

## *Book Reviews*

**C.B. Martin**

*The Mind in Nature*

Oxford: Oxford University Press, 2008, £27.50, pp. 224 + xvi.

ISBN 978-0-19-923410-3

*Reviewed by Jo Edwards, University College London*

The focus of this book is reality, and where the mental fits into it. Martin wishes to persuade us of three premises. Firstly: ‘dispositions’ of things, for instance to shatter or to melt, are real, regardless of whether they are manifest in this or other worlds. Secondly: ‘mentality’, in the sense of that associated with consciousness, cannot arise simply from the existence of processes with complex self-regulatory function, since non-conscious systems like the hypothalamus subservise such functions. Thirdly: the conscious mind must differ from non-conscious phenomena not in function but in specific dispositions. Moreover, these dispositions *are* the ‘qualia’ of our experience considered from a different viewpoint. Martin pursues these premises with insight and enthusiasm and the resulting synthesis is entertaining and provocative, if at times a little repetitive.

The book is helpfully divided into 16 short chapters of about a dozen pages. Each addresses a new issue, with useful examples, making it easy to refer back to see how the arguments develop. For this reader, the main stylistic weakness is that Martin assumes familiarity with philosophical jargon and the work of people like Quine and Ryle, but his ideas are interesting enough to merit accessibility to a wider audience than a philosophy club. He does kick the most obfuscatory terms out of the window — for example propositional attitude and intentionality (maybe taking Quine and Ryle with them). Nevertheless, sometimes it would help to know precisely what Martin is booting out. Perhaps the acknowledgments say it all: ‘To John Locke and C.D. Broad for their inspiration and to Wittgenstein, with the proviso

that whatever he said needed, for truth's sake, to be negated, turned upside down, and inside out.'

Does the proposal solve all our problems? Maybe not quite. My impression is that Martin has fumbled some of the moves relating to physics, which may not matter, but also some relating to perception. What is not clear is whether this is because he cannot throw off traces of the naïve sort of realism he aims to transcend, or whether he is two steps ahead, but his personalised use of terms allows misreading of the flow of argument. It would help, for instance, to know exactly what he means by 'real' and 'exist'.

The first premise is fairly much orthodox modern physics. Our experiences of the world arise from the existence of what Martin calls 'package deals', which are dynamic, rather than structural, and involve the evolution of potentialities in the context of other potentialities. Inasmuch as we know that these packages have any real features we know that they have dispositions, tendencies or propensities to ... or for .... So far, so good!

Martin supports this premise with a favourite thought experiment involving an 'electro-fink' which reveals the absurdity of regarding dispositions like the liveness of a wire as having no existence until they are manifest. The thought experiment itself is a little unsatisfying, but perhaps it has less impact for those of us already converted.

The second premise seems safe, at least if we reject a circular functionalism that says we experience *this* greenish-yellow just because events in our brain have the function of recognising *this* greenish-yellow. There is, nevertheless, a sleight of hand. Martin assumes that the hypothalamus (which so expertly keeps me three pounds heavier than I want to be!) is not conscious. But is it just not designed to tell us? Martin sidesteps pan-experientialism, which, as David Skrbina argues in *Panpsychism in the West*, may be hasty. I suspect Martin's stance remains safe at least at one level, although for me this is because 'reportably conscious bits' of the brain can apparently also function unconsciously during sleep (without which we die). On the other hand, I wonder whether Martin's ideas might truly take off if a pan-experientialist base were allowed.

Difficulties surface in Chapter 6 where Martin argues that dispositions and 'qualities' are the same thing considered from different viewpoints. Martin says that qualities are 'exhibited' (weight, colour etc.?). That seems to mean they are manifest, which in turn implies that qualities are features of manifestations, not dispositions, whose *interactions* generate manifestations. Moreover, Martin does not clearly distinguish interactions between things 'in the world' and the

interaction between a manifesting thing and that to which it is manifest: the interaction of perception. A vase hit by a hammer manifests a disposition to shatter; OK. But a static vase manifests its shine or contour to me. Shine and contour, as manifest qualities, arise due to an interaction inside my head. Surely, all that we need to exist 'out there' are dispositions of things to generate this interaction? The interaction relies also on the dispositions of my sense organs and bits of my brain that interpret incoming signals, so cannot be either a disposition of something out in the world or alternatively of 'me'.

Interestingly, physics comes to Martin's defence here. A 'measurement' of the state of a hammer made by filming it shattering a vase is not just potentiality. The 'manifestation' of vase fragility is an actuality, as is a vase contour, because it is irrevocable, even if not perceived by a mind. Martin is right about qualities existing in the world, but are they not still features of actualities of interaction rather than of dispositional entities? And to what are they manifest? This is where a pan-experientialist framework might help. Martin also rightly points out that dreaming of a shattering vase must involve qualities purely within the brain. His suggestion that these should relate to things going on inside cells, rather than just connection patterns, rings true.

