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Review: The Blissful Brain: Neuroscience and Proof of the Power of Meditation by Shanida Nataraja

Regular meditators are aware of the benefits – mental and physical as well as spiritual – that arise from the practice. If they were not, it is unlikely they would persist in sitting motionless for half an hour or more every day focusing the attention on a single stimulus such as the breathing. Meditators testify that in stilling much of the distracting mental chatter that typically dominates the mind they open themselves to subtle spiritual realities that otherwise go unrecognised, and experience levels of tranquillity that carry over into daily live. More recently, evidence of the benefits of meditation in reducing stress-related disorders such as depression and elevated blood pressure, is also accumulating. But in a scientific age reluctant to acknowledge the existence of anything that cannot be measured and quantified, there is an increasing desire to establish whether or not these benefits are accompanied by changes within the brain. We know of course that meditators register alpha brain rhythms during meditating and in some instances even theta and (very rarely) delta rhythms, but brain scientists are eager to know if there are any more fundamental effects, and modern brain imaging techniques currently provide them with the tools for searching for them.

I suspect that part of the motive behind this search is to establish if the benefits of meditation can be reproduced in other, speedier, ways. Why spend precious time sitting on a cushion watching the breath if the same results can be achieved by electrical or chemical means? However, few meditators – aware as they are that benefits associated with meditation such as enhanced self-discipline, self-insight, and mystical experience arise from the meditative journey itself – would have much sympathy with this belief in the possibilities of a shortcut. Like so much else of value in life, the benefits of meditation may not be susceptible to brain tweaking. However, that said, there is no denying that the more we discover about the neuro-physiological changes that accompany meditation, the more likely we are to convince the sceptic of its value.

The form of meditation currently most popular with laboratory-based researchers – perhaps because it is independent of any spiritual or esoteric tradition – is MBSR (Mindfulness Based Stress Reduction), defined by its chief proponent Jon Kabat-Zinn back in 1979 as an 'awareness that arises through paying attention on purpose, in the present moment and non-judgementally, to the unfolding of the experience moment by moment' (we may wonder how it is possible to pay attention in any way other than in the present moment, but let that pass) and it is primarily from laboratory research with MBSR that Dr. Shanida Nataraja draws her data. Within the confines imposed by this perspective, she takes us through a brief but comprehensive survey of brain function, then proceeds to a summary of this research and its association with so-called mystical states, reaching the conclusion (with earlier researchers Maxwell Cade and Nona Coxhead) that as meditation approaches more closely to these states it goes through five deepening levels of consciousness (as measured by the spectrum of brain waves), the most profound being a state of lucid awareness in which the incidence of alpha and theta rhythms, while remaining at peak incidence, is supplemented by the reappearance of the beta rhythms associated with non-meditative cognitive

functioning and absent from the previous levels. This somewhat paradoxical finding suggests that the brain at this fifth level appears capable of simultaneously maintaining both the continuous inner self-awareness present in deep meditation and the continuous outer awareness present in daily life. Furthermore, at this level the incidence of beta waves is balanced between the two hemispheres of the brain, indicating what seems to be an unusual equality between left and right brain thinking.

However, what do these findings have to do with mystical experience? The author offers a description of the elements of the mystical experience, but provides little evidence that any of the subjects – although described as experienced meditators – involved in the laboratory research upon which she draws were actually experiencing these elements to any marked degree even at the fifth level. And herein lies one of the problems of current research into MBSR – the impression given is that it is not carried out by those who have experienced deep mystical states themselves nor is it conducted with those who have. Nevertheless, as Dr. Nataraja rightly implies, if meditators are kept aware of their brain wave patterns this may provide them with objective knowledge of their levels of practice, and may help them – through a form of biofeedback – to work on progressively deepening their experiences. However, she then proceeds in a later chapter entitled 'Bridging Science and Spirituality' to make a more contentious claim that current scientific investigations such as the ones she describes 'should inform our spiritual investigations and vice versa', and that from this cross-fertilisation a new scientific field known as neurotheology is developing that not only highlights the importance of ritual and myth and the leap of faith, but that raises what she refers to as 'the inevitable question' whether or not it may 'eventually prove or disprove the existence of God'.

This seems to me to go too far. Neurotheology may indeed aim to identify the structures and processes in the brain that researchers consider accompany mystical experiences, but this risks over-simplifying the nature of these experiences. Even within the spiritual traditions meditation is rarely taught as aiming directly at mystical states. Such states are recognised as arising spontaneously, sometimes in meditation but frequently in the course of ordinary everyday life. A Zen nun on seeing the moon reflected in a pail of water; St. Paul on the road to Damascus bent on persecuting Christians; Jacob Boehme on seeing the sun reflected in a pewter bowl; Dr. Richard Bucke (who coined the term 'cosmic consciousness'), while travelling in a handsom cab. Other people such as the poet William Wordsworth have mystical experiences when in the presence of nature, others when near death or in moments of crisis, William Blake and many religious figures during dreams – and so the list goes on. Certainly the minds of those concerned may in some cases have been prepared by years of meditation or other spiritual practices, but whether at the moment of their mystical experience even these people were manifesting the brain states identified by Dr. Nataraja in her five levels of consciousness is unclear.

In a book of under 250 pages Dr. Nataraja cannot be expected to look more widely at all the varieties of mystical experience, but caution is certainly needed in the way in which mystical states are linked to the brain processes revealed during laboratory research. It is all too easy to assume that because we notice during this research that certain of these processes are correlated with deep subjective states we can somehow go on from there and draw firm conclusions on the interaction between the two, or that neurotheology may help determine the existence of God. I am not claiming that Dr. Nataraja is herself guilty of such assumptions, but those reading her book should be careful to avoid making them for themselves on the strength of the evidence she presents. We know far too little about the relationship between brain and mind, and far too little about

spiritual realities and the nature of genuine mystical experience to fall into such a trap

In spite of these cautionary words I rate this book highly. Informative, well-balanced, and with very good concluding chapters respectively on meditation and health and on meditation in daily life, it provides a welcome resource for all those interested in research into the brain-related changes consequent upon meditation. An excellent purchase.

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