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BOOK REVIEWS

Consciousness and the Source of Reality: The PEAR Odyssey by Robert G. Jahn and Brenda J. Dunne. Princeton: ICRL Press, 2011. 398 pp. $19.95. ISBN 9781936033034. Hardcover deluxe limited color edition, $59.95, info@icrl.org.

A few years ago I attended a lecture by a well-known Ivy-League physicist who is quite skilled at presenting basic scientific principles to a lay audience. At the end of his talk, which was intended to communicate the essentials of the way that modern physical theory conceptualizes the world, he was asked a simple and direct question: Have you any opinion of experiments that suggest that consciousness can influence random physical processes?

I was impressed by his reaction to the question. Without being dismissive at all, he leaned on the podium for what seemed an extended time before carefully crafting his answer. It was obvious that he took the question seriously. Speaking quite slowly and deliberately, he unequivocally said that if consciousness could influence random physical events, then everything that he thinks he knows is wrong. Everything. After another long pause, he continued by recalling that one of his respected colleagues told him that "someone" had worked on this problem at he thought perhaps Princeton, but that nothing significant ever came of it.

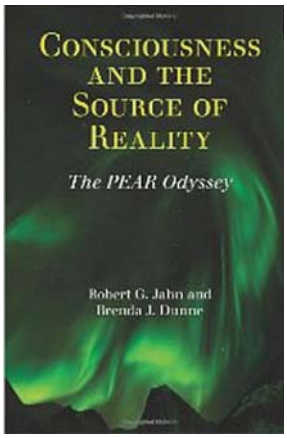
I walked over to the line at the microphone to make a suggestion, but before it was my turn the allotted time was up and the speaker left the stage. What I wanted to suggest was this: If, in your own words, everything you think you know would be wrong if consciousness could influence random physical events, then I think it might be worth a few hours of your time poring over some of the PEAR data. But be careful, I also wanted to say, once you look at the data closely there's no academically safe place to hide. The PEAR data are game changers.

Most readers of this *Journal* will be familiar with at least the outline of the PEAR lab work, as its accomplishments and output have reached almost mythical status. In the late 1970s, Robert Jahn, then Dean of the School of Engineering and Applied Science at Princeton, hired Brenda Dunne to be his laboratory manager, and the rest, as they say, is history. So began an ambitious collaborative program to investigate 1) whether human operators could consciously or unconsciously *influence* the output of random physical systems of various stripes; 2) whether human operators could consciously *extract*

information from the physical environment in ways which would be considered anomalous; and 3) how to construct useful theoretical models which make sense of the experimental data.

These three areas of inquiry roughly translate into the five sections of the book. Section I, *Venues, Vistas, and Vectors,* contains six short chapters which serve as an introduction to the major themes and questions that are discussed at greater length in later sections. There is some history, sociology, and philosophy of science about some grand questions usually discussed only in rarified specialty texts. How does the mind/body problem illustrate the Western science traditional division between the "objective" physical world and the softer "subjective" experience of people? Isn't all "objective" knowledge "subjectively" experienced? In Jahn and Dunne's words, "Mind without matter leaves us with a world of ephemeral abstraction; matter without mind eliminates the essence of life itself."

Section II, *Human/Machine Connections: Thinking Inside the Box,* is the longest section of the book, comprising fifteen chapters, the last of which is entitled "Inconclusive Conclusions." I highlight this last chapter title as an indicator of how careful, thorough, and humble Jahn and Dunne are with their presentation. There is never any overreaching, and when speculative thoughts arise, they are identified as such. These are careful researchers indeed. This section almost overwhelms the reader in its recounting of the scope and depth of inquiry by the PEAR lab. By the end of the section I was intellectually exhausted by exposure to so much data, even as I was titillated and exhilarated by them. The early work with random event generators looked for statistical shifts in the output based on the pre-stated intentions of the operators. Later, so-called field-REGs (portable machines) were taken into a wide variety of locations that were thought to be emotionally "coherent," such as sporting events or musical concerts. Jahn and Dunne give us a statistical primer on interpreting deviations from expected chance that should be comprehensible to the intelligent layperson, so that when they intersperse a selected few graphs and tables it really augments the discussion. Did the results depend on whether the operator was male or female? Do multiple operators add to the effect size? If one operator intends "high" deviations and another "low," do they cancel each other out? Does immediate feedback enhance performance? Does practice improve performance? Does it matter whether the generated random events are "true" or "pseudo"? Does it matter whether the randomness is generated electronically, mechanically, through fluid dynamics? Does distance matter? Time? You get the idea. I don't want to give away the story line, but I do guarantee that you will be swept along with their intellectual playfulness, and you really will care about the results, even as nature keeps hurling surprises at our fledgling attempts to make sense of the world.



Section III, *Remote Perception: Information and Uncertainty*, contains seven chapters on the PEAR "remote perception" work. As in all of their work, Jahn and Dunne decided early on to use "ordinary" volunteers in their experiments rather than specially trained people who claimed a history of producing extraordinary phenomena. Their "operators" were instructed to use whatever subjective techniques that they wanted to either affect the REGs or to gather information from volunteer percipients who were elsewhere, and often not time-synchronized. Some meditated, some closed their eyes, some left them open, some performed a ritual, but all gave the task their own personal stamp. As in the previous section, think of all of the interesting questions that can be addressed: Does distance matter? Does time matter? Does practice improve performance? When the target is correctly perceived, what is the nature of the signal? Again, I don't want to give away the empirical results, because this work reads like a mystery, which in fact it is. To titillate: When their analytical techniques became more sophisticated, the effects weakened. Whew. Most researchers would ignore this as an annoyance or possibly an artifact. Jahn and Dunne unabashedly throw this in the pile of surprises to be thought about.

