement, similar to Alexiadou and Agnostopoulou’s (1998) X⁰-movement criteria, and therefore does not require (XP) merge to Spec, TP. In order for English speakers of L2 Portuguese to re-set the NSP they must acquire interpretable features as detailed above.

2 Inflected infinitives: syntactic distribution and analysis

Although rare, inflected and/or personal infinitives occur in various languages such as West Flemish (HAEGEMAN, 1985), Galician (LONGA, 1994), Romanian (ALBOIU; MOTAPANYANE, 2000; LEDGEWAY, 1998), Portuguese (QUICOLI, 1988; 1996; RAPOSO, 1987; 1989) and some dialects of Sardinian (LEDGEWAY, 1998).⁶ Some authors make a distinction between personal and inflected infinitives (COWPER, 2002; LEDGEWAY, 1998), the former having no overt

⁵ Without further discussion or consideration, we acknowledge that the universality of the EPP is an openly debated topic in the syntactic literature.

⁶ It should be noted that there are differences between these so-called personal/inflected infinitives across languages (see COWPER, 2002 for details). For example, personal infinitives of West Flemish and Romanian are only licensed by prepositions and must take a nominal subject (HAEGEMAN, 1985; ALBOIU; MOTAPANYANE, 2000) whereas Portuguese inflected infinitives can be licensed by a verb, a preposition, or a matrix INFL (RAPOSO, 1987; QUICOLI, 1996; see subsections 2-4 in Section II).

morphology (and require an overt nominative subject) and the latter having dedicated overt morphology (and do not require an overt subject). In terms of associated abstract features, there is no difference between them, which is to say personal infinitives have a zero morpheme that carries the same uninterpretable ϕ -features and Case feature as the overt morphology of inflected infinitives. To avoid any possible confusion, however, we conserve the terminological difference when needed.

Portuguese has two types of morphological infinitives: uninflected ones and inflected/personal ones. Both are tenseless, yet differentiated via a specification for person/number-Agr (personal/inflected infinitives) or not (uninflected infinitives). In Brazilian Portuguese (BP) (unlike European Portuguese (EP), where the second person singular and plural also has overt morphology) only plural forms have corresponding overt morpho-phonological forms for person/number and are, thus, true inflected infinitives. As can be seen in (3), uninflected infinitives have three morphemes (lexical root, theme vowel and infinitival morpheme), while personal and inflected infinitives have four (all the same plus an agreement morpheme), whether or not the agreement morphology is PF-spelled out.

(3)

Uninflected Infinitive	Personal Infinitives	Inflected Infinitives
fal+a+r+mos fal+a+r	eu fal+a+r+ \emptyset ele fal+a+r+ \emptyset fal+a+r+em ela você	(nós) (eles) (elas) (vocês)

‘(PRO) /I/ you sg, he, she/ we/ you pl., they to speak (-AGR) + AGR’

Inflected and uninflected infinitives have a complimentary distribution. Uninflected infinitives in Portuguese, like most other infinitives cross-linguistically, have an INFL that is specified for [-Tense, -Agr] and have no Case feature. Thus, Portuguese uninflected infinitives

have the same syntactic/semantic distribution as infinitives in English and Spanish (e.g. they conform to properties of obligatory control; see HORNSTEIN, 1999; LANDAU, 2003; BOECKX; HORNSTEIN, 2004). Inflected/personal infinitives in Portuguese have an INFL that is specified for [- Tense, + Agr] and has an uninterpretable Case feature. As a result, they have a unique distribution and important syntactic/semantic differences (RAPOSO, 1987, 1989; QUICOLI, 1988, 1996; AMBAR, 1998; PIRES, 2001, 2006; COWPER, 2002).

Raposo (1987) concludes that [+ AGR] cannot in and of itself assign nominative Case to its subject (see HAEGEMAN, 1985; RAPOSO, 1987 for empirical evidence) and therefore “a tenseless INFL positively specified for Agr can only assign nominative Case to a lexical subject only if it is itself specified for Case” (1987, p. 107). Verbal Agr is a set of ϕ -features for number, person and optionally Case, mapped to a morpho-phonological form in null-subject languages only (CHOMSKY, 1981; ALEXIADOU; AGNOSTOPOULOU, 1998). It follows then that a language with inflected infinitives taking nominative lexical subjects must be a null-subject language and that the choice of [\pm Tense] is free of the choice Agr [\pm Case] (RAPOSO, 1987).

Although being a null-subject language seems to be a requirement to have inflected infinitives, it is not a sufficient condition. And so, null-subject languages that allow inflected infinitives must also be positively valued for a separate parameter, the Inflection parameter (RAPOSO, 1987), which allows tense and agreement to be valued separately. Along with Raposo (1987) and others, we assume that inflected/personal infinitives in Portuguese have Case and Agreement properties vis-à-vis their relationship with a higher Case-assigning element and the special nature of INFL in null-subject languages only.

Since the higher Case-assigning element that licenses inflected/personal infinitives can be a verb (as in example (4)) or a matrix INFL (as in example (5)), inflected infinitives act somewhat like normal embedded finite clauses. As can be seen in (4) and (5), inflected infinitives can take lexical subjects or null subjects, unlike uninflected infinitives, which must

have a controlled PRO subject.

- (4) a. *Eu lamento* [eles/pro **esquecerem** a bolsa na loja]
 I regret-pres-1sg they/pro forget-inf-3pl the bag in the store
 ‘I regret their having forgotten the bag in the store.’
- (5) a. *É importante* [nós/pro **dizermos** sempre a verdade]
 Be-pres-3sg important we/pro tell-inf-1pl always the truth.
 ‘It is important for us to always tell the truth.’

Unlike normal finite verbs, since inflected/personal infinitives need a higher Case-assigning licenser, they cannot occur in matrix clauses, as in (6).

- (6) a. **Eles ligarem agora.*
 They call-inf-3pl now.
 ‘They to call now.’
- b. *Eles ligam agora.*
 They call now.
 ‘They call now.’

Further differentiating them from embedded finite clauses is the fact that inflected/personal infinitives cannot occur after the complementizer *que*, as in (7).

- (7) a. **É provável que eles ligarem agora.*
 Be-pres-3sg probable that they call-inf-3pl now.
 ‘It is likely that they are calling now.’

A preposition can serve as a third and final higher Case-assigning element, as in (8).

- (8) a. *Para compramos o carro, precisamos de 33.000 reais.*
 For buy-inf-1pl the car, need-pres-1pl of 33,000 reais.

'In order for us to buy the car, we need 33,000 reais (Brazilian money).'

Raposo (1987, 1989) and Cowper (2002) argue that INFL of inflected/personal infinitives becomes accessible to higher Case-marking elements because it necessarily heads a projection within the Case-marker's search space or it moves to head this projection. And so, when the higher Case-assigning element is a verb as in (4), the embedded INFL heads an IP in the direct object position. When the higher Case-assigning element is a matrix INFL (as in (5)) or a preposition (as in (8)), the embedded INFL heads the associate of a null expletive in subject position or it has moved to head the CP complement of the preposition respectively (COWPER, 2002).

