The Neurocognition of Translation and Interpreting
by Adolfo M. García

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The multifaceted and interdisciplinary nature of translation and interpreting studies (TIS) has been exemplified by the growing interest in neural and psychophysiological aspects of language mediation (see, for example, Hervais-Adelman & Babcock, 2019; Tymoczko, 2012). In his new book, Adolfo García complements this framework by looking at translation and interpreting through the lens of neurocognition. In this endeavour, he explains the interplay between the brain and acts of translation and interpreting. As a recognised expert in the neuroscience of language, García accomplishes this task brilliantly and offers a book that is at once ambitious, timely, compelling, and engaging.

The book comprises eight chapters, preceded by a brief introduction, which outlines both the aims and the content of the book. In Chapter 1, García discusses the role of neurocognitive research in relation to five non-neural cognitive approaches to translation and interpreting: rationalist, observational, introspective, corpus-based, and quantitative. The chapter also reviews the history of research on neurocognition in TIS, pointing to seminal studies that have advanced our knowledge of cognitive, electrophysiological, and neurolinguistic aspects of translation and interpreting. García explains the potential of brain-related research to test various hypotheses and cognitive models in TIS. Surprisingly, when reviewing non-neural perspectives, García discusses corpus-based studies and quantitative approaches to translation and interpreting separately, whereas, more often than not, corpus-based research combines qualitative and quantitative methods of data analysis. This notwithstanding, the chapter is well organised; brief summaries of both the benefits and limitations of each approach provide a useful starting place, especially for young translation and interpreting scholars planning their first empirical studies and considering potential methodological challenges of formulating research questions in respective TIS frameworks.
Chapter 2 provides an overview of experimental designs, paradigms, tasks, and research methods used in brain-related research. García reviews study designs (single-case, single-group, between-group, and pre/post design) and methods, including behavioural measures, lesion models, functional neuroimaging, electroencephalography (EEG), and more invasive techniques, such as direct electrical cortical stimulation and intracranial EEG recordings. Some crucial methodological issues, such as ecological validity and individual differences, are also discussed. García explains all the methods, usually based on complex mechanisms, in a brief and comprehensible way. Towards the end of the chapter, the author summarises the key take-home points for collecting and analysing data from brain-related research methods, which may prove useful not only to aspiring young researchers but also to more experienced scholars.

Chapter 3 introduces the reader to basic notions of brain neurology and the neural basis of language, as well as linguistic and executive processes in the bilingual brain. The chapter expertly summarises basic neurological concepts, which is of particular use to readers who are not specialists in neurolinguistics or psychophysiology. The accompanying figures perfectly illustrate the notions in question and help the reader to better understand the intricacies of the bilingual brain. One suggestion that García could potentially have considered is to change the order of Chapters 2 and 3. Placing the chapter on brain neurology immediately after Chapter 1 would help readers better understand the basics of psychophysiological research methods discussed in the methodologically oriented Chapter 2, thereby enabling readers to critically analyse the specificities of the measures and designs presented.

Chapters 4 to 7 focus on more specific research questions, as well as variables and tasks that can modulate the neurocognitive processes involved in translation and interpreting. In Chapter 4, the author presents a lesion-based approach to translation and bilingualism and discusses four main types of pathologies: compulsive translation, inability to translate, paradoxical translation behaviour, and translating without comprehension. Two neuroanatomical models of translation and interpreting (Fabbro, 1999; García, 2012) are also presented, thereby integrating some of the main lesion-based research outcomes.

Chapter 5 addresses the notion of translation/interpreting directionality, which in TIS has often been discussed as a variable that potentially influences cognitive effort and output quality. García provides functional neuroimaging, electrophysiological, and behavioural research findings to show that translation into L1 and translation into L2 might involve distinct neurocognitive mechanisms. By presenting previous cognitive and neurolinguistic research, the chapter provides valuable insights into how these differences can originate in the brain.

Chapter 6 discusses how various translation units, such as cognates versus non-cognate words, individual words versus whole sentences, or concrete versus abstract items, can engage distinct neurocognitive processes and resources. García shows that different translation units might not be processed using the same cognitive resources. This conclusion is of great importance for translator and interpreter training, as neurocognition can explain why certain units are problematic for interpreters and thus why more attention should be focused on these items in the interpreting classroom.

In Chapter 7, García addresses the notion of the interpreter’s brain and reports on research on functional plasticity and the interpreter advantage hypothesis. The chapter
discusses whether the structure and the functional organisation of the interpreter’s brain may be influenced by extensive interpreting practice. The question of whether translators or interpreters are made or born has long been discussed (see Harris & Sherwood, 1978; Mackintosh, 1999). García complements this discussion by adopting a neurocognitive perspective and provides empirical evidence for training-induced neuroplastic changes.

In the final chapter (Chapter 8), the author formulates conclusions and proposes further research avenues. Opportunities and limitations of brain-based research are summarised and the overall contribution of neuroscientific research in TIS is reiterated, followed by a call for further research in the field.

García’s book will certainly appeal not just to TIS researchers but also to scholars of other disciplines, as well as practicing translators and interpreters; this is something the author himself highlights in the introduction (p. 5). García suggests that courses in brain-related research should be included in academic programmes in TIS (p. 217). This could help young scholars understand the possibilities and challenges of using neuroscientific research methods in their own research projects. As the book is intended for both teachers and students, and the neurocognitive findings are believed to “inspire innovations for the teaching and practice of various modalities” (p. 4), the following questions could have been addressed in the book more comprehensively: how can interpreter training—in both conference and community settings—benefit from neuroscientific research more directly? Can knowledge about the inner workings of the interpreter’s brain enhance interpreting quality? And, thinking more broadly, what is the societal impact of studying the neurocognition of translation and interpreting? García proposes that “the consolidation of a neurocognitive trend within TIS could also give rise to appliable approaches for translation and interpreting” (p. 33). This seems both valid and propitious; however, more specific examples could be provided to emphasise the importance and topicality of neuroscientific research on translators and interpreters.

Overall, the book makes a significant contribution not only to TIS but also to adjacent fields such as neurolinguistics, cognitive science, and psycholinguistics. The book is both an impressive state-of-the-art literature review and a useful methodological toolkit for young and experienced scholars alike who choose to adopt psychophysiological research methods. Besides emphasising the benefits of studying the neurocognition of translation and interpreting, García is also aware of the various methodological challenges inherent in adopting specific empirical research designs, tools, and methods. For instance, the author calls for systematic reporting of subject-related variables and more consistently adopted standards for data collection and analysis, which in my view are of crucial importance, especially in TIS, where multiple approaches and methodologies from other fields have been adopted [see O’Brien’s (2013) assertion that cognitive translatology researchers are “borrowers”]. Over the course of the eight chapters, the author looks at neurocognitive aspects of translation and interpreting from multiple angles: he contextualises neural approaches to TIS from a broader perspective; answers more focused research questions related to directionality, translation units, and the interpreter advantage; and provides methodological advice to interpreting scholars. Overall, García successfully convinces the reader that TIS should indeed be concerned with neurocognition, and that brain-related research provides valuable insights into the inner workings of translation and interpreting.
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Biography

Paweł Korpal is an assistant professor at the Faculty of English of Adam Mickiewicz University, Poznań, a psychologist, and a practising translator and interpreter. He is involved in interdisciplinary research combining interpreting studies and psychology. His research interests include stress and emotion in conference and community interpreting, cognitive processing in simultaneous interpreting, the use of eye-tracking in translation and interpreting studies, and psychophysiological measures of emotional language processing.