

Book Reviews

David Rose

Consciousness: Philosophical, Psychological, and Neural Theories
Oxford: OUP, 2006, 452 pp., £21.99, ISBN 0198792948 (pbk)

Reviewed by Tim Calton

Reading this book was like taking a plane ride; the beginning and end were exciting and a tad scary, whilst the bit in between was that waiting-to-get-somewhere experience. To explain, and putting the similes to one side for a moment, requires some context: This is a book, written by an author trained in psychology, neurophysiology and the history and philosophy of science, which is intended for final year undergraduates, postgraduates, and researchers with a working knowledge of brain function. It is focused towards students of psychology and neuroscience (self-explanatory book titles are always appreciated by this reader), yet claims to be an advanced introductory textbook on consciousness. Although quite a thick tome, it is split into only two parts; the first section ‘thinking about mind and brain’, deals with philosophical approaches and provides a genealogy of the mind–body problem, together with an introduction to (and critique of) the philosophy of neuroscience. This is much the shorter section, overshadowed by its bigger brother ‘function and the brain’, which introduces homuncular and teleological functionalism, before launching into a series of chapters encompassing representation (both conscious and unconscious), brain dynamics, memory and perception, and the where and when of visual experience. The book closes with an intriguing chapter on multiple levels of consciousness and a perfunctory — and perhaps necessarily open-ended — conclusion.

There’s much to like about the author’s prose style; always dialectical and willing to embrace uncertainty (though a little hesitantly at times, and ever with an eye on the materialist metaphysical main

chance), he doesn't shy away from the myriad unknowns suffusing the topic. That said, I did find his avuncular reassurances that science will find a way to understand consciousness/exhaust nature a bit over-the-top at times. What if it doesn't or can't? The book's layout was a little bland, but the provision of informative side-boxes helped break the monotony, particularly during the latter stages when I was flagging. The OUP's online resource centre was a welcome adjunct.

So to content. I enjoyed the first section and couldn't identify any major problems with the philosophical exposition; the genealogy was succinct and informative, whilst the critique of philosophy of neuroscience gave a welcome, if brief, synopsis of the extant epistemological framework and its limitations. The chapters on functionalism offered relatively straightforward delineations of the current orthodoxy, though they cleaved to the dialectical style mentioned above. My interest was piqued by the chapter on representation, and in particular the section entitled 'what are the relevant level(s) of description?' At this point I fastened my metaphorical seatbelt in anticipation of a grand synthesis encompassing the mental, neuronal, quantum, social, and environmental levels, or at least some rhetoric about the importance of giving credence to each of these ... but no. I was met instead by a resounding affirmation of ontological reductionism and an emphasis on the 'medium sized dry goods' level of the brain as the most appropriate (or more easily researched using current technologies?).

Perhaps, given the book's title, I was a little naïve to expect anything other than a cursory trot through social or environmental theories of consciousness. However, this book purports to be an advanced introductory textbook to the general subject of consciousness, and the author professes his commitment to a multi-level account. Hence, the second section part of the book implicitly provided its own critique; page after page of text focused on brain function, with little attempt to effect a multi-level synthesis. I found this latter section somewhat trying, perhaps because, as a working psychiatrist, I'm all too often reminded of the consequences of the mereological fallacy for real people out there in the world — they are more than the sum of their neurons or brain modules. Happily, my faltering enthusiasm for the book was reinvigorated by the final two chapters, wherein the author sought to confront anew the complexity of his subject and to embrace the uncertainty which may be intrinsic to this entire field.

In sum then, this is a brave book by an erudite author which achieves its basic aim of providing a sophomore introductory account of the current state of play in the field of consciousness studies. That it

aspires to the lofty heights of multi-level synthesis is emblematic of its author's ambition and willingness to push back the boundaries but, like so many other books on the subject, it ultimately fails in this respect due to the scale of the task at hand and that all-pervasive uncertainty. Oh, and the plane simile? Well, whilst reading the beginning and ending of the book I felt alive and in touch with the world, perhaps because the ideas were challenging, the uncertainty imminently at hand, and the (ideological) dangers quite real. I have a similar experience when taking off and landing in planes. The middle section felt unreal and alienating, much like one's situation at 40,000 feet when outside's a hellishly cold maelstrom (ideological crosswinds anyone?), yet inside all is warm, unhurried, and often quite boring.

