Longitudinal Output Changes in a Case of Logopenic Bilingual PPA

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Introduction

We investigate the deterioration of English and Shanghai Chinese (Shanghainese) over two years in a bilingual woman (BYR) with Primary Progressive Aphasia (PPA). Methodological contrasts with Druks and Weekes (2011) provide differing perspectives on bilingual PPA with typologically different languages. They found that L1 was better preserved than L2; our longitudinal data suggest more rapid decline in L1 than L2 in certain measures. Cases also differed with respect to PPA type, location of neuropathology, language typologies, and possibly stage of disease.

Case Report

BYR was an educated native speaker of Shanghainese, a fluent bilingual since adolescence (secondary and tertiary education in English, living in the U.S. with a monolingual English-speaking husband). Her daily interactions were conducted in English; she used Shanghainese to speak to a few relatives on the phone.

In both languages, BYR had logopenic PPA (Gorno-Tempini et al., 2011), notably problems with word-finding and repetition in elicited and spontaneous speech (Filley, et al., 2006). In Shanghainese, BYR’s speech had fewer phonological errors, predictable because few Shanghainese words are longer than two syllables.

The present study analyzed semantic, morpho-syntactic and phonemic aspects of seven English and seven Shanghainese Cookie Theft narratives videotaped over 27 months. Analyses are based on the Cantonese Linguistic Communication Measure (Kong & Law, 2004) and the Linguistic Communication Measure (Menn et al., 1994).

Results and Discussion

Both languages showed similar increases in rate of lexical errors and decreases in words per minute. While the number of grammatical morphemes per content unit decreased similarly in both languages, BYR’s phrases did not become agrammatic because many of the omitted grammatical morphemes were optional.

Informative words and content unit production per number of words (Index of Lexical Efficiency) appeared
relatively spared in English until the final session; in Shanghainese they became steadily worse (Figure 1). These differences cannot be solely due to greater daily use of English because Drus and Weekes’ case showed greater deterioration of L2. PPA type, location of neuropathology, language typologies, and stage of the disease remain as possible reasons for the relative sparing of L2 that we observed. Problems in making a direct comparison between these two studies illustrate the need for multi-point longitudinal studies and norming data as a basis for comparing the progression of PPA types across typologically different languages.

References


