(Bound) Pronouns in Competition: Evidence from Romanian Comprehension

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1. Introduction

In sentences like (1) and (2), Romanian pronouns *el / ea* 'him / her' are ambiguous between a reflexive reading (e.g. bound by *every boy*) and a locally disjoint reading (e.g. coreferent with *grandpa Radu*). We investigate the interpretation of *el/ea* in contexts like (1) and (2) by means of two comprehension experiments with pronouns targeting both referential (*Experiment 1*, e.g. *Andrei*) and quantified (*Experiment 2*, e.g. *every boy*) antecedents. Under the hypothesis that binding dependencies are preferred to discourse established reference relations (Reinhart 1983, Reuland 2001, 2011), we might expect *el* to be preferentially assigned reflexive readings. On the other hand, under the hypothesis that listeners reject reflexive readings for ambiguous pronouns if less ambiguous reflexive forms are available (Levinson 1987, 2000), given the existence of unambiguously reflexive *el însuşi* 'him himself', we might expect *el* to be preferentially interpreted as disjoint from the local subject. Lastly, under the hypothesis that pronominal expressions compete (Safir 2004, Rooryck & vanden Wyngaerd 2011, Levinson 2000), we might find that the interpretation of pronouns like *el* is affected by the availability of other pronominal forms. In two interpretation experiments, we find: (i) no clear preference for bound variable readings for ambiguous pronouns; (ii) no clear preference for locally disjoint reference; and (iii) complex reflexives like *el însuşi* compete with simplex pronominal forms *ea/el* and the increased availability of complex reflexives lowers the rate of the bound variable interpretation of simplex forms in contexts in which the latter are ambiguous.

(1) Acasă la *Mihai*$_1$, **Andrei**$_2$ a vorbit despre ***el***$_{1/2}$ **/ el** **însuşi**$_{2/*1}$ / *acesta*$_{1/*2}$.
home at Mihai Andrei has talked about him / him himself / this-one.MASC
'At Mihai's house, Andrei talked about him(self) / himself / this one'.

(2) Acasă la *bunicul Radu*$_1$, **fiecare băiat**$_2$ a vorbit despre ***el***$_{1/2}$ **/ el** **însuşi**$_{2/*1}$ / *acesta*$_{1/*2}$.
home at grandpa Radu every boy has talked about him / him himself / this-one.MASC
'At Mihai's house, Andrei talked about him(self) / himself / this one'.

2. Resolving the ambiguity: Hypotheses

2.1. Binding is Easy

Pronominal reference may be established either via a syntactic/semantic binding dependency between the pronoun and an antecedent, or via a coreference relation computed at the level of discourse (Heim 1982, Reinhart 1983, Heim & Kratzer 1998). In this sense, in (1), the pronoun *el* may be either (i) bound by *Andrei*, or (ii) its reference may be computed in discourse, in which case *el* may corefer with *Andrei*, or with *Mihai*, or with some other salient male referent. Of these two mechanisms, binding dependencies are argued to be preferred over coreference, either via stipulation (e.g. *Rule I*, Reinhart (1983) and Grodzinsky & Reinhart (1993)), or by virtue of their being more economical (e.g. associated with fewer processing costs, Reuland (2001), Reinhart (2006), and Reuland (2011)).

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The hypothesis that bound variable relations might be easier to construct than discourse mediated coreference predicts that when a pronominal expression is ambiguous between a bound and a coreferent interpretation, the former is preferred (Koornneef 2008). There is some experimental evidence which is argued to support this prediction (Wagers et al. 2018, Koornneef 2008). For instance, (Wagers et al. 2018) investigate the *Binding is Easy* hypothesis by means of a picture-choice task in Chamorro. Like Romanian, Chamorro is a language where the 3rd person pronoun, *gui'*, can be associated with both reflexive and non-reflexive readings. Under the *Binding is Easy* hypothesis, the prediction is that reflexive readings should be preferred to disjoint readings, since the latter can only be achieved by means of coreference. Wagers et al. (2018) find that participants overwhelmingly chose pictures depicting reflexive events (88%), despite the grammatical availabilty of both a disjoint and a reflexive reading. The authors suggest that comprehenders adopt a bound variable interpretation of the *gui'* "virtually by default" (Wagers et al. 2018: p. 16), and that when permitted by the grammar, this interpretation is sometimes revised to disjoint.

