

**RADIANT MINDS: SCIENTISTS EXPLORE THE DIMENSIONS OF CONSCIOUSNESS**  
edited by Jean Millay. Doyle, CA: Millay, 2010. Pp. xli + 632. \$29.00  
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*Radiant Minds* is an updated version of a book previously published by the Parapsychology Research Group (PRG), a group of largely California-based parapsychologists and sensitives founded in 1966, under the title *Silver Threads: 25 Years of Research*, in 1993. The updating is somewhat uneven, with several chapters completely updated, but most chapters only minimally updated. As there are 67 chapters and other essays, most contributions will be only briefly reviewed here.

The book begins with a prologue by Dan Brown taken from the 1993 edition and an introduction by Jeffrey Mishlove, who discusses his own research with Ted "PK-Man" Owens. Mishlove claims that Owens materialized a UFO in view of multiple observers. Mishlove states he is the only researcher to earn a Ph.D. in parapsychology from an accredited American University. As he states in the same passage that an observed significance level of .031 means that the probability that the experimental results were due to chance is .031, the awarding of this degree may have been a substantial mistake. In fact, the significance level indicates that the probability that the results would *arise* by chance is .031, not that the probability that only chance is operating (the null hypothesis) is .031. Mishlove then discusses his own research on the fear of psi, without citing Tart's research (all the more peculiar as Tart is a Californian researcher and a founder and former president of PRG).

The first five full chapters consist of a review of remote viewing research by Russell Targ, not updated from the 1993 version; a review of psychophysiological studies of psi and emotions by Dean Radin; discussions

of the scientific study of anomalous dreams and gender differences in such dreams by Stanley Krippner; and a chapter on optometric phototherapy by Raymond Gottlieb, who discusses the use of light therapy to cure vision disorders, stroke symptoms, and attention deficit disorders (not updated from the 1993 version).

The next group of essays begins with a chapter on psychoimmunology and the conditioning of immune responses by Sondra Barrett. This is followed by a report of a series of studies of the effects of "laying-on-of-hands" healing on bacterial growth and motility by the noted healer Olga Worrall, conducted by Beverly Rubik and Elizabeth Rauscher in 1979–1982. Russell and Elizabeth Targ next discuss research on remote healing through intercessory prayer. This chapter is followed by a chapter by Marilyn Schlitz and Dean Radin on distant healing.

Larissa Vilenskaya then discusses the phenomenon of firewalking. She refutes Leikind and McCarthy's explanation of the ability of humans to walk on hot coals and other material as due to low heat conductivity, by noting that people have successfully walked on hot stones and even iron. She notes that the explanation of firewalking ability in terms of a layer of moisture, or "Leidenfrost," on the bottom of the perambulator's feet is inconsistent with the temperature ranges involved. Thus, unlike most of the contributions in this volume which seem to treat skeptics as though they don't exist, she considers and carefully assesses the explanations posed by the skeptics, and her chapter is the best and most balanced review of firewalking I have ever read. Unfortunately, toward the end of her chapter she states that faith may be a necessary ingredient in successful firewalking, which contradicts her earlier statement that belief systems are irrelevant to firewalking success.

The next two chapters consist of a discussion of psycholuminescence by Henry Dakin, including a study of Uri Geller using Kirlian photography, and a discussion of biofields by Beverly Rubik.

The next four chapters are devoted to a discussion of belief systems. Willis Harman argues that science should no longer allow theory to take precedence over explanation and advocates the development of a science based on an inner perspective as well as one based on an outer perspective.

William H. Kautz suggests that all knowledge—past, present, and potential—already exists in a superconsciousness or collective mind, ready to be accessed by the human mind. This includes all technical information and even biographical information for historical figures. He suggests replacing the term "psi" with the term "intuition" for political reasons.

Kautz's chapter is followed by a discussion of belief systems by Beverly Kane. Kane suggests that the cosmic microwave background is due to the explosion of our galaxy, not the Big Bang as is overwhelmingly believed by physicists. This is a bold statement from a person who is not a physicist but a specialist in horse therapy.

The next group of chapters is devoted to a discussion of mind and brain/body chemistry. Cheri Quincy provides an overview of work involving neurotransmitters. She rather simplistically talks about psychological states produced by a single neurotransmitter, such as the "dopamine" state. She states that, due to the loss of odorants in our sanitized modern society, telepathy, which is really nothing more than sensory communication in Quincy's view, will be lost. This possibility would be surprising to J. B. Rhine, who defined telepathy as a form of *extrasensory* perception.

