

BOOK REVIEWS

13 Things that Don't Make Sense: The Most Baffling Scientific Mysteries of Our Time by Michael Brooks. New York: Doubleday, 2008. 240 pp. \$23.95 (hardcover). ISBN 978-0-385-52068-3.

Michael Brooks has presented us with 13 discussions of natural phenomena, all of which we must classify as anomalous because they challenge current scientific paradigms and our conceptions of reality. But the chosen 13 are not all equal in their anomalousness, nor in their reception by the Scientific Community.

I visualize the world of anomalies as three-tiered—like the Earth's core, mantle, and crust. At the center are the solid anomalies that all scientists admit exist, like the deep mystery of action-at-a-distance forces. Wrapped around this core is the thick mantle where reside those anomalies still lacking in adequate hard supporting data, that are contentious, and yet still are attractive research targets in the Scientific Community, such as the study of calendar savants. On the crust of this world of anomalies are a host of “fringe” topics, such as UFOs. These are generally eschewed by scientists for fear their inquiry would damage their reputations and scare away research grants.

The author of this book holds a Ph.D. in quantum physics. It is, therefore, not surprising that many of his chapters are located in the iron core of the anomaly world; that is, they are fit for discussion at those high tables at British universities. For example, we find excellent discussions of dark matter, the Pioneer anomaly in which some deep-space probes apparently defy Newton's Law of Gravitation, the origin of life, the Wow! radio signal of August 15, 1977 consisting of a 1420-Hz spike potentially of alien origin, and the giant newly-found “mimivirus.”

In the mantle of Planet Anomaly, Brooks finds and treats with fairness some less-solid subjects, such as the utility of sex in the evolution of life, the claims that the constants of nature vary, and the curious placebo effect.

Even more daring, he tackles a few “fringe” (crustal) subjects such as homeopathy, cold fusion, and the ambiguous “life” data from the 1976 Viking lander on Mars.

Even though Brooks is a science writer, and thus more free to expand his anomaly net, we see no treatment of, say, Nessie, toads in solid rock, or crop circles. No Forteanism in this book. They are somewhere out in the forbidding stratosphere.

The book's notes and references are virtually all from distinguished science journals and “acceptable” literature. Brooks' advisors, reviewers, and consultants are almost exclusively from the Scientific Community.

Therefore, a “solid” book for sure and fascinating as well.

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Heretical Verities: Mathematical Themes in Physical Description by Thomas E. Phipps, Jr. Classic Non-Fiction Library, Urbana, 1986. 637 pp. (hard cover). ISBN 0-9606540-0-7.

This book is for scientists who gather evidence of the short-comings of present-day physics. They signal a major paradigm change in the twenty-first century. Dr. Thomas E. Phipps, Jr., is the dean of relativity critics. Einstein's writings are not the only subject attracting his attention. His penetrating analysis includes the empirical discovery of instantaneous action at a distance in quantum mechanics. An outstanding feature of *Heretical Verities* is the constructive mix of theory and experiment.

Phipps' book consists of three parts: (I) Kinematics and Electromagnetism, (II) Mechanics, and (III) Mathematics and Statistics. The last part records a range of original contributions to the mathematics of quantitative science. It stands aloof of possible paradigm changes and is written in the same entertaining style which is used throughout the book. This does much to enliven otherwise dry subject matter. Here is a sample: "It ties probability, statistics, and information theory together in a neat package of brotherly Musketeerhood. . . ." I am not a mathematician and my review is limited to the first two parts of the book.

An early problem challenging special relativity was Ehrenfest's paradox which referred to a rotating metal disk in which the Lorentz contraction requires a shortening of the circumference without a change in the perpendicular radius of the disk. Phipps describes the lively discussion which this paradox launched and concludes: "Tis not love but elasticity that makes the world go round." The preface of the book is dated 1986 which was just before Phipps conducted his own experiments refuting relativity theory.

An interesting point, which is rarely mentioned in the physics literature, is that the recoil momentum of the Moessbauer effect is taken up by the metal lattice as a whole and therefore is a non-local happening. "Such non-localized events," says the author, "seem to cry out for a concept of distant simultaneity."

Einstein's view of light receives special attention. His postulate that the velocity of light through space is not at all influenced by relative motion of the light source and the absorber gave rise to a special brand of relativity. Phipps believes this will probably have to be abandoned at some future time. He compares the photon's wandering through space with "Dick Whittington" who does not have the slightest idea of what awaits him on the way or whether he will ever find a home.