Jonathan Shear (ed.)

The Experience of Meditation:

Experts Introduce the Major Traditions

St. Paul, MN: Paragon House, 2006, 286 pp., \$19.95

ISBN 1-55778-857-X (pbk)

Reviewed by Robert K.C. Forman, Director of the Forge Institute

It's about time someone wove together the theory behind various meditation practices with the experiences that those practices generate! For far too long, we've seen books and articles describing either first- or third-person versions of meditation practices. Third-person accounts offer theory and practice instruction. They are the kinds of description that one could write out or teach to someone. First-person accounts describe what happens subjectively to one who undertakes regular meditation practices: the experiences themselves. In third-person accounts, we have predictions of what is *supposed* to happen. These tend to be general, non-specific, idealized and often theory laden. Things are described as if they are predictable and unchanging. First-person accounts, on the other hand, vary more, but are likely to be sufficiently consistent to show patterns of experience common to some particular path or to a group of diverse practices.

I was excited to read the introduction, where we are told that the volume will offer both first- and third-person reports that are unusual and parallel across traditions. We will see, it says, how lives are transformed 'in remarkable, and very fulfilling, ways'. And we will hear of how meditation practices provide 'access to depths of inner awareness that lie outside the range of ordinary experience'. To show all this,

Jonathan Shear has put together an impressive roster of contributors, who offer accounts of experience and theory in Zen, Qugong, Yoga, Theravada and Tibetan Buddhist paths, Integral and Kriya Yoga, Sufism and Christianity. The aim is to bring life to both subjective and objective viewpoints, to open up to the tension between them.

While I am truly all for the attempt, I was deeply disappointed that only a few of the articles even begin to tackle the questions! I compliment Jonathan himself for a healthy overview of the Transcendental Meditation programme. He gives us a quick and sure sketch of TM theory, touching on the history behind its guru (Maharishi Mahesh Yogi), the (tendentious) notion that there is a single and unseen 'source of thoughts', the effortless use of the mantra, and so on. After a summary of the states of consciousness predicted to result from TM practice, Shear offers both theoretical analysis and personal accounts of experiences that actually result. For instance, after describing a theoretical expectation that 'experiences of bliss and happiness' will 'overflow from meditation into daily life', Shear offers a personal report of from a 'CB':

Now I find that a soft but strong feeling of blissful evenness [is becoming] present most of the time ... Physically it is experienced as an extremely delightful liveliness throughout the body ... every day it grows stronger and stronger and more stable. This evenness cushions [me] against ... disruptions and makes all activity easy and enjoyable (p. 41).

And another, from a 'JB':

I noticed a totally new feeling of softness and sweetness develop. There were days when I felt my heart melting ... (p. 41).

This one prediction, at least, is thus matched with actual accounts of 'bliss and happiness'. Shear explores how evocative predictions might actually play out in one's life, and discusses some connections between how it feels (first-person) and what it means (third-person). Because the accounts he chose are from TM movement literature, however, I fear they may be self fulfilling prophecies or suspect in other ways. But at least Shear tried.

In his article on Integral Yoga, Don Salmon comes close. (To be transparent, I know and like both Dan and Jonathan, as well as several other writers in the volume.) He tells much of Sri Aurobindo's theory and of the experiences he predicts. But when it comes to actual experiences, Don contents himself with such general claims as 'the heart becomes softer, more open, the mind gains a new clarity, and the body feels lighter'. Or again, he offers the non specific claim that

there may arise a profound sense of harmony with and between mind, heart and body. As the surface play grows quiet, a Divine power within and beyond can be felt. Sometimes it is as though the entire world has come to rest. At other times a sudden inrush of energy is felt, as if descending from the heavens (p. 187).

One wonders just what the feeling of ‘a Divine power’ might be like, and how one might recognize that it is Divine. But like Shear, Salmon does provide *some* first-person experiential accounts. Thurman and Gray also offer similar general experience predictions in their study of Tsongkapa.

