

Academy of Aphasia 2011

## Target-Unrelated Verbal Paraphasias: A Case Study

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### Introduction

Verbal paraphasias, i.e. substitutions of one word with another real word, typically fall into two categories: errors where the similarity between target and error is semantic (e.g., car --> van) and ones where it is phonological (e.g., garbage --> garage). Yet, sometimes errors do not resemble the target. These cases are either ignored or considered random productions exhibiting “some idiosyncratic relationship unknown to the examiner” (Laine & Martin, 2006).

### Case Report

BG is a 57-year-old man, with 10 years of formal education. He sustained a small vascular lesion in the left supranuclear area (MRI). The AAT revealed very mild deficits in comprehension, repetition, reading and writing. The main deficit concerned naming.

### Methods & Results

In picture naming, BG scored only 39/163 correct. Errors were distributed as follows: 55 verbal paraphasias, (no semantic or formal relation to the target), 19 omissions, 16 semantic paraphasias (only two with more than 20% segmental overlap with the target), 10 circumlocutions, 16 perseverations, 4 neologisms and 4 unscorable responses. No phonemic paraphasias nor formal paraphasias were found. In target-unrelated verbal paraphasias, no relation was found between the target and the response in terms of word frequency ( $r = .149$ ;  $t = 1.095$ ,  $p < .27$ ) or length ( $r = .038$ ,  $t = .279$ ,  $p < .78$ ). Target words (average length: 8.96) were substituted by slightly shorter words (7.90). Length was preserved in only 9/55 cases. Target word gender was preserved in 34/55 cases. When the target was a compound the response was a compound in 7/28 cases.

Written naming mirrored oral naming, with the same paraphasic production pattern (7 target-unrelated verbal paraphasias on 14 items on oral naming and 8/14 on written naming). Action (verb) naming was quantitatively and qualitatively similar. Naming on definition produced the same response pattern. Naming was not aided by semantic cueing, while phonemic cueing was often effective.

### Discussion

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BG's high rate of target-unrelated verbal paraphasias cannot be accidental and must derive by his trying to compensate for his severe naming deficit. The locus of the deficit is unlikely to be in preverbal conceptualization ("message") because picture recognition and oral comprehension were preserved. In addition, the effectiveness of phonological but not semantic cueing suggests a deficit downstream from conceptually driven lemma selection. On the other hand, the lack of similarity between error and target on phonological variables such as segmental overlap, length and frequency suggests a location of the deficit prior to the retrieval of the word form. The lack of a modality effect and poor preservation of lexical syntax (gender and compound structure) point to a deficit at the lemma level. Target-unrelated verbal paraphasias seem thus not to be the production of random or idiosyncratic processes, as considered so far, but rather result from a precise, localizable deficit. In addition, these data suggest considering more fine-grained dissociable representations within each level.

### **Reference**

Laine, M., & Martin, N. (2006). *Anomia*. New York, NY: Psychology Press.