My impression is that Martin is on the right track, but his use of terms may not be ideal. Maybe a conscious spacetime domain in a head is special in that it has unusual dispositions, which on interacting with dispositions of sensory pathways, in turn often correlating with dispositions in the world, uniquely generate manifestations with the qualities we call qualia. The idea of disposition and quality being two sides of a coin makes a lot of sense. The difficulty is in ascribing these features correctly to the various players involved in the complex act of manifestation. There is a need to place biophysical processes in the analysis, to distinguish interactions 'out there' from interactions 'in here'. That is not easily done. It requires a leap of faith. Martin's analysis may be as good a stab as any out there, at a preparation for that leap.

### **B. Alan Wallace**

*Hidden Dimensions: The Unification of Physics and Consciousness*

New York: Columbia University Press, 2007, 176 pp.

ISBN 978-0231141505

*Reviewed by Daniel S. Rizzuto, Caltech*

*Hidden Dimensions* is an ambitious book by Alan Wallace (a former Buddhist monk with degrees in physics, philosophy and theology)

that attempts to transform the study of consciousness by simultaneously tackling three of the most difficult problems in science today: the so-called hard problem of subjective experience, the time problem of quantum cosmology and the measurement problem of quantum mechanics. Aiming to modernize the study of consciousness using the most up-to-date findings from modern physics, Alan paints a picture of a universe that depends crucially on consciousness itself. He starts by making the controversial claim that the ‘mind sciences’ have not undergone a revolution akin to the classical and quantum revolutions in physics or the genetic revolution in biology. In seeking to understand the reasons for this, Dr. Wallace breaches the scientific taboo of subjectivity, claiming that what mind sciences are missing is a highly refined tool for directly observing mental phenomena, as opposed to their neural and behavioural correlates. Just as the telescope revolutionized our understanding of the universe and the careful observation of heritable variation revolutionized our understanding of the origin of species, so, Alan argues, will highly-refined, first-person observation of mental phenomena revolutionize our understanding of the nature and origins of consciousness.

The main objection to this, of course, is that first-person reports are unreliable. However, Dr. Wallace counters that extensive training, thousands of hours in many cases, can allow the development of a highly refined and reliable tool for analysing mental states. He continues, ‘... any scientific exploration of reality that includes subjective experience is bound to violate the “taboo of subjectivity,” namely the insistence that any scientific theory must refer to purely objective phenomena that exist independently of our minds. Scientists must indeed do all they can to avoid the influence of subjective biases in their research, such as favored theories or unexamined assumptions. But the taboo of subjectivity is exactly such a prejudice ...’

In fact, one of the benefits of such advanced training in stabilization of the mind is that it allows the development of a common language for talking about subjective experiences. Just as scientists and mathematicians replicate and discuss findings using highly specialized, domain-specific language, adepts within a given contemplative tradition replicate subjective experiments in consciousness and discuss reproducible mental states using a specialized language of their own. In fact, one of the plagues of modern consciousness studies is that each researcher uses a slightly different language to communicate. The resulting Tower of Babel hampers the development of a common body of knowledge. Buddhist contemplatives in the Theravada tradition, on the other hand, have been performing experiments in

consciousness using exceedingly stable attention for over two millennia, and have developed a specialized language and literature that identifies its structure and functions.

The present reviewer is particularly well placed to comment on this type of experiment, having myself replicated some of the traditional findings of Theravada Buddhism — including one of the experiments referred to in *Hidden Dimensions*. While it is often assumed in secular, scientific circles that contemplative training requires devotion to a particular religious ideology, this is not the case at all. The stabilization of attention required to replicate these experiments does seem to require that one adopt an ethical framework; however, various ethical frameworks work, including Buddhist, Judeo-Christian and Secular Humanist. The most important aspect is that the framework informs one's activities of daily living. Additionally, the milestones of contemplative practice are primarily perceptual rather than cognitive. For instance, when replicating the Theravada finding of 'Fruition' I experienced several discrete state changes in my ability to perceive proprioceptive sensations. Interestingly, these perceptual changes altered my understanding of the relationship between interior and exterior reality in a way that my traditional academic training could not.

Dr. Wallace presents a view of the universe that is similar to, and perhaps inspired by, the Neutral Monism espoused by Baruch Spinoza and William James. Rather than pointing to consciousness as an epiphenomenon of matter, he places consciousness squarely at the centre of the fabric of space-time, thus providing an avenue for empirically addressing the hard problem, the measurement problem and the time problem through direct, first-person observation. He states, 'The current scientific model of the material world obeying laws of physics has been so successful that we forget about our starting point — as conscious observers — and conclude that matter is the only reality and that perceptions are only helpful for describing it. But in fact, we are substituting the reality of our experience of the universe with a conceptually contrived belief in an independently existing material world.'