But aside from these three chapters — studies that offer at least a *little* about what is *actually* felt — the seeming purpose of the volume disappears utterly. Georg Feuerstein’s thorough and well researched essay on Yoga contents itself with long lists of schools, practices, and possible experiences, but contains not word one on what actually happens while in a posture or meditation. Shou-Yu Liang and Wen-Ching Wu include wonderful drawings, photos and diagrams in their chapter on Qugong, but leave the reader utterly lost about just how physical centres of *mingmen*, *guanyuan* and *huiyin* might actually be experienced, or how Qugong movements might feel. Shodo Harada Roshi substitutes koan instructions and Zen warnings for experiential reports. And in what is clearly the book’s oddest non sequitur, Jeffrey Schwartz and Bryan Clark introduce Theravada Buddhism with a non-experiential account of Buddhist instructions on how to cure Obsessive Compulsive Disorder.

One of the supreme intellectual challenges of our era is central to the concerns of this journal. How are we to connect first- and third-person encounters with the world? How on earth can a few chemicals and pounds of water give rise to the stunning fact that human beings have felt experiences — qualia? Along similar lines, how is it that a few theories and instructions, stated in general and relatively abstract phrases, can produce the astonishing shifts in experience and perception that result from meditation; especially the shifts that are generally associated with the term ‘enlightenment’? Here ten authors wrote about that relationship in ten different traditions; yet few of them took on the fascinating challenge that serves as the purported focus of this volume. Lists of possible experiences or philosophical theories do not begin to address the thorny and rich questions at its heart. Nor will it do to merely *report* on what Patanjali or Thomas Keating said.

The real question before us is this: *given* the traditional theories, *given* their various tools and techniques, just what do these sets of instructions *actually* produce in the lives of everyday practitioners?

To offer some guru's predictions (which are perforce idealized, general, and theory laden) is not to offer an on-the-ground, feelable account. I am left wondering if the experiences enjoyed by real people during Yoga, TM and Sufism practices are actually similar or different? Does following the breath here and sitting in a yoga asana (posture) there, does doing a whirl or a Zen kinhin (walking meditation), does thinking a mantra instead of a chosen word from the Christian lexicon — do these different tools really produce different effects? If so, what are they? And, for goodness sake, how?

I am deeply grateful to Jonathan Shear for putting this volume together and taking up the challenge. But I sincerely wish this book, on such a key and rich subject that could have helped burst open the conundrum of consciousness, had taken us further. But as it is — sparse in real (as opposed to predicted) experiences and devoid of clear links between theory, instruction and experience reports — this volume didn't begin to address the issues. I cordially invite Jonathan, and his funding source, Rajiv Malhotra and the Infinity Foundation, to *really* take it on next time.

Judy Illes, ed.

Neuroethics: Defining the Issues in Theory, Practice, and Policy
Oxford: Oxford University Press, 2006, 329 pp.
ISBN 0198567219 (pbk)

Reviewed by Anthony Freeman

Never mind defining the issues, the first task with neuroethics is trying to define the word. It is applied to at least two branches of research that are, at first sight, quite different. In a frequently cited short paper titled 'Neuroethics for the new millennium', Adina Roskies (2002) describes these as the *ethics of neuroscience* and the *neuroscience of ethics*. The first deals with moral issues that arise in the practice of neuroscience — for instance when brain anatomy or chemistry are interfered with in order to alter a person's character or behaviour; the second researches the neural processes that are correlated with the making of moral judgements.

Different as these two topics may appear, it soon becomes clear that they interweave. Roskies herself illustrates this in her contribution to the volume under review, in which she looks in detail at the role of the ventro-medial frontal cortex (VM) in moral cognition. People with damage to this part of their brain — such as Phineas Gage (see Damasio, 1994) — typically deviate from normal subjects in their

response to 'ethically charged' situations in which they are personally involved, but are unimpaired in their ability to judge abstract ethical questions. Neuroscience explains this by showing that VM patients lack the emotional rather than the rational component of ethical decision-making.

