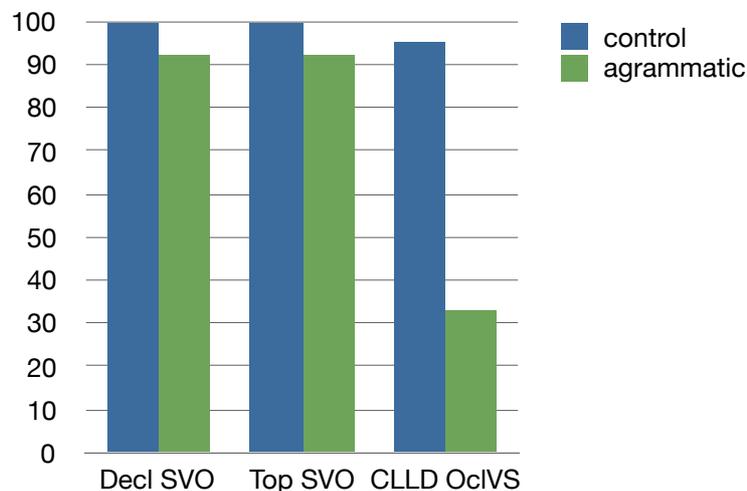


## Arguments for the analysis of CLLDs from agrammatism

The goal of the present study is to test the agrammatic comprehension of Clitic Left Dislocations (CLLD) in agrammatic speakers and to evaluate current linguistic analyses of Romance CLLD against this empirical domain. There is extensive cross-linguistic lesion data on certain syntactic constructions such as passives, relative clauses, clefts and wh-questions, but other structures remain mostly unexplored, such as syntactic constructions that involve the left periphery like CLLDs. To our knowledge, there is only one study concerning the aphasic comprehension of CLLD in Romance: Beretta et al. (2001), where the comprehension of two Spanish-speaking patients is tested. The mean performance of the two participants was on average at chance; yet, the sample is too small to draw strong conclusions. Here, we present new data from a picture matching task with ten Catalan-speaking agrammatic patients and ten control subjects. We tested 10 neutral declaratives (1a), 20 contextualized subject topicalizations (1b) and 20 contextualized object topicalizations (1c), all with the same superficial word order (DP (cl) V DP). Participants were asked to decide whether the sentence they heard matched the picture that appeared on the screen or not.

- (1) a. La nena pentina a l' àvia.  
D-f girl comb-3s PREP-acc D-f grandmother  
'The girl is combing the grandmother.'
- b. La nena, pentina a l' àvia.  
'(As for) The girl, (she) combs the grandmother.'
- c. A l' àvia, la pentina la nena.  
PREP-acc D-f grandmother CL-fs comb-3s D-f girl  
'(As for) The grandmother, the girl combs combs her'.

The individual results show that the ten agrammatic patients present similar patterns of performance. Considering the results by condition, control subjects perform above chance on all conditions, whereas the agrammatic subjects (Graph 1) perform above chance on the declarative and subject topicalization conditions (means of 91.87% and 92.18% of correct responses respectively). Yet, their performance drops significantly on the object topicalization condition (mean of 32.81% of correct responses), which indicates that the participants tend to interpret such sentences as subject topicalizations.



Graph 1. Percentages of correct responses by condition

Furthermore, we looked at the influence that the clitic –in agreement with the object– could have had on the results, comparing the comprehension of those sentences where the subject and the object had the same *phi*-features (1c) to the comprehension of those sentences where there was a gender mismatch (2). The results in (3), however, show that this factor is not significant.

(2) Al pare, el saluda la mare.

D-m father CL-ms say hi-3s D-f mother

‘(As for) the father, the mother says hi to him’.

(3) Mean of correct responses (aphasic individuals):

gender match 66.45%

gender mismatch 69.88%

The expected aphasics' performance in CLLD depends both on the syntactic analysis of the sentences and the theoretical account for the agrammatic deficit. Here, we assume the Trace-Deletion Hypothesis (TDH; Grodzinsky, 2000), according to which the agrammatic representations of syntactic constructions lack null copies of moved phrasal constituents and, thus, theta-role transmission is disrupted and sentence comprehension is compromised. When theta-role assignment cannot occur by normal syntactic means, a Default Strategy assigns theta-roles linearly; the combination of both mechanisms allows more fine-grained predictions on agrammatic performance than more recent models (Bastiaanse & Van Zonneveld, 2005; Grillo, 2008).

An at-chance performance would be consistent with syntactic theories that consider CLLD being base-generated (Cinque, 1990; Benincà & Poletto, 2004); while a below-chance performance would favor linguistic theories that argue that CLLD is derived by movement (Boeckx, 2003; López, 2009; Rubio, 2012). CLLDs present several properties that may suggest that are derived by movement instead of being base-generated: CLLDs receive case, in contrast with other left periphery elements like Hanging Topics (HT); hence, topics probably are generated in a lower part of the syntactic tree where they can receive case locally as current linguistic approaches assume (Pesetsky & Torrego, 2010) and they are later raised to a higher position. Derivational approaches can also explain why locality constraints arise in this structure, since such constraints are to be expected when elements move. Finally, reconstruction effects typical of raising show in CLLDs.

Hence, the results of the present study established that Catalan aphasic individuals have problems in comprehending object CLLD sentences. Insofar as our patients' performance was below chance, and assuming the TDH analysis of the agrammatic deficit, we provide an additional argument to consider CLLD to be derived by movement.

### **Selected references**

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