The quantum interaction of a photon source and an absorber is no Dick Whittington event. It describes events which can be observed and measured. Nothing seems to be traveling at the velocity of light between source and sink. The velocity of light becomes a universal constant dealing with energy exchanges between remote particles of matter. The beginnings of such a theory have been proposed by Neal Graneau in a paper titled "Have you Seen the Light?" (A. E. Chubykalo, V. Pope, R. Smirnov-Rueda, Editors, *Instantaneous Action at a Distance in Modern Physics: Pro and Contra*, Nova Science Publishers,

Commack, New York, 1999). Unfortunately, the latter book was published 13 years after *Heretical Verities*.

The providential steering of the energy flow through space is in conflict with absorber theories as, for example, that of Wheeler and Feynman. The reader is directed to Fokker who claimed that a sun alone in the universe, without absorbers, could not radiate. Phipps believes that Wheeler and Feynman abandoned their half-advanced and half-retarded instantaneous potentials prematurely because they were insufficiently radical to follow through with their revolutionary action at a distance idea.

The young graduate student Richard Feynman persuaded his supervisor at Princeton University, Professor John Wheeler, that a photon traveling in space may not be guided by the local electromagnetic field, but rather is steered by interactions with distant matter particles which will ultimately absorb the photon. This theory, which was published in *Reviews of Modern Physics*, trades the field concept for Newtonian mutual simultaneous interactions. Phipps believes that the Wheeler-Feynman absorber theory proved to be a dead end, not because of the scientific method, but rather because neither of the two authors persisted in their efforts. Wheeler is said to have subsequently repudiated the whole approach.

Heretical Verities goes into great detail to describe and analyze Hertz' work. Hertzian electromagnetism has the potential of replacing Maxwell's field theory and with it Einstein's special theory of relativity. Hertz does not drop Maxwell's equations, but modifies them by replacing all partial time derivatives with total time derivatives. This makes the Hertzian field equations invariant under Galilean co-ordinate transformations. By contrast, the special relativity equations are not invariant with respect to Galilean transformations, but become covariant under the Lorentz transformations. The physical difference between invariant and covariant mathematics is treated in great detail by Dr. Phipps. His crucial objections to the Maxwell-Lorentz-Einstein theory largely disappear when Hertz's equations are adopted.

Einstein rejected the whole of Newtonian physics (action at a distance) as being "spooky". By this he meant that mutual simultaneous attraction and repulsion of matter particles is not a law of nature but something invented by magicians. In the extensive writings of physics I have found nobody like Phipps, who questioned Einstein for associating experimental physical evidence with an abstract word of the English language, that is by "spookiness". Under the heading of "Bell's Theory and All That" Phipps questions the adjective "spooky". He writes:

My approach to these matters is the following: Spookiness (1), which is the one Bell concentrated on, I have to accept, because it involves observationally verified aspects of accepted quantum mechanics. The wave functions of my theory differ from those of accepted theory only by constant (unobservable) phase factors. Hence my covering theory of accepted quantum mechanics inherits from the covered theory any spookiness that originates in equations of motion. As I said at the outset, it seems to me that the human mind adjusts its ideas of "reality" to accommodate what is observed in the "real world", as

a precondition to getting on with the task of extending its comprehensions into the area of subnuclear descriptions. The elimination of Einstein's idea that all distant actions must occur retardedly at speed c , and that there is no meaning to distant simultaneity—as accomplished earlier in this book—seems to me to ease the swallowing of the philosophic pill associated with nonlocal “instantaneous” distant-action effects of the EPR sort. (p. 391)

The book examines the physics of gravity. In modern science it is argued that the gravitational attraction of two objects should be a consequence of their exchange of virtual particles called gravitons. To comply with the special theory of relativity, the gravitons should not travel faster than light. Against this, as Thomas Phipps recalls, LaPlace showed long ago that, if there were any retardation of the distant action of gravity forces, it should become evident in astronomical measurements relating to the solar system, so long as the speed of gravity at least exceeded 10^8 times the velocity of light. Recently this figure has been elevated to 10^9c by Tom Van Flandern, formerly of the U.S. Naval Observatory.

The finite speed of gravity should affect space travel. Phipps reports that NASA does all its space flight computations on the assumption of gravitational interactions with the planets and the sun being simultaneous amongst participating bodies. No experimental proof to the contrary has been forthcoming. Therefore, astronomy vindicates Newton's law of gravitation.

