

# **Epicene agreement and Inflected Infinitives when the data is “under control”:**

## **A reply to Modesto (2010)**

Cilene Rodrigues (University College London)

Norbert Hornstein (University of Maryland)

**Abstract:** Two empirical domains in Brazilian Portuguese have recently been claimed to be problematic for the Movement Theory of Control by Modesto (2010). We employ experimental syntax methods, and find that more rigorous methodology reveals a more robust set of results that undermines both lines of argumentation. The first argument concerns agreement with epicene nouns in Romance that can be used as a diagnostic for the underlying presence of a moved element, and in particular whether embedded null subjects are the result of finite control (as movement) or not. The evidence reported here confirms that embedded null subjects in finite CPs pattern together with Obligatory Control in Brazilian Portuguese, but not in Italian, and that the methodology is sensitive enough to distinguish these two language types. The second set of experimental syntax results concern the interpretation of inflected infinitives in Portuguese, and demonstrate that null subjects of inflected infinitives do not favor partial control readings, instead patterning together with non-obligatory control. As such, while raising interesting questions about the status of *pro* in partial pro-drop grammars, inflected infinitives are orthogonal to the predictions of the Movement Theory of Control.

## **1. Introduction**

Hornstein (1999, and subsequent work) introduced the movement theory of control (MTC) according to which obligatory control (OC) is derived by movement from an embedded  $\varphi$ -defective Caseless domain (e.g. infinitival clause) to the subject position of a  $\varphi$ -complete [+Case] finite clause. Thus, OC is like raising in being a species of A-movement, but differs from it by involving movements through thematic positions. Non-obligatory control (NOC) configurations differ from OC structures as they involve not movement but lexical insertion of a null pronoun into the subject position of the embedded non-finite clause. Since an NOC PRO and a matrix subject are not linked by movement, they need not be semantically related; hence, NOC PRO can receive an arbitrary interpretation.

Boeckx & Hornstein (2006a; henceforth B&H), reporting data and analysis from Rodrigues (2004), use an interesting species of gender agreement in obligatory control clauses to support the MTC. In Romance languages, so-called epicene DPs like *victim* are lexically feminine,

though semantically they can refer to either male or female unfortunates. Thus, when an epicene noun is locally combined with a participial form, the latter records feminine gender agreement, even if the epicene noun refers to male entity.

- (1) a. La vittima fu aggredita/\*aggredito dai fascisti (Italian)

*the victim was-3<sup>rd</sup>SG attacked-Fem/-Masc by fascists*

- b. A vítima foi agredida/\*agredido por fascistas

*the victim was-3<sup>rd</sup>Sg attacked-Fem/-Masc by fascists*

‘The victim<sub>(semantically male)</sub> was attacked by fascists’

This obligatory Epicene-Feminine agreement is also observed in raising configurations. In (2), the epicene DPs agrees with the adjectival form prior to its movement to matrix subject position. Thus, here as well as in (1) Epicene-Feminine agreement is a local relation.

- (2) a. La vittima sembra essera ferita/\*ferito (Italian)

*the victim seem-3<sup>rd</sup>Sg be-inf injured-Fem/-Masc*

- b. A vítima parece estar ferida/\*ferido (Portuguese)

*the victim seem-3<sup>rd</sup>Sg be-inf injured-Fem/-Masc*

‘The victim<sub>(semantically male)</sub> seems to be injured’

Rodrigues (2004) (reprinted in B&H)<sup>1</sup> observes that in OC configurations embedded agreeing predicates (e.g. past participle forms) also register feminine agreement whenever the controller is an epicene noun, as shown in (3). Crucially, this agreement is judged to be obligatory even in a context in which the DP ‘the victim’ refers to a male entity. ((3a) is Italian and (3b) is Brazilian Portuguese.)

- (3) a. La vittima ha cercato di essere trasferita/??trasferito

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<sup>1</sup> As B&H’s discussion of these agreement data is entirely based on Rodrigues (2004) we will henceforth drop reference to the former.

*the victim-Fem had-3Sg tried of be-inf transferred-Fem/-Masc*

alla stazione di polizia de College Park

*to.the station of police of College Park*

- b. A vítima tentou ser transferida/??transferido

*the victim-Fem tried be-inf transferred-Fem/-Masc*

para a delegacia de polícia de College Park

*to the station of police of College Park*

‘The victim<sub>(semantically male)</sub> tried to be transferred to the police station at College Park’

Given that past participle agreement is subject to locality (Kayne 2000 and Sportiche 1996, 1998, among others), Rodrigues (2004) takes (3) as argument for a movement analysis of OC. In (3) the DP *a vítima* is first inserted as the subject of the embedded clause, moving afterwards to the subject position of the matrix clause where it checks Nominative Case. In NOC configurations, however, Epicene-Feminine agreement is not obligatory, as illustrated in (4). Nor, given the MTC is it expected to be. Recall, that NOC PRO involves lexical insertion of a null pronoun, rather than movement of the controller (c.f. Hornstein 2001, Boeckx and Hornstein (2006b) and Boeckx, Hornstein and Nunes 2010).

- (4) a. La vittima ha detto che essere \*portata/portato (Italian)

*the victim-Fem has-3Sg said that be-Inf brought-Fem/-Masc*

alla stazione di polizia non era una buona idea

*to.the station of police not was-3Sg a good idea*

- b. A vítima disse que ser ??transferida/trasferido (Portuguese)

*the victim-Fem said-3Sg that be-Inf transferred-Fem/-Masc*

para outra delegacia não é uma boa ideia

*to another police station not is-3Sg is good idea*

‘The victim<sub>(semantically male)</sub> said that being brought to the police station is not a good idea’

In Brazilian Portuguese, embedded finite clauses with 3<sup>rd</sup>P referential null subjects behave as obligatory controlled (Ferreira 2000, 2004; Rodrigues 2004). (Henceforth we will refer to these structures as FOC: Finite Obligatory Control.). FOC, as expected, is similar to OC with respect to epicene agreement:<sup>2</sup>

(5) A vítima disse que foi atacada/\*atacado na rua (Port.)

