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Promoting single case studies

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LOOKING BACK TO GO FORWARD: PROMOTING SINGLE CASE STUDIES

Roberto Cubelli^a and Sergio Della Sala^b

a) Department of Psychology and Cognitive Sciences, University of Trento, Italy

b) Human Cognitive Neuroscience, Psychology, University of Edinburgh, Edinburgh, UK

In all cognitive domains, neuropsychological research developed and/or advanced by means of the study of exemplary individual patients. The list is very long; it includes, among others, Phineas Gage (Harlow, 1848) for executive functions, Leborgne (Broca, 1861) for language, Oscar C. (Déjerine, 1892) for reading, the Regierungsrat (Liepmann, 1900) for gestures, H.M (Scoville and Milner, 1957) for long-term memory, P.V. (Basso et al., 1982) for verbal short-term memory, and H.J.A. (Humphreys and Riddoch, 1987) for visual recognition. Some patients were aware of and proud to be contributing to the development of science and participated in many experiments, thus becoming relevant figures in the field of neuropsychology, such as H.J.A. (Humphreys and Riddoch, 2008) and H.M. (Corkin, 2013).

The single-case study approach is the appropriate methodology for drawing inferences about the functional architecture of cognitive processes in research involving brain-damaged patients (Caramazza and McCloskey, 1988; Coltheart, 2004). It is also clinically relevant. The accurate description of selective or rare deficits can reveal novel symptoms, hence inducing clinicians to pay more attention to unknown topics. Multiple reports of single patients with the same clinical label or the same main defect allow the compilation of comprehensive reviews aimed at identifying common and distinctive features and proposition or revision of theoretical models. Further, single case reports permit serendipity, i.e. the observation of unexpected or unpredicted phenomena, like the double dissociation between cancellation tasks and line bisection (Halligan and Marshall, 1992) and between span and recency (Della Sala et al., 1998).

Several major international journals changed their original policies and now discourage articles reporting on individual cases or accept them only in short formats. To publish single case reports with the detailed description of signs and behavior (typical of the papers at the end of the nineteenth century) or with a long series of experiments (typical of the papers in the last decades of the twentieth century) is getting harder. Given its heuristic value, the single-case approach, however, should not be abandoned and should remain at the core of neuropsychology research (MacPherson and Della Sala, 2018). Nowadays, valid statistic tools are available (Crawford et al., 2009; Huber et al., 2015) and more reliable data can be reported.

Cortex has always published papers on single cases as well as papers on group studies. However, the number of submissions reporting on single cases is plummeting. In 2016, out of 137 Research Reports on human participants published in Cortex, only 10 (7%) focused on single cases. To promote single case studies and offer a home to single case reports we decided to formalize a section in Cortex labeled **Single Case Reports**, which will be entirely devoted to papers on single or multiple single case studies. This section will have no difference in status or emphasis compared to the other research sections of the journal.

We take the opportunity to summarize here the different types of articles that Cortex publishes, varying in length, topics, or submission process:

Reviews. Critical appraisal of the literature on a research issue.

Research Reports. Important and novel experimental studies with groups of brain damaged or brain unimpaired people. No word or references limit.

Notes. Short reports (up to 3000 words of text) presenting new findings.

Letters. Short reports (up to 1000 words) with no abstract.

Thematic categories:

- *Clinical Neuroanatomy.* Research articles or reviews dedicated to clinical anatomical correlation using different types of functional and morphological imaging (Catani and ffytche, 2010).
- *Historical papers.* Articles or reviews dedicated to historical issues. The section includes commented translations (or reprinting) of neglected and historical papers or quotations from and/or comments on them (Goldenberg, 2001).
- *Behavioural Neurology.* Research articles or reviews with some relevance for diagnosis and/or care of patients affected by cognitive and behavioural disorders (Cappa, 2016).

Specific submission processes:

- *Registered reports* (Chambers, 2013). These submissions undergo a two-phase review process in which study rationale and methodology are considered prior to the research being undertaken.
- *Exploratory reports* (McIntosh, 2018). Studies with very open hypotheses would also be suited to this format, allowing researchers to declare their exploratory intentions clearly at the outset.

Discussion Forum:

- *Discussion Forums* (e.g., Baron, 2015, 2016; Paap et al., 2015, 2016). Organised discussions around a theme of interest for a community of neuropsychologists.
- *Clinical Postcards* (Della Sala et al., 2015; e.g., Dharia and Zeman, 2016). Very short insights about patients or conditions, descriptions of symptoms rarely or never reported, interesting observations or

incipient theories. The ideas may be tentative rather than fleshed out with experimental data and theoretically clad, but they should be novel.

- *Viewpoints* (e.g., Feuerriegel, 2016). Mini-reviews akin to position papers.
- Commentaries (e.g., Naccache et al., 2016; Silverstein et al., 2016). Critiques and discussions on reports previously published in *Cortex*.
- *Quotes and tidbits* (e.g., Kapur, 2012; de Vito and Della Sala, 2015; Cubelli, 2017). Eligible entries may include also quotes from fiction as well as from non-neuroscience disciplines, whereby neuropsychological issues are mentioned with some hindsight.
- *Definitions* (Cubelli and Della Sala, 2017; e.g., Osiurak and Rossetti, 2016). Definitions can apply to syndromes, symptoms, signs, paradigms, procedures or neuroanatomy relevant to neuropsychology.

To add to this rich gamut of article types, we now offer the formal frame of the new section:

Single Case Reports. Important and novel material using a single case study approach. No word or reference limit.

We look forward to receiving your submissions on detailed single cases, which, we are sure, will add to our theoretical understanding of the cognitive architecture of the mind and will provide the methodological model for the accurate clinical investigation and interpretation of neuropsychological symptoms.

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