Phipps' valediction to science is his courageous defense of the idea that the electron is the ultimate constituent of matter. He argues that this follows from the scientific discipline of mechanics initiated by Newton, who hoped it would guide us to understand the remaining phenomena of nature. According to the author, Newtonian mechanics is a covering theory of quantum mechanics and the electron is the building block of the universe.

The positron is the same particle as the electron, but with its electrical charge reversed from negative to positive. All ponderable matter—and the vacuum—are composed exclusively of beta-particles or electron-positrons. This is the Phipps beta-structure hypothesis. The vacuum is involved in this structure because of Dirac's sea of negative energy electrons. Dirac's sea of negative energy is not related to the ethers of Maxwell or Hertz. Chapter 10, entitled “Nuclear Mechanics”, is devoted to the beta-structure hypothesis. It could be wrong, as the author freely admits.

The strongest support for the validity of the beta-structure hypothesis derives from the fact that nature produced only microscopic particles with an integral multiple of the electronic charge. Quarks with their fractional electronic charge do not travel through space or exist independently. They do not have to comply with the beta-structure hypothesis. Anyhow, unlike real particles, quarks come in flavors, except chocolate-mousse, as the author remarks.

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The Scalpel and the Soul: Encounters with Surgery, the Supernatural and the Healing Power of Hope by Allan J. Hamilton. New York: Jeremy P. Tarcher/Putman, 2008. xi + 254 pp. \$23.95 (hardcover). ISBN 8791-58542-615-7.

Dr. Hamilton, former Chief of Neurosurgery and Chairman of the Department of Surgery at the University of Arizona Health Sciences Center has provided a book that is essential reading, as anyone may be confronted by major medical decisions. He skillfully takes us on his life's journey, beginning with significant events in his early years that motivated him to be a neurosurgeon along with insights gained from unusual experiences of surgical patients throughout his career. These patient experiences included accurate premonitions through intuitions and dreams before surgery and out-of-body experiences (OBEs) and near-death experiences (NDEs) during surgery. Such incidents led Dr. Hamilton to accept the possibility of the paranormal and that the mind can experience phenomena unexplained by modern science and often ignored by the medical profession.

He openly discusses metaphysical beliefs, describing some that link to his early medical work in a small hospital in the jungle town of Lambaréné located on the equator in Africa where Dr. Albert Schweitzer had been a missionary physician. The power of dreams was made known to him while traveling by dugout canoe to a remote river village. A native had been alerted via a dream of his approaching arrival many days before his actual arrival. Incidents of a metaphysical nature led Dr. Hamilton to accept the mystical aspects of aboriginal belief systems and its importance in their lives. In his view, "superstitions, omens, and intuitions are the reflections of a conscious effort on the part of the individual to detect the subtle signals sent to us from the natural world" (p. 28). He sees these mystical unknowns as natural, even though they may be interpreted otherwise. Dr. Hamilton relates his debilitating back injury when serving in the U.S. Army during Desert Storm. Later, he experienced the healing power of a Navajo shaman who helped him recover from this injury. Throughout the book, Dr. Hamilton moves between the objective needs of the surgery and the subjective needs of the person, indicating their underlying connection, their unity.

Vignettes of specific incidents provide examples of patients' backgrounds and social dynamics leading to surgery. One heart wrenching incident occurred in a children's burn ward when a young burn victim saw an apparition of his deceased father although he was unaware of the death. He includes his interview with a woman intentionally made clinically dead for 15–20 minutes by cooling her core temperature to achieve a state of suspended animation. It was necessary to cut off blood flow to her brain so that difficult surgery for a brain stem area aneurysm could be performed. After recovery she described perceiving unique details about the operating room and the medical staff who came to assist with the surgery. Dr. Hamilton cites this case as potentially supporting the existence of something beyond the brain—a soul—that can survive bodily death.

These details are a necessary part of events as we come to know the person who is faced with a life-changing situation. The emphasis on people clearly comes through in his writing style. We experience, along with him, the compassion, even spiritual connections, that he felt as he entered into each life-death drama as the door to the operating room closed. As readers, we wonder whether the complex brain surgery will succeed or not. Dr. Hamilton keeps focus on success, not failure or even the possibility of failure. This book has great insights, advice and a mix of lessons learned from his decades as a neurosurgeon that apply to any endeavor. He critiques current physician training methods and urges an approach that seeks to develop compassion along with technical skills.