The question then becomes how to update these observations into minimalist terms. Crucially for the purposes of the present article, it is important to understand how inflected infinitives are explained in terms of features and their interpretability. The first question to be addressed is how the AGREE relation between the probe (in this instance, the Case-assigning head) and the constituent headed by INFL is established. Standard assumptions stipulate that Case-assigners bear uninterpretable ϕ -features. Therefore, they must match a goal with uninterpretable Case and interpretable ϕ -features. Based on Chomsky (1981), Raposo (1987) argued that inflected/ personal infinitives can only occur in null-subject languages because it is only in these languages that INFL can be specified for Case. Translating this observation to minimalist terms, Raposo's observation is tantamount to saying that in null-subject languages only INFL can have the same uninterpretable Case feature that nominals (including finite morphology in null-subject languages) usually have. Cowper (2002) suggests that this feature is optionally added to INFL in the numeration, independently of the feature FINITE. In the case INFL is non-finite, the derivation crashes unless the Case feature enters into an AGREE relation with a probe. When the AGREE relation is established, the uninterpretable Case feature can be deleted and INFL acquires the ability to check nominative Case on a

subject and to spell-out agreement ϕ -features on infinitives in languages positively valued for the Inflection parameter. In Cowper's (2002, p. 26-27) terms, seen this way, inflected infinitives constitute *psuedofiniteness*, defined as a non-finite INFL that take on the properties of the FINITE node during the course of the syntactic computation.

Turning to the setting of the Inflectional Parameter, the focus here is on the aspect of the parameter that yields the possibility of inflected infinitives, as distinct from uninflected infinitives, although we will make some speculations about uninflected infinitives as well. Only inflected infinitives involve uninterpretable ϕ -features on T that have to be checked/valued in the course of the derivation (COWPER, 2002; ROTHMAN, 2009). Such a position corresponds directly to the [+AGR] setting of Quicoli (1988, 1996) and Raposo (1987, 1989), and is an alternative way to represent Pires' (2001, 2006) approach in terms of a full set of ϕ -features on T of an inflected infinitive. Given any of these specifications, only inflected infinitives (and not their uninflected counterparts) trigger Case checking/valuation on a full DP or null *pro* in Brazilian Portuguese (and in EP⁷), as the result of Agree and valuation of uninterpretable ϕ /Case on T/DP respectively.

Regarding non-inflected infinitives, the question then is how to translate their [-AGR] specification (corresponding to a defective set of ϕ -features in Pires, 2001; 2006). One alternative is to simply take uninflected infinitives to lack the ϕ -features necessary to trigger checking/valuation with a DP, which then explains why they can't check Case on a full DP or null *pro*. Given that the set of ϕ -features on an uninflected infinitive is insufficient to check/value Case on a DP, it is then somewhat irrelevant whether these ϕ -features are specified as interpretable or uninterpretable, given that the presence of a defective ϕ -feature set (even if it is uninterpretable) would not yield any empirical distinction. In other words, with or without ϕ -features on T of an uninflected infinitive, the ϕ -features (because they can be at most defective) are not sufficient to yield Case valuation on a full DP or null *pro*. Putting aside cases of subject-verb inversion that yield possible complications in EP, this is the same across English and

⁷ We acknowledge that the issue of subject-verb inversion in European Portuguese yields further complications that are outside the scope of this discussion.

Portuguese uninflected infinitives in general and, therefore, whatever the correct analysis is, nothing new needs to be acquired by adult learners for uninflected infinitives.

Crucially, only Portuguese carries a full set of uninterpretable ϕ -features on an infinitive, whereas English lacks it. The locus of this parametric distinction is thus one of a difference in feature specification of a single lexical item: T. Portuguese learners, adults and children alike, must acquire the full set of uninterpretable ϕ -features of Portuguese T and knowledge that INFL can have its own uninterpretable Case feature. If uninterpretable features cannot be acquired after the Critical Period, as the Interpretability Hypothesis predicts, then English L1 learners of L2 Portuguese have no recourse to acquire inflected infinitives. If, however, they do acquire inflected infinitives, then they must be able to acquire new uninterpretable features.

3 Syntax/Semantic properties: inflected infinitives and properties of control

With Experiment 2 in mind, this section presents some of the semantic differences between inflected and uninflected infinitives that obtain with respect to properties of obligatory and non-obligatory control between inflected and uninflected infinitives. As is well known, uninflected infinitives display interpretive properties of obligatory control (HORNSTEIN, 1999; LANDAU, 2003); inflected/personal infinitives, however, display properties of non-obligatory control (see PIRES, 2001, 2006).

Since inflected infinitives have either a lexical or null subject, their subject may be disjoint in reference from any DP in the sentence; however, the subject PRO of uninflected infinitives must have a local c-commanding antecedent in the matrix clause, as can be seen in (9) and (10).

- (9) [*Meu amigo*]_i lamenta PRO_i ter chingado com os meninos presentes.
 [My friend]_i regrets PRO_i have-inf cursed with the children present.
 ‘My friend regrets having cursed with the children there.’

(10) [*Meu amigo*]_i lamenta pro_{s_i} terem chingado com os meninos presentes.

[My friend]_i regrets pro_{s_i} have-inf-3pl cursed with the children present.

‘My friend regrets their having cursed with the children there.’

As can be seen in the ellipsis examples in (11), uninflected infinitives must take a sloppy reading under ellipsis, whereas inflected infinitives only correspond to a strict interpretation of the ellipsis site.

(11) a. *Maria lamenta não ter assistido a partida de futebol e o Felipe também.*
(= *Felipe lamenta não ter assistido a partida de futebol*).

Maria_i regrets not PRO_{i/s_i} have-inf watched the soccer game and Felipe too. (= Felipe regrets to have not watched the soccer game).

‘Maria regrets not having watched the soccer game and Felipe does too.’

b. *Maria lamenta não termos assistido a partida de futebol e o Felipe também.* (= *Felipe lamenta nós não termos assistido o partido de futebol*).

Maria_i regrets pro_i not have-inf-1pl watched the soccer game and Felipe too. (= Felipe is regrets us not having watched the soccer game).

‘Maria regrets our not having watched the soccer game Felipe does too.’

With uninflected infinitives as in (11a), the elided material can only be interpreted with the sloppy reading, corresponding to ‘Felipe regrets his own not watching the soccer game’ as opposed to inflected infinitives as in (11b), for which the elided material must be interpreted with a strict reading of the ellipsis site, corresponding to ‘Felipe regrets our not having watched the soccer game.’

As can be seen in (12) below, there are differences between inflected and uninflected infinitives in terms of allowing (or not) split antecedents for embedded clause null subjects.

(12) a. *Eu, convenci João, PRO_{j/∗+j} a alugar um Mercedes para o fim de*

semana.

I_i convinced $Jo\tilde{a}o_j$ $PRO_{i/j+i}$ rent-inf a Mercedes for the weekend

'I convinced João to rent a Mercedes for the weekend.'

b. *Eu_i convenci João_j pro_{i+j} a alugamos um Mercedes para o fim de semana.*

I_i convinced João_j $pro_{i+j/k}$ rent-inf-1pl the Mercedes for the weekend.

