

## Do Intervenor Bare Nouns Attract Less? Evidence from Agreement Attraction in Romanian

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**Aims** Many languages show *number agreement attraction errors* in the production of subject-verb agreement: verbs may erroneously agree with an intervening noun (e.g. *The key to the cabinets are on the table*- see Bock & Miller 1991 a.o.). Some evidence suggests that intervenors that are more subject-like cause more attraction, e.g. intervenors cause more attraction when their case marking is syncretic with nominative case (Badecker & Kuminiak, 2007; Slioussar, 2018; a.o.-but see Avetisyan, Lago & Vasishth 2020). In the current paper, we test whether this phenomenon is limited to case syncretism, or if instead number agreement attraction can be modulated by language-specific distributional properties that correlate with subjecthood. We test this by looking at attraction in Romanian. In Romanian, the definite article on the noun is omitted after locative prepositions, unless the noun is further modified (i.e., by an adjective) (see Background). Furthermore, BNs (bare nouns) cannot function as preverbal subjects in Romanian. Taken together, these language-specific properties make intervenor BNs less likely subjects. We test whether this influences the rate of agreement attraction in two speeded forced continuation choice tasks (Staub, 2009), one where the intervenor noun is bare (not subject-like), and one where the noun is followed by a definite article and an adjective (potentially subject-like). Initial results suggest few agreement attraction errors with intervenor BNs, but more when the intervenor is not bare (see 1). **Design** Following Staub (2009), we ran two speeded forced choice continuation tasks, where subjects had to choose the most natural continuation from among two verbal forms (3<sup>rd</sup> singular, 3<sup>rd</sup> plural). In order to test the effect of *bare* versus *non-bare* nominal material as intervenor, *Experiment 1* tested agreement with N<sub>1</sub>-Art P (bare) N<sub>2</sub> phrases, whereas *Experiment 2* tested agreement with N<sub>1</sub>-Art P N<sub>2</sub>-Art<sub>2</sub> Adj (non-bare) phrases. **Participants:** 24 different undergraduates (Romanian native speakers) participated in each experiment. **Materials:** Each consisted of 24 items with 4 conditions (in 4 Latin Squared lists): HEAD-INTERVENOR MATCH (Match/ Mismatch with the head) x HEAD NUMBER (Singular/Plural). These were combined with 72 fillers (see Table 1). **Results** (see Table 2 & Fig 1) Across studies using simple count nouns, 13% of singular-plural preambles, on average, are continued with the plural verb form (Eberhard et al., 2005). **Experiment 1 (BNs, not-subject-like)** revealed a lower proportion of agreement attraction errors than expected (9.03%) than seen in **Experiment 2 (full DPs, subject-like)**, which showed a higher rate (19.56%). In the plural mismatch condition, there were few agreement attraction errors in *Exp 1* (3.5%), but more in *Exp 2*. We ran a mixed effects logistic regression with response accuracy as a dependent variable and all the possible interactions between the 3 fixed effects ADJECTIVE (bare N/ full DP; between subjects), MATCH (match/ mismatch; within subjects), and HEAD NUMBER (sg/ pl; within-subjects). We included random intercepts and slopes by participant and item. The results revealed main effects of MATCH (more errors in the mismatch cases) and ADJECTIVE (more errors with full DPS), but no interaction. **Discussion** Our initial results revealed suggestive, but not conclusive evidence that intervenor BNs create less attraction in Romanian. Differences between Experiment 1 and 2 can be accounted for by both the Marking and Morphing model (Eberhard et al., 2005) and the cue-based retrieval account (Badecker & Kuminiak, 2007; Dillon et al., 2013; Wagers et al., 2009). According to the M&M model, Number is represented as a continuum, and the agreeing article and adjective on the intervenor could be argued to contribute number features to the whole NP, leading to more agreement attraction. In the cue-based retrieval account, what is essential is the (definite) article on the intervenor, since a verb looking for a subject is more likely to pick up a full DP than a BN. However, only the cue-based retrieval account explains why, in *Exp 1*, agreement attraction proportion in Romanian is lower than in English (where the intervenor is always subject-like). Importantly, the results cannot be explained in terms of Nom-Acc syncretism (since both the head and the local noun, be it BN / full DP, have a Nom/ Acc form), but rather in terms of the subject likelihood of a noun on distributional grounds. Further work is needed to replicate, extend these findings and tease apart the accounts (testing full DP heads).