The section, “Twenty Rules to Live By” has many practical recommendations to prepare for, and follow after, surgical procedures to avoid frequently occurring misunderstandings and to prevent errors or unnecessary surgery. Dr. Hamilton emphasizes the importance of a patient advocate to help with questions, keeping records of all pre- and postoperative requirements and activities.

There is much more to this fascinating book and closing with a portion of the subtitle is appropriate: *The Power of Hope*. Dr. Hamilton’s main insight in this book is that we should never underestimate the role of attitude, determination and will during adverse circumstances in our lives.

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Spiritual Encounters with Unusual Light Phenomena: Lightforms by Mark Fox. The University of Wales Press, 2008. 203 pp. £75 (hardcover). ISBN 978-0-7083-2157-7.

Around 400 accounts of unusual encounters with a brilliant and outstanding light or lightform are the unusual focus of the current book *Lightforms* by Mark Fox, Lecturer in Philosophy and Religious Studies at the Joseph Chamberlain College in Birmingham, UK. Fox presents new and fascinating case material, which he had discovered in Alister Hardy’s archive containing upwards of 6000 reports from 1969 onwards at the “Religious Experience Research Centre” (RERC) located at the University of Wales in Lampeter. From the approximately 700 cases that came up as a result of his data search with the keyword “light”, he selected for his analysis this core of 400 accounts concerning light experiences in various and shapes and forms, but excluded those cases which might be classified as apparitional or dream imagery.

Although such experiences seem to be more common than one would expect and often have a life-changing effect, researchers have not as yet given much attention to this fascinating topic. (A noteworthy exception is *Transformed by the Light* by Peter and Elizabeth Fenwick, 1995.) The scientific literature, beginning with Raymond Moody's book *Life after Life* (1975), has as yet only approached the theme from a broad perspective, mainly of near-death experiences (NDEs).

However, Fox's study does not concern only NDEs—although the collection of NDEs he presents is important because it dates back to before the year of Moody's publicized descriptions, indicating that such cases could function as a control group. They also include angelic experiences. This is a fascinating area in its own right and has recently formed the basis of *Seeing Angels* (2001), a pioneering doctoral thesis by Emma Heathcote-James at the University of Birmingham.

As well as the more spectacular cases, Fox's study contains those that are more mundane and that occurred on an ordinary day in everyday life. Of particular interest for consciousness studies is the fact that the case collection is not exclusively presenting experiences made with an "inner eye". Some persons also report being fully awake while witnessing the lightform—whatever we might conclude this to be. Accordingly, Fox had to follow up the question concerning the location of the source of the sightings with more specific ones: Was the lightform inside the seer's brain or did it appear outside right in front of the eyes and could be perceived in an usual way? Nevertheless, Fox wonders whether something can be concluded from this distinction, "Or may it be the case that a common, transcendent otherworldly source is responsible for a large number of unusual encounters with light and therefore responsible for their consistency and sharing of common features?" (p. 4).

Part One of the book starts with a description of Sir Alister Hardy's life (1896–1985) as a "spiritual odyssey" (pp. 11–33) and his search for "evidence of people's experiences of being in touch with some form of transcendental element beyond the self". Hardy was himself in touch with "something bigger than myself" and describes his own religious experiences as "Wordsworthian in feel" as for instance occurred when he saw the sunlight through young lime trees (p. 14). Later on he had arrived at "the curious feeling that all the events in my life have been arranged as if by some benign power" (p. 20). It was perhaps this which, after completing an academic career in natural history and zoology at Oxford, led Hardy to find the pure scientific world-view too narrow and to seek the reconciliation of science and spirit (p. 12). It became important to him to consider both religious and paranormal experiences side by side (p. 19). Hardy's book, *The Spiritual Nature of Men* (1979), an analysis of the first 3000 cases of his collection, can be regarded as a concrete realisation of this aspiration.

Fox then gives an overview of the variety of unusual light experiences found in shamanic, yogic, mystic, Buddhistic, and Jewish traditions, as well as Christian tradition with its visions of angels. He finds there is "a clear relationship between experiences of light and *transformation*" not only across those traditions but also in Western reports of NDEs and their common encounters with angels (p. 52).

Fox identifies what he calls “a ‘common core’ at the very heart of humankind’s spiritual and religious experiencing” (p. 53).

