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Reading Greek Compounds in Neglect Dyslexia: a Case Study

Manouilidou C.ª*, Sotiropoulou C.ª, Kourtidou E.ª, Ralli A.ª, Potagas C.ª

ª University of Patras
ª National & Kapodistrian University of Athens

Introduction

Neglect Dyslexia is associated with right hemispheric damage and unilateral spatial neglect that typically involves the left side of the letter string. When reading compounds (e.g., truck-driver) a common finding is that patients seem to respect the boundaries between the first and the second component (Behrmann et al., 1990). Moreover, Semenza et al (2011) showed that the head attracts selective attention highlighting its importance for processing. The present study exploits this finding in order to assess the influence of ‘headedness’ in Greek coordinative compounds. A compound’s ‘head’ is the component that determines the syntactic and semantic properties of the whole compound. While Greek is a right-headed language when it comes to subordinative compounds (domatosalata ‘tomato-salad’), there is a group of Greek compounds, called coordinative, that do not demonstrate clear headedness (maxairopirouna ‘knives-forks’ ‘cutlery’) and they are considered either headless or double-headed (Ralli, 2005). Especially coordinative adjectival compounds (mavroaspos ‘black-white’) also demonstrate free word order. If coordinative compounds are indeed headless or double-headed, patients with neglect dyslexia will make fewer mistakes in reading their left constituents compared to subordinative compounds, which have a clear head.

Methods

A female 79-year old patient, who suffered RH damage and was affected by neglect dyslexia as diagnosed based on BELLs test, had to read 52 subordinative (22 nouns, 10 adjectives) and 32 coordinative (15 nouns, 17 adjectives) compounds. Compounds and their constituents were matched for frequency, familiarity, imageability, age of acquisition and orthographic neighbors.

Results

Only mistakes at the left constituent were taken into account. In all cases, omissions of the first constituent corresponded to lexical boundaries of the two constituents. Patient performed significantly fewer errors on the left constituent of coordinative compounds when reading compound adjectives, e.g. mavroaspos ‘black-white’ vs. mavroforemenos ‘black-dressed’ ‘dressed in black’ ($\chi^2 = 3.970, p < 0.05$), but the same amount of errors in subordinative and coordinative compounds when reading compound nouns, e.g. maxairopirouna (‘knives-forks’ ‘cutlery’) vs. asprorouxa ‘white clothes’ ‘underwear’ (see Figure 1).

Discussion

The contribution of the study can be summarized in the following points: First, it showed that lexical factors can...
influence selective attention to a great extent. Second, it showed that the theoretical concept of headedness does have a processing effect, with the head capturing more attention after implicit reading of the whole word. Third, as for headedness in Greek coordinative compounds, the study revealed a dissociation depending on grammatical class (adjectival vs. nominal compounds) with adjectival coordinative compounds behaving as double-headed while nominal coordinative compounds patterning with subordinative ones. A key factor here might be the interchangeable word order that characterizes adjectival coordinative compounds, but this is something that requires further research.

References


![Figure 1: Percentages of Errors in the Left Constituent while Reading](image)