

Robert Pepperell

*Between Phenomenology and  
Neuroscience*

*Towards a Science of Consciousness Conference  
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It would seem reasonable to expect any comprehensive account of consciousness to accommodate two of its most fundamental attributes: that we have a self-centred sense of experience and that this sense is somehow linked to the condition of our physiology. Yet those conversant with post-Cartesian philosophy will know that time and again significant doubts have been raised about any apparently obvious link between mind and body. So of all the questions implicated in the scientific study of consciousness perhaps the most pressing is to what extent, if at all, does our mental life correlate with biochemical activity at the neuronal level? Until this is resolved we will be unable to reconcile the data gathered from phenomenological analysis of introspective experience with that derived from neuroscientific analysis of brain behaviour. The infamous gap will persist.

In fact to judge from many of the presentations at this conference this gap runs along the disciplinary boundaries, with many philosophers on one side tempted towards shades of dualism in which mental experience somehow floats above or beyond matter, and neuroscientists on the other side committed to shades of materialism in which experience must be ultimately explicable in purely physical terms. This was despite the fact that *Towards a Science of Consciousness 2003* had taken as its theme the rapprochement *Between Phenomenology and Neuroscience*, particularly with reference to the emerging hybrid discipline of neurophenomenology. To quote from Ivan M. Havel and Juraj Hvorecký's conference abstracts preface, 'Neurophenomenology . . . offers a long-awaited promise of integrating first-person data of studied subjects with more vigorous third-person approaches', and hence a possible way of assimilating these often divergent aspects of consciousness studies.

Correspondence:

Robert Pepperell, School of Art, Media and Design, University of Wales College Newport, Caerleon Campus, Newport NP18 3YH, UK. Email: pepperell@ntlworld.com

The eminent philosopher, Ted Honderich, now retired and presumably feeling free to speak his mind, provocatively cast the dispute as one between 'spiritualists' and 'devout physicalists', apparently intending to derogate each tendency with implied theological connotations. Rejecting both he offered a view of consciousness as existence, which is to say that to be aware of the room one is in 'is for the room in a way to exist', the existence of the room, therefore, being a precondition for one's consciousness of it. The immediate problem with this view is one's conscious experience of things that cannot be said to exist in anything other than imaginary form, such as dreams, hallucinations, or even falsely planted thoughts such as might be induced in some 'brain in a vat'. Honderich was obviously familiar with the objection and attempted to neutralize it by appealing to the implausibility of a truly veridical brain in a vat scenario; the virtual image of say Wenceslas Square being passed to the suspended brain would, he claimed, simply not be of good enough quality to sustain a state comparable with the sensed presence of the real thing. This may be so, but it still doesn't account for highly convincing hallucinations induced by drugs or sensory deprivation, or the sense of reality one has in dreams, none of which depend on a conjectural technological device or any immediate external scene.

A more emollient line was taken by Evan Thompson who described the attempt to combine first-person reports of subjective experience with third-person neuroscientific data derived from brain scanning in order to address the 'explanatory gap' between experience and neural activity. Thompson is well known for his embodied approach to cognition, which recognizes the role of the active, world-embedded body in the production of experience. In discussing the background to his experimental work he offered a very clear picture of the philosophical context of his neurophenomenological approach, in particular stressing the inadequacy of views that assume the mental and the physical realms are somehow divorced. For Thompson the contingencies of active existence and the resultant dynamic coupling between mind, body and world leave no room for any gap between the 'living body and the lived body'. Readers of *JCS* will be familiar with many of the arguments, and in particular the work of Francisco Varela whose 1996 paper in this journal introduced the term 'neurophenomenology' to this community. Although the research programme envisaged by Varela is in its relatively early stages it seems to offer some promise of establishing reciprocity between subjects' reports and large-scale fluctuations in brain activity, although any suggestion of establishing a precise neural correlate of conscious thought still seems distant.

One of the most lucid and engaging of the invited speakers was the neurophysiologist Karl Pribram, who used the occasion to reassess some of the major issues in consciousness studies while setting out a number of broad claims about the nature of consciousness and our scientific approach to understanding it. Concerning the privacy of experience and the problem of seeking access to first-person thought from a third-person perspective, Pribram made the case that knowledge of the internal experience of others is in fact a commonplace part of social behaviour. Using the example from Descartes of the hand withdrawn from