*the victim-Fem said-3rdSg that was attacked-FEM/Masc in.the street*

‘The victim<sub>(semantically male)</sub> said that he was attacked on the street.’

Therefore, in accordance with the MTC, FOC also involves subject-to-subject movement. In (5) the epicene DPs starts as the subject of embedded finite clause, moving then to matrix subject position. Ferreira (2000;2004) and Rodrigues (2004) propose that this movement is possible because Brazilian Portuguese has a weak verbal agreement system, which makes Nominative Case checking optional.<sup>3</sup>

Rodrigues (2004) contrasts the behavior of the embedded null subject of (5) in BP with bona fide cases of referential null subjects (pro) in other Romance languages. These latter are null pronouns, not residues of movement. The MTC thus expects them to act like other pronouns in not enforcing obligatory  $\phi$ -feature agreement. This expectation is fulfilled. For example, in Italian, a canonical null subject language, (6), the counterpart of (5), does not show obligatory gender agreement between the matrix subject and the embedded past participle form. That is, Epicene-Feminine Agreement does not occur. Rather, the  $\phi$ -features on the participle reflect the

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<sup>2</sup> Unsurprisingly obligatory controlled adjunct clauses also display the Epicene-Feminine agreement under discussion:

(i) A vítima saiu da casa depois de ser agredida/\*agredido

*the victim left-3<sup>rd</sup>Sg of.the house after of be-inf attacked-Fem/-Masc*

‘The victim<sub>(semantically male)</sub> left the house after being attacked’

<sup>3</sup> This clearly exploits the idea current in the literature that full  $\phi$ -feature checking is different from partial  $\phi$ -feature checking (c.f. Chomsky 2001) in that the latter but not the former block further movement.

semantic properties of the controller; masculine with male antecedents, feminine with female antecedents.

- (6) La vittima<sub>1</sub> ha detto che pro<sub>1</sub> era \*stata aggredita/ (It.)

*the victims-Fem has-3rdSg said-3Sg that was-3Sg been-attacked-Fem*

stato aggredito in strada

*been attacked-Masc in street*

‘The victim<sub>(semantically male)</sub> said that he was attacked on the street.’

The contrast between (5) and (6) can be reproduced in Brazilian Portuguese if (5) is contrasted with (7), where the embedded subject position is occupied by an overt pronoun:

- (7) A vítima<sub>1</sub> disse que ele<sub>1</sub> foi \*atacada/atacado na rua (Port.)

*the victim-Fem said-3rdSg that he was attacked-FEM/Masc in.the street*

‘The victim<sub>(semantically male)</sub> said that he was attacked on the street.’

Before proceeding further, it is useful to pedantically review exactly how the data reviewed above support the MTC:

- (8) a. Epicene nominals are lexically feminine and induce feminine participle agreement in simplex clauses (c.f. (1)).
- b. The obligatory Epicene-Feminine agreement is preserved under A-movement operations as indicated in raising constructions (c.f. (2)).
- c. OC constructions manifest the same obligatory agreement pattern. This follows immediately if we assume the MTC (c.f. (3)).
- e. Cases of pronominal binding contrast with raising and OC structures in not exhibiting epicene agreement (c.f. (6-7)). Rather, with pronouns, the agreement is determined by the actual gender of the referent of the epicene nominal antecedent.
- f. NOC, is not derived by movement but involves a null pro. As such, it is expected to pattern with regular pronouns as regards agreement, i.e. its agreement is determined by the gender of the referent of the epicene nominal (c.f. (4)).

- g. If null subjects in BP are residues of A-movement rather than pronouns they will display obligatory feminine agreement if the antecedent is an epicene nominal (c.f. (5)).
- h. Given the MTC and the assumption that FOC in BP is an instance of OC (motivated independently) all the above data follow without any further assumptions. In other words, they are all direct consequences of the MTC and thus provide evidence in its favor.
- i. Any account of FOC that involves mediating the obligatory local anaphoric dependency manifested in these constructions via binding of a PRO/pro will only be able to accommodate the obligatory epicene agreement it displays by invoking two separate special assumptions: First, FOCs  $\phi$ -feature agreement is obligatory in obligatory anaphoric dependencies and second, with NOC it is irrelevant. Both these assumptions are ad hoc.
- j. In conclusion, the MTC derives the agreement properties witnessed here with epicene antecedents in OC, FOC and NOC constructions. Hence these data count as evidence in favor of the MTC. Non-movement accounts must use special additional assumptions to accommodate these data. Thus these data, though compatible with non-movement accounts do not provide empirical support for them precisely because they require special assumptions to reconcile them with the attested data. In short, these data favor MTC over non-movement accounts.

Modesto (2010) in a review of the MTC, criticizes the use of Epicene-Feminine agreement as argument in favor of the MTC. First, he claims that there is no real contrast in (3)/(4) and in (5)/(6). He asserts that the data above is not correctly described because all the sentences from (1) to (6) require gender agreement between the matrix subject and the past participle when the embedded null subject is understood as referring to the matrix subject. We respond to this criticism in section 2, in which we present and discuss the results of a recent experiment conducted on epicene nouns in control configurations. The results shows that *pace* Modesto (2009) there is a statistically significant contrast between (3) and (4), and (5) and (6).