Section IV, *Thinking Outside the Box*, deals with the mother lode scientific question: How do we make sense of these daunting data? Once again, they face the problem head on. Any scientific model, they write, must deal with a hierarchy of extraordinary features: tiny informational increments riding on random statistical backgrounds; correlations of objective physical evidence with subjective psychological parameters, most notably intention, attitude, meaning, resonance, and uncertainty; time and space independence; oscillatory sequential patterns of anomalous performance; data distribution structures consistent with alterations in the prevailing elemental probabilities; complex and irregular replicability. Whew, again. Their "out of the box" response is to begin with what they call a "Science of the Subjective." In their words:

> . . . any neo-subjective science, while retaining the logical rigor, empirical/theoretical dialogue, and cultural purpose of its rigidly objective predecessor, would have the following requirement: acknowledgment of a proactive role for human consciousness; more explicit and profound use of interdisciplinary metaphors; more generous interpretations of measurability, replicability, and resonance; a reduction of ontological aspirations; and an overarching teleological causality. More importantly, the subjective and objective aspects of

> this holistic science would have to stand in mutually respectful and constructive complementarity to one another if the composite discipline were to fulfill itself and its role in society.

Dare I give one more "whew"? In this section they explore whether quantum metaphors have sufficient power to help us understand their data; whether it is more productive to think of the apparent correlations between the conscious mind and tangible output in a more circuitous route involving unconscious processes (their M^5 model); the place of filters in the communication between consciousness and its Source. Finally, they anticipate the intellectual pushback in the reader reacting to their paradigm-busting presentation. Are the data wrong? Are they real but not important? Should we consider this outside of scientific inquiry? Should we keep working to get back to our safe deterministic models? Should we change the rules of science? Jahn and Dunne, in a masterly essay, recommend the latter. Let's "Change the Rules!"

The final section, *Consolidation and Closure*, is as promised, and presents itself as the most speculative of the sections. As they pose the question of how to distill both their empirical data and theoretical propositions, Jahn and Dunne really let out all of the stops. Again, in their own words:

> . . . these efforts must struggle through the entangling undergrowth of philosophical and functional dogma that has accumulated over eons of endemic human greed, self-serving rationalization, and malicious and inadvertent attentional neglect, to constrain, and often to enslave, our minds, hearts, and souls, and that has brought our species to a precipice of spiritual stagnation that cannot much longer support its survival. Our contributions here cannot be more than puny on the grand scale of such an impending catastrophe . . .

Again, not to give away the punch line, they suggest that traditional science has been focused on the famous equivalence of matter and energy, but they have left information out of their equations. To them, the most facile conceptual language to describe their results is information: in the case of REGs, insertion into the random binary strings; in the case of remote perception, extraction from a global array of possible targets. And returning to the science of the subjective, they implore us to somehow balance the more objective measurements of information quantification with the more subjective sense of personal meaning. Indeed, more attention to such subjective states as "intention," "resonance," "unconscious processing," and more are called for. Imagine "a functionally proactive subjective consciousness . . . added to the arsenal of scientific concepts and tools . . ." Game changer.

This is a beautiful book. I recommend reading it slowly, thoroughly, and reflectively. The prose is rich and is actually aesthetically pleasing. I found

myself reading a chapter, putting it down, reflecting, and then re-reading to find even more nuance. Even consistent readers of the PEAR Lab's more than 150 articles and technical reports (many of which are to be found in the *Journal of Scientific Exploration*) will gain a new perspective as you take in the entire "odyssey" of their work in one publication. The book can also serve as a model of humble, yet relentless, scientific thinking. To dream: Imagine the next generation of scientists reading works like this to balance out the stale textbooks that present knowledge as "finished." Imagine a book that fills you with awe and wonder as it relentlessly presents an incredible challenge to our way of making sense of the world. Imagine the experience of actually having a skeptical, open mind, and coming upon this book. What a gift.

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Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity by Raymond Tallis. Acumen, 2011. 416 pp. $29.95 (hardcover). ISBN 9781844652723.

What might physician and professor of geriatric medicine Raymond Tallis and actor John Rhys-Davies have in common? In Peter Jackson's epic film *The Lord of the Rings,* Rhys-Davies (as Gimli the dwarf) wields an axe with such consummate skill as to challenge, intimidate, and lend a hand in the defeat of the evil orcs of Mordor; while in *Aping Mankind* Tallis (as philosopher and scientist) with a finely-honed axe of logic takes on perhaps equally formidable foes: those Cognitive Scientists possessed by Neuromania (p. 26) and Evolutionary Biologists obsessed by Darwinitis (p. 40) (called respectively Neuromaniacs and Darwinitics).

An inapt comparison? Orcs are degenerate mutations from a once-benign race, who would destroy or enslave all humankind, while Evolutionary Biologists and Cognitive Scientists are, certainly, benign professionals enriching the store of knowledge for the benefit of all. Yet as Tallis makes abundantly clear, many Cognitive Scientists believe that the mind is the brain, the brain is a computer, and since a computer has no self and does not exist in a world of intentionality, human beings have no selves and do not exist in a world of intentionality (p. 101).[1] Some biologists and psychologists, influenced by the twin premises that the brain is a product of evolution and that the mind is a computer–brain,