Roskies claims that this finding, deriving from the neuroscience of ethics, disproves the view of some philosophers (originating with Hume) that moral judgement is 'intrinsically motivating', and so different in kind from other kinds of reasoning. Thus a neuroscientific discovery has implications for philosophy's whole understanding of the way moral judgements are made, including ethical judgements relating to neuroscience. 'These interactions', she says, 'provide reason to think of neuroethics as a coherent, if not a unified, discipline, and one distinguishable from bioethics in general.'

Roskies' paper is in Part I of the book ('Neuroscience, ethics, agency, and the self'), which opens with an excellent introductory chapter by Pat Churchland on 'Moral decision-making and the brain'. She concludes that we could still do a lot worse than listen to Aristotle, who believed in moral progress but neither preached about the Archetypal Good nor tried to whip up moral zeal. His is a reasonable approach to achieving some measure of human good, 'succumbing neither to invocations of the supernatural, nor to self-destructive skepticism. It is a pragmatic approach anchored by grace, dignity, empathy, and courage.' Exactly so.

In Part II, concerned with 'Neuroethics in practice', Michael Gazzaniga has a forthright chapter titled 'Facts, fictions and the future of neuroethics'. He specifies some areas where he believes cognitive neuroscience does have something to contribute to ethics (e.g. the moral status of human embryos) and a number of others where it definitely does not (e.g. questions of freewill and personal responsibility). Although Gazzaniga clearly states that 'Neuroscience has its limitations and it is crucial to understand these', he tends to forget his own advice in the heat of argument. The value of this essay is thus limited by his habit of making philosophical and moral statements that are not evidence-based scientific conclusions but expressions of his personal opinion.

Other contributions to Part II concern practical issues arising in specific clinical and research situations. For instance, Franklin Miller and Joseph Fins bring a 'pragmatic perspective' to bear on the charge that placebo controlled trials, frequently used to evaluate both new and existing treatments for psychiatric and neurological disorders, are unethical when actual patients (not volunteer healthy subjects) are

given placebos, even though treatments of proven efficacy are available to them. The authors insist that only muddled thinking and moral absolutism would allow a therapeutic obligation to individual ‘patient-subjects’ to over-ride the need for good research methodology: ‘normative assumptions ... that evaluate clinical trials with respect to the duty of care owed by physicians to patients in need of care are ethically irrelevant to the situation of clinical research’. Oh dear.

In a much less combative contribution, titled ‘Engineering the brain’, Kenneth Foster considers the use of neural prostheses, of which the cochlear implant is probably the best known outside the profession. Another example is the development of brain–computer interfaces, such as that allowing a paralysed man to send email (reported in 2004). This chapter is informative and fascinating to anyone unfamiliar with this work, but the discussion of ethical implications is disappointingly slight.

Part III treats practical aspects of the subject more broadly by looking at ‘Justice, social institutions, and neuroethics’. The implications of neuroscience findings for the spheres of law, education, religion — even popular culture — are all explored, but the chapter that caught my particular attention reported research by Martha Farah and her colleagues into the relationship between ‘Poverty, privilege, and brain development’.

The spur to this work came when Farah compared the development of her own and other middle-class children with the families of her baby-sitters, who ‘were mostly of low socio economic status’. She describes the differences as ‘immense’ and ‘dramatic’, and says that, ‘The ultimate goals of this work are to inform practical decisions concerning child policy, and to reveal the neuroethical dimensions of the problem of childhood poverty.’ Her provisional conclusions — and unlike Gazzaniga’s moral pronouncements they are based on neuroscientific facts — are along the lines that the disadvantages of childhood poverty, and the passing of low socio economic status from one generation to the next, is ‘a bioethical issue rather than merely one of economic opportunity’. These findings are broadly in line with the conclusions of Michael Rutter’s extensive studies on children over a 30+ year period, starting in the 1960s, which explored these social issues and their consequences in detail (e.g. Rutter & Rutter, 1993).

Like all edited collections, this is a difficult book to summarise or pass judgement on. I came away from it having enjoyed a number of excellent papers, and with much to ponder in relation to facts about the brain and the values that contribute to the good life. Given the current pressures to set up ‘neuroethics committees’ analogous to

those overseeing genomic research, a book like this is important in helping to inform the debate, although personally I am left questioning the desirability — let alone the practicality — of such regulatory bodies.

