Introduction

- Accessibility Theory (Ariel, 1990): more accessible entities are referred to with less explicit anaphoric expressions.
- In null subject languages (e.g., Carminati, 2002 among many others): null subject pronoun ⇒ subject (Spec-IP position) while overt subject pronoun ⇒ object (non-Spec-IP position).
- The impact of syntactic function has been widely studied, but other factors like antecedents lexical properties, such as animacy, have not. Studies usually test human or, at least, animate antecedents (John, the doctor, Mickey).
- Kaiser & Trueswell (2008) propose the form-specific multiple constraints account: Salience is not a monolithic concept, and not only different pronominal forms are sensitive to different factors, but also different factors are unequally weighed.
- What is the impact, on different anaphoric expressions, of antecedents animacy?
- Previous studies have shown that animacy:
  - Might be organised on a scale or hierarchy (Human > Animate > Inanimate) (Yamamoto, 1999) and this hierarchy has an impact on accessibility in memory: Animate entities are more accessible in the discourse representation (e.g., Bock & Warren, 1985).
  - Has an impact on relative pronoun interpretation (and production) with complex NPs. Attachment site depends on the lexical properties (animacy and concreteness) of the available NPs (Demet, Baecke, Driehoe, Brynhart, & Vonk, 2006).

Research questions

- Does animacy have an impact on pronoun resolution in European Portuguese (EP)?
- Is animacy hierarchy reflected in the Accessibility Theory so that more explicit anaphoric expressions (such as overt pronouns) are preferably associated with less accessible (inanimate) antecedents?

Previous studies

- Fukumura & van Gompel (2011) (production study, in English): animate antecedents are more frequently chosen to be the subject of the following sentence and they are more frequently referred to by a pronoun than inanimate ones.
- Vogels, Maes, & Krahmer (2014) (production study, in Dutch): pronouns (more than other anaphoric expressions) are used to refer to animate antecedents, but.
- Reduced pronouns are used to refer to (less accessible) inanimate antecedents.
- Full pronouns are used to refer to (more accessible) animate antecedents.
- Coe, Faria, & Matos (1998) (interpretation study, in EP): null pronouns are preferably interpreted (compared to overt pronouns) as referring back to inanimate (compared to animate) antecedents in object position.

Methods

- Participants: 26 native speakers of European Portuguese attending undergraduate courses at Universidade Nova de Lisboa.
- Materials: 24 experimental sentences in two conditions: animate vs. inanimate antecedent in object position (pronoun interpretation was forced by gender agreement) + 48 fillers.
  1. Depois de a instrutora pintar o recruta/capacete no exercicio militar, ele fez camuflado na meio da vegetação.
     After the instructor painted the recruit’s/helmet’s in the military training, he was concealed among the vegetation.
- Procedure: Self-paced moving window paradigm (using PsychoPy software) with a final yes/no comprehension question.
- Analysis: accuracy of answer and reaction time on pronoun region (critical region), auxiliary verb region (post-critical region), and on question answering.

Results

- Only overt pronouns were tested in this study.
- Antecedents were all in object position.
- EP has no special form to refer to non-human or inanimate entities.
- There is no neutral gender in EP: all entities are gender marked and preceded by an article that marks it (cen é feminino (a conch) while pencil is masculine (o lápis)).

Discussion

- Answer to research question 1: YES.
  - Animacy does seem to have an impact on pronoun resolution in EP. Reading times for pronouns referring back to animate and inanimate antecedents are different.
  - This result is in line with previous research (e.g., Fukumura & van Gompel, 2011; Vogels et al., 2014).
- Answer to research question 2: (to be answered in future research).
  - Overt pronouns in EP are preferably interpreted as referring back to the semantic most prominent antecedent.
  - Possible explanations for the present results (not mutually exclusive):
    - There is no inverse relation between animacy prominence and anaphoric forms explicitness in pronoun interpretation in EP, in line with the production results from Vogels et al. (2014).
    - Overt pronouns are not preferably interpreted as referring back to the semantic less prominent antecedent.
  - There is an inverse relation between animacy hierarchy and anaphoric forms explicitness, although only to some degree since animacy is one among other factors that contribute to salience ascription: The overt pronoun is preferably interpreted as referring back to the semantic most prominent antecedent among the syntactic less salient antecedent (Object animate > Object inanimate).
- Strong (overt) pronouns are semantically restrained to animate antecedents, as proposed by Carminati & Starke (1999) and so are not suitable to refer back to inanimate antecedents.
- Inanimate antecedents are overall less acceptable as (anaphoric expression) antecedents: Pronouns in EP are encoded for natural gender and inanimate entities only have grammatical gender, therefore, pronouns are not easily assigned to inanimate entities.

Future research

- Contrast the interpretation of null and overt pronominal forms (ambiguously) referring back to animate and inanimate antecedents in an off-line questionaire and in a Visual World Paradigm experiment.

References