While Wagers et al. (2018)'s findings lend some support for the *Binding is Easy* hypothesis, these results cannot be clearly attributed to speakers having reached a bound variable interpretation. In Wagers et al. (2018), the critical items feature referential antecedents: like in (1), the reflexive reading can be achieved either via binding or via coreference with the local subject. In this sense, the results do not show that binding is preferred to coreference, but merely that reflexive readings are preferred to disjoint ones, irrespective of the mechanism employed. Moreover, the preferential status of bound variable dependencies is empirically disputed. For instance, Frazier & Clifton (2000) and Cunnings et al. (2014) provide experimental evidence against a general principle which prefers bound variable dependencies.

Romanian provides another avenue to further test the *Binding is Easy* hypothesis, which predicts that *el* might be preferentially interpreted as reflexive in both (1) and (2), mirroring the Wagers et al. (2018) findings. In (1), a reflexive interpretation (*Andrei is talking about himself*) may be achieved either via binding or coreference with the local subject. However, in (2), given that the local subject is a quantified expression which is not associated with a discourse referent, the reflexive interpretation can only be achieved by means of binding proper. In this sense, sentences like (2) provide a stricter test of the hypothesis that binding is preferred to discourse established coreference. Should this hypothesis hold, comprehenders might (i) choose reflexive readings more often than disjoint readings for both (1) and (2), and (ii) choose reflexive readings faster than they do disjoint readings in both (1) and (2).

2.2. Pragmatic Listeners & Competing Forms

Some accounts derive Condition B effects by means of the competition between pronouns and reflexives: the strong preference to assign disjoint readings to pronouns is obtained by virtue of reflexive pronouns being specialized for reflexive readings. The parameters of this competition can be either pragmatic (Dowty 1980, Levinson 1987, 2000: a.o), or a matter of morpho-syntactic economy (Safir 2004, Rooryck & vanden Wyngaerd 2011: a.o). With respect to the pragmatic view, for instance, Levinson (2000) argues that a pronoun (e.g. *him*) can receive a bound variable reading only in the absence of a less ambiguous alternative. Under the assumption that speakers attempt to be maximally informative (Grice 1975), the hypothesis is that listeners reject reflexive interpretations of ambiguous pronouns if an unambiguously reflexive form is available. We refer to this view as the *Pragmatic Listeners* hypothesis.

In particular, for contexts like (1) and (2), the *Pragmatic Listeners* hypothesis predicts that, given that a speaker could have used the unambiguously reflexive *el însuşi* to express a reflexive event, comprehenders will preferentially interpret *el/ea* as disjoint in reference from the local subject.

Like classic Binding Theory (Chomsky 1981, Büring 2005), competition-based accounts of disjoint reference typically predict that pronouns and reflexives are in complementary distribution. Although such complementary distribution is clearly not found in Romanian (1) and (2), where pronouns and reflexives are in free variation, we hypothesize that competition between *el* 'him' and *el însuşi* 'him himself' is still at play, albeit in a graded fashion. We refer to this view as the *Competing Forms* hypothesis.

Whether this competition is modulated by economy constraints (Safir 2004, Rooryck & vanden Wyngaerd 2011: a.o), by pragmatic constraints (Levinson 1987, 2000: a.o), or both (and hence a weaker version of the *Pragmatic Listeners* hypothesis), the following prediction is made: additional activation of *el însuşi* and *ea însăşi* forms will lead to a lower rate of reflexive interpretation of regular pronouns *el/ea*

in ambiguous contexts. We investigate this prediction of the *Competing Forms* hypothesis by manipulating the availability of *el însuşi/ea însăşi* reflexives in our experimental tasks.

3. Experimental Data

We ran two experiments. In *Experiment 1*, we tested sentences like (1), which have referential subjects (e.g. *Andrei*) in discourse contexts with 2 characters. In *Experiment 2*, we tested sentences like (2), which have quantified subjects (e.g. *every boy*) in discourse contexts with 4 characters.