Modesto (2010) also claims that gender agreement with epicene DPs is at best a weak argument in favor of the MTC because this agreement can be the result of long distance anaphoric relationship between the matrix subject and the embedded null subject, as proposed by Landau (1999) and Sigurðsson (2008). However, the argument outlined above indicates that OC and FOC null subjects function with respect to epicene agreement just like standard residues of A-movement do. If this is correct, then any adequate story will have to assimilate these two

phenomena. The MTC identifies them. To the degree the Landau-Sigurðsson mechanism identifies the two operations, to that degree it is a notational variant of the MTC.<sup>4</sup> However section 3 examines Modesto’s particular proposal and argues that the experimental results show that Modesto’s proposal for an analysis of control as a long distance agreement relationship is not at all straightforward.

In the second part of his paper, Modesto brings forward Brazilian Portuguese inflected infinitives as evidence against the MTC. Modesto claims that inflected infinitival embedded clauses allow a partial control reading (Landau 2000) and are able to license nominative Case marked subjects, therefore their null subjects cannot be derived via movement of the controller. In section 4, we take on inflected infinitives, showing that Modesto’s argument is based on incorrect empirical data. Inflected infinitives in Portuguese are NOC configurations. The results of a truth value judgment task that we conducted with native speakers of Brazilian Portuguese show that Brazilians do not have problems in assigning a NOC interpretation to embedded inflected infinitival clauses.

## 2. Gender agreement: establishing the facts robustly

Modesto offers (9) as evidence that NOC configurations also require gender agreement between an epicene matrix subject and an embedded predicate. According to him, feminine gender agreement is the only option in (9), as masculine gender in the past participle form would be pragmatically odd. Since (4) and (9) are practically the same sentence, Modesto’s argument seems to be that the datum in (4) is incorrectly described.

(9) A vítima<sub>1</sub> disse que ser levada<sub>1</sub>/??levado<sub>1</sub> para a delegacia

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<sup>4</sup> Truth be told we cannot tell whether their proposal isn’t simply a notational variant of the MTC. Recall that for many current theories movement is made up of Agree plus EPP. Furthermore, it is not the displacement that is subject to locality restrictions characteristic of A-dependencies (e.g. minimality) but the Agree relation. If the A-dependency supervenes on the Agree-relation, then the Landau-Sigurdsson proposal and the MTC are notational variants, so far as we can tell. One last point; if one adopts the Landau-Sigurdsson approach then the very same Agree dependency had better underlie standard cases of raising and control or the account will be explanatorily inadequate. However, once this is assumed, there is very little difference between this and the MTC. For further discussion c.f. introduction of Hornstein & Polinsky (2010).

*the victim-Fem said-3rdSg that to.be taken-Fem/???-Masc to the station*

de polícia não foi                      nada agradável

*of police not was-3rdSg    nothing pleasant*

“The victim<sub>(semantically male)</sub> said that to be taken to the police was not pleasant at all”

Modesto also questions the contrast between (5) and (6). He claims he could not replicate the Italian judgments presented in (6).

Since both Modesto and Rodrigues are native speakers of Brazilian Portuguese and both seemed to have tested the Italian data represented in (6), we decided to verify the data using a more rigorous method of collecting linguistics judgments. To do so, we tested 21 Brazilian and 14 Italian students. They were all undergraduates with little knowledge of formal linguistics. In Brazil we tested students from different regions (7 from Brasília, 5 from São Paulo, 5 from Rio de Janeiro, 1 from Goiás, 1 from Bahia and 2 from Rio Grande do Sul). In Italy, we tested students primarily from the north (4 from Milan, 5 from Venice, 3 Treviso, 1 from Palermo and 1 from Varese). The test consisted of a questionnaire with 44 sentences to be judged using a scale of one to five, in which 1 corresponded to not good and 5 to perfect. Instructions were given in a separated page in which subjects declared the place where they live, their age, their sex and their educational level. These allowed us to verify discrepancies related to sociolinguistic variables. They were also instructed to first read a short story in which a victim named ‘Paulo’, father of 3 children, was attacked by a gang, and the incident was viewed by three witnesses, all of them males. Taking this story as the contextual background, the subject were then asked to judge the 44 sentences (22 fillers and 22 target sentences: 3 overt pronominal reference, 7 obligatory control, 7 embedded null pronominal reference, 5 non-obligatory), which were presented in a randomized order. All the target sentences had nouns like victim, witness and gang as either controllers or antecedents. In Portuguese these words are: *vítima*, *testemunha* ‘witness’, and *gangue*. In Italian, they were: *vittima*, *guardia* “guard” and *Ronda* “gang.” These words were selected because they show a mismatch between syntactic gender agreement and semantic gender reference given the story/context in which they were used. The words *vítima/vittima*, *testemunha* and *guardia* trigger [+feminine] gender agreement, although semantically they refer to male entities. Similarly, the words *gangue* and *ronda* refer to a plurality of entities that could be all males, but syntactically they trigger singular and [+feminine] agreement. The sentences that the subjects judged had an embedded predicate which displayed either agreement or not with an epicene controller in gender and number, as the schemes in (10) show.