In Part Two, the main part, we get closer to the basic case material amounting to 144 cases which were selected from the total of 356 reports. Fox pays attention to the problem of verification by further selecting cases which occurred in the presence of multiple witnesses. Religious apparitions occur often to single persons such as the many appearances of the Virgin Mary but there are many collective religious visions as for example the Marian apparitions in Medjugorje, and the “dance of the sun” at Fatima in 1917 which had about 150 witnesses (pp. 58–59). Shared light experiences are also known from folklore, such as the death foretelling corpse candles in Wales.

Fox gives us 10 case examples of shared religious experiences from Hardy’s archive, of which half concern “crisis lights” (pp. 69–76). This fits well with the fact that over 50% of the cases concerning light in the entire archive take place in times of trauma and crisis.

In order to link these findings to science, Fox relates the experiences with light to current brain research, in particular the experiments reported by Newberg, D’Aquili and Rause and summarized in *Why God Won’t Go Away* (2001). Their results showed that the input to the posterior superior parietal lobe is blocked during meditation, which means the part of the brain responsible for maintaining the boundaries between the self and the rest of the world is temporarily in abeyance and, therefore, allows the meditating person to have the profound experience of unifying with the whole. Fox further discusses Persinger’s laboratory research, which claimed that stimulating certain parts of the temporal lobe could elicit “religious, paranormal, and other ‘varieties’ of transcendent experience” (p. 58). It should be noted that Swedish researchers recently were unable to replicate Persinger’s work and concluded the findings were probably a form of expectancy effect.

Fox distinguishes different types of light experiences, specifically “outdoor” lights, “multiple” lights, “lightbeams”, lights that move, lights that fill the person from inside or envelop the person, unusual “brightenings” and illuminations of people. He also investigates the various possibilities of perceiving the light with the ordinary senses, including those experiences, which seem to derive from something like an “inner” perception.

What Fox emphasizes most of all in his review is the impact that these unusual lights can have on the persons and their lives. Light brings comfort at the appropriate time in life, during periods of stress and crisis, and at death. The religious meaning of the experiences is in their form of impact, which can come as an “angel of goodness”, which was how one percipient described it (p. 83).

Part Three does justice to Hardy’s effort to achieve a reunion between the worlds of science and spirit and begins with the results of quantitative analysis: The three most common case groups are solitary experiences of unusual light, visionary encounters with light, and unusual lights that “wrap and fill”. It is noteworthy that about 51% of all cases include a crisis component but “even more

striking is the overwhelmingly positive nature of the light experiences” (p. 171). It is clear that most if not all the respondents highly value their experiences. Fox notes how the light can wipe away tears (pp. 151–153), fill with delight (pp. 153–154), and surround people with love (pp. 104–106).

Despite the religiosity of such experiences, a detailed discussion is made of the recent attempts to explain unusual light phenomena in a more reductionistic way—ranging from “battle neurosis” (Sargant), mental dysfunction (Newberg), and migraine (Sacks) to the current notion of temporal lobe excitation (Persinger). In dealing with attempts to pathologize the experiences, Fox refers to the important work of Saver and Rabin, which analysed the differences between psychotic hallucinations and genuine experiences in the context of “culturally accepted religious-mystical beliefs” and concluded from this “that mysticism is not a product of psychotic delusion” (p. 180).

Since there is not as yet a satisfactory explanation for these experiences and that these experiences seemingly are not after all so unusual, I find myself in agreement with Fox—that “a mystery remains” (pp. 196–197). Fox’s case collection is a fascinating testimony that some sources of light are not merely of solar origin but may represent a transcendental source.

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(Annekatrin Puhle is currently engaged in research on lightform phenomena. Experiencers are invited to contact her.)

The Outline of Parapsychology by Jesse Hong Xiong. University Press of New York, 2008. 368 pp. \$35.95 (paper). ISBN 13-978-0-7618-4043-5.

Dr. Jesse Xiong is a professor of philosophy from NanKai University in China and was a visiting scholar at the University of Toronto. His book was originally written as an introduction to parapsychology for Chinese readers; it summarizes a massive amount of information clearly, critically, and concisely, and is an able introduction for anybody curious about the subject. Each of the seven chapters is broken up into sections ranging from five to fifteen. The Introduction calls attention to the controversial and apparently challenging nature of the field to mainstream science and religion. The first two chapters cover a history and the research methodologies of parapsychology, stressing the importance of gifted subjects. Xiong provides detailed critiques of the skeptics and their claims.

