Brazilian Portuguese Phonotactic Rules in Phonemic Paraphasias: Report on Three Cases

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Introduction

Phonemic paraphasias are characterized by the substitution of sounds in words. They are equivalent to phonemic speech errors made by healthy people, as both are involuntary, although such errors are much more frequent in language disorder than in normal speech. Fromkin (1971) proposed that speech errors only occur in consonance with the rules of sound combination – the phonotactic rules of a language, a fact later confirmed for normal as for aphasic error patterns. Levelt (1989) relates such errors to a problem of phoneme retrieval, a stage previous to articulation. The occurrence of similar effects despite language differences indicates that this may be a general phenomenon, probably related to the human language capacity. We present data from phonemic errors made by three native speakers of Brazilian Portuguese with aphasia. To the best of our knowledge, this is the first analysis to tap into the phonological structure of speech errors by subjects with aphasia in this language.

Methods

Subjects. JTS was a 55-year-old male retired janitor, with 7\textsuperscript{th} grade education, who sustained an ischemic stroke with hemorrhagic transformation to the left hemisphere. His oral comprehension and writing were preserved. MCS was a 50-year-old female former cosmetics reseller, with 8\textsuperscript{th} grade education, who sustained an ischemic stroke resulting in damage to the left anterior frontoparietal lobe. Her oral comprehension was preserved. WGM was a 46-year-old male press photographer, with 1\textsuperscript{st} grade education, who suffered a stroke to the left hemisphere. His oral comprehension and reading were preserved.

Procedure. They were presented a picture depicting a crowded kitchen, and were asked to describe as many things and actions as possible. Speech performance was recorded in a sound-attenuated room. Phonemic paraphasias were then classified as transpositions, omissions, additions, or substitutions. Additions and substitutions were further classified as anticipations, perseverations, or non-contextual changes.

Results & Discussion

From a total of 85 paraphasias, JTS produced 45\%, MCS 35\% and WGM 20\%. Phonotactic violations were rare, representing 8\% of the total, and were exclusively produced by the most severely injured subject, JTS, in 18\% of his slips. All of them consisted of inserting alveolar tap in a context where it does not occur in Portuguese. As a second consonant of a complex syllable onset, tap always follows a plosive or a labiodental.

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fricative, a constraint JTS violates. His phonotactically illegal errors typically follow consonants with coronal constriction. However, since violations to the phonotactic rules of Brazilian Portuguese turned out to be very few, our findings confirm the tendency stated in the literature, that phonemic paraphasias typically do not violate the phonotactic rules of a language.

References


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