- (10) a. [<sub>S</sub> [<sub>DP</sub>[+Feminine, +Singular] [<sub>S</sub> PRO Pred[agreeing gender and Number ]]] (OC & FOC)
- b. [<sub>S</sub> [<sub>DP</sub>[+Feminine, + Singular] [<sub>S</sub> PRO Pred[agreeing gender and Number ]]] (NOC & pro)
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The hypothesis we were testing is that an embedded predicate records [+feminine] agreement unless the embedded null subject blocks agreement between the epicene matrix subject and the predicate. The null subject in that case is the element that probes and triggers syntactic agreement on the predicate. Thus, under the MTC, the embedded predicate agrees with the epicene controller in OC and FOC configurations just because the embedded null subject is a copy of the controller. Conversely, in NOC configurations PRO is able to govern agreement because it is lexically independent of the matrix subject. Crucially, when the matrix subject is an epicene noun referring to male entity, NOC PRO, as well as Italian pro, can take it as its antecedent, but differs from it with respect to  $\varphi$ -features. Hence, NOC PRO and Italian pro can denote the same entity that matrix subject does, but syntactically they can differ from the matrix subject in  $\varphi$ -features.

Here are some samples of the sentences we tested in Brazilian Portuguese:<sup>5</sup>

- NOC – Non Obligatory Control

- (11) a. As testemunhas acham que prestar depoimento assustadas não  
*the witnesses-FEM-PL think-3rdPl that to.give testimony scared-FEM-Pl not*  
 é uma boa coisa.  
*is a good thing*  
 ‘The witnesses<sub>(semantically male)</sub> think that to give testimony scared is not a good thing’
- b. A vítima disse que ter sido levado para a delegacia de  
*the victim-FEM said-3rdSg that to.have been taken-MASC to the station of*

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<sup>5</sup> These very same sentences were translated and tested in Italian. For space reasons, here we will present only the Portuguese versions

polícia de Copacabana não foi uma boa idéia.

*police of C. not was a good idea*

‘The victim<sub>(semantically male)</sub> said that to have been taken to the police station was not a good idea’

- OC - Obligatory Control

- (12) a. A vítima preferiu ser atendida no hospital de Ipanema

*the victim-FEM preferred-3rdSg to.be attended-FEM in.the hospital of Ipanema*

‘The victim<sub>(semantically male)</sub> preferred to be attended in the Ipanema’s hospital’

- b. As testemunhas querem ser transferidos para a delegacia

*the witnesses-FEM-PL want-3rdPL to.be transferred-MASC-PL to the station*

de polícia de Ipanema.

*of police of I.*

‘The witnesses<sub>(semantically male)</sub> want to be transferred to Ipanema’s police station.’

- FOC - Finite Obligatory Control

- (13) a. As testemunhas disseram que não prestam depoimento

*the witnesses-FEM-PL said-3rdPL that not give-3rdPl testimony*

assustadas e inseguras.

*scared-FEM-PL and unsafe-FEM-PL*

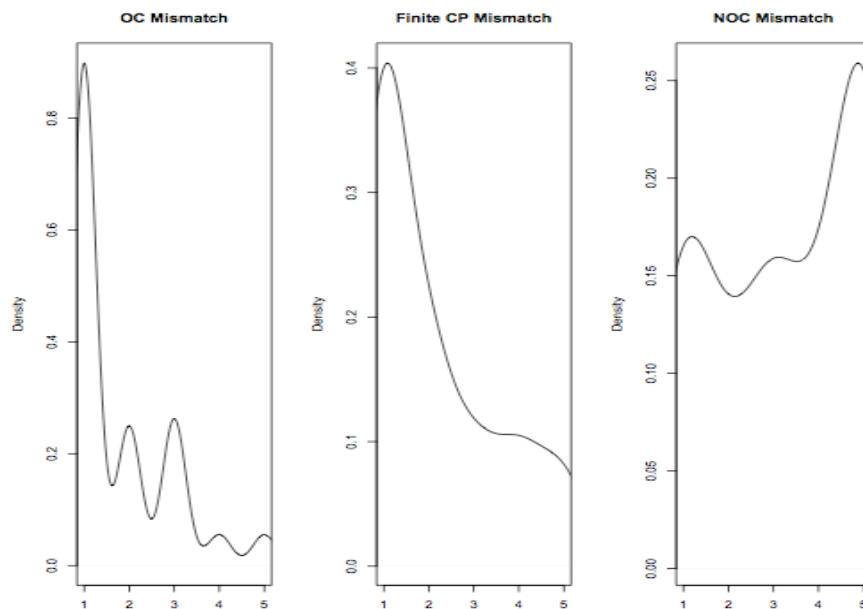
‘The witnesses<sub>(semantically male)</sub> said that they do not give testimony feeling scared and unsafe’

- b. A vítima disse que foi surpreendido pela gangue.

*the victim-FEM said-3rdP that was-3rdP surprised-FEM by.the gang*

‘The victim<sub>(semantically male)</sub> said that he was surprised by the gang’

After the ratings were collected, statistical tests were performed comparing cases of mismatch in gender agreement between the matrix subject and the embedded predicate.<sup>6</sup> The results show that in Brazilian Portuguese, OC and FOC (e.g. (12)-(13)) pattern alike in displaying Epicene-Feminine Agreement. The antecedent of the embedded null subject (i.e. the epicene noun) controls the agreement features of an embedded obligatory controlled agreeing predicate (e.g. past participle form). Conversely, in NOC (e.g. (11)) the antecedent does not force agreement on an embedded predicated. As shown in figure 1, a comparison of agreement mismatch between OC (mean rating 1.8) and FOC – Finite CP - (mean rating 2.1) is not significant (Wilcoxon test:  $W = 320$ ,  $p > 0.1$ ). On the other hand, a comparison of agreement mismatch between OC and NOC (mean rating 3.3) is highly significant (Wilcoxon test:  $W = 5539$ ,  $p < 0.001$ ). An analysis of the results in terms of region of the speaker revealed no effect of this factor (mixed-model logistic regression,  $p > .1$ ).

