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Editorial

Introducing the Special Issue: Interdisciplinary Perspectives on Code-Switching

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Research on code-switching was the province of specialists in linguistics alone in the latter part of the twentieth century and is still a valuable source of insights into the human language faculty. However, it has recently attracted the attention of researchers in psycholinguistics and neuroscience because of its promise to throw light not only on how the brain manages two or more competing languages, but also on how the brain itself may adapt to the demands of this process.

This Special Issue arose from a workshop held at the University of Cambridge in October 2016 and entitled Interdisciplinary Perspectives on Code-Switching. The workshop featured papers from perspectives related to the fields of linguistics, psychology and neurosciences. We have selected six papers based on five presented at the workshop, and one chosen from an open call for papers investigating code-switching from psycholinguistic and neuroscientific angles. The papers implement various quantitative and qualitative methods and draw their conclusions with reference to naturalistic as well as experimental data collected from both children and adults. Data are drawn from some of the most frequently studied code-switching pairs, such as Spanish/English, as well as from pairs including from Czech/English, Estonian/English, Purepecha/Spanish, and Welsh/English.

The first paper, by Deuchar (2020) addresses three vital issues that any researcher of code-switching needs to consider. The first issue is the question of the difference between code-switching and borrowings in terms of integration into a recipient language, and she argues, contra Poplack and Meechan (1998): that more subtle measures of integration are needed to identify borrowings. The second issue is the grammaticality of code-switching from the perspective of various theoretical frameworks. She argues that competing frameworks should be subject to empirical testing. The third issue is the extent of variability vs. uniformity in code-switching across communities. She suggests that future research should help us discover the relative role of external factors, internal factors and community norms.

Vihman's (2018) paper presents the analysis of diary entries produced by two Estonian-English bilingual children (aged 2;10–7;2 and 6;6–11;0). Through a longitudinal case study approach, Vihman shows the dynamic ways in which bilinguals' languages affect each other. While some of the data shows support for the Matrix Language Framework of bilingual code-switching, she shows that several examples do not follow the System Morpheme or the Morpheme Order Principles. It is, therefore, not always possible to identify the Matrix Language as either Estonian or English. Furthermore, some of the examples show structural transfer between the two languages, leading Vihman to consider whether they have a composite matrix language as defined by Myers-Scotton (2000, p. 22). This raises the interesting question of whether this could be a developmental process, given that the MLF was designed to apply to adult language. Another question is whether the specific typological differences between Estonian and English lead to more structural transfer than might be the case with another pair of languages. Vihman also raises the question of

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the role of the adult input and argues that more research is needed involving children acquiring various language pairs. More corpora of speech by adult bilinguals speaking various language pairs would no doubt also be instructive.

A paper by Šimáčková and Podlipský (2018) investigates the extent of first language (L1) phonetic interference in the bilingual vs. monolingual mode for late adult Czech–English bilinguals who were training as interpreters. A previous study by the same authors had found that code-switching led to more Czech-influenced speech in L2 English than in monolingual English productions, but in the previous study not all participants had training in interpreting. The present study of interpreters compared the Voice Onset Time (VOT) of English /p/ and /t/ in an English-only task (monolingual mode) with their VOT in a code-switching and interpreting task (both bilingual mode). The results did not replicate the previous study as interference did not increase in the bilingual mode, perhaps, the authors suggest, because of the interpreters' ability to self-monitor. Given this fact, one of the most interesting results of this study may be the demonstration through detailed VOT measurements that half of the participants were able to produce native-like English voiceless stops in both a monolingual and a bilingual model.

The paper by Bellamy et al. (2018) is an unusual addition to our knowledge of how gender is assigned to other-language nouns in code-switching. In this case, the two languages are Spanish and Purepecha, a language without grammatical gender that is spoken in Mexico. A production task requiring the use of a Purepecha noun inserted in a Spanish morphosyntactic frame showed a preference for assigning masculine as a default gender as already found in Spanish/English switching. However, in a forced choice acceptability task, the responses showed the predominance of phonological factors, so that Purepecha nouns ending in *-a* were more likely to be assigned feminine than masculine gender while the converse was true for nouns ending in *-i* or *-u*. These contrasting results support the authors' conclusion that experimental results may be influenced by task type, and also highlight the need for the collection of naturalistic bilingual corpora involving lesser studied languages.

A paper by Green (2018) extends the previously proposed and frequently cited Control Process Model (CPM) of code-switching (Green and Wei 2014). In this new paper, Green recaps the main features of the CPM, according to which the production of code-switching is subject to either competitive control (one language at a time) or co-operative control (allowing intraclausal switching). Co-operative control may be either coupled or open, depending on the type of code-switching. Green and Wei (2014) proposed that coupled control would apply to Muysken's (2000) insertional and alternational switching, while open control would apply to Muysken's (2000) congruent lexicalization, which they designated dense code-switching. However, in the current paper Green suggests that this latter term should mean copious code-switching and need not be limited to congruent lexicalization. Copious code-switching will be subject to open control, in which "entry into the utterance plan is opportunistic" (p. 12). The implication here is that the matrix language is irrelevant in open control, but empirical evidence will be needed to support this suggestion. Another new feature of the extended model is that speech input from an interlocutor is now an explicit component and takes into account what we now know about the role of priming. In addition, Green explores possible attentional and neural correlates of varying control states and invites methodological innovations to test his proposals.

In the final paper of this issue Beatty-Martínez et al. (2018) propose their "corpus-to-cognition" approach to code-switching by reviewing a range of methodologies that have been applied to Spanish/English code-switching. Their approach emphasizes the importance of corpus data to explain experimental results, and their main aim is to integrate research on naturalistic data from the field with laboratory-based research. This paper includes what may be a unique review of both types of research, as well as reporting on some novel findings achieved by members of their research group using eye-tracking technology and event-related potentials. Overall, their findings make an important contribution to their goal of understanding better the role of bilingual experience in language processing.

The selected articles offer an insight into the variety of issues in code-switching studied from interdisciplinary perspectives. We hope that our overview of the current discussions, research methods, and language and/or control models of code-switching will be of use to future researchers of this phenomenon, no matter the approach that they take in their own studies. Many of the papers offer future directions for research and some, like the last, include descriptions of recently developed techniques. We hope that these papers, taken together, will provide both information and inspiration for future researchers of code-switching.

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