'I convinced João for us to rent a Mercedes for the weekend.'

In (12a), PRO does not allow an interpretation where *Eu* and *João* can form a set that serves as its antecedent. Conversely, in (12b), the embedded *pro* must be co-referential with a set of elements that includes, at the very least, *eu* and *João*. Crucially, in light of the plural Agr-morphology of the inflected infinitive, it may not be co-referential with *João* only.

4 Previous studies

There are several studies that provide evidence of OPC knowledge in English learners of L2 null-subject languages (e.g. KANNO, 1998; PÉREZ-LEROUX; GLASS, 1999; LOZANO, 2002; ROTHMAN; IVERSON, 2007 b and c). As previously mentioned, however, this is predicted by the Interpretability Hypothesis since the OPC comes for free via the resetting of the NSP, which is accomplished on the basis of acquiring new interpretable features. Interestingly, the Interpretability Hypothesis predicts an asymmetric acquisition of the OPC and inflected infinitives in adult Portuguese since only the latter involves the acquisition of uninterpretable features.

To our knowledge, there are three previous generative studies on the acquisition of inflected infinitives in L2 Portuguese: Rothman and Iverson (2007a); Iverson and Rothman (2008) and Rothman (2009). Each investigates the acquisition of inflected infinitives by classroom advanced L2 learners of Brazilian Portuguese. Each presents different data sets, which when coupled together demonstrated that advanced L2 learners had target knowledge of the syntactic distribution (including

A-A' differences in movement restrictions) of inflected vs uninflected infinitives, knowledge that inflected infinitives display properties of non-obligatory control and knowledge of a semantically entailed genericity effect on inflected infinitive complements of epistemic predicates (see AMBAR, 1998).

Using similar, but methodologically improved tasks used by Rothman and Iverson (2007a), the present study investigates the L2 acquisition of the OPC and inflected infinitives. Assuming an analysis of the NSP and inflected infinitives that ascribes their syntactic emergence as the consequence of interpretable and uninterpretable features respectively, we are able to test the predictions of the Interpretability Hypothesis. If the present experiments verify the results of previous studies, we will have evidence against the Interpretability Hypothesis.

5 The study

5.1 Methodology

We report data from an advanced group ($n=21$) of non-native Portuguese learners who were recruited from several summer study abroad programs in Salvador, Brazil. The learners were assigned to the advanced-level group in accord with their holistic performance on the placement examination given by the study abroad programs. Being conservative, we exclude native bilinguals of Spanish from this group since it could be argued that they have an advantage over English learners, at least for the OPC portion of the experiments (but see ROTHMAN; IVERSON, 2007a). We also report data from 20 native BP speakers as a measure of comparison. There are two experiments. The first is an OPC task and the second is an inflected infinitive task.

5.1.2 Experiment 1: the OPC task

This is a co-reference judgment-matching task modeled after Kanno's (1998) and Rothman and Iverson's (2007 b and c) OPC tasks for L2 Japanese and L2 Spanish. Participants were asked to indicate

whether they derived a co-referential interpretation, disjoint referential interpretation, or both interpretations for contextualized Portuguese sentences of the following types, seen in (13) below (with subscripts and *pro* added for ease of interpretation): (a) QDP/*wh*-element matrix subject and overt embedded pronominal subject, (b) QDP/*wh*-element matrix subject and null embedded pronominal subject, (c) fixed-referent DP/NP matrix-subjects with overt embedded pronominal subject and (d) fixed-referent DP/NP matrix-subjects with null embedded pronominal subject. Irrespective of the discourse context, the OPC blocks co-reference interpretations only in sentences with QDP/*wh*-matrix clause subjects if the embedded subject is overtly expressed, as in (13a).

(13) a. **Overt embedded pronoun** (OPC forces (b) as the only answer)

¿*Quem*_i acha que **ele**_{*,ij} é a pessoa mais inteligente do mundo?

Who thinks that he is the smartest person in the world?

Who do you suppose thinks that he is the smartest person in the world?

i) the same person as *Quem* ii) someone else iii) either (a) or (b)

b. **Null embedded pronoun with quantified/*wh*-matrix subject**

¿*Quem*_i não sabe que *pro*_{ij} pode beber cervejas na rua durante o Carnaval?

Who does not know that *pro* (he) can drink beer in the streets during Carnival?

Who do you suppose does not know that he can drink beer in the streets during Carnival?

a) the same person as *Quem* b) someone else (c) either (a) or (b)

c. **Null embedded pronoun with fixed-referent DP/NP matrix subject**

Eu falava com a Maria semana passada quando o Luis_i nos informou que [pro_{ij}] se casaria com a Clara.

I was speaking to Maria last week when Luis informed us that he would get married to Clara.

Who do you think will marry Clara?

- a) *Luis* b) someone else who is not *Luis* (c) either (a) or (b)

d. Overt Embedded pronoun fixed-referent DP/NP matrix subject

Ontem eu vi a Sara no Shopping Barra. Ela comprava alguns presentes para o aniversário do seu namorado. Eu também fui para comprar presentes para ele e para outro amigo, o Paulo. Felipe disse que ele tinha tudo o que ele queria. Por isso, não comprei nada para ele.

Yesterday I saw Sara at Shopping Barra. She was buying some presents for her boyfriend's birthday. I also went there to buy presents for him and for another friend, Paulo. Felipe said that he had all that he wanted. And so, I didn't buy anything for him.

Who do you suppose already had everything he wanted?

- a) *Felipe* b) Paulo (c) someone not Felipe or Paulo

As can be seen in (13) above, for the L2 learners the experiment questions that followed the Portuguese context were in English, restating important vocabulary from the Portuguese context. This ensured that any unforeseen lack of knowledge of particular vocabulary would not interfere with participants' interpretation of co-reference.

5.1.3 Experiment 2: Context-Interpretation Match Task

This task presented five types of sentences that were presented with contextual backgrounds. The participants were instructed to choose from 3 possible choices through which they would indicate the interpretation of the following sentence types: ellipsis with inflected infinitives (n=5), ellipsis with uninflected infinitives (n=5), non-split antecedent of embedded PRO, (n=5), split antecedent of embedded *pro* (n=5), fillers: antecedents of embedded finite clauses (n=10). This can be seen in (14) – (18).

(14) Sloppy reading under ellipsis

Quando o nosso pai morreu a minha irmã e eu choramos na frente de todos. Nós nos sentíamos um pouco envergonhados porque os nossos amigos nos viram.

When our father died, my sister and I cried in front of everyone. We felt a little embarrassed because our friends saw us.

Não nos admitiríamos isso, mas eu lamento ter chorado e a minha irmã também.

We would never admit this to each other, but I regret crying and my sister does too.

Which of these options corresponds to the underlined sentence?

___ a. I regret that I cried and my sister regrets that she cried

___ b. I regret that we both cried and she regrets that we both cried

___ c. Neither, then what happened? _____

(15) Strict reading under ellipsis

Ontem era o dia da partida de futebol mais importante do ano. Eu pensei que fôssemos ganhar, mas nós perdemos. Eu ia sair com os amigos que vieram para assistir a partida, mas agora eu não quero sair.

