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The Spiritual Anatomy of Emotion. Michael A. Jawer with Marc S. Micozzi. Rochester, Vermont: Park Street Press, 2009, 558 pages, \$24.95 paperback.

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Not many books are reviewed twice in the same Journal. The recent review of *The Spiritual Anatomy of Emotion* by Gruber (2010) is very thorough. My review is driven by a number of common interests that find expression in the book, coupled with a degree of reservation (given our different research backgrounds and training).

Michael Jawer and Marc Micozzi present a broad overview of a mind-brain-body human organism — functioning, experiencing, and interpreting events both internal and external, with an intricate two-way interaction between self and environment. This is an organismic, holistic exposition, which does not believe in treading along familiar paths, and which weaves in scientific fact with scientific speculation. How fact and speculation play off of each other is one of the more fascinating aspects of the book. The authors begin with emotion and feeling, and already on page 19 one finds a list of topics that will be subsequently covered. Indeed, there is much to discuss, ranging from sensation, through awareness of one's proximity to someone else in space, to sensitivity to radiation, electricity and magnetism, to pain and pleasure, to time sense, aesthetic sense, and intuition. The level of presentation and discussion ranges from the very particular to the very general. As an example of the former, we have the following: "People who are depressed tend to have higher levels of cortisol, adrenaline, and noradrenaline and, consequently, suppressed immune function" (p. 88). As an example of the latter, consider the following: "Now, with regard to our bodymind moving through space-time, a fascinating possibility arises. When our emotions are being expressed (i.e., expanding into space), our experience of time should also be in some sense greater" (p. 374). This is one of those books that one must read, because any summary will fall short of the breadth of discussion that is engaged in by the authors. I refer to the authors of the book, but this needs to be tempered. Marc Micozzi is referred to as the "medical editor for this volume" (p. 465); Michael Jawer is the major author here, and he does not desist from referring to himself in the singular tense, especially when he is in his speculative mode.

Rather than distancing myself from the book that I have read, I find it easier for me to engage in debate with its authors. In part, this is due to the broad nature of the exposition that I cannot easily summarize; this is also, however, because their emphasis

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on a two-way interaction between self and environment readily lends itself to a twoway interaction between the authors and their reader. My point of departure will be post-traumatic stress disorder (PTSD), which is one of the areas covered in the book (pp. 146-153). I can lend empirical support to some of the ideas presented. In 1995, we published a paper presenting an exciting and serendipitous finding discovered amongst a select group of 10 patients suffering from combat-related PTSD, that we observed upon using magnetic resonance imaging (Myslobodsky et al., 1995). We reported finding in 50% of our small sample, a small triangular- or a square-shaped cleft, between the leaves of the septum pellucidum in the callosal-septal interface, the so-called cavum septi pellucidi. We argued that cavum septi pellucidi should be viewed as an anatomical change preceding PTSD, and that the finding might be interpreted as being a vestige of a maturational lag and/or as a marker of developmental inadequacy in the callosal-fornix-hippocampal circuitry. I mention this not only because this finding has direct relevance for the major import of the book under review — namely the body-mind basis for emotional experience — but also because there is an unpublished sequel to the study, which further impacts on a major idea presented by Michael Jawer and Marc Micozzi — namely, the notion of a "sensitive" personality.

Our report concerning the incidence of cavum septi pellucidi in PTSD emphasizes that this is a predisposing factor — and not one resulting from PTSD. As Jawer and Micozzi suggest, PTSD "predominantly affects those individuals we previously termed high reactors" (p. 149), and they continue with some future questions for research on PTSD: "How many individuals with PTSD have a history of exaggerated reactions to everyday stimuli, be they sunlight, sounds, aromas, tastes, textures, or even the weather? What proportion report migraine headaches or the curious fact of synesthesia? Do they report apparitions any more or less than the general population? At least one fact is known: people with PTSD are extremely susceptible to hypnotic suggestion. This finding supports my [sic] contention that PTSD develops in people who are innately sensitive, but obviously more evidence is needed" (pp. 152–153). These questions as raised by Jawer and Micozzi present the tone of the book: much food for thought and insightful speculation.