heat, he offered a distributed view of mind wherein one can not only share certain experiences but can also pass them on through language and behaviour — from parent to child or teacher to pupil — so as to avoid unnecessary repetition of painful mistakes. In this sense consciousness is literally ‘con-science’ or ‘knowing together’ and is consequently relational rather than localized or individuated. For Pribram ‘one can no more hope to find consciousness by digging into the brain than one can find gravity by digging into the earth’s centre’. His solution to the mind/brain problem is, much like Thompson, to reject the assumption of an inherent division and instead to regard the brain as but part of a larger web of causations impinging upon each instantiation of consciousness, including social systems and culture. He concluded by invoking a spiritual dimension to the quest for human understanding; not the kind of spiritualism one suspects Honderich had in mind, but rather a kind of ‘pervading consciousness’ which partakes of patterns that seem to be an intrinsic part of nature and human experience, including ‘quantum physics, organic chemistry, history, interpersonal interactions, or religious beliefs’ — all touched on to some extent in this wide-ranging presentation.

The joy of this kind of interdisciplinary conference is the variety and unpredictability of the material one comes across by simply moving from one room to another. Many of the reports from fields such as psychology, neurobiology, cognitive science, quantum theory, and psychiatry were buzzing with exciting data and new methodological approaches that suggested consciousness studies is as vital now as it ever has been. Less exciting were the often rarefied contributions made by those philosophers who seem habitually devoted to generating argument, seemingly for its own sake. Georges Rey, for example, made an impassioned (and, even to the native English-speaking members of the audience, often unintelligible) defence of the claim that intentionality (by which he meant thoughts directed at things, including other thoughts) is quite distinct from consciousness. Yet it was a case made without any coherent definition, or even description, of what was meant by consciousness, with the result that the distinction upon which his case rested was almost entirely arbitrary. Many in the audience were left apparently bemused or confused, and one could not help but feel that this kind of contribution reduces the discussion to a kind of turgid abstraction. No doubt intended as provocative broadside attack, it came across more as mere intellectual flack, something one cannot respond to directly but must instead avoid if progress is to be made.

One strand of the conference that threw up some more fruitful ideas was that concerned with neuroaesthetics, that other hybrid discipline prominently championed by Semir Zeki and V.S. Ramachandran and the subject of vigorous debates in previous issues of this journal. Given that much of the pace in this debate about the relationship between art and neurology has been set by the scientists it is always helpful to see an alternative perspective on the issues being offered by artists and cultural theorists. Arthur Piper set out a ‘Critical Definition of Neuro-Esthetics’ which challenged the rather simplistic and uncritical attitudes to art objects that one finds in much ‘neuro-centric’ analysis. He argued

that instead of regarding works of art as mere perceptual objects one must acknowledge their cultural context and the conditions of viewing, both of which have a considerable impact on their perceived meaning, and hence the viewer's aesthetic response. Describing the practical difficulties involved in presenting artworks to subjects undergoing brain scanning, it became clear that the experience of art in the laboratory was highly artificial (not to say uncomfortable) and one should be very cautious about drawing any general conclusions from results obtained under such conditions. In the same session, Bill Seeley critiqued some key aspects of neuro-aesthetic theory, particularly as developed by Zeki, Jennifer McMahon and Gregory Currie, each of whom asserts in one way or another that aesthetic experience depends on some kind of intuitive realization of cognitive and perceptual processing. He argued that these attempts to naturalize aesthetic experience, to explain it in accordance with physical laws, rest on a tacit assumption that artists and viewers are appreciating not so much the art but the aesthetic value of the 'introspective understanding of the structure of perception'. Seeley concludes that although the study of art may inform the study of visual perception it does not necessarily follow that the study of perception will explain the aesthetic appreciation of art.

While we tend to associate Prague with more recent political history, the city has been famous since the sixteenth century as the capital of the occult, and evidence of this history is written into its very fabric, with astrological, alchemical and magical symbols adorning many public buildings. One of the most interesting features of the TSC conferences has been the consistent presentation of respectable scientific research into what might be called paranormal aspects of consciousness. Rainer Schneider discussed the study he and his colleagues are making of 'unorthodox forms of interaction', such as remote influence between subjects who share no obvious means of communication. The research found a significant correlation between attempts on the part of an agent to effect the emotional state of a remote subject and the measurable state of the subject so effected. More interestingly, it seems that the effect is more pronounced when self-regulatory processing is suppressed and lower-level intuitive states of mind are in train.

I'm sure anyone attending TSC 2003 will have come away with a long list of references and personal contacts to follow up, as well as a privileged insight into the current state of the consciousness debate across a wide disciplinary spectrum. Whether the considerable amount of intellectual energy expended over those few days has brought us any closer to resolving the enigmatic complexities of the human mind is less clear.<sup>1</sup>

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[1] Parts of this text have been reprinted with the kind permission of *Leonardo*, the Journal of the International Society for Arts, Sciences, and Technology.