Yesterday was the most important soccer-game day of the year. I thought that we were going to win, but we lost. I was going to go out with friends that came to watch the game, but now I don't want to go out.

Eu lamento termos perdido e os meus amigos também.

'I regret have-inf-1pl lost and my friends do too.'

Which of these options corresponds to the underlined sentence?

___ a. I regret our having lost and my friends also regret our having lost.

___ b. I regret that my team lost and my friends regret that their teams lost

___ c. Neither, then what happened? _____

(16) Split antecedent w/ PRO

A Marta e o Roberto eram namorados por 3 anos. Os dois são bons amigos meus. Semana passada, a Marta soube que o Roberto tinha beijado outra mulher durante a primeira semana da sua relação. Obviamente a Marta estava muito triste e ela jurou que nunca mais falaria com ele. Eu não queria que a Marta odiasse o Roberto, por isso falei com ela.

Marta and Roberto were boyfriend and girlfriend for 3 years. They are both good friends of mine. Last week, Marta found out that Robert had kissed another woman during the first week of their relationship. Obviously, Marta was very sad and she swore that she would never speak with him again. I don't want Marta to hate Roberto, and so, I spoke with her.

Eu convenci a Marta a perdoar o Roberto.

'I convinced Marta to forgive-INF Robert.'

Which of these options corresponds to the underlined sentence?

___ a. I convinced Marta that she should forgive Robert.

___ b. I convinced Marta that we should forgive Robert.

___ c. Neither, then what happened? _____

(17) Split antecedent w/ pro

Meu melhor amigo, o João, tem 35 anos mas ainda mora na casa dos seus pais. Ele precisa de mais liberdade, por isso precisa sair da casa dos seus pais.

My best friend, João, is 35 but he still lives with his parents. He needs more independence, and so he needs to leave his parents' house.

Eu convenci o João a alugarmos um apartamento.

'I convinced João rent-inf-3pl an apartment.'

Which of these options corresponds to the underlined sentence?

- ___ a. I convinced João to rent an apartment.
 ___ b. I convinced João that we should rent an apartment together.
 ___ c. Neither, then what happened? _____

(18) Fillers

A festa na casa do Miguel foi bem movimentada. O Ronaldo prefere conversar, e a Margarida não é muito boa de dança. O Miguel às vezes dança nas festas.

Miguel's party had a good vibe. Ronaldo prefers to talk and Margarida isn't a good dancer. Miguel sometimes dances at parties.

O Ronaldo não gosta de dança, mas ele dançou assim mesmo.

'Ronaldo does not like dancing, but he danced even so.'

Which of these options corresponds to the underlined sentence?

- ___ a. Ronaldo danced.
 ___ b. Ronaldo did not dance.
 ___ c. Neither, then what happened? _____

It is important to note that the background context serves only to familiarize the participants with possible antecedents from the discourse situation (although this does not preclude others from an imagined discourse context that includes more people); however, the context does not provide the answer to the test question. Crucially, the answer to test questions can only be derived on the basis of the information in the underlined sentence, which is to say, on the basis of obligatory vs non-obligatory control properties that differentiate uninflected and inflected infinitives. In sentence types (14) – (17),

either choice a) or b) is perfectly compatible with the underlined sentence. However, inflected infinitive sentences can have more than one reading, which is relevant for sentence types (15) and (17). For example, in (17) choice (a) is simply precluded by the inflected infinitive and although choice (b) is an option, there are other possible sets that can comprise João and myself (that is, with others from an imagined discourse). As a result, we felt it necessary to offer a choice (c) in which the participants could demonstrate their interpretation if it happened to be a possible one that was not represented by choice (a) or (b). Since, however, either choice (a) or (b) was always possible in the relevant test sentences, we wanted to ensure that (c) was also viewed as a possibility by the participants, anticipating the possibility that either choice (a) or (b) were always chosen. And so, half of the fillers (n=5), as in (18), did not provide a viable choice in (a) or (b), essentially forcing the participants to choose (c) and to provide an answer if they were performing the task correctly.

5.2 Results and discussion

In this section, we present the empirical results of the study and also discuss their significance. It is divided into two sections, each one corresponding to one of the two experiments. The statistical analysis was conducted in the following manner. When comparing the native speaker (NS) group to the second-language learner (L2) group, a 2-sample t-test was used. When making an intragroup comparison, a paired t-test was used. For both types of t-tests, the alpha was set at .05 to ensure a confidence level of 95%.

5.2.1 Experiment 1

Quantitative analysis: Experiment 1 consists of a co-reference judgment-matching task, testing for knowledge of the Overt Pronoun Constraint (OPC) on co-reference interpretations of relevant sentences

(see subsection 1 of Section II). Figure 1 below shows the rate of CO-REFERENCE interpretation for four different sentence types: a) quantified determiner phrase or *wh*-phrase (QDP) matrix subject with an overt embedded subject, b) QDP matrix subject with a null embedded subject, c) determiner phrase (DP) matrix subject with an overt embedded subject and d) DP matrix subject with a null embedded subject.

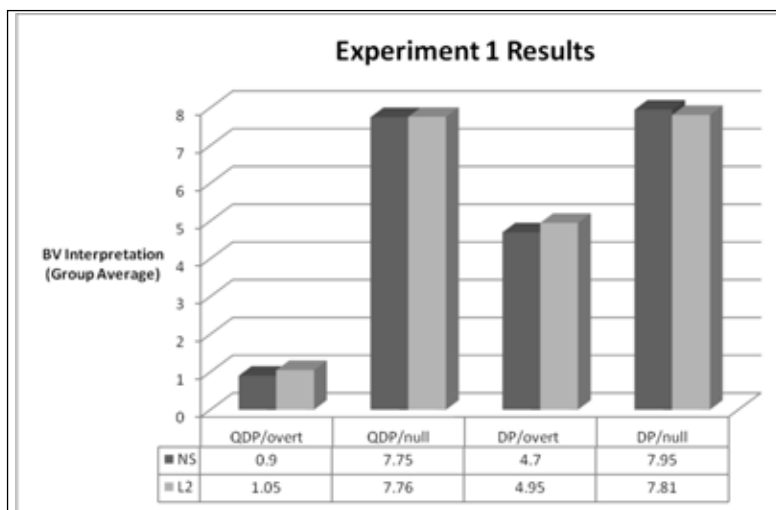


Figure 1 - Experiment 1 Results. QDP/overt = QDP matrix subject with overt embedded subject; QDP/null = QDP matrix subject with null embedded subject; DP/overt = DP matrix subject with overt embedded subject; DP/null = DP matrix subject with null embedded subject

As can be seen from Figure 1, the L2 group averages are comparable to the NS group averages. Statistical analyses were done to further determine if the L2 group performed in a native-like manner. The first analysis was an intragroup comparison examining whether each group distinguished between three sets of sentence types: a) QDP matrix subject with either an overt or a null embedded subject, b) either a QDP or a DP matrix subject with an overt embedded subject and c) either a QDP or a DP matrix subject with a null embedded subject. Both groups

made statistically significant distinctions between sentence sets a) and b); however, they made no statistically significant distinction between sentence set c), which is not surprising as null embedded subjects are most naturally interpreted with co-reference to an antecedent in a higher clause and the OPC restriction does not pertain to either sentence type. This information is summarized in Table 1 below.

