

## A group of researchers is/are testing agreement with pseudopartitives

Francesca Foppolo\*, Greta Mazzaggio°, Ludovico Franco°, Maria Rita Manzini°

\*University of Milan-Bicocca, °University of Florence  
francesca.foppolo@unimib.it

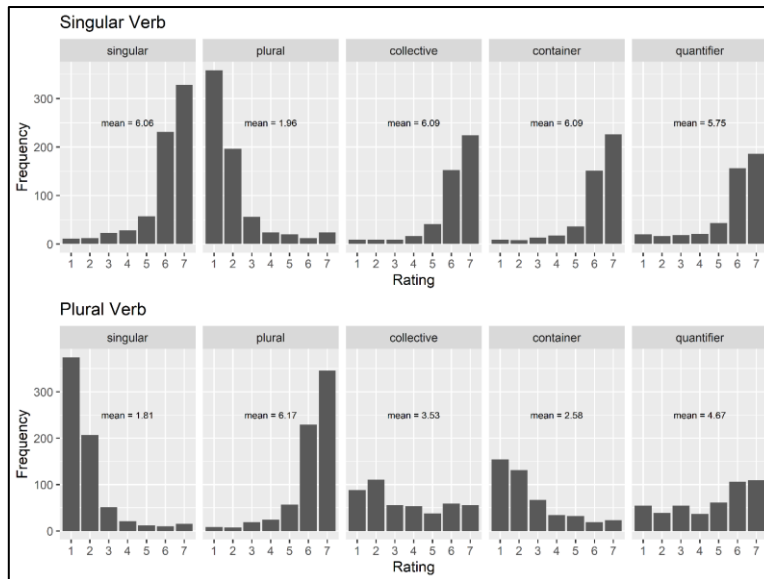
In pseudopartitive constructions like the one in the title, a head DP (*a group*) is interpreted as “measuring” the embedded NP (*researchers*); the verb can agree with the head or the embedded NP, as it has been attested within and across languages (Lorusso & Franco, 2017). Agreement alternations in pseudopartitives has been explained in terms of structural ambiguity (Selkirk, 1977), as in A and B (cf. also Landman, 2016 and Rothstein, 2017):

**A.** [DP a [NP group [PP of [NP researchers]]]] **B.** [DP [DP a group] D [NP of [NP researchers ]]]are

Smith et al. (2018) used pseudopartitives as a testing ground for theories of agreement attraction, in which the verb agrees to a local attractor instead of its grammatical controller (*The key to the cabinets is/are*). They endorse a reworking of the Marking and Morphing model (Eberhard et al., 2005) according to which semantic effects such as notional number and morphosyntactic features interact in agreement processing. Pseudopartitives and agreement attraction seem to share a number of properties, but some questions remain: **(i)** beyond superficial similarities do pseudopartitives and agreement attraction share an underlying mechanism of agreement, or are they different phenomena? In tackling this question, we start from the assumption that the roots of these phenomena might be crucially different: while agreement attraction is the result of an error in speakers’ performance, agreement variability with pseudopartitives is rooted in grammar. **(ii)** What is the role of notional plurality in languages like Italian in which verb plural agreement with notional plurals (*police*) is excluded in all its varieties, but agreement alternations with pseudopartitives is attested? To address these questions experimentally, we compared pseudopartitive constructions introduced by quantifier, collective or container heads (1a-c) to singular/plural subjects that were modified by plural/singular interveners (2a-b), followed by a singular/plural verb. We ran an acceptability judgment task (**Exp.1**, N=46), a maze task in which participant had to choose a continuation with a singular/plural verb (**Exp.2**, N=54) and an eye-tracking reading study (**Exp.3**, N=35) on the same materials (60 sentences with pseudopartitives (20 per type) and 60 controls (30 per type). Each experiment was run on different participants.

**Results.** Two were our major findings, which were consistent across all studies. First, the pattern observed in pseudopartitives was always different from singular/plural controls (coded as grammatical/ungrammatical depending on the verb): in **Exp.1** (Fig.1) the ratings were below 2 for ungrammatical and above 6 for grammatical controls, and both differed from pseudopartitives in a mixed-effects ordinal regression model ( $p < .01$ ); in **Exp.2** (Fig.2) the participants selected verbs in the singular form significantly less in pseudopartitives than singular controls, but more than in plural controls (Est: -5.824 & 9.397,  $ps < .0001$ , logistic mixed-model regression); in **Exp.3** (Fig.3) the effect of grammaticality is particularly evident in controls, with longer reading times (in tot.time and go-past) and more regressions in the case of control sentences when the unexpected (ungrammatical) verb number is encountered. Second, an overall preference for singular verbs emerged in the case of pseudopartitives, but also a difference across head-types: in **Exp.1**, the acceptance rate of plural verbs decreased from quantifier, to collective, to container heads (Est. -2.83 and -2.36 in the two contrast’s interaction with verb-number); in **Exp.2** the plural verb was chosen 24.6% for quantifier-head nouns (< 10% for containers and collectives); in **Exp.3**, if the pseudopartitive’s head was a quantifier, readers made more regressions in the case of a singular than a plural verb; when the head was a collective or container, they were more likely to re-read previous material if the verb was plural, than singular. **Conclusions.** We argue that, as regards question **(ii)** the variability in agreement pattern in pseudopartitives depends on the availability of the measure phrase interpretation as a syntactic construction, and thus it is rooted in grammar. As regards question **(i)**, this variability is different from other agreement attraction phenomena, which are rooted in performance. We argue that neither (i)-(ii) can be reduced to notional number.

- (1) **a.** Coraggiosamente, un *corteo* di manifestanti ha/hanno affrontato la polizia. **Collective**  
*Courageously, a procession of protesters has/have confronted the police.*
- b.** Secondo il medico legale, una *scatola* di cioccolatini ha/hanno avvelenato la vittima.  
*For the coroner, a box of chocolates has/have poisoned the victim.* **Container**
- c.** Dopo il voto, un centinaio di senatori si è dimesso per protesta.  
*After the elections, a hundred of senators resigned in protest.* **Quantifier**
- (2) **a.** Per sicurezza, *i piloti* dell'aereo ha/hanno comunicato con la torre di controllo. **Plural**  
*For safety, the pilots of the aircraft has/have communicated with the control tower.*
- b.** Nuovamente, *la gatta* dei coinquilini ha/hanno graffiato il mio cane.  
*Once again, the cat of my roommates has/have scratched my dog* **Singular**

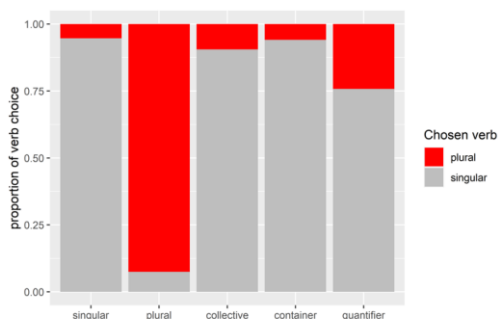


**Figure 1 (Exp.1)**

Rating means and distributions depending on number agreement on the verb (top row: singular verb; bottom row: plural verb) and subject type (from left: control singular, control plural; pseudopartitives with collective, container and quantifier heads).



**Figure 2 (Exp.2).** Proportion of verb choices in the maze task



**Figure 3 (Exp.3).**

First fixations (top-left), regressions (top-right), total time (bottom-left) and go past measures (bottom-right) in the verb region for controls (singular/plural) and pseudopartitives (collective, container, quantifier) followed by a plural (black) or a singular (light grey) verb.