Chapters Three and Four deal with extrasensory perception and psychokinesis. The approach is historical and comprehensive and distinguishes between various

exotic subtypes of phenomena such as skin vision, psi phenomena of taste and smell, including a discussion of borderline cases of “quasi-psi.” The latter raises the question of how much psi may be inconspicuously or fleetingly present in our mental life, and reminds one of the nuanced taxonomies characteristic of Frederic Myers’ work. Xiong is not afraid to include in his review reports of apports *and* departs, materialization, odor of sanctity, bodily elongation, incombustibility, incorruptibility, paranormal healing, and the paranormal curse. He provides a sketch of several notable physical mediums.

The fifth chapter deals with discarnate entities. Once again, the author tries to give a big picture of all the different types of suggestive evidence for the notion of exanimate consciousness. He describes phenomena of possession and obsession, materialization of deceased personalities, direct voice and writing phenomena, so-called channeled entities, plus the more commonly treated types of survival evidence such as mediumship, hauntings, apparitions, veridical out-of-body states, and reincarnation memories.

The last two chapters cover altered states of consciousness and theories and possible explanations of phenomena. In addition to dreams, psychedelic states, meditation and hypnosis, some pages are given over to “psychopathy” as a possible causal factor in the manifestation of psi.

The discussion of theory covers quite a bit of territory but is sketchy and sometimes confusing. Myers’ theory of the subliminal self is discussed under the heading of physiological explanations of psi. The notion of “cosmic consciousness” is wrongly ascribed to James (rather than Bucke) and too hastily identified with the Hindu concept of Brahman. The author touches on many concepts such as synchronicity, quantum physics, wormholes, observational theories, holograms, ontology, dualism, and much more. The implications of parapsychology for religion are discussed, and Xiong sees parapsychology as being at odds with “ecclesiasticism,” by which he means organized religion hidebound by dogma and hierarchy. In an interesting way, he begins to sketch his hypothesis that “pantheism” (with resemblances to Whitehead) offers the best route to a theoretical foundation of parapsychology. An appendix listing resources for further study of the field is a useful addition.

Unfortunately, the text is marred by numerous grammatical and stylistic infelicities; one prominent example being the awkward misuses and omissions of definite and indefinite articles. It does not detract from the value of the book’s content, but it is a distraction. Any future edition of this book, which overall I recommend as useful and stimulating, should be carefully edited for these mistakes.

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Explorers of the Infinite: The Secret Spiritual Lives of Extreme Athletes—and What They Reveal About Near-Death Experiences, Psychic Communication, and Touching the Beyond by Maria Coffey. New York: Tarcher Penguin, 2008. 289 pp. \$26.95 (hardcover). ISBN 978-1-58542-651-5.

The first and last time I jumped out of an airplane, I was 17 years old. It was my mom who nearly died of fright. She had to sign a waiver that listed in gruesome detail all the ways her underage, unlucky son could die or sustain serious injury from skydiving. True to the odds, nothing went wrong. After 4 hours of “training,” the actual skydive, from Geronimo! to hard landing, lasted just a few minutes. My weekend parachute was an adrenaline rush, but hardly death-defying or life changing.

Maria Coffey’s extreme adventurers, in contrast, push themselves physically and psychologically to the breaking point. Skydiver Cheryl Sterns jumped from an airplane 352 times in 24 hours, setting a Guinness World Record. Tanya Streeter free dove without oxygen to a depth of 525 feet below the ocean’s surface holding her breath for almost 3½ minutes, her heart rate plummeting to five beats a minute, before resurfacing. Cyclist Jure Robic pedaled for 3042 miles across the continental U.S. in 8 days, 19 hours and 33 minutes.

Such super-athletes suffer mind-numbing exhaustion, unbearable pain, intense solitude, sudden terror, and narrow escapes from death—conditions which parapsychologists know can generate paranormal experiences. And the heroes of this book have a journal’s worth, experiencing time distortions, altered states of consciousness, telepathic communications, out-of-body experiences, precognition, premonitions of death, and visions of the dead.

The reading pleasure for me came less from the garden-variety paranormal experiences these crazies report than from the god-awful, insane exploits which trigger them.