3.1. Design & Materials

In each experiment, we gave participants a picture-matching task with the within-subjects factor AMBIGUITY (*Ambiguous/Reflexive/Disjoint*). Participants chose one of two pictures to match their interpretation of a heard target sentence. One of the target pictures would depict a reflexive event, the other a locally disjoint event. In the *Ambiguous* condition, illustrated in *Table 1*, the target sentence is ambiguous between a reflexive and a disjoint reading, and thus compatible with either of the two pictures.

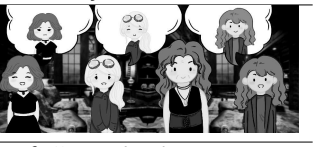
Experiment 1		***Experiment 2***	
Disjoint Picture	*Reflexive Picture*	*Disjoint Picture*	*Reflexive Picture*
			
*Acasă la **Mihai**, **Andrei** a vorbit despre **el*** ‘At Mihai’s house, Andrei talked about him’		*Acasă la **bunica Laura, fiecare fată** a vorbit despre **ea.*** ‘At grandma Laura’s house, every girl talked about her.’	

Table 1: Sample item in the *Ambiguous* condition in each experiment.

We manipulated the availability of unambiguous reflexive forms in the experiment in a between-subjects GROUP factor. The critical *Ambiguous* stimuli were identical across participant groups. The two groups differ with respect to the stimuli in the *Disjoint* and *Reflexive* conditions, as illustrated in *Table 2* for *Experiment 1*. The *Gender* group of subjects only heard critical items with regular pronouns *el/ea* ‘him/her’ throughout the task. In the *Reflexive* and *Disjoint* conditions, participants could rely on pronoun gender cues to reliably choose an interpretation. In the *Form* group of subjects, participants heard sentences with pronouns *el/ea* only in the *Ambiguous* condition. In the *Reflexive* and *Disjoint* conditions, the sentences included unambiguous reflexive and demonstrative pronouns instead. Since characters always matched in gender, participants could only rely on the referring expression form to disambiguate the sentence.

	GENDER GROUP	**FORM GROUP**
	 	 
DISJOINT	*Acasă la Irina, **Andrei** a vorbit despre ea* ‘At Irina’s house, Andrei talked about her’	*Acasă la Mihai, **Andrei** a vorbit despre acesta* ‘At Mihai’s house, Andrei talked about this one’
REFLEXIVE	*Acasă la Irina, **Andrei** a vorbit despre **el*** ‘At Irina’s house, Andrei talked about him’	*Acasă la Mihai, **Andrei** a vorbit despre **el însuşi*** ‘At Mihai’s house, Andrei talked about himself’

Table 2: Sample item in the *Disjoint* and *Reflexive* conditions in *Experiment 1*.

Each picture and target sentence set was preceded by a short context to introduce the relevant discourse referents. Target sentences, exemplified in (1) and (2), consisted of a topic PP introducing one of the referents by name, a sentence subject (a name in *Experiment 1*, a quantified expression in

Experiment 2), a predicate that was compatible with both reflexive and non-reflexive readings (e.g. *talk about*), and a pronoun. Target pictures included a thought/speech bubble depicting an event either about the sentence subject character or the topic PP character. 15 experimental items were constructed for each experiment. The items were distributed in six Latin Squared Lists for each experiment and interspersed with fillers, which were all grammatical and similar to the critical items in terms of structural complexity. In Experiment 1, the critical stimuli were interspersed with 15 fillers; in Experiment 2, given the increased complexity of the critical items, with 20 fillers.

3.2. Participants & Procedure

For each experiment, 68 native speakers of Romanian were recruited from the undergraduate community of the University of Bucharest. Participants received monetary compensation (30 RON ≈ $8 USD) and gave informed written consent for the use of their data. Participants' age ranged from 18 to 30, with a mean of 20.35 in *Experiment 1* and 20.52 in *Experiment 2*. 62 of the *Experiment 1* participants and 63 of the *Experiment 2* participants self-reported as female.

The experiments were coded in *PsychoPy* on a 2013 *Macbook Air* and run on the same laptop. Participants were instructed to choose one of two pictures that best matched their interpretation of a heard target sentence. The audio file for each target sentence would only be played once. The keys associated with each picture were always listed underneath the target pictures. Participants would press D if they preferred the image on the left, and K if they preferred the image on the right. The context introducing the relevant discourse referents for each item would remain on the screen for 8 seconds; this was followed by a 1s break (blank screen), after which the target sentence audio would start playing and the target pictures would be displayed on the screen. The target pictures would continue to be displayed on the screen until the participant had made a decision. Due to the increased complexity of *Experiment 2*, a 1.5s delay was coded between the onset of the audio file and the target picture screen.