References

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W. Wheeler

The Whole Creature:

Complexity, Biosemiotics and the Evolution of Culture

London: Lawrence & Wishart, 2006, 192 pp., £ 17.99

ISBN 1905007302

Reviewed by John Pickering, University of Warwick

We're tired and sceptical of publishers' blurbs. We greet over-exposed commendations like 'No. 1 Bestseller', 'seminal', 'definitive' and the like with a weary mental sigh. It's not only due to boredom with hype, but also to the devaluation of praise that may occasionally be justified. So, when Wendy Wheeler's publishers describe her book as 'ground-breaking', we may inwardly yawn — but for once they're right.

A book which offers a grand synthesis of cultural studies, dynamic systems theory and biosemiotics, along with a seasoning of Polanyi and Postmodernity, is taking on quite a task. But in what sense is it 'groundbreaking'? Cultural studies is a well established discipline. Dynamic systems theory has been influential since the pioneering work of von Bertalanffy in the 1940s. Biosemiotics dates back to the same period. However, it is the project to combine them to enrich our understanding of human sociality that breaks new ground. Moreover it carries a major political message, which is something that would enrich a lot of academic writing. Wheeler aims to demonstrate, among other important things, why the individualism idealised in misappropriated liberalism is just plain *wrong* (the author's emphasis, p. 127) and why efforts to commodify human relations based on love and trust are likely to fail (p. 77). Rampant individualism simply makes no sense once a systems approach to human action is taken properly on board. There can be no escape from the effects of our actions when causes and effects are parts of the same loop. Individual escape is possible of course, since effects injected into the loop may

take a long time to re-appear as causes, but collectively, pigeons always come home to roost. Love and trust are part of the tacit knowledge and value that Polanyi points out both underlies and guides mere rationality. Wheeler's bringing together of such sources is eclecticism with attitude and makes the book a particularly *piquant* read, especially for those who already believe or want to believe these things.

The author sets out her stall very early on, always a helpful move. She traces the genesis of the book to her early reading of Raymond Williams' *The Long Revolution*. Published in 1961, Williams' book helped lay the foundations of British Cultural theory. Even though it has been engulfed by poststructuralism, of which Williams could have had only the slightest inkling, or none at all (Derrida was aged 31 when *The Long Revolution* appeared and had published nothing substantial), it remains an example of the scholarly, liberal (in the old sense) cultural analysis that had such a profound effect on the rapidly changing Britain of the 1960's. What Wheeler takes from the book is the insight that one can, at the same time and without contradiction, claim that human sociality is fundamentally to do with the expression of emotion and propose a fully materialist explanation of how it originated and how it is maintained. Wheeler's project is to justify this claim by showing how biosemiotics and dynamic systems theory provide the conceptual tools to fashion the explanation. This, as Jesper Hoffmeyer, a major figure in contemporary biosemiotics notes, discloses the political dimension to the subject and recovers an objective that he himself had had at the time of his early work. It is in this sense that the publisher is right to call the book groundbreaking.

But these are not happy times for grand syntheses, especially not on this broad and innovative scale. Aside from the dismissal of all overarching metanarratives by postmodernists such as Lyotard and Jencks, those who prefer to understand things by taking them apart, intellectually and physically, appear to be having spectacular success. The dissection of both nature and culture proceed apace. Scientists, linguists, philosophers and even literary historians tend to avoid the general and the integrative for minute particularities and the analytic. Psychologists in particular suffer from this costiveness of the spirit and attempts to address the wider value framework around human consciousness are generally dismissed as New Age superficialities. The effectiveness of piecemeal analysis, as shown especially in the successes of contemporary technology and science (genetic engineering and informatics being good examples) are taken to show that the fine grain of phenomena is in somehow the 'right' one at which to work. We have, it seems, begun to carve nature at her joints rather

effectively. If the shape of the whole body is obscured in the process, well, so be it. That's the price of effective procedures.