Alan points out that the closer physicists look at 'matter' the less it seems to exist independently of our modes of perception and the more it seems to exhibit an abstract, immaterial nature. He theorizes that reality itself exists in a dimension of pure information and Platonic forms that precedes the apparent (and illusory) differentiation into mind and matter. More controversially, Dr. Wallace claims that this dimension is accessible through refined attention like that developed

in Buddhist contemplation and he proposes a set of first-person experiments to shed light on this theory. Unfortunately, the experimental methods and perceptual findings that he describes do not provide compelling evidence for his claim that consciousness is independent of matter. It seems to this reviewer that additional experimental findings, such as findings of precognition, would be required to do this.

Alan goes on to propose a 'General Theory of Ontological Relativity,' which states that there is no 'theory or mode of observation ... that provides an absolute frame of reference within which to test all other ideas.' In other words, no absolute cognitive framework exists that can provide a truly objective measurement and reality does not exist independently of the act of observation. Rather, all information exists relative to the consciousness that perceives it. While this is standard post-modern fare, Alan goes on to state that there is one absolute truth: '[t]he only invariant across all ... cognitive frames of reference is that nothing exists by its own nature, independent of all means of detecting it or conceiving of it. In other words, there is no way to separate the universe we know from the information we have about it.' In practice, this theory implies that a set of subjects with similar cognitive frames may agree on a set of measurements, providing for the development of scientific knowledge. However, this theory, and quantum theory in general, makes clear that no measurement exists that is independent of all subjects. Accordingly, scientific knowledge is better described as being 'inter-subjective' rather than 'objective.'

In conclusion, I feel this book is timely and important reading for anyone interested in consciousness, especially those who remain convinced that mind is a function of matter. Whatever one's present thoughts about the relationship between consciousness and quantum physics, Dr. Wallace convincingly argues that there are huge gaps in our knowledge of these two domains and points to the need for a closer empirical examination of their interactions before discarding these ideas completely. He paints a picture of a universe that is neither purely objective nor purely subjective, describing the universe as a 'self-excited circuit,' constantly evolving through the workings of consciousness and the processing of semantically meaningful information. This is an exciting proposal, and one that warrants further empirical research using the most appropriate methods available. If this is true, if we are indeed active participants in the evolution of the universe itself, the implications are revolutionary.

**Barbara Maria Stafford***Echo Objects: The Cognitive Work of Images*

University of Chicago Press, Chicago, 2007

ISBN 978-0-226-77-51-2

*Reviewed by Susan Stuart, University of Glasgow*

Stafford's aim is to 'insert the cognitive work of images more centrally' into the enterprise of cognitive science. She achieves her goal and a great deal more besides. Images, perception, but most of all the perceiver, are fundamental in her book; for she offers a means to rebel against the 'disappearance of the person [who has been] swallowed in a galaxy of neurons, awash in neurotransmitters, and dispersed in synaptic circuitry' (p. 2). By exploring issues like the epistemological significance of shape, mimesis, empathy and the appeal of imitation, the haptics of spatial perception and the varieties of self-design or auto-organization, Stafford argues that art plays just as significant a role in neuroscience as neuroscience has played in our understanding of art and the developing field of neuro-aesthetics.

In her six essays, each exploring the notion of the person as both a 'boundary for the mind' and as a distributed agent dynamically engaged in the world, Stafford utilises a vast range of work with Whitehead, Latour, James, Hardt, Zizek, and Negri as her foundations. I must resist the temptation to provide an overview of every chapter because of space constraints, but choosing which ones to concentrate on has been hard.

In Chapter 1 ('Form As Figuring It Out') she challenges the assumption that formalism — 'revealing the significant morphological homologies and dissonances within and between ordered compositions' (p. 10) — is antithetical to embodiment. In support of her argument she quotes D'Arcy Thompson's claim that 'underneath the wild diversity of organisms lies an elegant and simple mechanism of shape evolution' and, through Anne Wilson's installation *Feast* (2000) (Collection of the Museum of Contemporary Art, Chicago), that 'a small part of the Platonic realm of the ideal forms subsists within the bits of geometry eddying about us every day' (p. 12). The grammar of perception is aligned with the grammar of expression, and appeal is made to Alfred Gell's 'ecological' character of human cognition (p. 17) alongside Marc D. Hauser's claim that we are endowed with 'an abstract, unconscious grammar of action that generates analogous moral intuitions' (p. 20). From a neuro-aesthetic perspective, and with this formalism in place, Stafford produces a new form of

object, one whose elementary form is inseparable from its origins and evolution and which possesses the mobility to be employed meaningfully in multiple disciplines. In recognising these deep and necessary connections we will, she claims, gain ‘a hundredfold in the branching off to other forms that such reductions ... make possible’ (p. 40). I can see no reason to doubt her claim.