Following the instructions, in each experiment participants would go through two practice items, the main trial (critical and filler stimuli), 4 exit poll items, and, finally, an exit interview with the experimenter. The main trial took 15-20 minutes, and the entire process lasted 45 minutes per participant.

3.3. Analysis

No participants were excluded from the analysis. No items were excluded from the analysis in *Experiment 1*. In *Experiment 2*, one outlier item was excluded (outside the threshold of 2 standard deviations from the mean).[1] Thus, 68 observations were removed. For the reaction time (RT) data, response RTs measure the interval between the onset of the pronoun in the target sentence and the key-press signaling a choice of interpretation. Observations with RTs larger than 20 seconds were excluded from the analysis. Furthermore, RTs which exceeded 3 standard deviations from the average RT (by condition) were excluded from the analysis. This cutoff led to the exclusion of 2.25% of the data in *Experiment 1* and of 2.94% of the data in *Experiment 2*. In total, out of 1020 observations collected in each experiment, data analysis was performed on 997 observations in *Experiment 1* and 924 observations in *Experiment 2*.

We fitted a nested logistic mixed effects regression model to estimate the effect of competition within each level of the AMBIGUITY factor (*Ambiguous, Reflexive, Disjoint*), with *Reflexive Interpretation* as the dependent variable, and CONDITION/COMPETITION as the fixed effect, and *Item and Subject* as random effects.[2] In *Experiment 2*, for reasons of model convergence (Matuschek et al. 2017), the random slopes

[1] The rate of reflexive interpretation for this item was 0.045, while the mean rate of reflexive interpretation for the items in this condition was 0.482, with a standard deviation of 0.161.

[2] In order to determine whether the rate of reflexive interpretation in the *Reflexive* and *Disjoint* conditions differs significantly from the *Ambiguous* condition, the model takes the *Ambiguous* condition as the baseline (contrast coding: 0, 0, 0), and the *Disjoint* and *Reflexive* conditions have their own treatment contrasts (0,0,1; and 0,1,0 respectively). The between subjects factor is coded as 1 for *Form*, and 0 for *Gender*. Lastly, with respect to interpretation, the contrast coding is as follows: -0.5 for reflexive picture choices and 0.5 for non-reflexive choices.

associated with the *Reflexive* and *Disjoint* fixed effects were removed from the analysis.[3] The convergence issue was due to the rate of reflexive interpretation in the *Reflexive* condition having been at ceiling (99.3-100%) in the two participant groups, as illustrated in *Table 3*.

	Experiment 1: Referential DPs				***Experiment 2: Quantified DPs***			
	FORM		GENDER		FORM		GENDER	
	%REFL	*PRONOUN*	*%REFL*	*PRO.*	*%REFL*	*PRONOUN*	*%REFL*	*PRO.*
AMBIGUOUS	52.2%	*el/ea*	62.1%	*el/ea*	42%	*el/ea*	59.5%	*el/ea*
REFLEXIVE	95.7%	*el însuşi /ea însaşi*	96.5%	*el/ea*	100%	*el însuşi /ea însaşi*	99.3%	*el/ea*
DISJOINT	15.9%	*acesta/aceasta*	3.5%	*el/ea*	14.6%	*acesta/aceasta*	0.6%	*el/ea*

Table 3: Rate of Reflexive Interpretation by Condition in each experiment. PRONOUN: *el/ea* - 'him / her'; *el însuşi /ea însaşi* - 'him himself / her herself'; *acesta/aceasta* -'this one.MASC / this one.FEM.'

To estimate the effect of COMPETITION on the reaction time in choosing an interpretation in the *Ambiguous condition*, we also fitted a nested linear mixed effects regression model with the log RT data as the dependent variable, and *Subject* and *Item* as random effects.

Lastly, given that most of the participants were female, *gender* was also added as a factor in post-hoc secondary analyses of the dependent variables of interest. Participant gender was not significant. Item order was also added as a factor in the analyses; the were no significant order effects.

