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Verb Retrieval and Inflection in Fluent Aphasia and Semantic Dementia: Insights from Different Verb Classes in Greek

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Introduction

Patients with semantic dementia (henceforth SD) exhibit a language pattern similar to the classical syndrome of Wenicke’s aphasia, featuring fluent speech, circumlocutory production and loss of word comprehension among others (Mesulam, 2001).

Previous studies on aphasia revealed two main vulnerable domains: a) verb inflection and b) verb retrieval. Verb inflection is found to be impaired in a range of languages and for various aphasia types (for Greek, Stavrakaki, 2005 for a review). VAS has been shown to affect verb retrieval with unaccusative verbs being more difficult to retrieve than unergative ones for fluent and non-fluent stroke patients (McAllister, Bachrach, Waters, Michaud, Caplan, 2009).

In this study, we address the following questions: 1) does VAS affect verb production in SD in a similar way as in fluent aphasia? 2) does inflection affect retrieval?

Method

5 patients with fluent aphasia due to stroke (3 anomic, 2 Wernicke) and one patient with SD due to brain atrophy participated in this study. The patients were administered the following tasks:

1. Sentence elicitation with video stimuli, in which the participant was presented with videos and had to describe what was happening. Correct responses were those including (i) correct verb lemma and (ii) correct VAS retrieval.
2. Sentence elicitation and tense marking task, in which the participant was presented with the same video stimuli preceded by a phrase prompting for a specific tense/aspect (T/A) marking. They were instructed to combine the phrase and the video in order to produce a correct sentence. Correct responses were those including (i) correct verb lemma (ii) correct VAS retrieval and (iii) correct T/A marking.

Figure 1 presents the percentage correct performance for each verb class in task 1 and 2 (T1, T2).

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Results

The results suggest that the SD patient performed worse in both tasks than the stroke patients. VAS affected stroke fluent patients as well as the SD patient but in a different way. Stroke patients were significantly more impaired in producing unaccusative verbs, whereas the SD patient was impaired across verb classes with a prominent problem in transitive verbs. T/A marking did not affect stroke fluent patients (see T2), whereas it had a differential influence on the performance of the SD patients, causing improvement in unergatives and drop in unaccusatives. However, the overall performance of the SD patient was not affected by the obligatory application of inflectional markers (compare Total/T1 to Total/T2), as was the case for the stroke patients.

Discussion

We discuss these findings along with the qualitative differences in the error patterns, which shed light on the effect of the different disease neuropathology between stroke and brain atrophy.

References