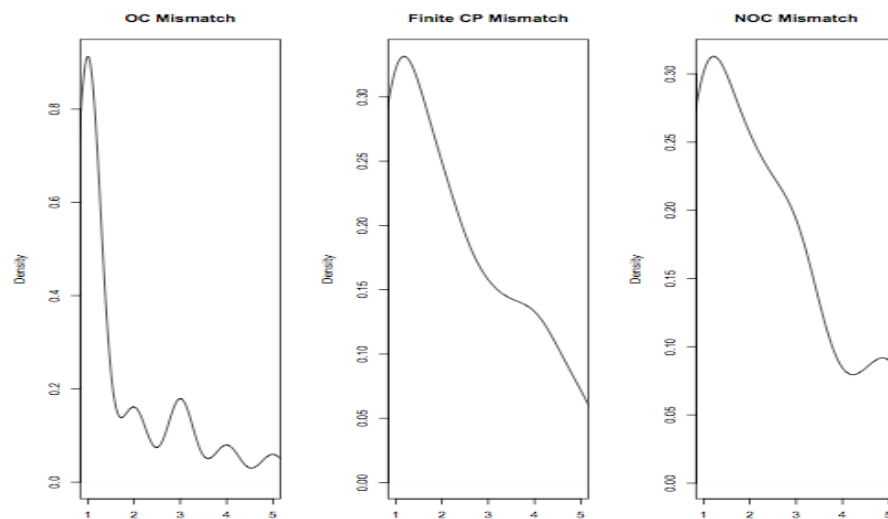


*Figure 1: Brazilian Portuguese: Mismatched Epicene-Feminine agreement ratings in OC, Finite CP control, and NOC.*

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<sup>6</sup> The statistical tests were computed using the R-program (cf. <http://cran.r-project.org>)

As shown in figure 2, the results for Italian differ from those from Brazilian Portuguese, in that configurations with embedded finite null subject clauses - finite CPs - behave like NOC structures, where agreement between the epicene null subject and an embedded predicate is optional. A comparison of agreement mismatch between finite CP and NOC is not significant ( $W = 900.5$ ,  $p\text{-value} = 0.8666$ ). OC differs from these two configurations in that agreement is obligatory. The statistical results for OC vs. referential null subjects and OC vs. NOC are:  $W = 1102.5$ ,  $p\text{-value} = 0.01454$  and  $W = 1073$ ,  $p\text{-value} = 0.008564$ . Hence Italian OC PRO is significantly different from referential null subjects and NOC.



*Figure 2: Italian: Mismatched agreement ratings in OC, embedded finite CPs, and NOCs.*

In conclusion, these results support Rodrigues' (2004) claims about OC vs NOC configurations. While in OC (and FOC) the matrix subject controls agreement within the embedded clause, in NOC (and finite pro) this agreement is arguably controlled by the embedded null subject, even when it takes the matrix subject as its antecedent. Modesto's argument with respect to empirical data is thus not borne out by these controlled experimental studies.

### **3. Problems with control as a long-distance anaphoric relationship**

Modesto, following Landau (2000) and Sigurðsson (2008), argues that in OC and FOC, agreement between a controller and an embedded predicate (e.g. Epicene-Feminine agreement) is rather an indirect one. First the embedded predicate agrees with null

subject (PRO/pro), which, in its turn, mimics the  $\varphi$ -features of the matrix subject in order to facilitate an anaphoric reading. In favor of this analysis, Modesto presents gender agreement involving cross-sentential pronouns, as in (14). He reasons that controlled null subjects are analogous to anaphoric overt pronouns in mimicking the  $\varphi$ -features of its antecedent to make the anaphoric reading easier to process.

- (14) a. O carro bateu na moto. Então, ela amassou.  
*the car-Masc hit-3<sup>rd</sup>Sg in.the motorcycle-FEM. thus, it-FEM got damaged*  
 ‘The car hit the motorcycle. Thus, it<sub>(the motorcycle)</sub> got damaged’
- b. O carro bateu na moto. Então, ele amassou.  
*the car-Masc hit-3<sup>rd</sup>Sg in.the motorcycle-FEM. thus, it-Masc got damaged*  
 ‘The car hit the motorcycle. Thus, it<sub>(the car)</sub> got damaged’

Modesto’s analogy between controlled null subjects and cross-sentential anaphoric pronouns is inapposite, as he did not test cases in which the antecedent of the overt pronouns is an epicene DP. While the matrix subjects (i.e. the antecedents) in (3)/(4) and (5)/(6) are epicene DPs with a semantic-referent & syntactic-gender mismatch, the pronoun antecedents in (14) are common DPs with no syntactic-semantic mismatch. Thus, contrary to what happened in (3)/(4) & (5)/(6), in (14) the pronoun could not bear a [+masculine] gender feature and still take the [+feminine] matrix subject as its antecedent. To create an appropriate analogy between (14) and the control cases discussed by Rodrigues (2004), one should substitute the antecedents in (14) with epicene DPs. This substitution would let us know whether overt pronouns with anaphoric reading patterns with OC PRO/pro or not with respect to gender agreement.

Along with cases of control, we also tested sentences like (15), applying the necessary substitution. Here is a sample of the sentences we tested.

- (15) a. A vítima prefere ser tratada no hospital de Ipanema.  
*the victim-FEM prefers-3rdSG to.be treated-FEM in.the hospital of I.*  
 Ela disse que ir para o hospital de Copacabana não foi uma boa idéia.  
*she said-3rdSg that to.go to the hopital of C. not was-3rdSg a good idea*

‘The victim<sub>(semantically male)</sub> prefers to be treated in Ipanema’s Hospital. She said that to go to Copacabana’s hospital was not a good idea.’

- b. A vítima disse que a gangue o pegou de surpresa.