3.4. Results

The rate of reflexive interpretation by condition for each experiment is given in *Table 3* and illustrated in *Figure 1*. As shown in *Table 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* (*Experiment 1*: z = 5.98, p<0.001, *Experiment 2*: z=5.16, p<0.001) and the *Disjoint* (*Experiment 1:* z = -8.18, p<0.001, *Experiment 2:* z = -6.07, p<0.001) conditions. Nested mixed-effects regression models revealed no significant effect of COMPETITION on the rate of reflexive interpretation in the *Ambiguous* condition in *Experiment 1* (z = -1.72, p=*0.08*), but a significant effect in *Experiment 2* (z = -1.98, p<0.05). A significant effect of COMPETITION was registered in the *Disjoint* condition in both experiments (*Experiment 1:* β = 1.59, z = 2.79, *SE* = 0.57, p < 0.01; *Experiment 2:* z = 3.04, *SE* = 1.114, p < 0.01). The model also revealed that the rate of reflexive interpretation in the *Ambiguous* condition, which was the intercept, was significantly different from chance in *Experiment 1* (β = 0.52, z = 2.49, *SE* = 0.21, p = 0.05), but not in *Experiment 2* (p = 0.2).

In the *Ambiguous* condition, there was a significant effect of COMPETITION on reaction time in both experiments. In *Experiment 1* participants in the *Gender* group were faster in choosing a reflexive interpretation than participants in the *Form* group (t = 2.02, p < 0.05). In *Experiment 2*, participants in the *Gender* group were slower in choosing a disjoint interpretation than those in the *Form* group (t = -2.12, p < 0.05). In the *Gender* group, participants were significantly faster in choosing a reflexive interpretation rather than a disjoint one in *Experiment 1* (t = -2.22, p < 0.05), but not in *Experiment 2* (t = -1, p = 0.3).

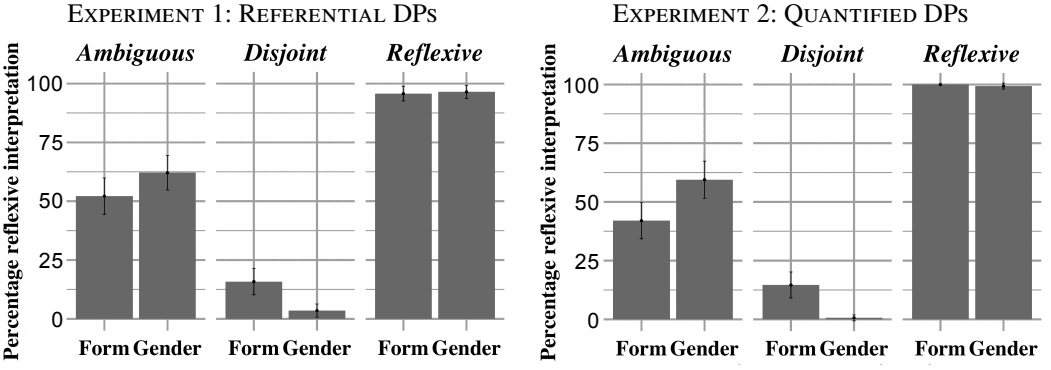
[3] Here are the two generalized linear model analyses in *Experiment 1* and *Experiment 2*, for comparison:

(1) *Main Analyses*

a. *Experiment 3*: analysis includes random slopes
Reflexive ~ Condition/Competition + (0+Disjoint.Reading||subject)+ (0+Reflexive.Reading||subject) + (1|subject) + (1+Disjoint.Reading*Reflexive.Reading*Competition||Item)

b. *Experiment 4*: analysis does not include random slopes
Reflexive ~ Condition/Competition + (1|subject) + (1+Competition||Item)

