

## Theoretical and methodological issues for twenty-first century cognitive neuropsychology

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The impetus for organizing this volume was a workshop that was held at the Center for Mind/Brain Sciences in Rovereto, Italy (May, 2016). The workshop was organized to honour Alfonso Caramazza's contributions to science, and served as an opportunity to bring together many of the people who have worked with him over the years. As we listened to the talks at that workshop, several themes emerged. First and foremost, cognitive neuropsychological research remains one of the most powerful tools available to advance understanding of the structure of the human mind (see discussion in Agis & Hillis, 2017; McCloskey & Chaisilprungraung, 2017). Second, the methods and logic that undergird cognitive neuropsychological research—initially described in the modern age of cognitive science by Caramazza, Shallice, Coltheart, Warrington and others—have not required substantial revision (see Coltheart, 2017; Fischer-Baum & Campana, 2017), and have born tremendous fruit (see Mazza, 2017; McCloskey & Chaisilprungraung, 2017). And third, Alfonso Caramazza's contributions to this enterprise, and to the cognitive and brain sciences more generally, have been deep, enduring and broad.

The workshop also set in relief the changes that have been underway in the cognitive and brain sciences over the past several decades, and how those changes interact with cognitive neuropsychological research today (for discussion, see Agis & Hillis, 2017; Blank, Kiran, & Fedorenko, 2017; Medina & Fischer-Baum, 2017). As a point of reference, this journal, *Cognitive Neuropsychology*, was founded by Alfonso Caramazza and Max Coltheart in 1984. At that time, cognitive neuropsychological studies of patients with acquired brain injuries represented the dominant approach within human cognitive neuroscience. In the more than 30 years

since its founding, the journal has become known for publishing carefully designed experimental studies that advance understanding of cognitive organization and processing, and for theoretically deep and formative discussion of key issues across cognitive science. Over that same span of time, the cognitive and brain sciences have developed to include many techniques and approaches for studying the human brain, including many noninvasive techniques that permit questions to be addressed in neurologically intact and neurotypical individuals (Blank et al., 2017). Those new techniques have escorted cognitive science into the age of big data (Medina & Fischer-Baum, 2017). The emergence of those techniques has changed the types of questions that cognitive scientists are asking (Agis & Hillis, 2017) and has also resulted in fewer researchers who use the cognitive neuropsychological approach as a staple method. In recognition of that changing landscape, *Cognitive Neuropsychology* broadened its scope to go beyond patient-based research. The journal now publishes research that uses neural data from neurotypical individuals to advance cognitive theory. The journal also now publishes in the area of "Translational Cognitive Neuropsychology"—research that is motivated by cognitive theory and for which the novel contribution is primarily of clinical significance. These changes to the journal were designed to preserve its core identity—to advance cognitive theory using neural data—while allowing it to adapt to a research field that is quite different than it was 30 years ago when the journal was first established.

In the spirit of thinking about the past, current and future role of cognitive neuropsychological research, we set out to commission the set of papers that

make up this Special Issue.<sup>1</sup> We asked the authors of the papers to respond to the challenge: How has cognitive neuropsychology contributed to our understanding of the human mind and brain, and what are the methodological and theoretical issues that will drive cognitive neuropsychological research in the years to come? This collection of papers represents an in-depth response to those questions.

### Note

1. We must also acknowledge and apologize for an error during production of this Special Issue: the article by Blank et al. (2017) was incorrectly published in an earlier issue of the journal, rather than being held to appear along with the other invited papers.

### Disclosure statement

No potential conflict of interest was reported by the authors.

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