

Neurophenomenology – A Special Issue

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> Context • Seventeen years ago Francisco Varela introduced neurophenomenology. He proposed the integration of phenomenological approaches to first-person experience – in the tradition of Husserl, Heidegger and Merleau-Ponty – with a neuro-dynamical, scientific approach to the study of the situated brain and body. **> Problem** • It is time for a re-appraisal of this field. Has neurophenomenology already contributed to the sciences of the mind? If so, how? How should it best do so in future? Additionally, can neurophenomenology really help to resolve or dissolve the “hard problem” of the relation between mind and body, as Varela claimed? **> Method** • The papers in this special issue arose out of a conference organised by the Consciousness and Experiential Psychology Section of the British Psychological Society in Bristol, UK, in September 2012. We have invited a representative sample of the speakers at that conference to present their work here. **> Results** • Various papers argue that the first-person methods of phenomenology are distinct from, and more robust than, the failed “introspectionist” methods of early modern psychology. The “elicitation interview” emerges as a successful and widely adopted method to have emerged from this field. Phenomenological techniques are already being successfully applied to neuroscientific problems. Various specific proposals for new techniques and applications are made. **> Implications** • It is time to take neurophenomenology seriously. It has proven its worth, and it is ripe with the potential for further immediate, successful applications. **> Constructivist content** • Varela’s key aim was to develop a non-dualising approach to the science of consciousness. The papers in this special issue look at the philosophical and practical details of successfully putting such an approach into practice. **> Key words** • Phenomenology, neuroscience, dynamical systems, first-person methods, second-person methods, the elicitation interview, introspection, consciousness.

Introduction

The papers collected in this special issue grew out of a conference on neurophenomenology organised by the *Consciousness and Experiential Psychology* Section of the British Psychological Society and held in Wills Hall at the University of Bristol, 15–16 September 2012. All but one of the papers herein were originally presented at that conference, and the one that was not would have been, had non-academic life not intervened.

Neurophenomenology

The neurophenomenological method was first proposed by Francisco Varela in his paper *Neurophenomenology: a methodological remedy for the hard problem* (1996). In that paper Varela advocated a dual approach to consciousness studies, investigating structural parallels between Husserlian phenomenology (e.g., Husserl 1982; Merleau-Ponty 1962) and neurosci-

ence, and aiming thus to reconcile first- and third-person accounts of conscious experience. However, Varela did not just aim to remedy the “hard problem,” concerning the nature of the relation between first-person mind and third-person world (Levine 1983; Chalmers 1996). He also claimed that, by integrating the phenomenological approach to the study of first-person experience with the neuroscientific approach to the study of mind, both sides could make new progress, of a type inaccessible to either side working alone. Unsurprisingly, this proposal has generated some interest. See, for instance, Shaun Gallagher and Dan Zahavi (2008) for a recent cognitive science textbook deeply informed by Varela’s research programme. Also unsurprisingly, for such a novel proposal, many researchers who might benefit from it are not yet aware of it, and of those who are, many remain to be convinced of its scientific *bona fides* and applicability.

Thus, at the Bristol conference, we aimed to provide a forum in which to discuss, in a constructive atmosphere, the still-pressing, basic, programmatic questions for

this young, but growing, field – fundamental questions such as: can neurophenomenology contribute to the sciences of mind? Has it already done so, and if so, how? We were also keen to stimulate further discussion as to whether neurophenomenology really does have the potential to resolve or dissolve the hard problem, as Varela claimed, or whether hypothesising a hard problem is even a reasonable way to progress.

The present selection of papers moves us forward in the discussion of these fundamental issues in several ways.

The contributions

Michel Bitbol and **Claire Petitmengin** argue that introspection (the project of gaining knowledge through first-person methods) has not failed and need not fail. They accept that the specifically “introspectionist” school of psychology did fail, and claim that this is because it linked introspection to an optional, representationalist account of the mind. Here, they outline an alterna-

tive account of mind and meaning, based on performative coherence, and this account is then linked to a careful elaboration of various introspective methodologies, covering both first- and first-plus-second-person techniques, and including, in particular, the *elicitation interview*¹ (Vermerisch 1994; Petitmengin 2006). They claim that this revised metaphysical basis, combined with these first- and second-person techniques, provides sufficient grounds for introspection to defend itself as a viable technique that is fully compatible with scientific usage.