So, then, is an integrative project such as Wheeler's a doomed by the intellectual *milieu* in which it appears? Far from it. Calling on Polanyi, Merleau-Ponty and, indirectly, Bakhtin, Wheeler demonstrates how neglect of the body, the literal physical human body, this time, has hampered the efforts of both psychologists and sociologists to understand how the human mind and social being has evolved. The web of social knowledge, practices and values within which human cognition takes shape must have had an evolutionary history. That history is not merely the evolution of culture alone but of all living systems. Psychologists, missing the nub yet again, have done little more with evolutionary theory than to suggest it may be a constraint on cognition. If instead we take the line of Wheeler, Hoffmeyer, Sebeok and Peirce, we can see that biological and cultural evolution are actually the same process. Culture is biology pursued by other means. Evolutionary advance, Wheeler shows, can be more fully understood by following the ontological insights of C.S. Peirce and von Uexküll. Here, to paraphrase the title of chapter three, we find the key to Wheeler's grand project: *nature is perfused with signs*.

The patterns of causality in evolved systems are self-constructing, cyclic and actively produce cumulative adaptive change. For a proper materialist understanding of what is going on, this process of balancing pattern-preservation with pattern elaboration needs to be understood semiotically. This applies to any evolved system, whether it is biological or cultural and even whether we identify it as living or not. This was Peirce's great insight: the regularities in phenomena, what we call physical laws or plants or animals are the result of nature's 'tendency to take habits'. These habits are mediated by that sadly neglected Aristotelian concept: formal causation. Formal causes are those which produce correspondingly structured effects. These chain, loop and cycle themselves into self-maintaining patterns and processes maintained by the exchange of signs. Meaning, both in the sense of intended action and the sense of interpretation is what holds evolved systems together. In short: the causal texture of nature is semiotically mediated and biosemiotics, the study of naturally evolved signs, once extended to the social and to the physical levels of phenomena, is the discipline needed to understand this.

In following this line through its physical, biological and social consequences, Wheeler contributes to the growing momentum of Whiteheadian neo-organicism. Whether this was one of her intentions is not so important. While Whitehead is not mentioned in Wheeler's

book, it is notable that the revival of interest in his work creates a *milieu* that is far more synthesis-friendly place. It is not a minority movement either. A recent Whitehead conference attracted over 500 scholars from around the world to Salzburg (see <http://www2.sbg.ac.at/whiteheadconference/index2.html>). At exactly the same time Salzburg hosted a conference on Biosemiotics (see: <http://www.biosemiotics2006.org>). Ironically, this was a pure co-incidence. Neither conference knew about the other — as the reviewer, who gave papers at both, discovered.

This odd separation is merely a matter of intellectual parochialism. Books like Wheeler's can help bring it to an end by showing how a radically organic (that is to say, materialist) view of nature such as Whitehead's, when combined with a radically semiotic view of nature such as Peirce's (also materialist, but expressed by other means), provide the conceptual tools to include the human phenomenon in the biological and the biological in the physical. This provision will allow experience itself, with its intrinsic emotionality and value, to be treated, along with other aspects of organic being, as part of the natural world.

It is this that makes experience a legitimate object for scientific concern and recovers William James' lost project: a radical empiricism that assumes that psychology deals, at base, with a world of pure experience. It is this return to James and the methodological pluralism that this entails that helps give Wheeler's project its political edge. Her scepticism about the virulent commodification of human emotional relation arises directly from Polanyi's recognition of the tacit dimension to human knowing, something that James anticipated in his concept of the 'fringe'. Likewise, once the full implications of seeing the human phenomenon as an organic process, emerging from the organic processes around it and primordially interdependent with them, then the sinister absurdity of neoliberal individualism becomes patent.

These sorts of insights are among the many good things we can look forward to as Wheeler's project, and those like it, gain strength, as they surely must. Another good thing is an end to what Mary Midgley calls the 'apartheid of mind and body' (Midgley, 2004). Midgley, presumably with philosophers and psychologists primarily in mind, advocates approaching the mental life of any creature, whether it be human or not, by considering it within its contexts: physical, biological and cultural. But, welcome though this proposal is, it is more a wish than a research programme. Moreover, advocacy for a larger view is not new. In Wheeler's groundbreaking project we see the

beginning of the necessary new programme. It begins with the radical step of treating matter as mind-like rather than mind as matter-like. Here we find a lineage of organicism reaching back to Plato through Prigogine, Bergson and Whitehead and forward through Margulis, Kauffman and Midgley to Goodwin and Laughlin, for instance.