Chapter 2 (‘Compressive Compositions’) opens with a contrast between Andy Clark’s conscious agent as a ‘representationally hungry’ pattern creator and Antonio Damasio’s as a biological entity grappling ‘with the inertia of an internal ebb and flow of auto- perturbing patterns’, and is concerned with how the ‘brain-mind’ — an unexpected equivocation but one which nudges the reader in the direction of a dual-aspect theory of information — puts together conflicting pieces of information. Once more we are presented with a wealth of inter-disciplinary influences to which Stafford makes appeal, from Victor Turner’s claim about the ‘unity of the liminal: that which is neither this nor that, and yet is both’ (p. 45) and the enigmatic informational complexity of emblems, to nanotechnology’s nanosynthesis of bio-organic and organic materials and Whitehead’s problem of how the physical enters into the ‘occasion of experience’ of the organism to animate the collection of molecules, cells and organs into action (p. 48); all of these are brought together in an attempt to answer the questions of how we build up higher-order representations and construct consciousness from a myriad of functional states.

In Chapter 3 (‘Mimesis Again!’) Stafford — rightly — calls into question Daniel Dennett’s conjecture that ‘our royal road to the knowledge of other minds’ is language (p. 76). Her approach is through the work on mirror neurons in visual and auditory contexts, and the role of empathy and shared emotion in our involuntary sharing of others’ lives. Again the appeals are broad: starting with Damasio’s suggestion that emotions are fundamental to the organism as part of its self-regulating homeostatic system; proceeding *via* Giacomo Rizzolatti’s discovery of mirror neurons; on to William Hogarth’s analysis and representation of changing emotion in *Marriage à la Mode* and *The Rake’s Progress*, also that marvelous study of gaze direction and inter-subjective communication, Joseph Wright’s painting titled *A Philosopher Giving a Lecture on the Orrery*. In the cases of Hogarth and Derby, Stafford writes that they were capable of creating ‘deep, second-order representations that actually make us conscious of the perturbations affecting others’ (p. 85). The appeal to simulation theory in this chapter did not appeal to me, but a more direct experience of the other, based on our endogenous inter-subjectivity, can be



read from it if we keep Hauser's claim from Chapter 1 — about our possession of an 'abstract grammar of action' — in mind.

Each chapter feels like a *tour de force* within the prodigious field of cognitive science and it's occasionally hard to stay focused on the main issues when so much is presented for comparison, analysis and digestion. However, I am surprised that Stafford does not mention Carl Jung and, given that she does mention Giovanni Battista Vico's appeal to inner patterns — or what might be deemed archetypes — in art, myth and language, she might have done so with advantage. Nor does she mention Heidegger which is surprising given her very Heideggerian claim that 'The modern dynamics of being are indelibly etched within the history of the system'. And, the absence of Rosalyn Driscoll's marvellous visual/haptic art [[www.rosalyn-driscoll.com](http://www.rosalyn-driscoll.com)] must surely be an oversight. But it is perhaps churlish to criticise this book for what it leaves out when it is already so rich. The range of work that Stafford uses to make and exemplify her case is vast and varied.

In her claim that 'art makes visible the invisible' one can see echoes of the ambition within the field of consciousness studies to make comprehensible what many deem incomprehensible. Perhaps art — visual, haptic, plenisentient art — could be our key here as well. For Stafford, contemporary and ongoing work in neuroscience has compelled her to rethink the major themes within her life's work as an art historian; her book will, I have no doubt, urge others to rethink their own views.

### BOOKS RECEIVED

*Mention here neither implies nor precludes subsequent review*

- Hyman, Anthony, *The Selfseeker* (Teignvalley Press 2007)  
 Hurlburt, Russell and Schwitzgebel, Eric, *Describing Inner Experience: Proponent Meets Skeptic* (MIT Press 2007)  
 Hutto, Daniel, *Folk Psychological Narratives: The Sociocultural Basis of Understanding Reasons* (MIT Press 2007)  
 Johnson, Mark, *The Meaning of the Body: Aesthetics of Human Understanding* (University of Chicago Press 2007)  
 Nair, Sreenath, *Restoration of Breath: Consciousness and Performance* (Rodopi 2007)  
 O'Callaghan, Casey, *Sounds* (OUP 2007)  
 Ravalec, Vincent *et al.*, *Iboga: The Visionary Roots of African Shamanism* (Park Street Press 2007)  
 Richards, Ruth (ed.), *Everyday Creativity and New Views of Human Nature: Psychological, Social and Spiritual Perspectives* (APA 2007)  
 Roth, Ilona (ed.), *Imaginative Minds* (OUP 2007)