Table 1 - Experiment 1 Results (Intragroup Comparison)

	QDP/overt vs QDP/null		QDP/overt vs DP/overt		QDP/null vs DP/null	
	<i>t</i>	<i>p</i>	<i>t</i>	<i>P</i>	<i>t</i>	<i>p</i>
NS	29.46	< 0.001	14.20	< 0.001	0.85	0.408
L2	23.50	< 0.001	13.01	< 0.001	0.016	0.877

Although the L2 group distinguished between the same sentence sets as the NS group, an additional statistical analysis was conducted to determine if the L2 group distinction was native-like. This was done by comparing the numerical difference the NS group yielded between each of the sentence sets in Table 1 to the same numerical difference of the L2 group. For example, we compared the numerical difference the NS group yielded between QDP/overt and QDP/null sentences with the numerical difference between the same two sentence types yielded by the L2 group. These comparisons yielded no statistically significant differences between the NS group and the L2 group, which is to say that each group makes similar distinctions between the relevant sentence types. This is summarized below in Table 2.

Table 2 - Experiment 1 Results (NS vs L2)

QDP/overt - QDP/null			QDP/overt - DP/overt			QDP/null - DP/null		
<i>t</i>	<i>p</i>	<i>df</i>	<i>t</i>	<i>p</i>	<i>df</i>	<i>t</i>	<i>p</i>	<i>df</i>
0.37	0.715	37	0.26	0.796	38	0.40	0.695	37

Discussion: Experiment 1 tested for knowledge of the Overt Pronoun Constraint (OPC). Two relevant intragroup comparisons were made in Experiment 1 comparing the frequency of co-reference interpretations derived: a) a QDP matrix subject with an overt embedded subject vs a QDP matrix subject with a null embedded subject and

b) QDP matrix subject with an overt embedded subject vs a DP matrix subject with an overt embedded subject. These are shown in Table 1 above. The first comparison shows that both the NS and L2 groups interpret the coreferentiality between the matrix subject and the embedded subject when the matrix subject is a QDP/*wh*-element differently depending on whether the embedded subject is overt or null. To ensure that this interpretation did not simply result from the presence of an overt embedded subject and was in fact a result of the combination of a QDP matrix subject and an overt embedded subject, a second comparison was made. This compared the frequency of co-reference interpretations of a QDP matrix subject with an overt embedded subject to a DP matrix subject with an overt embedded subject. If the blocking of a co-reference interpretation were due to the simple presence of an overt embedded subject, we would expect to see no difference among this second comparison. However, this was not the case and therefore indicates that the blocking of the co-reference interpretation was due to the combination of a QDP matrix subject with an overt embedded subject. It is interesting to note the relatively high frequency with which both groups derive co-reference interpretations with overt embedded subjects and simple matrix DPs in light of the fact that this is different from what has been noted in native and L2 Spanish (PÉREZ-LEROUX; GLASS, 1999; ROTHMAN; IVERSON, 2007 b and c). Although such an interpretation is not blocked in Spanish, it is pragmatically conditioned to be the non-primary reading since overt pronouns are necessarily associated with some type of switch-reference or focus in Spanish. We attribute the present behavior to differences in pragmatic restriction on null vs. overt subject pronoun distribution in BP and most dialects of Spanish. As explained in the quantitative section above (see Table 2), the L2 group made native-like distinctions between QDP matrix subjects with overt embedded subjects and QDP matrix subjects with null embedded subjects as well as QDP matrix subjects with overt embedded subjects and DP matrix subjects with overt embedded subjects.

Since they were given a choice to indicate that both a co-reference interpretation and a disjoint reference interpretation were possible, the L2 group showed native-like knowledge of the OPC by reliably rejecting the co-reference interpretations in sentences that consisted of a QDP matrix subject and an overt embedded subject. Having native-like knowledge of this property necessarily entails the re-setting of the NSP, which would require the acquisition of new interpretable features, specifically [+ person, + interpretable] ϕ -features. Both Full Access approaches and the Interpretability Hypothesis predict this result since only interpretable features must be acquired.

5.2.2 Experiment 2

Quantitative analysis: Experiment 2 consists of a Context-Interpretation Match Task testing for knowledge of inflected vs uninflected infinitives with respect to properties of control as detailed in subsection 3 of Section II. Figure 2 shows various group averages. The first four columns (UnInfl w/ ellip and Infl w/ ellip) show the average number of sloppy readings under ellipsis obtained for the first two sentence types for each group. The next four columns (UnInfl w/PRO and Infl w/*pro*) show the average number of null subject set/split antecedent interpretations. The final four columns (Fillers Type 1 and Fillers Type 2) show the average number correct for two different types of fillers. Filler Type 1 consists of fillers that force answer (c), which meant that choices (a) and (b) were unable to represent the context and the participants thus have to provide what happened. Filler Type 2 consists of fillers in which either answer (a) or (b) were acceptable (see subsection 1.2 of Section IV for examples).

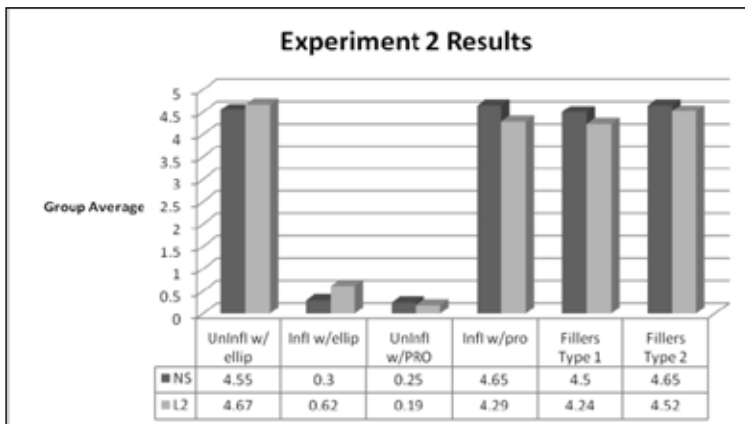


Figure 2 - Experiment 2 Results

UnInfl w/ellip = uninflected infinitives with ellipsis; Infl w/ellip = inflected infinitives with ellipsis; UnInfl w/PRO = uninflected infinitives with PRO; Infl w/pro = inflected infinitives with *pro*

As seen in Figure 2, the L2 group averages are comparable to those of the NS group. To verify that the L2 group performed native-like, further statistical analyses were conducted. As with the previous experiments, an intragroup comparison examining whether each group distinguished between the two sets of sentence types: a) uninflected or inflected infinitive with ellipsis matching the sloppy reading and b) uninflected infinitives with PRO and inflected infinitives with *pro* matching a set interpretation. Both the L2 and the NS group made statistically significant distinctions between the two sets of sentence types. This information is summarized in Table 3 below.