Jawer and Micozzi and I read the same literature. When we were planning our study on PTSD, I thought that it would be interesting to see how this group scored on Tellegen's (1992) Absorption Scale (another area covered by Jawer and Micozzi — pp. 256–262). As Jawer and Micozzi write, "in my [sic] view, environmental sensitivity may well be a precursor of the tendency toward absorption" (p. 258). So, let me present the findings of this unpublished sequel to our study on PTSD — because they have direct implications for the book under review, and for some of these speculations raised by Jawer and Micozzi. Immediately before or after scanning, our participants completed the Absorption Scale. I focus on the six subdomain scores (Tellegen, 1992): "responsiveness to engaging stimuli," "synaesthesia," "enhanced cognition," "oblivious/dissociative involvement," "vivid reminiscence," and "enhanced awareness." I compare those five PTSD patients not classified as having cavum septi pellucidi, with those classified as having cavum septi pellucidi.

While the total score on Absorption did not differentiate between the two groups, two of the subdomains did indicate a group difference. These were "enhanced cognition" and "oblivious/dissociative involvement." PTSD patients with cavum septi pellucidi scored markedly higher than those without cavum septi pellucidi in these particular subdomains. What are the implications, and how do these tie in with the book under

review? If cavum septi pellucidi is a predisposing factor for PTSD, then, following Jawer and Micozzi's line of thinking, perhaps this is a predisposing factor for environmental sensitivity in general, and for absorption in particular. Well, this is tricky, because cavum septi pellucidi was found in (only) 50% of our small PTSD sample — but that finding in itself is interesting. And the two groups do differ in Absorption — but not overall, rather, in terms of the subdomains of "enhanced cognition" and "oblivious/dissociative involvement." So, a body—mind factor (cavum septi pellucidi) is related to emotional experience (PTSD) and to environmental sensitivity (Absorption), but with a string of caveats lining the path. That the book presents these options to the reader, and attempts to present an encompassing, integrative, and interdisciplinary exposition of this wide domain, is certainly a welcome thing in this age of specialization. That there are a number of shortcomings in the book, however, is a fact that one cannot escape, and I will shed some thoughts here about that.

I find three voices in the book. One of these is the voice of authority — the writing of the preliminary chapters: Chapter 2 (Feelings and Emotions: The Key to It All), Chapter 3 (Feeling as the Integrator of Brain, Body, and Self), and Chapter 4 (Selfhood: Its Origins in Sensation, Stress, and Immunity). Here, the language is factual, documented and textbook-like (e.g., in Chap. 3, p. 62: "People tend to feel better after they cry, and not coincidentally look better too. In one survey, 85 percent of women and 73 percent of men reported feeling less sad or angry after crying" — each of these sentences has a corresponding endnote, though to a website and not to an actual article). The second voice is that of speculation — the writing of the bulk of the book. For example, in Chapter 5 (Energy, Electricity, and Dissociation: Links to the Anomalous), Jawer and Micozzi write (pp. 131-132): "On the most superficial level, I [sic] have already noted that people undergoing fear or terror can go cold, clammy, pale, and white and that these same adjectives have been commonly used in describing apparitions (and people's reactions to apparitions) through the centuries." I find the juxtaposition of these two voices to be somewhat jarring — and given the speculative nature of the book, was somewhat at a loss to understand why the preliminary chapters were needed — and indeed, who the audience of the book was meant to be.

I feel, however, that it is the third voice of the book that is the most problematic — that of (and I have no better term for this) the lay researcher, which comes to the fore in Chapter 8 (Sensitivity, Personality Traits, and Anomalous Perception) and in Chapter 9 (Environmental Sensitivity: Attesting to the Bodymind). Here Jawer describes the background to his survey on environmental sensitivity, and some preliminary results. And here we are on much shakier ground — the tone is not even speculative, we simply do not know what these results really indicate. For example, Jawer and Micozzi report on page 284: "A large proportion (62%) of the sensitives stated they were firstborn or only children, this figure being higher for the women (66%) than the men (53%). Among the control group, 52% indicated they were first-born or only children. This number was the same for the women and the men." The obvious questions to raise here (which the book does not answer) are: (1) for the sensitives, is 66% significantly different from 53%; and (2) in comparing the relevant percentage for the sensitives to the 52% of the controls, is this a significant difference? When such data are presented with no inferential statistics, there is very little for the reader to do — and very little to go on in accepting conclusions drawn by Jawer and Micozzi on the basis of comparative descriptive statistics from a small sample. Gone is the voice of authority; the voice of the lay researcher relies on a shaky database. I will not belabor this point, because it is clear that the material presented here is far from sufficient to further the needed future scientific work on this fascinating topic. I will, however, suggest that the reader of this book may well benefit from the speculations raised to continue addressing these issues in future work.

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