Language competition in trilingual speakers – an eye-tracking study

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Speech perception is based on multiple activation of word candidates which compete for selection (Marslen-Wilson & Welsh, 1978; Marslen-Wilson, Tyler, & Moore, 2009). One of the most important questions in research on speech perception by bilinguals is that of the amount of cross-language activation and competition in their mental lexicons. Researchers have been investigating this problem with a number of methodologies one of them being the analysis of eye movements in the so-called visual world paradigm (for a review see Dussias, 2010; Huettig, Rommers, & Meyer, 2011). Findings showed that both languages seem to be activated in parallel in speech perception (Marian & Spivey, 2003a, 2003b; Shook & Marian, 2012; Spivey & Marian, 1999) but the size of the cross-language activation is modulated by e.g. fine-grained acoustic information (Ju & Luce, 2004; Weber & Cutler, 2004), age of acquisition, language proficiency, and mode of processing (Canseco-Gonzalez et al., 2010). In the present study we used the visual world paradigm to investigate cross-language activation in trilingual participants. They were Polish speakers of English and Russian, proficient in both of their foreign languages. We monitored their eye movements to targets and competitors when they were instructed (in Russian, their L3) to click on pictures presented to them on a computer screen. The target pictures were accompanied by either three unrelated pictures or by two unrelated pictures and a between-language competitor. We used two types of between-language competitors. Type 1 had phoneme onset in English (e.g. *moose*) which was shared with the target picture's name in Russian (*мусор*, Russian for 'garbage'). Type 2 competitors shared the onset in Polish (muszla, Polish for 'shell') with the Russian target (*мусор*). Results suggest that trilinguals tend to look on Type 2 but not on Type 1 competitors when hearing Russian targets.

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