Microvariation in the resolution of pronominal subjects in Romance: European Portuguese vs. Italian

Ana Madeira*, Alexandra Fiéis* and Joana Teixeira**
* NOVA FCSH / CLUNL
** Universidade do Porto / CLUNL

It is generally assumed that, in null subject Romance languages (NSRLs), null subjects are associated with topic continuity, retrieving subject antecedents, whereas overt pronominal subjects tend to occur in topic shift contexts and retrieve non-subject antecedents in complex sentences (e.g., Carminati, 2002; Alonso-Ovalle et al., 2002). However, recent studies have found differences across NSLs, particularly in the resolution of overt pronouns (e.g., Filiaci, 2010; Filiaci, Sorace & Carreiras, 2013; Torregrossa, Andreou & Bongartz, 2020). Preferences in overt pronoun resolution also seem to vary intralinguistically depending on the animacy of the antecedent (Cardinaletti & Starke, 1999; Morgado et al, 2018), but this factor is still not well understood, since studies on anaphora resolution have as a rule considered only contexts in which all potential antecedents are animate. Therefore, further research is necessary to understand the role of animacy in overt pronoun resolution. Further crosslinguistic studies comparing NSRLs (including languages that have not been considered in previous work like European Portuguese (EP)) are also needed.

Given the current state of the art, the present study investigates the resolution of overt and null pronominal subjects in EP and Italian, considering intrasentential contexts with the order Matrix – Subordinate and controlling for the animacy of the object antecedent. Sixty adults participated in the study: 30 native speakers of EP and 30 of Italian. Each language group was administered two multiple choice tasks (speeded and untimed) in their L1 to elicit interpretation preferences. A speeded task was used to obtain participant's immediate interpretation of the sentences, unaffected by metalinguistic knowledge and deliberate reasoning. The tasks had a 2x2 design, crossing the following variables: animacy of the matrix object (animate vs. inanimate) and type of pronominal embedded subject (overt vs. null) (6 items * 4 conditions + 24 fillers). The items and the fillers were the same in the tasks used with the two groups; only the language varied. The response options were subject antecedent, object antecedent or neither (cf. appendix). As the option *neither* accounts for only 0% to 9% of the responses in each task, the results concerning this option will not be reported below. Statistical analysis was conducted using linear mixed-effects models with random effects for participants and items.

Participants' responses clearly show that null subjects in EP retrieve antecedents in subject position (S *vs.* O: all $ps \leq .00127$), while overt pronouns recover object antecedents (S *vs.* O: all $ps < .001$), regardless of animacy and the type of task. However, response times suggest that there is an animacy effect in overt subject resolution, as times are significantly higher in the inanimate condition than in the animate ($p = .01676796$). This may be evidence of a conflict between the bias of the overt pronoun towards non-subject antecedents and a bias towards animate antecedents.

In Italian, anaphora resolution preferences are like those in EP only in the case of overt subjects and when all potential antecedents are animate: in this condition, the overt subject tends to be assigned to the object antecedent in both the untimed and speeded tasks (S *vs.* O: all $ps < .001$). However, unlike what happens in EP, the overt subject tends to recover the antecedent in subject position in both tasks when the object is inanimate (S *vs.* O: all $ps < .001$). Italian also differs from EP in the interpretation of null subjects: overall there is no consistent preference in Italian for either a subject or an object antecedent. In the animate condition, speakers exhibit optionality in the untimed task ($p = .216$) and a slight preference for the object in the speeded one ($p = .036$). In the inanimate condition, they display a slight preference for

the object antecedent in the untimed task (p = .0133) and optionality in the speeded one (p = .599).

Our results indicate that there is microvariation in the resolution of pronominal subjects in EP and Italian. These NSRLs vary with respect to the weight attributed to the position and the animacy of the antecedent. In EP, position is a more relevant factor than animacy, whereas, in Italian, animacy is the preponderant factor. In the spirit of Filiaci's et al. (2013) account of the differences between Italian and Spanish in overt subject resolution (with animate antecedents), we argue that the differences between EP and Italian may be a consequence of the fact that these languages have different pronominal systems. Italian has a tripartite pronominal system, with null pronouns and two types of overt subject pronouns, strong and weak. As a result, its strong pronoun can be semantically more specialized, bearing a [+animate] feature, which explains its strong preference for animate antecedents. The null pronoun, on the other hand, is underspecified for animacy, which, together with Italian's lower sensitivity to the position of the antecedent, may explain the lack of a clear preference in antecedent assignment in our study. Unlike Italian, EP has a bipartite pronominal system, with strong and null pronouns, which leads to less semantic specialization. In this language, both pronouns are underspecified for animacy. This underspecification results in greater permeability to discourse effects: null pronouns are associated with topic continuity and overt subject pronouns with topic shift. The fact that Italian specifies some overt pronouns for animacy (see also Cappellaro, 2017) may account for its lower overall permeability to discourse effects in anaphora resolution.

Appendix

Example of test item: Overt subject + animate object

O porteiro viu o professor quando ele caiu das escadas.
The doorman saw the teacher when he fell from the stairs.
_____ *caiu das escadas.*
_____ fell from the stairs.

[Note: in the timed task, the sentence was presented word by word at a rate of 450 ms per word, and the question appeared after the final word. Response time was recorded]

o porteiro, o professor, nem o porteiro nem o professor (options presented randomly)
the doorman, the teacher.M.SG, neither the doorman nor the teacher

	Null subject	Overt subjects
Animate object	O porteiro viu o professor quando [-] caiu das escadas. Il portiere ha visto l'insegnante quando [-] è caduto dalle scale. The doorman saw the teacher when [-] fell from the stairs.	O porteiro viu o professor quando ele caiu das escadas. Il portiere ha visto l'insegnante quando lui è caduto dalle scale. The doorman saw the teacher when he fell from the stairs.
Inanimate object	O menino viu o brinquedo quando [-] caiu da cadeira. Il bambino ha visto il giocattolo quando [-] è caduto dalla sedia. The boy saw the toy when [-] fell from the chair.	O menino viu o brinquedo quando ele caiu da cadeira. Il bambino ha visto il giocattolo quando lui è caduto dalla sedia. The boy saw the toy when he/it fell from the chair.

Table 1. Sample test sentences in EP and in Italian per condition

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