Investigating the contribution of sentence length to verbal morphology deficits in non-fluent aphasia
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Introduction

Several studies on aphasia have reported asymmetries between subject-verb Agreement, Tense, and Aspect. Nevertheless, not all of these studies had all three conditions matched for sentence length.

For instance, in the sentence completion tasks reported in Varlokosta et al. (2006) and Fyndanis, Varlokosta, and Tsapkiní (2012), the agreement sentences were shorter than the tense sentences, and the latter were shorter than the aspect sentences.

Interestingly, the pattern of the agrammatic performance reported by Fyndanis et al. reveals an inversely “proportional” relationship between sentence length and accuracy scores.

This raises the question whether the differences between the three categories were genuine, or reflected just length effects. In fact, Cheimarou et al. (2010) reported equal error rates between Agreement, Tense, and Aspect in Greek-speaking individuals with aphasia tested with matching of length.

→ This study aims at teasing apart the contributions of the above-mentioned functional categories and sentence length to agrammatic performance.

Methods

Two sentence completion tasks were administered to two Greek-speaking agrammatic individuals, PG and PK, with a five-day interval in between.

The first task included the shortest possible sentences for each condition (Agreement=Tense=Aspect), while the second task had all three conditions matched for length (Agreement=Tense=Aspect).

The second task used the sentences included in the first task, except that the agreement and tense sentences were longer, as some additional adverbials had been added in these conditions.

In both tasks, the adverbials used to elicit the target values immediately preceded the target verb forms.

→ Between-task differences for Agreement or Tense would probably point to a sentence length effect.

![Results for PG](image1)

![Results for PK](image2)

Discussion

Sentence length does not have a significant effect for PG, although it seems that it places an extra burden on her processing system, since her performance drops when the sentence length increases.

Interestingly, PG’s performance on Aspect is lower in the second task, compared to the first one, although the length of the sentence was kept constant across the two tasks.

It appears, thus, that the extra burden placed on PG’s processing system by the increased length of the tense and agreement sentences affects the categories under investigation across the two tasks.

→ Therefore, prima facie increased sentence length does not cause greater difficulties for PK.

Although Agreement elicited a higher accuracy rate compared to Tense, these two categories did not differ significantly.

While the same pattern emerged in the second task (Agreement=Tense=Aspect), no significant dissocations were observed across categories.

Surprisingly, PK’s performance on Aspect improved significantly in the second task.

→ Tense and Agreement elicited higher accuracy rates in the second task, but the between-task differences were not significant for any of the two functional categories.

Concluding remarks

Although sentence length seems to play a role in linguistic performance in agrammatic aphasia, the dissociations between functional categories are genuine, at least for PG.

It is difficult to determine the exact “magnitude” of the sentence length effect in the context of the proposed experimental paradigm, since it is likely that increased sentence length and task familiarization act in opposite directions, which results in different patterns of performance depending on which of the two variables has a stronger effect for a given agrammatic speaker. To obtain a clearer picture regarding the role of sentence length, perhaps the two tasks should be administered at least 15 days apart, so that the task familiarity effects are minimized.

REFERENCES


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