### Example of stimuli: *Mismatch x SG*

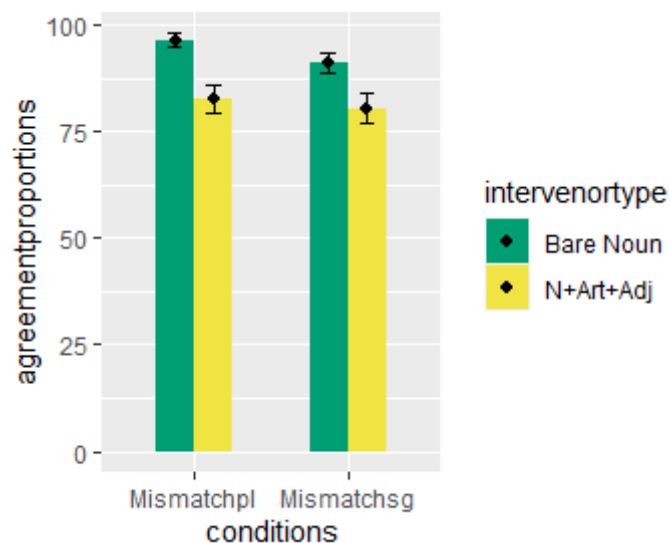
- (1) a. Pisica de lângă fete adesea are/ au (Exp 1)  
 cat-DEF.ART.F.SG near girl.F.PL often have.3SG/ have.3PL  
 'The cat near the girls often has/ have....'
- b. Pisica de lângă fetele brunete adesea are/ au (Exp 2)  
 cat-DEF.ART.F.SG near girl.F.PL- DEF.ART.F.PL Brunette.F.PL often have.3SG/ 3PL  
 'The cat near the Brunette girls often has/ have....'

Table 1. Additional experimental manipulations		
For critical items		For fillers
Gender	Same for both nouns (M, F or N) (3x8=24)	6 groups of 12 fillers each testing agreement with coordinated nouns, sg/ pl noun heads, object nouns that head RCs and where the correct choice is sg/ pl, semantic preference between two verbs
Animacy	Intervenor= Animate always Head Nouns=(in)animate in half of the items for each gender type	
Lexical items	V= always <i>a avea</i> 'to have' P= the locative <i>de lângă</i> 'near'	

Table 2. Percentage of agreement errors in Exp 1 & 2

Conditions	Bare Noun Intervenor	N+Art+Adj Intervenor
Match x PL	1.38%	4.35%
Match x SG	4.17%	2.2%
Mismatch x PL	3.5%	17.5%
Mismatch x SG	9.03%	19.56%

Figure 1. Correct Agreement Answers per Intervenor type in Mismatch Conditions



## Background on Romanian

A. Romanian presents an unusual grammatical pattern called *locative determiner omission* (LDO), which involves the omission of a definite article in the context of a locative prepositional phrase, and stands out as a feature of the Balkan linguistic area-see (2) (Prendergarst 2017). Importantly, the locative preposition cannot be followed by a DP containing just a noun and a definite article-see (3).

- (2) pisica                      de lângă    fete  
cat-DEF.ART.F.SG    near    girl.F.PL  
'the cat near the girls'
- (3) \* pisica                      de lângă    fetele  
cat-DEF.ART.F.SG    near    girl.F.PL- DEF.ART.F.PL

This consequently means that, in an agreement attraction context, the intervenor noun will always be bare unless it is modified (by a postnominal adjective, for instance), in which case the noun will be marked as definite.

B. In Romanian, BNs are disallowed from preverbal subject position, observing the Naked Noun Constraint (which holds in Italian and Spanish too), according to which:

(4) An unmodified common noun in the preverbal position cannot be the surface subject of a sentence under conditions of normal stress and intonation. (Dobrovie-Sorin 2013)

Except for a few special cases involving verbs of existence-see (5a), bare singulars cannot occur as preverbal subjects-see (5b) (Dogaru 2017). Neither can bare plurals-see (6):

- (5) a. Casă se găsește foarte greu. (Alexandra Cornilescu, p.c.)  
house se find.3SG very difficult  
'It is very difficult to find a house.'  
Viață nu există pe alte planete.(GALR 2005).  
life not exist.3SG on other planets  
'There is no life on other planets.'
- b. \*Pisică are energie.  
Cat have.3SG energy
- (6) \*Pisici au energie.  
Cat-F.PL have.3PL energy

C. The verb agrees with the subject in person and number.

- (7) Pisica                      de lângă    fete                      adesea are...  
cat-DEF.ART.F.SG    near    girl.F.PL    often    have.3SG...  
'The cat near the girls often ...'

D. The definite article agrees with the noun in gender and number.

- (8) pisic-a  
cat-DEF.ART.F.SG

E. The adjective agrees with the noun in gender and number.

- (9) fetele                      brunete  
girl.F.PL- DEF.ART.F.PL brunette.F.PL

F. Nouns (both bare Ns and full DPs) display Nom-Acc syncretism.