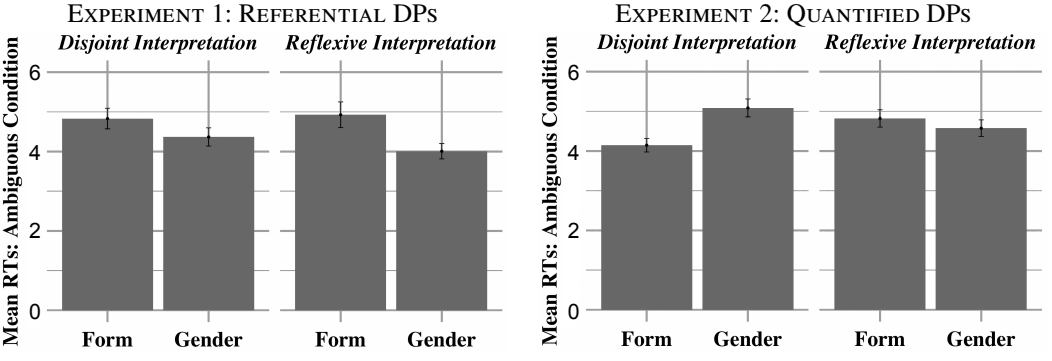
Figure 1: Rate of Reflexive Interpretation by Condition



	Nested Model: Condition/Competition					
	Experiment 1			*Experiment 2*		
Condition	*Estimate*	*SE*	*z value*	*Estimate*	*SE*	*z value*
Intercept: Ambiguous	**0.52**	**0.21**	**2.49***	0.47	0.38	1.25
Reflexive	**3.56**	**0.59**	**5.98*****	**5.8**	**1.13**	**5.16*****
Disjoint	**-4.14**	**0.50**	**-8.18*****	**-6.56**	**1.08**	**-6.07*****
Ambiguous/Competition	-0.42	0.245	-1.72	**-1.03**	**0.52**	**-1.98***
Reflexive/Competition	0.46	0.92	0.50	16.1	111.7	0.14
Disjoint/Competition	**1.59**	**0.57**	**2.79****	**3.48**	**1.145**	**3.04****

Table 4: Logistic Mixed Effects Model Estimates for the effect of Competition on the rate of Reflexive Interpretation. All significant effects are bolded. Legend: * p < 0.05, ** p < 0.01, *** p <0.001.

Figure 2: Mean Reaction Time in the Ambiguous Condition by Interpretation Type



	Nested Model: Interpretation/Competition					
	Experiment 1			*Experiment 2*		
Factor	*Estimate*	*SE*	*t value*	*Estimate*	*SE*	*t value*
Reflexive Interpretation	**-0.145**	**0.065**	**-2.221***	-0.79	0.078	-1
Disjoint Int./Competition	0.05	0.106	0.488	**-0.17**	**0.08**	**-2.12***
Reflexive Int./Competition	**0.20**	**0.10**	**2.02***	0.04	0.08	0.51

Table 5: Linear Mixed Effects Model Estimates for the effect of Competition on Log Reaction Time. All significant effects are bolded. Legend: * p < 0.05, ** p < 0.01, *** p <0.001.

4. Discussion

Of the three main hypotheses we investigate, the first two make predictions about the overall rate of reflexive interpretation of ambiguous pronouns. The *Binding is Easy* hypothesis that bound variable dependencies are favored over coreference (Reinhart 1983, Reuland 2001, 2011) predicted an overall preference for interpreting ambiguous pronouns as reflexive. The second alternative, *Pragmatic Listeners*, motivated by pragmatic accounts of disjoint reference (Dowty 1980, Levinson 1987) according to which hearers expect their speakers to produce unambiguous sentences, predicted an overall preference towards disjoint interpretations of ambiguous pronouns.

The overall rate of reflexive interpretation in the *Ambiguous* condition across the two participant groups was 57.15% in *Experiment 1*, and 50.75% in *Experiment 2*. Given that listeners did not show an overall preference towards disjoint readings, the data does not support the *Pragmatic Listeners* hypothesis. At the same time, these results also differ from the Wagers et al. (2018)'s Chamorro study, where a strong preference for reflexive readings (88%) was observed. In *Experiment 1*, the rate of reflexive interpretation was significantly different from chance, and, furthermore, listeners took overall less time to select a reflexive picture than they did to select a disjoint picture. In *Experiment 2*, however, this slight preference does not replicate: the rate of reflexive interpretation in the *Ambiguous* condition is not significantly different from chance, and listeners were not significantly faster when choosing either interpretation. Thus, listeners showed a slight preference towards reflexive interpretations for sentences where this reading could have been achieved either via binding or via coreference (*Experiment 1*), but not when the reflexive reading could only be achieved by means of binding proper (*Experiment 2*)