Natalie Depraz builds on the first-person methodological approach to the phenomenological *epoché* first described in *On Becoming Aware: A Pragmatics of Experiencing* (Depraz, Varela & Vermersch 2003). Here, she develops and revises that earlier presentation, arguing that it was wrong to focus overly on consciousness (understood as the process of awareness of), and that we must instead explore attention (understood as an open, vigilant presence). In developing these ideas, she offers a rich, novel analysis of the logical and phenomenological connections between attention-vigilance and surprise. Then, as in the original joint work, Depraz shows how these theoretical conceptualisations can be put to work in lived practice, giving various specific examples of rigorous (scientific and other) examinations of subjective experience, jointly from first- and third-person perspectives.

Giovanna Colombetti offers a compelling, scientifically and phenomenologically well-informed argument in support of the integration of first-person methods with affective neuroscience. This argument has two central strands. Firstly, Colombetti notes that existing affective neuroscience ambivalently uses partial first-person data in any event. She suggests that the current, apparent mismatch between first-person data on emotion experience and physi-

ological correlates may well be due to this use of imprecise, informal first-person approaches, which miss phenomenologically and physiologically important variations in experience. Secondly, she argues that the incorporation of rigorous first-person techniques could allow us to begin to resolve what has remained an open question since William James (1884) and Carl Georg Lange (1912), that is, whether or not emotion experience is separable from its bodily correlates. In both cases, her arguments involve multiple, specific, concrete proposals for scientific research.

Mike Beaton argues that, amongst neurophenomenologists, there remains a strong background assumption that conscious experience corresponds, most directly, only to brain dynamics. In contrast, he offers an externalist, sensorimotor account of perceptual experience (based on that of Noë 2004), according to which the external objects of experience can and do play a constitutive role in the dynamics of that experience. He argues that such an account is phenomenologically better suited than the internalist account to capturing certain important features of first-person experience. Furthermore, and contrary to current opinion, Beaton argues that such an account is fully scientifically tractable. He argues that such an analysis may be required if we wish to progress further in integrating first- and third-person data on experience.

Susan Stuart's paper proposes that it should be possible to investigate within a neurophenomenological framework the neural and phenomenal signatures of a specific form of experiential synchrony, which she hypothesises will occur during dyadic interaction in the practice of the Alexander Technique. She further hypothesises that the synchrony in question may occur to varying extents depending on whether those participating are novices, students or experts. A further explanatory framework is offered, relating this hypothesis to Stuart's own original work on enkinaesthesia. A specific experimental method, combining the elicitation interview and neuroscientific investigation, is presented that would allow further empirical investigation of these proposals.

Dan Lloyd presents the highly novel theoretical suggestion that the internal dynam-

ics of the brain may be best understood on a "music of thought model" (so named on account of its partial parallels with the language of thought hypothesis). Lloyd's claim is that the formal structures of music are an extremely good match for several phenomenological aspects of first-person experience, including its fundamental, Husserlian temporality and its self-referentiality. Strikingly, Lloyd mathematically analyses a sample of fMRI scans of healthy and schizophrenic patients, and finds highly significant differences of a type consistent with his model. He also provides references to other, similar, successful applications of his novel approach.

Robin Hawes is a practice-based doctoral researcher in the arts. He kindly brought some of his own thought-provoking, three-dimensional artwork to display at our conference, where it was very well received. His artwork anticipates our responses, given the temporally extended, interactive nature of perception. Those viewing the work may find themselves exploring it from different angles and going away with a remembered experience, rather than having a fixed image of an object the artist has represented. The artwork was produced as part of an active, theoretically informed investigation of the relation between internalist and embodied views of perception. In his paper he describes the theoretical and practice-based aspects of his work, and argues convincingly that the artist can choose to contribute, consciously and intentionally, to the scientific and philosophical exploration of the fundamental nature of perceptual experience.