*the victim-FEM said-3rdSg that the gang him caught of surprise*

Ele falou que vai escrever um artigo alertando moradores e

*he said-3rdSg that will-3rdSg to-write an article alerting inhabitants and*

touristas sobre os problemas do Rio.

*tourists about the problems of.the Rio*

‘The victim<sub>(semantically male)</sub> said that the gang caught him by surprise. He said he will write an article alerting the inhabitants and tourists about Rio’s problems.’

Similarly to the control cases discussed above, these sentences were judged against a contextual background that forced the anaphoric reading of the pronoun and the epicene DPs that were understood as referring to male entities. The results clearly show that overt pronouns behave like NOC PRO in that they do not need to match the gender features of its antecedent. A comparison of matched agreement (mean 4.7) vs. mismatched agreement (mean 4.2) with overt pronominal forms is not significant (Wilcoxon test:  $W = 197$ ,  $p > 0.1$ ).

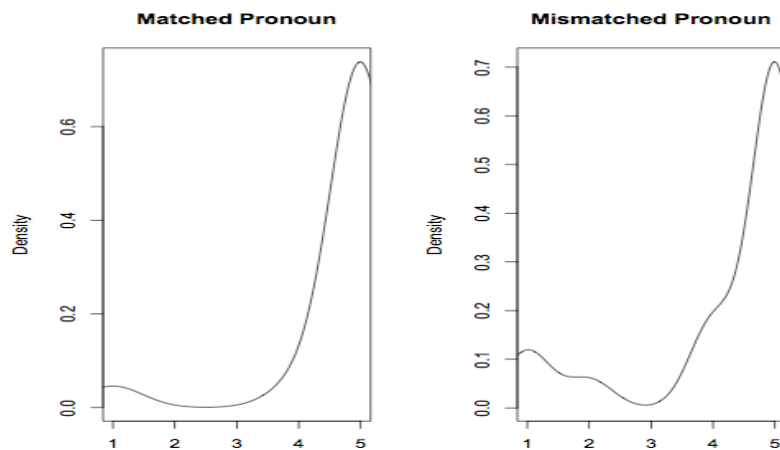


Figure 3: Brazilian Portuguese and Italian: pronoun-antecedent matching agreement ratings (left) vs. pronoun-antecedent mismatch agreement ratings (right)

In conclusion, when carefully examined and tested, Modesto's comparison of gender agreement between controlled null subjects and anaphoric overt pronouns are actually an argument in favor of the movement theory of Control. These two entities do not have the same behavior with respect to Epicene-Feminine agreement.

In the next section, we discuss inflected infinitives in Brazilian Portuguese vis-à-vis Modesto's claim that they force a partial control reading.

#### **4. Partial control and Movement**

Landau (2000) presented partial control as an argument against the MTC. While in exhaustive control (16), the matrix subject (i.e. the controller) and the embedded null subject (the controllee) refers to the same set of entities (i.e. the entity denoted by *Ronaldinho*), in partial control (17), the controller is just a subset of the set of entities denoted by the controllee. In (17), the embedded null subject is understood as referring to Ronaldinho and his associates. The embedded verb in (17) is a collective predicate that must have a plural subject. Therefore an exhaustive control reading is not possible for this sentence. Landau takes this to show that control cannot be subsumed under movement, as movement creates a chain whose members should have the same denotation.

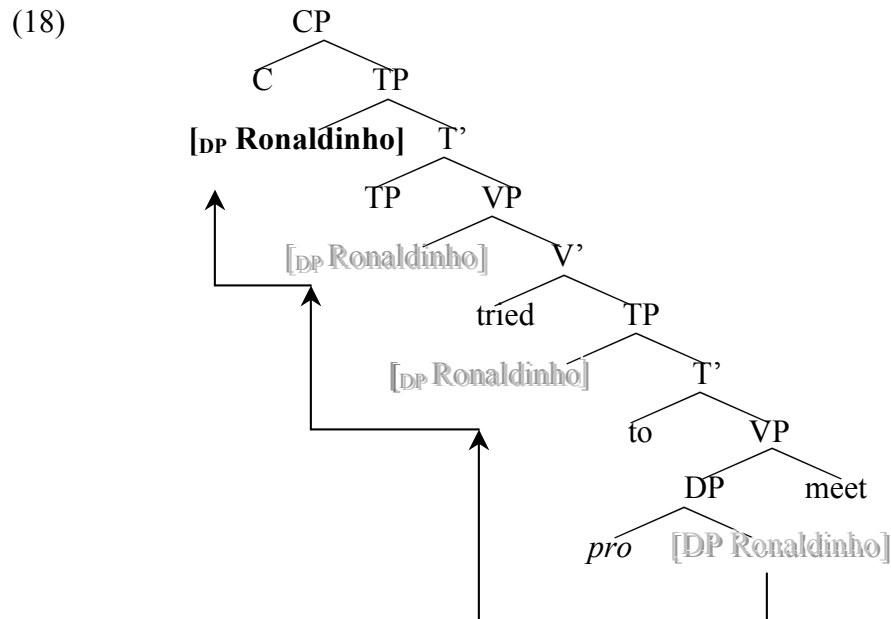
(16) [Ronaldinho<sub>1</sub> tried [PRO<sub>1</sub> to score ]]

(17) [Ronaldinho<sub>1</sub> wants [ PRO<sub>1+2</sub> to meet]]

Landau takes partial control as a serious argument against MTC. If movement creates chains whose members have the same denotation, then partial control cannot be the result of movement.