If reservations about the book are in order, they are that it may not go far enough in exploring the mind-like nature of materiality. It is also, perhaps a little too free with Terry Eagleton to claim him as an ally in the campaign to biologise human sociality and culture, given that he has recently said:

Cultural theory as we have it promises to grapple with some fundamental problems, but on the whole fails to deliver. ... morality and metaphysics ... love, biology, religion and revolution ... It is ... rather an awkward moment in history to find oneself with little or nothing to say about such fundamental questions (Eagleton, 2003).

But free or not, it's unnecessary; Wheeler's project stands on its own. This grand synthesis is a powerful resource with which to take forward and blend the humane understanding of sociality with our scientific understanding of the world. It is perhaps no accident that the cover pictures of *The Whole Creature* and Dennett's *Freedom Evolves* both feature the wonderfully organised patterns that appear as birds flock together. The individual actions of the parts give an intentionality to the whole. They are both signs that we have left the age of reduction and entered the age of emergence.

References

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Chris Clarke (ed.)

Ways of Knowing: Science and Mysticism Today

Exeter: Imprint Academic, 2005, 260 pp., £17.95/\$34.90

ISBN 1845400127

Reviewed by Paavo Pylkkanen

The scientific attitude could be described as a readiness to accept facts, whether we like them or not. This contrasts with the self-deception entailed by accepting what we like and rejecting the rest. Some say that the tremendous advance of science and technology has been partly due to individuals and societies who, giving first priority to truth, were able to abandon dearly held beliefs when experimental

evidence and theoretical considerations so demanded. In contrast, it is often felt that religion involves believing things because they offer comfort or security; not for sounder reasons — as in Karl Marx's famous characterization of it as 'the opium of the people'.

Ways of Knowing examines this common but naive view of science and religion, arguing that science, far from being a neutral truth-seeking activity, is actually often very partisan in the interests of political and economical power, so tending to subjugate other, complementary and valuable ways of knowing. Thus there is a need to re-examine these alternative ways of knowing. In particular, most contributors to this anthology propose that spirituality — which is understood to be something quite different from traditional organized religion — has an important role to play. The various essays are very heterogeneous, but the editor, Chris Clarke, has done a good job of arranging them and enabling a common focus to emerge.

Section 1, 'The Social Context', focuses upon how a hierarchy of ways of knowing is often connected with a hierarchy of political power. June Boyce-Tillman advocates a dynamic balance between dominant and subjugated value systems, calling for a genuinely inclusive society in which a variety of ways of knowing are valued. John Holt then draws upon his experience with working with the 'unforgiven', those who have been confined to penal mental institutions. He finds that repressed ways of knowing hold an important healing potentiality for them. He also provides a fascinating account of an art asylum 'The Living Museum' in Queens, New York, '... an artistic sanctuary in which people labelled as mentally ill can re-define themselves as artists'. Finally, Jennifer Elam reflects upon 'contemporary mystical knowing', based on personal stories which people have shared with her. She thinks that a large percentage of people in Western cultures have had what might be called mystical experience, which is in line with the findings of a number of surveys, including those of The Religious Experiences Research Unit (now based at the University of Wales). However, many people do not feel safe sharing such experiences for fear of being called 'crazy'. Elam suggests that, when such mystical experiences are suppressed, pathologies are created. There is thus a need for a more open-minded attitude; one of the virtues of this book is precisely that it helps to promote such an attitude.

Section 2, 'The Perspective of Psychology', begins with Douglas Watt's thought-provoking article 'Attachment mechanisms and the bridging of science of religion'. He starts by suggesting that it is possible to meaningfully connect science and religion. Doing so requires,

however, giving up anthropomorphic notions of God as a person, instead recognizing that the affective core of spirituality is the reverence and awe natural to a finite if powerful hominid brain as it confronts an infinite natural world. Science, too, essentially involves reverence for the mysteries of nature, and therein lies its connection to religious mysticism. Further, the 'oneness of all things' is a central theme both in mysticism and in the conception of nature as a 'recursive hierarchy of emergent properties' which Watt sees as an important contemporary scientific paradigm.