Dean Brown then advocates the exploration of new uses for plants, including as food, drugs, and psychedelic agents. Brown's chapter is followed by a discussion of alternate states of consciousness by Ruth-Inge Heinze (not updated from the 1993 edition).

Next follows a series of short interviews. In the first, Sasha Shulgin asserts that the use of psychedelic drugs allows one to experience forgotten memories and psychological states (such as childhood states of mind). With regard to scopolamine, he states that it "takes you out of your brain, so you no longer have access to it" (p. 196). If only it were so easy.

Ann Shulgin then discusses the use of the drug MDMA in psychotherapy. Hosteen Nez discusses the use of "smart pills" to increase intelligence, the use of which was banned in 1986. Nez also describes his apprenticeship with a Navaho medicine man. Timothy Scully describes his career as an underground manufacturer of LSD as well as his experiences touring with the Grateful Dead. Jean Millay describes feeling her grandfather's presence at the time of his death, as well as her experiences with peyote and LSD. The last contribution in this section is by Stanislav Grof, who discusses the use of drugs in psychotherapy.

The next four chapters fall under the rubric "Mind and Brain/Body Electricity." James R. Johnston presents a pilot study on brain-wave phase synchronization. Elizabeth Rauscher and William Van Bise discuss the effects of magnetic fields on organisms, as well as earthquake prediction. Michael A. Persinger and Stanley Krippner report the results of several analyses indicating that psi events may be associated with reduced geomagnetic activity. Cheri Quincy and Joel Alter discuss the biological effects of sonic resonance, including the effects of drumming on craniosacral motion (literally having one's bell rung).

The next six chapters deal with mathematical models and physics. Elizabeth Rauscher presents the results of a remote viewing experiment involving trial-by-trial feedback. As the photographs used in the judging process were taken on the day of trial, the photographer could have unconsciously biased the pictures based on the subject's mood that day, and the subject could have incorporated the day's weather into his/her description of the target scene. This would provide the judges with sensory cues enabling them to match the subject's descriptions to the targets. This has been pointed out by several skeptics and other scientists. Yet in this

chapter and in many others in this book, skeptics and constructive critics are treated as though they didn't exist.

Next follows an essay by Elizabeth Rauscher and Russell Targ in which they set forth a spacetime model that they believe may be able to explain precognition and other psi phenomena. They assert that precognition cannot change the past and that the future is determined from the perspective of the present and the past. This position does not seem very accommodating to the evidence from spontaneous cases assembled by Louisa Rhine and others that precognitive experience may be used to avert a negative event in the future. However, elsewhere (on p. 314) they state that "additional precognitive and psi information allows us to experience a different world line" [future]. They propose an eight-dimensional spacetime to account for psi (actually four dimensions with complex numbers as coordinates). Instead of the usual definition of the magnitude (length) of a complex number  $a + bi$ , which is the square root of  $a^2 + b^2$ , they define the magnitude as the square root of  $a^2 - b^2$ . This trick enables them to set the imaginary parts of the complex coordinates in ways that the spatial and temporal differences between two seemingly distant points (events) in four-dimensional real spacetime have no separation in Rauscher and Targ's eight-dimensional hyper-spacetime. However, in physics one can directly measure the spatial and temporal coordinates of an event, whereas Rauscher and Targ offer no procedure whereby one may measure the imaginary parts of their spacetime coordinates. Thus, they are free to adjust these coordinates in such a way that there is no spatial or temporal separation between two seemingly separated events involved in a psi experience, and this lack of separation in hyperspace allows psi events to occur. However, this is just a cheap mathematical trick unless a means of measuring the imaginary parts of the coordinates is provided. Rauscher and Targ tie the lack of separation between two seemingly separated events to quantum nonlocality, and they advocate the use of four-valued logic (in which a statement may be both true and false at the same time).

Next follow two chapters by the physicist Saul-Paul Sirag. He notes that Newtonian mechanics (at least in Newton's own understanding of it) was not a mechanistic model, as Newton's law of gravity relied upon the "occult" notion of action at a distance, which is essentially magical in the version set forth by Newton himself. Newton believed that the universe was the sensorium of God, and thus subscribed to a mentalistic rather than completely mechanistic view of the universe. Sirag observes that the concepts of energy and its conservation were not present in the physics developed by Newton, but were first articulated by fringe physicists and inventors, such as Mayer, Watt, and Joule. Thus, Newton discovered only a portion of what is today described as Newtonian physics, and he himself did not subscribe to what nowadays is called the Newtonian mechanical picture of the universe.