In Rodrigues (2007), it was suggested, however, that movement might yield a chain whose members differ in denotation. This happens when a complex DP is formed and the operation Move targets only part of that DP, leaving the other part behind. Under Rodrigues' analysis, a partial control reading results from this syntactic mechanism. In sentence like (17), for example, the complex DP is first formed by adjoining a null

associative pronoun to the DP *Ronaldinho*, as shown in (18).<sup>7</sup> This complex DP is then inserted in the embedded [spec, VP]. Next the DP *Ronaldinho* moves to the embedded [spec TP] for EPP reasons, stranding the associated null pronoun in the embedded [spec, VP]. At the matrix level, The DP *Ronaldinho* moves to the matrix [spec, VP] to check the matrix external theta-role and then to [spec TP] where it is spelled-out.



According to this analysis: the embedded null subject is the result of movement plus stranding of a null associative pronoun (*pro*). Hence, the matrix subject (i.e. *Ronaldinho*) is understood as a subject of the set of entities denoted by the embedded null subject because it shares the external theta-role assigned by the collective verb with *pro*. However, the matrix subject is the only element that checks the matrix external theta-role and Agrees with both the matrix and the embedded T.

## 5. Partial Control and Inflected Infinitives

Modesto argues that in Brazilian Portuguese configurations like (19) in which an inflected infinitive form is embedded under a control verb yield a partial control reading:

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<sup>7</sup> *pro* in (18) is an associative plural pronoun akin to the associative morphemes *-tati* in Japanese and *-men* in Mandarin Chinese (See Nakanishi & Tomioka 2002 on *-tati* and Li 1999 on *-men*)



(19) [O presidente<sub>1</sub> Lula odiou [ PRO<sub>1+2</sub> se reunirem `as 6 da tarde]]

*the president Lula hated SE meet at 6 of.the afternoon*

‘The president Lula hated meeting at 6PM.’

Modesto reasons that (19) is a very strong argument against the MTC. He asserts that MTC cannot handle the plural agreement on the embedded verb given that the controller (i.e. the matrix subject) is singular. His conclusion is that one has to assume the existence of an embedded pronominal null subject bearing a plural feature in order to explain the plural feature of the embedded verb.

Modesto does not mention or discuss Rodrigues’ movement plus stranding analysis of partial control. However, taking Rodrigues proposal into consideration, (19) might not be incompatible with MTC. If (19) results from movement of the controller plus stranding of a null associative pronoun and the  $\phi$ -features recorded by the embedded verbal form reflects Agree between the infinitival T and the embedded subject, then when the embedded T Agrees with the complex DP in [spec VP], it simultaneously agrees with both elements within the DP (i.e., *pro* and the main DP). That is, the associative null pronoun (*pro*) is to be accessible to T when Agree occurs so that the plural feature of *pro* is then copied by T, which, as a result, is morphologically realized as 3<sup>rd</sup>Plural.<sup>8</sup> In any

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<sup>8</sup> Under this analysis, these complex subject DPs are on par with comitative subject conjuncts in Russian (i), which are coordinations of singulars that trigger plural agreement on the verb (Vassilieva and Larson, 2005).

(i) [mal’čik s koškoj] ušli domoj.

*boy-Nom with cat-Instr went-Pl home*

‘The boy and the cat went home.’

A reviewer points out a possible problem here with the complex DP analysis: why does partial control not license cases like (ii):

(ii) \*The president hated meeting each other at 6

A similar problem arises for Landau’s (2000) proposal; if PRO is plural semantically then why can’t it license reciprocals? Landau suggests distinguishing semantic plurality from syntactic plurality. In effect PRO fails to morphologically mark semantic plurality in partial control configurations (at least

case, although a detailed discussion about the mechanics of the this double Agree can be theoretically very instructive and certainly shows that inflected infinitives are not incompatible with MTC, we will not pursue it any further for one reason: the empirical status Portuguese inflected infinitives as cases of partial control is not well established. As we observe below, it seems that Brazilian speakers can assign a NOC reading to embedded sentences containing inflected infinitives.

In his paper, Modesto (2010:92) reports that a reviewer pointed out that embedded inflected infinitives are not obligatorily controlled. (20), for instance, is grammatical, although it is a clear case of non-control.

(20) [O presidente Lula odiou [ nos            reunirmos sem ele] ]

*the president Lula hated us-Clitic meet-1stPl without him*

‘President Lula hated that we met without him.’

Modesto claims that (20) is ungrammatical in his idiolect and that the speaker’s acceptability of (20) might be related to the fact that *odiar* ‘hate’ is a factive verb, which, according to him, can take NOC complements.

With this discussion around (20) in mind, we designed a truth value judgment task experiment in order to verify the relation between inflected infinitives and partial control in configurations with non-factive verbs,.

Subjects were first presented with the following short story:

(21) [A director of a stationery store was going in a trip on a Thursday to solve personal problems. On Wednesday, he found us, his employees, saying that we wanted to have a meeting to discuss the role of each of us in the company. The director, who really hated participating in meetings, told us that the meeting

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in some dialects). A similar *ad hoc* caveat can be appended to the complex DP proposal. It is fair to say that matters would be a whole lot neater for *both* accounts if cases like (ii) were perfectly acceptable. This said, the problem does not really affect the grammar of Brazilian Portuguese as the data reported by Modesto (2009) appears to be incorrect, as our discussion immediately below indicates.

would happen on Friday because by then he would be back from his trip. But deep inside he really wanted us to meet on Thursday without his presence.]

After reading the story, subjects then were asked to provide a truth value judgment to the following sentences. It is worthy emphasizing that we explicitly used non-factive verbs, to avoid the factive-verb effect observed by Modesto with respect to (20).