Table 3 - Experiment 2 Results (Intragroup Comparison)

	UnInfl w/ellip vs Infl w/ellip (sloppy reading)		UnInfl w/PRO vs Infl w/pro (set interpretation)	
	<i>t</i>	<i>p</i>	<i>T</i>	<i>p</i>
NS	29.76	< 0.001	28.91	< 0.001
L2	31.46	< 0.001	22.58	< 0.001

In order to verify that the distinctions made by the L2 group are comparable to those of the NS group, we compared the numerical difference the NS group yielded between each of the sentence sets in Table 4 to the same numerical difference of the L2 group. That is to say, we compared the numerical difference between sloppy readings of uninflected and inflected infinitives under ellipsis yielded by the NS group to the numerical difference yielded by the L2 group. The same comparison was made for the set interpretation of uninflected infinitives with PRO and inflected infinitives with *pro*. The results are shown below in Table 4.

Table 4 - Experiment 2 Results (Intergroup Comparison)

UnInfl w/ellip - Infl w/ellip (sloppy reading)			UnInfl w/PRO - Infl w/pro (set interpretation)		
<i>t</i>	<i>p</i>	<i>df</i>	<i>T</i>	<i>p</i>	<i>df</i>
1.05	0.299	38	1.29	0.206	38

Discussion: Experiment 2 tested for knowledge of control properties of uninflected and inflected infinitives via semantic interpretations. Again, through intragroup comparisons, our data show that the L2 group made native-like distinctions between uninflected and inflected infinitives under ellipsis, consistently yielding sloppy interpretations of the ellipsis site with the former and strict interpretations of the ellipsis site with the latter. In addition, the L2 group made native-like distinctions between the uninflected and inflected infinitives and their respective control properties allowing set interpretations with inflected infinitives/*pro* and split antecedents of uninflected infinitives/PRO.

The fillers, although not testing for relevant uninflected/inflected infinitive distinctions, were methodologically important. As previously mentioned, the fillers were included in the experiment to ensure that answer (c) was an active/available option if absolutely needed. We opted not to make the choices strictly binary for the relevant sentences since inflected infinitives can correspond to more than one possible reading, although one of those possible readings, we believe the most salient

one, was always represented by either choice (a) or (b). Having choice (c), which permitted the participants to convey any possible alternative interpretations, was methodologically important so as to avoid any possible effects that the multiple reading with inflected infinitives could confer. As a result, performance on the fillers enables us to verify that the methodology was sound since the only possible answer to Filler Type 1 items was (c), forcing participants to choose option (c) and provide their own interpretation. Since both groups performed well with respect to both filler types, we can be confident that answer (c) was a viable option for the participants even though they did not choose it with the relevant test sentences.

The data demonstrate that the L2 group makes native-like distinctions between uninflected and inflected infinitives by showing knowledge of related obligatory/non-obligatory control semantic properties. Assuming that this semantic knowledge falls out from the acquisition of features related to inflected infinitives, it is tenable to say that the L2 group has acquired the necessary features to reset the Inflection Parameter to the Portuguese value, thus permitting a grammar with uninflected and inflected infinitives. As described in subsection 2 of Section II, this must entail the acquisition of uninterpretable ϕ -features on T and an uninterpretable Case feature of inflected infinitival INFL, which, crucially, are not present in the participants' L1 (English). The two acquisition approaches considered herein make different predictions regarding this possibility. Full Access approaches maintain that both interpretable and uninterpretable ϕ -features not instantiated in the L1 can be acquired even after the so-called Critical Period by L2 learners, thus predicting successful acquisition of the inflected infinitive. Conversely, the Interpretability Hypothesis claims that only interpretable features can be acquired after the Critical Period; uninterpretable features are purported to be impaired, inferring the impossibility of the acquisition of inflected infinitives. These data, however, cannot be accounted for by the Interpretability Hypothesis, but rather support Full Access approaches.

6 Conclusion

The collective goal of all L2 acquisition research is to effectively and accurately describe and explain the process of linguistic acquisition for adult learners. It almost goes without saying that succeeding in such an endeavor is no small task for a multitude of reasons. At the very top of the list rest the almost contradictory, but very apparent observations with respect to the path and outcomes of adult language acquisition. Comparatively speaking, adult L2 acquisition is decidedly different on many fronts from normal child L1 acquisition. Notwithstanding, adults have been shown to acquire very sophisticated, complex target L2 knowledge that cannot be explained under a theory claiming adult L2 acquirers have lost the domain-specific ability to acquire language (for such evidence see DEKYDTSPOTTER; SPROUSE, 2001; SLABAKOVA, 2006), even when their production of morphology, for example, is quite target deviant (for discussion see LARDIERE, 2006).

Nor can it be the case that L2 learners continue to have access to principles of grammar, but parameters are permanently resistant to resetting since new features (the locus for parameterization) are unavailable after the Critical Period as PA theories advocate (e.g. BECK, 1998; FRANCESCHINA, 2001; HAWKINS; CHAN, 1997). This is true because there are many studies that demonstrate that the predictions of such hypotheses are unsubstantiated under investigative scrutiny (see WHITE, 2003). Nevertheless, PA approaches are privileged by their noble position insofar as they highlight the very observable variability/optionality of L2 grammars, even at very advanced stages, and demand that such variation be accounted for. Indeed, L2 variability/optionality must be explained and there is nothing *a priori* wrong/impossible with the notion that L2 variability/optionality stems from inevitable maturational differences between L1 and L2 narrow syntax as PA approaches claim. However, the predictions that each updated and refined PA version makes must be parsed against empirical findings across languages and linguistic phenomena to ensure that their predictions are not isolated

to one particular phenomenon and/or specific L1/L2 pairings. The Interpretability Hypothesis (TSIMPLI; MASTROPAVLOU, 2007; TSIMPLI; DIMITRAKOPOULOU, 2007) claims that L2 non-convergence is anticipated only in the case that a parameter resetting involves the acquisition of new uninterpretable features. And so, the prediction for the present study was that English adult non-native speakers of Portuguese would demonstrate knowledge of the OPC (having the ability to reset the NSP), but would not be able to acquire inflected infinitives. This was found to not be the case. Since there was not an asymmetric acquisition of these two properties, the present study provides evidence *in contra* the Interpretability Hypothesis. Implications of these data in no way suggest that variability/optionality itself is not accurate, as such would be to deny what is readily observed, but that claiming variability/optionality is caused by deficits within the L2 narrow syntax itself is not correct. Future research that continues the pioneering path of others and refines the current interface vulnerability proposals (see Section I) will likely be quite fruitful in explaining L1/L2 differences more adequately.