Sirag's chapters are followed by a chapter on the relationship between quantum reality and consciousness by the physicist Nick Herbert. Herbert proposes that mind is not restricted to living organisms, but is everywhere. He notes that minds, as unified entities, are more akin to the mass and charge of an electron than to the complex operations of a computer. He adds that the feel of consciousness, in which states are continually coming into being, bears a strong resemblance to the collapse of state vectors of potentiality into definite events in quantum mechanics.

Herbert's chapter is followed by a contribution by Jean Burns, who discusses the direction of time, the notion of "becoming," and entropy (disorder). She asserts that psi may operate to decrease entropy. Next, Sondra Barrett discusses the spirituality of biological cells, and Joel Alter discusses his own midlife crisis and his studies with Indian shamans. Stephan Schwartz describes his observations of a healing session led by Rolling Thunder, a Shoshone shaman. Arthur Hastings discusses his studies (through experiments and questionnaires) of the use of the psychomanteum to get in touch with deceased loved ones.

Hastings's chapter is followed by a series of short descriptions of messages from the deceased by a variety of contributors, including one case in which the face of a heart donor was superimposed on the recipient's face in a photograph. Many of the alleged spirits' statements about the nature of the afterlife are simply presented as factual in this section.

Following these short essays is a chapter by William C. Gough and Dean Brown, in which Gough summarizes the teachings of Brown. This essay contains a lot of untestable and sometimes babbling statements about the nature of the "Absolute."

Roger Nelson then describes the Global Consciousness Project (GCP), which is based on an array of random event generators (REGs) placed around the world. Nelson states that there was a strong REG response at the time of the attacks on the World Trade Center on September 11, 2001, as well as at the time of Barack Obama's election to the Presidency of the United States (and even in response to fluctuations in his approval rating). Nelson discusses the connections between the GCP findings and theories regarding the existence of a group or collective mind.

Jacques Vallee and Eric Davis then offer the theory that UFOs originate from locations near Earth in a hyper-dimensional space. They further conjecture that UFOs have a psychic component and consequently may violate laws of physics. They suggest that UFOs are sending us messages in icons that we cannot yet understand (emoicons from the Great Beyond?). Vallee and Davis also propose that UFOs may use mimicking camouflage, masquerading as ordinary objects (swamp gas perhaps?).

Next follow eight essays on education. Ray Gottlieb advocates the use of trampolines to focus attention (I can imagine what this would have done to my neck muscles during my teaching career). Jean Millay suggests training students in the use of the senses, including olfaction and hearing.

Marge King advocates the use of biofeedback and stress management in the classroom (although my teaching experience suggests that we could do with more stress and less self-esteem in the classroom). King would like to see students weaned from allopathic (as opposed to homeopathic) medicine, which she thinks would increase their intelligence. Similarly, Mara Mayo advocates the use of biofeedback relating to heart rates for students with learning difficulties.

The final section of the book summarizes the history of the PRG and the careers of PRG members since the publication of *Silver Threads* in 1993. Tart recalls that his early interest in parapsychology was stimulated by Andrija Puharich's work on the use of Faraday cages to enhance the operation of psi (presumably by decreasing the psychological noise generated by electromagnetic radiation). Tart also reviews the remote viewing research of Targ and Puthoff, without mention of the many skeptical critiques that have been published regarding this body of work.

Barbara Honneger reports a spontaneous healing of her own broken shoelace at the same time that her father was almost killed by an untied shoelace getting caught up in machinery at work. Although one would think that the spontaneous healing of a broken shoelace would be a particularly salient event, Honneger only realized this coincidence years later, but confirmed it through a comparison of entries in her daily journals (and they say that interesting spontaneous cases are no longer reported!). Honneger compares physical reality to a form of waking dream. She also describes her career as a policy analyst at the White House. While working at the White House, she realized through a "profound synchronistic connection" that the three main pyramids at Giza were a projection of the three main stars in Orion's belt, a fact which she communicated to contacts at the United Nations. My Google search uncovered a number of interesting facts regarding her later career. Bored readers with a lot of time on their hands might be able to reduce their ennui (at least temporarily) by typing her name into a search engine.

To end with the sublime rather than the ridiculous, Roger Nelson compares people to individual neurons in the brain and wonders if there is a corresponding global mind (as suggested by the findings of the GCP discussed by Nelson in an earlier chapter).

The book has no index.

I cannot recommend this book as a serious scientific work. However, this volume offers one of the best available views into the mindset of Californian "New Agers" at one of the peaks of public interest in parapsychology and all things occult.

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