- (22) O diretor preferia                      nos reunirmos            na quinta-feira.  
*the director preferred-3PSg us-Clitic meet-1PPl.Inf on.the Thursday*  
‘The director preferred us to meet on Thursday’
- (23) O diretor declarou                      se            reunir                      na sexta-feira.  
*the director declared-3PSg SE-Clitic meet.3PSG.Inf on.the Friday*  
‘The director declared to meet on Friday’

Sentence (22) was the target sentence. If Modesto is right, then given the story (21), (22) is to be false. The story in (21) makes it clear that the director had a preference for not participating in the meeting and that he would be traveling on Thursday being thus unable to be on a meeting on that day. Hence, if (22) cannot receive a NOC reading, as claimed by Modesto, then subjects should judge it as false. (23) is the baseline and according to (21), it is naturally true. It was added to help us reject subjects that did not performed the task correctly. Subjects were also asked to provide their comments on the grammatical status of both sentences in case they did not accept them.

We tested 29 native speakers of Brazilian Portuguese using a truth value judgment tasks. The speakers were all undergraduate students from different regions of Brazil: 20 from Rio de Janeiro, 3 from Rio Grande do Sul, 1 from Sao Paulo, 3 from Brasília, 1 from Bahia)

The results were the following: Out of the 29 participants, 26 judged the baseline (23) correctly. The other 3 provided no truth judgment on the baseline sentence, commenting that for them the verb *reunir* ‘to meet’ requires a syntactic complement, and, since in (23) the verb *reunir* does not have a syntactic complement, they did not accept the sentence as grammatical. This comment suggests that these speakers have problems parsing partial control configurations. So, for this reason, we disregarded their judgment for the target sentence. Of the remaining 26 subjects, 22 judged the target sentence as true, whereas 4 marked it as being false. That is, 84.6% of the speakers tested for the target sentences

judged it as being true. This result was evaluated as significant against chance in a Fisher's Exact test. ( $p < 0.05$ ).<sup>9</sup>

This suggests that Modesto's judgment on the inflected infinitives should not be taken as representative of Brazilian Portuguese. A significant percentage of native speakers of Brazilian Portuguese are able to assign a NOC reading to an embedded inflected infinitival clause. Therefore, discussing the theoretical implications of Modesto's claims to theories of control is vacuous, as these claims do not have a robust empirical basis.

Some of the speakers we tested (5 out of 26) pointed that although (22) is acceptable and a true statement about the context in (21), it would sound more natural if the embedded sentence were a subjunctive clause, as in (24):

- (24) O diretor preferia                      que    nos reuníssemos                      na quinta-feira  
      *the director preferred-3PSg    that us-Clitic    meet-1PPl.Subj on.the Thursday*  
      'The director preferred us to meet on Thursday'

Perhaps this preference for (24) is an indication that inflected Infinitives are not natural to Brazilian Portuguese. In Pires & Rothman (2010), it is argued that the majority of the Brazilian Portuguese speakers do not acquire inflected infinitives via an early native acquisition process, but via late exposure to the standard dialect at school. These authors investigated the competence of 87 upper income Brazilian Children (ages range from 6 to 15), concluding that they do not master the syntax and semantics of inflected infinitives until they age of 10-12, after which they display adult-like competence, with no significant individual variation. If this is right, then Brazilian Portuguese inflected infinitives should not be used as evidence in favor of any theoretical issue, as it is not clear what kind of knowledge speakers have with respect to these verbal forms.

Therefore, we conclude that Modesto's arguments based on Brazilian Portuguese inflected infinitives is, at best, inconclusive, and at worst, incorrect, the reason being that under well-controlled experimental situations, Brazilian Portuguese speakers show the

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<sup>9</sup> A *Syntax* reviewer points out the need for a wider geographic range of participants, given the predominance of speakers from Rio in this experiment. We hope that future work can assess whether there is any role of regional variation in the judgments in this second experiment. No significant effect of region was found in the first experiment on epicles, which was conducted with a broader sample of speakers.

ability to assign a NOC interpretation to inflected infinitival clauses, although it is unclear that these verbal forms are fully mastered by these speakers or how much their (late, tutor-based) mastery reveals about the basic operations of the grammar.

### 3. Conclusion

In this paper we have shown that once the data are correctly described, Epicene-Feminine agreement in Romance obligatory control configurations is evidence for the movement theory of control, as originally argued in Rodrigues (2004) and reiterated in Boeckx & Hornstein (2006). If the controller is an epicene noun, it will trigger obligatory feminine agreement on an agreeing embedded predicate only in obligatory control structures. This follows from the fact agreement is a local relation and from the syntactic nature of obligatory control, which involves movement of the controller from the embedded subject to the matrix subject position. Non-obligatory control and pronoun antecedent relations truly pattern differently.

The subjects of inflected infinitives in Portuguese behave as non-obligatory controlled elements. This is in accordance with many researchers showing that in Romance grammars deictic null pronouns are licensed by rich verbal agreement morphology (cf. Taraldsen, 1980, Rizzi 1986, Jaeggli and Safir 1989)).

Brazilian Portuguese provides evidence for a correlation between deictic null subjects and verbal agreement. A massive historical loss of verbal morphology seems to be implicated in the behavior of *pro* as an obligatory controlled element (Modesto 2000, Ferreira 2004 and Rodrigues 2004). Loss of verbal morphology in Brazilian Portuguese is also observed in the scarcity of inflected infinitives among native speakers, who do not master these verbal forms naturally, but as the result of a deliberate effort towards learning what is called ‘Standard’ Portuguese. From this perspective, the discovery reported here that Brazilian Portuguese, in which *pro* is rapidly favoring an obligatory control reading, can retain a non-obligatory reading especially when accompanied by *inflected* infinitives, provides an interesting case for the relation between agreement and *pro* and for diglossia, but little that is new in the way of understanding the mechanisms of control, be it attained via movement or not.

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