REFERENCES

- ALBOIU, G.; MOTAPANYANE, V. The generative approach to Romanian grammar: an overview. In MOTAPANYANE, V. (ed.), **Comparative studies in Romanian syntax**. New York: Elsevier, 2000. p. 1-48,
- ALEXIADOU, A.; AGNOSTOPOULOU, E. Parametrizing AGR: Word order, V-movement and EPP-checking. **Natural Language and Linguistic Science**, v. 16, p. 491-539, 1998.
- AMBAR, M. Inflected infinitives revisited: Genericity and single event. **The Canadian Journal of Linguistics/La Revue Canadienne de Linguistique**, v. 43, p. 5-36, 1998.
- BECK, M. L. L2 acquisition and obligatory head movement: English-

speaking learners of German and the local impairment hypothesis. **Studies in Second Language Acquisition**. v. 20, p. 311- 48, 1998.

BELLETTI, A., SORACE, A.; BENNATI, E. **Theoretical and developmental issues in the syntax of subjects: evidence from near-native Italian**. Unpublished manuscript, University of Siena, Italy/University of Edinburgh, UK, 2005.

BOECKX, C.; HORNSTEIN, N. Movement under control. **Linguistic Inquiry**, v. 35, p. 431-52, 2004.

CHOMSKY, N. **Lectures on government and binding**. Foris: Dordrecht, 1981.

_____. **The minimalist program**. Cambridge, MA: MIT Press, 1995.

_____. Minimalist Inquiries: The Framework. In MARTIN, R.; MICHAELS, D.; URIAGEREKA, J. (eds.), **Step by step: essays on minimalist syntax in honor of Howard Lasnik**. Cambridge: MIT Press, 2000. p. 31-52,

_____. Derivation by Phase. In: KENSTOWICZ, M., (ed.), **Ken Hale: a life in language**. Cambridge, MA: MIT Press, 2001. p.1-52.

_____. **On phases**. Unpublished manuscript. MIT. 2005.

COWPER, E. **Finiteness**. Unpublished manuscript. University of Toronto. 2002.

DEKYDTSPOTTER, L.; SPROUSE, R. Mental design and (second) language epistemology: adjectival restrictions on wh-quantifiers and tense in English-French interlanguage. **Second Language Research** v.17, p. 1-35, 2001.

DUARTE, M. Eugenia L. The loss of the 'Avoid pronoun' principle in Brazilian Portuguese. In: KATO, M.A.; NEGRÃO, E. V. (eds.). **Brazilian Portuguese and the null subject parameter**. Frankfurt: Vervuert, 2000. p. 17-36.

FRANCESCHINA, F. Morphological or syntactic deficits in near-native speakers? An assessment of some current proposals. **Second Language Research**. v. 17, n. 3, p. 213-47, 2001.

GOAD, H.; WHITE, L. Ultimate attainment in interlanguage grammars: a prosodic approach. **Second Language Research**, v. 22, n.3, p. 243-68, 2006.

HAEGEMAN, L. INFL, COMP and nominative Case assignment in Flemish infinitivals. In: MUYSKEN, P.; VAN RIEMSDIJK, H. (eds.). **Features and projections**. Foris: Dordrecht, 1985. p.123-37.

HAWKINS, R. Revisiting wh-movement: The availability of an uninterpretable [wh] feature in interlanguage grammars. In: DEKYDTSPOTTER, L. *et al.* (eds.) **Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA 2004)**, Somerville, MA: Cascadilla, 2005. p. 124-37.

HAWKINS, R.; CHAN, C. The partial availability of universal grammar in second language acquisition: the 'failed functional features hypothesis.' **Second Language Research**, v. 13, p. 187- 226, 1997.

HAWKINS, R.; HATTORI, H. Interpretation of English multiple wh-question by Japanese speakers: a missing uninterpretable feature account. **Second Language Research**, v. 22, n.3, p. 269-301, 2006.

HAWKINS, R.; LISZKA, S. Locating the source of defective past tense marking in advanced L2 English speakers. In: VAN HOUT, R.; HULK, A.; KUIKEN, F.; TOWELL, R. (eds.) **The lexicon-syntax interface in second language acquisition**, Amsterdam: John Benjamins, 2003. p. 21-44.

HAZNEDAR, B.; SCHWARTZ, B.D. Are there optional infinitives in child L2 acquisition? In: HUGHES, E., HUGHES, M.; GREENHILL, A., (eds.) **Proceedings of the 21st Annual BUCLD**. Somerville, MA: Cascadilla Press, 1997. p. 257- 68.

HORNSTEIN, N. Movement and Control. **Linguistic Inquiry** , v. 30, p. 69-96, 1999.

HULK, A.; MÜLLER, N. Bilingual First Language Acquisition at the Interface Between Syntax and Pragmatics. **Bilingualism, Language and Cognition** v. 3, p. 227-44, 2000.

IVERSON, M.; ROTHMAN, J. The Syntax-Semantics Interface in L2 Acquisition: Genericity and Inflected Infinitive Complements in Non-Native Portuguese. In: BRUHN DE GARAVITO *et al.* (eds.) **Selected**

Proceedings of the 10th Hispanic Linguistic Symposium. Somerville, MA: Cascadilla Press, 2008. p. 78-92.

KANNO, K. Consistency and variation in second language acquisition. **Second Language Research**, v. 14, p. 376-88, 1998.

KATO, M.A. The partial pro-drop nature and the restricted VS order in Brazilian Portuguese. In: KATO, M.A.; NEGRÃO, E. V. (eds.) **Brazilian Portuguese and the null subject parameter.** Frankfurt: Vervuert, 2000. p. 223-258.

KATO, M.A.; NEGRÃO, E. V. (eds.) **Brazilian Portuguese and the null subject parameter.** Frankfurt: Vervuert, 2000.

LANDAU, I. Movement out of Control, **Linguistic Inquiry**, v. 34, p. 471-98, 2003.

LARDIERE, D. Dissociating syntax from morphology in a divergent L2 end-state grammar. **Second Language Research**, v.14, p. 359-75, 1998.

_____. **Ultimate attainment in second language acquisition: a case study.** Mahwah: LEA, 2006.

_____. On morphological competence. In: DEKYDTSPOTTER, L. *et al.*(eds.) **Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference (GASLA 2004)**, Somerville MA: Cascadilla, 2005. p. 178-92.

LEDGEWAY, A. Variation in the Romance infinitive: the case of the southern Calabrian inflected infinitive. **Transactions of the Philological Society**, v. 96, p. 1-61, 1998.

LICERAS, J.; DÍAZ, L. Topic-drop versus pro-drop: Null subjects and pronominal subjects in the Spanish of Chinese, English, French, German and Japanese speakers. **Second Language Research**, v.15, p. 1-40, 1999.

LONGA, V.M. The Galician Inflected Infinitive and the theory of UG. **Catalan Working Papers in Linguistics**, v. 4, p. 23-44, 1994.

LOZANO, C. Knowledge of expletive and pronominal subjects by

learners of Spanish. **ITL: Review of Applied Linguistics**, p.71-92, 2002.

MONTALBETTI, M. **After Binding: On the interpretation of pronouns**. Thesis. (Doctoral thesis of philosophy (PhD)). Massachusetts Institute of Technology. Dept. of Linguistics and Philosophy. MIT, 1984.

