Subject/object asymmetries in nonnative processing of European Portuguese clefts

Subject/object asymmetries in A' structures have long been studied in native (L1) and nonnative (L2) language acquisition and processing (for a review on relative clauses, see [1]). Various models attempt to explain these differences. Featural Relativized Minimality (fRM) [2] attributes the asymmetries to intervention effects caused by morphosyntactic features. Cue-based interference [3] advocates that both syntactic and semantic cue similarity can increase the retrieval difficulty. Semantic accounts highlighting prototypical associations between animacy and syntactic functions [4][5] predict that processing is facilitated with an animate subject and an inanimate object compared to other mappings. Debate on L2 processing focus on whether L1/L2 differences stem from learners underusing syntactic information in real time [6], cognitive resource allocation differences [7][8] or greater susceptibility to memory interference in L2s[9]. In European Portuguese (EP), L1 and L2 processing of clefts remain understudied. Thus, this study investigates the extent to which L2 processing of clefts by adult learners of EP is influenced by intervention.

Using a self-paced reading and picture selection task, we manipulated the extraction types (subject/object) and the animacy of the clefted constituent (±animate). The embedded constituent remained [-animate] across conditions. FRM and Interference accounts have no predictions on subject clefts (SCs). In object clefts (OCs), fRM predicts intervention effects of [+N] only, while Interference predicts a disadvantage of the matched condition in OCs and subject/object asymmetries. If learners are more susceptible to memory interference [9], a larger interference of both [+N] and [-animate] is expected from them. Semantic accounts predict a disadvantage of the matched condition in SCs and of the mismatched condition in OCs. If L2 processing is "shallower" [6], learners are expected to show a stronger effect of prototypical associations.

38 L1-Mandarin and 36 L1-Italian learners of EP, ranging from upper intermediate to near-native proficiency levels, and 40 L1 speakers of EP (L1ers) took part in the study. Data analyses were conducted using linear mixed models. The picture selection task results showed a SC advantage across groups ($p<0.01$), with the learners' accuracy modulated by proficiency ($p=0.047$). No animacy effect was observed. Intermediate and advanced learners were less accurate than L1ers ($ps<0.01$). No significant difference emerged between the near-natives from the two L2 groups nor between them and L1ers. Response times indicated an SC advantage across groups ($p<0.01$) with no L1 effect. L1ers exhibited a larger effect of extraction than the learners ($p<0.01$), while the near-natives did not differ from L1ers or between language groups. However, an animacy mismatch prolonged the reaction times in SCs for the Mandarin group only ($p=0.04$). Regarding reading times (RTs), an SC advantage appeared in the critical region for all groups, regardless of proficiency ($p<0.01$). In the spillover region, the advantage persisted for L1ers ($p=0.02$), but not the learners, regardless of proficiency or language. As for animacy, matched conditions increased RTs overall ($p=0.02$). For L1ers, an animacy mismatch advantage emerged in OCs ($p=0.02$), which was not present for L2ers. In SCs, the mismatch advantage emerged only in the critical region for Mandarin intermediate ($p=0.02$) and advanced learners ($p=0.03$). For the Italian group, no animacy effect within either cleft type was attested, regardless of region or proficiency.

Our results showed a consistent SC advantage in L1 and L2 processing and comprehension, while animacy partially affected RTs, suggesting that morphosyntactic features trigger stronger intervention effects than semantic ones. L2 processing below the near-native level showed weaker asymmetry than L1ers in response times and, at all proficiency levels, the asymmetry in RTs was only attested in the critical region, which remains an open question. Mandarin speakers were more influenced by prototypical associations in SC reading times, suggesting a "shallower" processing than L1ers and Italian speakers. Potential L1 effects will be discussed in detail during the talk.

Example

a. Subject cleft, feature match

Na / imagem correta, / é / a coluna / que / está a tapar / a estátua / no / meio do museu.

in.the / image correct / is / the column / that / is PREP cover / the statue / in.the /middle of.the museum

b. Subject cleft, feature mismatch

Na / imagem correta, / é / a menina / que / está a tapar / a estátua / no / meio do museu.

in.the / image correct / is / the girl / that / is PREP cover / the statue / in.the / middle of.the museum

c. Object cleft, feature match/inclusion

Na / imagem correta, / é / a coluna / que / a estátua / está a tapar / no / meio do museu.

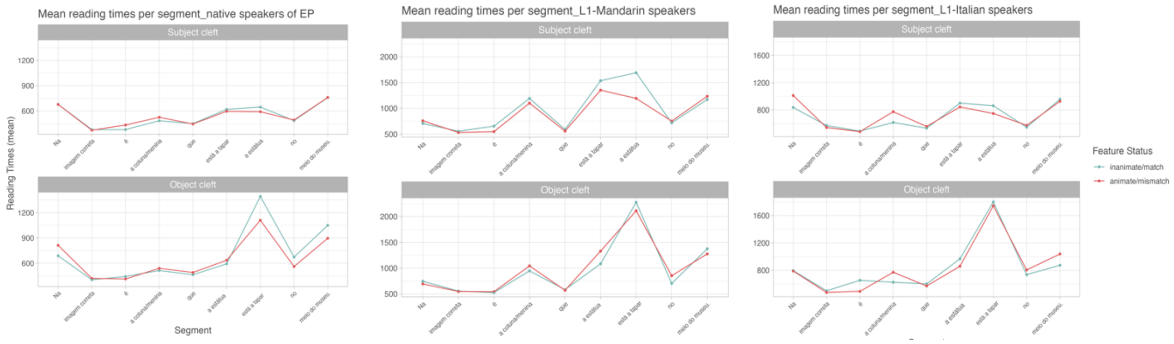
in.the / image correct / is / the column / that / the statue / is PREP cover / in.the / middle of.the museum

d. Object cleft, feature mismatch/intersection

Na / imagem correta, / é / a menina / que / a estátua / está a tapar / no / meio do museu.

in.the / image correct / is / the girl / that / the statue / is PREP cover / in.the / middle of.the museum

Figures



Reference

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