Camila Valenzuela-Moguillansky uses the elicitation interview technique to explore the structure of pain experience in patients with fibromyalgia. Her research uncovers several diachronic and synchronic structural features of pain experience that are common across her patient group. She finds a strong first-personal link between body image and pain experience. Furthermore, she describes an apparently paradoxical stage of certain acute pain episodes, in which patients report being in pain without feeling pain, an interesting phenomenological result in its own right, which is certainly deserving of further empirical and phenomenological research.

1| Bitbol and Petitmengin adopt the revised translation *elicitation interview* for *entretien d'explicitation*, as opposed to the translation *explicitation interview*, which had been used in most English publications until recently. Since Petitmengin is a current leading proponent and developer of the technique, we are happy to endorse and adopt this change.



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Overview

In overview, many papers here take the time to present, or explicitly defend, certain aspects of existing, phenomenological, first-person methods (Bitbol & Petitmengin, Depraz, Beaton, Colombetti). Various papers not only present or defend, but also elaborate and develop these first-person methods (Bitbol & Petitmengin, Depraz, Stuart). Meanwhile, several papers present novel, phenomenologically inspired scientific approaches (in some cases, with the first scientific applications of the proposed approach already completed; in all the others, with at least very specific proposals as to how to

proceed). Colombetti argues that phenomenological methods can and should be integrated with affective neuroscience research; Valenzuela-Moguillansky applies first-person methods in an initial exploration of pain experience within a specific clinical patient group; Stuart outlines an enkinaesthetic explanatory framework and the presentation of an elicitation interview technique as part of a neurophenomenological project involving the Alexander technique; Lloyd develops, and successfully applies, mathematical approaches to analysing brain activity that are fundamentally inspired by first-person phenomenological investigation. Furthermore, Bitbol & Petitmengin and Depraz each review many further instances where

first-person methods are currently benefiting scientific research. As regards the hard problem, as conceived within analytic philosophy, Beaton's and Stuart's papers aim to say something to address the issue explicitly; but every paper here addresses it implicitly, by showing that first-person lived experience and objective scientific study can indeed be put back in contact, just as Varela urged.

Are there any striking common themes? Certainly, the elicitation interview emerges as a widely praised and widely deployed novel technique, which fits squarely within the methodology urged by Varela. A defence of introspection (understood broadly), as against its alleged terminal decline at the

start of the 20th century, also recurs (Bitbol & Petitmengin, Beaton). We are also very pleased to be able to play host to papers actively developing new, relevant, phenomenological (Bitbol & Petitmengin, Depraz) or phenomenologically inspired (Colombetti, Lloyd, Stuart) methods. But perhaps most pertinently of all, the point that neurophenomenology is currently being successfully applied, across a wide variety of neuroscientific contexts (Bitbol & Petitmengin; Colombetti; Depraz, Lloyd, Valenzuela-Moguillansky), is particularly encouraging. Arguments that it is ripe with the potential to be yet more widely deployed (Bitbol & Petitmengin, Colombetti, Depraz, Lloyd, Stuart), even more so.

Conclusion

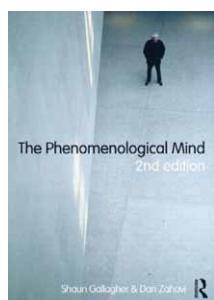
We very much enjoyed the 2012 conference on neurophenomenology. Many of the delegates told us that they did too, and that they found there an exceptionally warm, welcoming, open, but nevertheless rigorous, environment in which to discuss their academic ideas. We were very pleased to have this reflected back to us. Certainly, such a congenial atmosphere was due at least as much to the enthusiastic and constructive attitude of all the delegates, both

presenting² and non-presenting, as to our own organisational efforts. In producing this collection, subsequent to the conference, we hope that some of that same friendly, welcoming atmosphere is preserved. Indeed, we hope that the papers collected here amount to a warm, welcoming invitation, addressed to those working in the sciences of the mind, to partake, with us and with all those working in this field, in a return to the world of lived experience (where we all belong), but without any consequent abandonment of that rigour usually and erroneously associated only with the most reductionistic science.

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2| The papers collected here aspire to no more than being a representative sample of all the very high-quality work presented at the conference.



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