Watt also provides an illuminating analysis of the factors which currently prevent such a happy synthesis of science and religion from exerting a positive influence upon our individual lives and that of the world at large. The key, he proposes, is *attachment*, which on the one hand is the source of our deepest joys and comforts. On the other hand, he points out that loss or severe dysfunction in a primary attachment can plunge us into perhaps the deepest pain that humans can experience. He further suggests that those emotions which are neurodevelopmentally grounded in basic mammalian attachment mechanisms, are the source of the real power of religious ideas. Thus, if we want to bridge science and religion in a meaningful way, we need to understand how our attachment mechanisms currently control and limit us. Watt thus provides a valuable alternative to the now 'traditional' view that the relationship between science and religion is basically one of contradiction.

In the second paper of this section, Isabel Clarke insightfully tackles the division between our rational faculties and the more mystical qualities of experience.

Section 3, 'Physics, Logic and the Pluralistic Universe' considers how the so called 'participatory philosophies' allow us to go beyond traditional scientific realism. Jorge Ferrer presents his version of the participatory conception of the world, which the editor sees as '... the first world view that genuinely acknowledges the experiences of the different mystical traditions and of science'. As a connected 'case study', Lyn Andrews gives a detailed account of her own spontaneous mystical experience. More theoretically, Rodney Bomford discusses Matte Blanco's enlarged system of logic that unites mystical experience with the data of psychoanalytical research. The editor's own article discusses how this new logic is further extended by modern physics.

Finally, section 4, 'The Nature of the Spiritual Path' underlines that mysticism is '... not about feelings and concepts but about living'. Here Neil Douglas-Klotz first discusses ordinary and extraordinary

ways of knowing in Islamic mysticism. In an ecological move, David Abram seeks the core ground of all ways of knowing in ‘... the sensorial terrain of tastes and textures and ever-shifting shadows in which we find ourselves bodily immersed’. Developing such themes, Anne Primavesi then concludes the book with a discussion of an ‘ecopsychology’ which links ecology into spirituality.

Ways of Knowing is a set of very thoughtful and thought-provoking essays. Many of them are written in a traditional academic style, while a few are more personal reflections, which might at first frustrate those used to traditional scientific and philosophical arguments. The articles explore important dimensions of thought which tend to be neglected in academic discussions and may thus contain material new to some readers. Overall, the book provides a penetrating analysis of some of the key factors that threaten the well-being and even survival of the global community. Whether or not one agrees with all of the viewpoints expressed, I think that a dialogue about these issues is of the utmost importance.

BOOKS RECEIVED

Mention here neither implies nor precludes subsequent review

- Beck, Roger, *A Brief History of Ancient Astrology* (Blackwell 2007)
 Brown, Neville, *Engaging the Cosmos: Astronomy, Philosophy, and Faith* (Sussex Academic 2006)
 Finesilver, M.I. (ed), *Aether: Knowledge is Power* (CD-ROM and bound transcript, Pathway Initiatives 2006)
 Preece, Rob, *The Psychology of Buddhist Tantra* (Snow Lion 2006)
 Pylkkanen, Paavo, *Mind, Matter and the Implicate Order* (Springer 2007)
 Ratcliffe, Matthew, *Rethinking Commonsense Psychology: A Critique of Folk Psychology, Theory of Mind and Simulation* (Palgrave Macmillan 2007)
 Rowlands, Mark, *Body Language: Representation in Action* (MIT Press 2006)
 Sultana, Mark, *Self-Deception and Akrasia: A Comparative Conceptual Analysis* (Gregorian University, Rome, 2006)
 Wallace, B. Alan, *Contemplative Science: Where Buddhism and Neuroscience Converge* (Columbia UP 2007)
 York, George K. & Steinberg, David A., *An Introduction to the Life and Work of John Hughlings Jackson with a Catalogue Raisonné of his Writings* (Wellcome Trust 2006)