Choosing a Referring Expression: Intra-sentential Ambiguity Avoidance in Romanian
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Much work shows that ambiguity avoidance guides speakers’ choice of referring expression when these forms refer to discourse antecedents introduced in previous clauses [1,2,3,4,5,8]. Here we investigate whether similar pressures apply to pronouns which have clausemate antecedents. We test this in four experiments in Romanian, a language which allows both reflexives (complex el însuși `him himself’, simplex sine `self’) and regular pronouns (el/ea `him/her’) to refer to syntactically local antecedents. We test whether the production and interpretation of these two forms is influenced by ambiguity avoidance both for referential (Exp 1 & 3) and quantificational (Exp 2 & 4) antecedents (see (1) and (2)). The semantic processes responsible for co-valuing a pronoun with a referential antecedent engage discourse information that is not exploited in co-valuing a pronoun with a quantificational antecedent. Some proposals reserve ambiguity avoidance effects to just those processes that involve discourse information [5,14,11]. Our findings do not support this view. We test (i) whether speakers produce pronouns el/ea `him/her’ less frequently in contexts in which they are ambiguous between a reflexive and a non-reflexive reading (Exp 1/2), and (ii) whether listeners interpret el/ea as non-reflexive more often when listening to speakers who regularly use reflexive pronouns (Exp 3/4). Our data support (i) and (ii).

**Production (Exp 1, 2):** We manipulated contextual ambiguity by providing contexts where all characters had matching or mismatching gender [4,5]. Participants continued a sentence fragment with a visually-provided context (Fig. 1). **Participants:** 68 native speakers of Romanian participated in each experiment. **Materials:** 16 items in 4 conditions: PICTURE TYPE (Reflexive/Disjoint) x AMBIGUITY (Gender Match / Mismatch) and 20 fillers. **Results:** The rate of production for all response types for each condition is given in Table 1 and Table 2. Regular pronouns el/ea were preferred in unambiguous Gender Mismatch scenarios for all reference relations. Logistic mixed-effects regression revealed a clear effect of AMBIGUITY (Exp 1 (Referential DPs): z=5.13, p<0.001, Exp 2 (Quantified DPs): z=6.654, p<0.001), and a main effect of PICTURE TYPE (Exp 1: z=-2.68, p<0.01, Exp 2: z=-3.1, p<0.01). **Speakers used unambiguous reflexives more often in ambiguous contexts.**

**Comprehension:** Exp 3, 4 test whether the interpretation of an ambiguous pronoun is sensitive to the availability of alternative referring expressions [1,2,3,4,5,6,8,9]. We gave participants a picture-matching task with the within-subjects factor of AMBIGUITY (Ambiguous/Reflexive/Disjoint). We manipulated the availability of unambiguous reflexive forms in the experiment in a between-subjects GROUP factor: the Gender group of subjects only heard sentences with regular pronouns el/ea (gender cues disambiguated), while the Form group heard sentences with unambiguous reflexives and demonstratives (referring expression form disambiguated). In both groups, the critical ambiguous stimuli were identical. **Participants:** 68 native speakers of Romanian per experiment. **Materials:** 15 items and 20 fillers per experiment. **Results:** The rate of choosing a reflexive interpretation, i.e. the dependent variable, is given by condition in Tables 3 and 4. Logistic mixed-effects regression revealed the rate of reflexive interpretation in the Ambiguous condition was significantly different from the rate of reflexive interpretation in the Reflexive (Exp 3 (Referential DPs): z = 5.98, p<0.001, Exp 4 (Quantified DPs): z=5.16, p<0.001) and the Disjoint (Exp 3: z = -8.18, p<0.001, Exp 4: z = -6.07, p<0.001) conditions. Nested mixed-effects regression models revealed no significant effect of GROUP on the rate of reflexive interpretation in the Ambiguous condition in Exp 3 (z = -1.72, p=0.08), but a significant effect in Exp 4 (z = -1.98, p<0.05). **Listeners interpreted ambiguous pronouns as reflexive less often when speakers regularly used unambiguous reflexives.**

**Discussion.** Our results provide some evidence of ambiguity avoidance in production and comprehension for local coreference and bound variables alike. Broadly, our results support the hypothesis that ambiguity avoidance is a general (but not the only) constraint on reference. Contra [7, 10, 12], coreference and binding dependencies may be similarly affected by discourse context.
(1) **Referential DP Subject (Experiments 1 & 3): 2 character context**

Acasă la Mihai, Andrei a vorbit despre el / el însuși / acesta

home at Mihai, Andrei has talked about him / him himself / this one

‘At Mihai’s house, Andrei talked about him(self) / himself / this one.’

(2) **Quantified DP Subject (Experiments 2 & 4): 4 character context**

Acasă la buniciul Radu, fiecare băiat a vorbit despre el / el însuși / acesta

home at grandpa Radu, every boy has talked about him / him himself / this one

‘At grandpa Radu’s house, every boy talked about him(self) / himself / this one.’

Figure 1. Sample Item by Condition in Production Experiment 1. (Exp. 2 has 4 characters)

Table 1. Exp. 1: Referential DPs (2 characters)  
Table 2. Exp. 2: Quantified DPs (4 characters)

![Image of tables and figures]

Figure 2. Sample Item by Condition in Comprehension Experiment 3. (Exp. 4 has 4 characters)

Table 3. Exp. 3: Referential DPs (2 characters)  
Rate of Reflexive Interpretation by Condition.

Table 4. Exp. 4: Quantified DPs (4 characters)  
Rate of Reflexive Interpretation by Condition.