These results are only superficially compatible with the *Binding is Easy* hypothesis: they do not support the assumption that binding dependencies are favored over discourse-established coreference. Instead, the data in *Experiment 2* casts doubt on the interpretation of *Experiment 1* and of the Wagers et al. (2018) results as evidence in favor of the *Binding is Easy* hypothesis. It is possible that listeners were not reliably construing bound variable dependencies in *Experiment 1*. In this sense, the data cannot be taken as evidence that binding dependencies are preferred over discourse coreference, but only that there is some preference to resolve an ambiguous pronoun to the local subject. This preference is also compatible with studies on cross-sentential reference, whereby discourse referents in subject positions are argued to be more prominent than those in other positions (Gordon et al. 1993, Kaiser & Trueswell 2008: a.o).

We also tested the *Competing Forms* hypothesis by means of the between-subjects manipulation in our experiments. Inspired by competition-based accounts of disjoint reference (Levinson 2000, Safir 2004, Rooryck & vanden Wyngaerd 2011: a.o), we hypothesized that increasing the availability of complex reflexives by means of experimental priming, as in the *Form* group, would affect the interpretation of regular pronouns. This predicted that listeners would choose reflexive readings for ambiguous *el* less often in the *Form* group, where sentences with *el însuşi* are also heard, than they might in the *Gender* group. Whereas no significant effect of COMPETITION was found for the *Ambiguous* stimuli in *Experiment 1*, a significant effect of was found in *Experiment 2*[4]. In this sense, our results indicate that the increased availability of *el însuşi* led to fewer interpretations of *el* as a variable bound by a quantified expression.

Additionally, the *Competing Forms* hypothesis also predicts that comprehenders would more readily achieve a disjoint interpretation for an ambiguous pronoun like *el* when *el însuşi* is an active competitor. Thus, we might expect participants in the *Form* group to choose a disjoint interpretation faster than participants in the *Gender* group. Such an effect indeed obtains in *Experiment 2*: participants in the *Form* group were significantly faster to choose a disjoint reading for ambiguous pronouns than participants in the *Gender* group. These results again indicate that the availability of *el însuşi* impacts the preference for a locally disjoint interpretation of ambiguous *el*. Similarly, the *Gender* group of participants in *Experiment 1* were significantly faster to choose a reflexive interpretation than participants in the *Form* group, although this effect is not replicated in *Experiment 2*. This difference suggests that comprehenders actively consider the set of referential expressions a speaker *might* have used to express a reflexive reading, which provides further evidence in favor of the hypothesis that regular pronouns and emphatic reflexives compete.

[4] Although not statistically significant, in *Experiment 1*, listeners also tend to choose disjoint readings more often in the *Form* group than they do in the *Gender* group (9.9% difference). Given the low power of the experiment (34 participants and 170 observations per group), a larger study might find a significant effect in both experiments.

Finally, a significant effect of COMPETITION was found in the *Disjoint* condition in both experiments: participants chose reflexive readings more often in the *Form* group, where demonstrative pronouns were used, than they did in the *Gender* group, where regular pronouns were used. This suggests that while there is a strong preference to interpret *acesta / aceasta* 'this one' as disjoint from the sentence subject, a locally bound interpretation is still plausible for some speakers. On the other hand, no significant effect of COMPETITION was found in the *Reflexive* condition in either experiment, suggesting that emphatic reflexives are a strong cue to reflexivity in Romanian.

5. Conclusion

Our experimental results show no clear preference in the interpretation of Romanian pronouns *el/ea*: we did not find a preference for the local antecedent, as might be expected if binding dependencies are favored over discourse reference, or a preference for locally disjoint readings. Instead, we provide evidence that pronouns and complex reflexives compete in expressing bound variable readings, which is compatible with competition-based approaches to Condition B (Levinson 2000, Safir 2004). Although this competition does not lead to grammaticized disjoint reference effects for pronouns in Romanian, we nevertheless find an increase in the rate of disjoint interpretation: priming participants with complex reflexives reduced the likelihood that they would choose a bound variable reading for ambiguous *el/ea*.

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