MÜLLER, N.; HULK, A. Crosslinguistic Influence in bilingual acquisition: Italian and French as recipient languages. **Bilingualism: Language and Cognition**, v.4, p.1-21, 2001.

ORDÓÑEZ, F.; TREVIÑO, E. Left Dislocated Subjects and the pro-drop parameter: A case study of Spanish. **Lingua**, v. 107, p. 39-68, 1999.

PAPP, S. Stable and developmental optionality in native and non-native Hungarian grammars. **Second Language Research**, v. 16, p. 173–200, 2000.

PÉREZ-LEROUX, A. T.; GLASS, W. Null anaphora in Spanish second language acquisition: probabilistic versus generative approaches. **Second Language Research**, v. 15, 220-49, 1999.

PIRES, A. **The syntax of gerunds and infinitives: Subjects, Case and control**. Thesis. (Doctoral thesis of philosophy (PhD)). University of Maryland, College Park, 2001.

_____. **The minimalist syntax of defective domains: Gerunds and infinitives**. Amsterdam: John Benjamins, 2006.

PLATZACK, C. The vulnerable C-domain. **Brain and Language**, v. 77, p. 364-77, 2001.

PRÉVOST, P.; WHITE, L. Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. **Second Language Research**, v. 16, p. 103–33, 2000.

QUICOLI, A.C. **Inflection and parametric variation: Portuguese vs. Spanish**. Unpublished manuscript. University of California, Los Angeles, 1988.

_____. Inflection and parametric variation: Portuguese vs. Spanish. In: FREIDIN, R. (ed.) **Current issues in comparative grammar**, Dordrecht: Kluwer, 1996. p. 46-80.

RAPOSO, E. Case theory and Infl-to-Comp: The inflected infinitive in Europe Portuguese. **Linguistic Inquiry**, v.18, p. 85-109, 1987.

_____. Prepositional infinitival constructions in European Portuguese. In: JAEGGLI, O.; SAFIR, K., (ed.), **The Null Subject Parameter**, Dordrecht: Kluwer, 1989. p. 277-305.

ROTHMAN, J. Knowledge of A/A'-dependencies on subject extraction with two types of infinitives in non-native Portuguese adult bilingualism. **International Journal of Bilingualism**, v. 13, 1. 2009.

ROTHMAN, J.; IVERSON, M. To inflect or not to inflect is the question indeed: Infinitives in non-native Portuguese. **The Journal of Portuguese Linguistics**, v.6, n.2, p. 5-30, 2007a.

_____. Input Type and Parameter Resetting: Is Naturalistic Input Necessary? **International Review of Applied Linguistics**, v. 45, n.4, p. 285-319, 2007b.

_____. On L2 Clustering and Resetting the Null Subject Parameter in L2 Spanish: Implications and Observations. **Hispania**, v. 90, n. 2, p. 329-42, 2007c.

SLABAKOVA, R. Is there a Critical Period for Semantics? **Second Language Research**, v. 22, p. 302-38, 2006.

SORACE, A. Selective optionality in language development. In: CORNIPS, L.; CORRIGAN, K., (eds), **Biolinguistic and sociolinguistic accounts of syntactic variation**. Amsterdam: John Benjamins, 2005. p. 55-80.

_____. Near-Nativeness. In: DOUGHTY, C.; LONG, M., (eds), **The handbook of second language acquisition**, Oxford: Blackwell Publishers, 2003. p. 130-51.

_____. Syntactic optionality in non-native grammars. **Second Language**

Research, v. 16, p. 93-102, 2000.

SORACE, A.; FILIACI, F. Anaphora resolution in near-native speakers of Italian. **Second Language Research**, v. 22, p. 339-68, 2006.

TSIMPLI, I. M.; DIMITRAKOPOULOU, M. The Interpretability Hypothesis: evidence from *wh*-interrogatives in second language acquisition. **Second Language Research**, v. 23, n. 2, p. 215-42, 2007.

TSIMPLI, I. M.; MASTROPAVLOU, M. Feature interpretability in L2 acquisition and SLI: Greek clitics and determiners. In: LICERAS, J., ZOBL, H.; GOODLUCK, H. (eds.) **The role of formal features in second language acquisition**. Mahwah, NJ: Lawrence Erlbaum. 2007.

TSIMPLI, I. M.; ROUSSOU, A. Parameter-resetting in L2? *UCL Working Papers in Linguistics*, v.3, p. 149-70, 1991.

VALENZUELA, E. L2 end state grammars and incomplete acquisition of Spanish CLLD constructions. In Slabakova, R., Montrul, S. and Prévost, P., editors, **Inquiries in linguistic development: in honor of Lydia White**, Amsterdam: John Benjamins, p. 283-304, 2006.

WHITE, L. **Second language acquisition and Universal Grammar**. New York: Cambridge University Press. 2003.

Received on 16/12/2008.
Approved in 15/05/2009.

ABOUT THE AUTHORS

Jason Rothman is an assistant professor of Hispanic linguistics and language acquisition at the University of Iowa (USA). His main areas of research span adult L2 acquisition, bilingualism, child L1 acquisition, adult L3/Ln acquisition and comparative acquisition epistemology. From the generative paradigm, his work has mainly examined the acquisition of complex syntax and its semantic entailments as well as syntactic properties that require integration with discourse pragmatics. Recent articles have appeared or are to appear in *Applied Linguistics*, *International Journal of Bilingualism*, *International Review of*

Applied Linguistics, Language Acquisition, Second Language Research, Studies in Second Language Acquisition including other major journals in the field.

E-mail: jason-rothman@uiowa.edu

Michel Iverson is a second-year doctoral candidate in the the Spanish and Portuguese Department at the University of Iowa (USA) specializing in Hispanic linguistics and adult language acquisition. His research focuses on adult second language acquisition, the newly emerging field of L3/Ln acquisition and heritage language acquisition from the generative linguistic paradigm, looking at both Spanish and Portuguese acquisition. His dissertation will focus on how the age of acquisition of a second language affects the acquisition of a third language. He plans to graduate in 2012. In addition to chapters in peer reviewed volumes, recent work has appeared in *International Review of Applied Linguistics*, *Language Acquisition*, *EuroSLA* yearbook, *Hispania* and the *Journal of Portuguese Linguistics*.
E-mail: michael-iverson@uiowa.edu

Tiffany Judy is a second-year doctoral candidate in the the Spanish and Portuguese Department at the University of Iowa (USA). Her main area of study is Generative Second Language Acquisition, although her research interests include L2 and L3 acquisition and heritage speaker bilingualism. Her previous work has examined bare infinitives in Brazilian Portuguese while more recent work has investigated adult second language acquisition of the syntax and semantics of the DP in Spanish and Portuguese, focusing mainly on Noun-drop, kind-denoting versus set-denoting interpretations and the semantics of full DPs versus Bare Plurals. She is currently conducting a bidirectional study on Null Subject Parameter resetting in adult second language learners of Spanish and English. Her dissertation will examine the end state of adult second language learners of Spanish (L1 Farsi). Her publications include several peer-reviewed book chapters as well as an in press article in *Studies in Second Language Acquisition*.
E-mail: tiffany-judy@uiowa.edu