Fifty-five-year-old ultra-marathoner Marshall Ulrich had a classic out-of-body experience running the Badwater, a 135-mile, non-stop foot race across Death Valley in July when daytime temperatures can hit 129 degrees Fahrenheit. He’s done it 13 times and won it four times. Insanely, he once did it four times back and forth, non-stop, for over 77 hours, while pulling a modified baby jogger loaded with 200 pounds of water, ice and spare clothes. In 1993, while trying to break his own record, he suddenly stepped out of his body. From above, he watched himself running along, “like watching myself on a movie screen.” He remained out of body all night, until the next morning when he realized that “dawn was coming, the sun was about to rise. I knew it was time to go back into my body.” (Skydiver Sterns experienced a similar, extended OBE during her non-stop jumping.)

“Many mountaineers have sensed unexplainable presences in the high mountains,” notes Coffey. American climber Lou Whittaker in 1989 was guiding the first American assault on 28,169-foot-high Kanchenjunga in the Himalayas, the third tallest mountain in the world. At his base camp, he kept sensing the presence

of a middle-aged, friendly Tibetan woman spirit who communicated with him mentally, telling him everything would go OK. His wife Ingrid arrived at the base camp shortly after Lou had departed for the summit, but her ascent to 16,000 feet was so fast she suffered severe altitude sickness. She spent 3 days in agony in Lou's tent, ministered to by the same Tibetan spirit. "She was wearing a headscarf and a long dress. She was shadowy and two-dimensional, like a silhouette." The spirit would put her hand on Ingrid's forehead, very comforting, and help her to roll over. She didn't speak; the two women communicated telepathically. Two months later, after they had returned to the States, Ingrid finally told Lou about her strange helper. Stunned, he admitted seeing her too. They're convinced it wasn't a hallucination, since both sensed the same apparition. Coffey notes similar "spirit friends" assisted and comforted many well-known adventurers in their perils, including Antarctic explorer Ernest Shackleton during his desperate 36-hour trek across frigid South Georgia Island; aviator Charles "Lucky" Lindbergh on his record-breaking, non-stop transatlantic flight to Europe in 1927; and mariner Joshua Slocum, the first man to sail solo around the globe.

In 1997, Tony Bullimore was attempting to duplicate Slocum's feat, competing in the around-the-world Vendee Globe single-handed yacht race. Two months into the race, a fierce storm in the Southern Ocean rolled his boat, trapping him upside down in his watertight cabin for almost 5 days. Race officials informed his wife Lalel his upturned boat had been spotted in huge seas; he was presumed dead. That night, kneeling by her bed, she received a telepathic message from him. He was alive, he had food and water, but he was exhausted and had to sleep. The following day, he mentally spoke to her again. "Oh Lal, I'm in a mess. It's wet. The boat won't stop rolling. I'm cold." She told him to keep fighting. Back in his watery tomb, shivering and staring into darkness, he suddenly had a vision. He saw an Australian warship steaming for him, a boat was lowered, sailors started banging on the hull, and he watched himself swim to the surface where he was rescued. Twenty-four hours later, everything happened exactly as his vision had foretold.

Coffey presents dozens of such puzzling experiences while pondering their reality and meaning. For an outdoor adventure writer, she demonstrates a surprising familiarity with parapsychological literature, referencing among others Rupert Sheldrake's ESP research; Montague Ullman's dream lab investigations; NDE studies by Raymond Moody and Sam Parnia; plus conventional counter-explanations from popular skeptics like Susan Blackmore and Robert Persinger. Her references are understandably brief and occasionally incorrect—for example, her assertion that scientists know very little about the out-of-body phenomenon (p. 250). Psychologists, physicians and investigators such as Charles Tart, Stuart Twemlow and D. Scott Rogo mapped the phenomenon several decades ago, and recent NDE research has advanced our understanding. We know a lot about them; it's just that, like so many other paranormal phenomena, we can't agree on where they fit in our current model of reality.

But Coffey can be forgiven for not penning a dry parapsychology book few would read. She offers enough science to ground her stories, but wisely focuses on the sense of surprise and wonder her eclectic community of daredevils find in their unexpected brushes with the infinite. As British BASE jumper Shaun Ellison puts it, “There’s so much out there that we don’t understand.”

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Science and the Unseen World by Arthur Stanley Eddington. London: George Allen & Unwin, 1929. 56 pp. (Swarthmore Lecture)

Eighty years ago, Sir Arthur Eddington, one of the most important astronomers then living and a practising Quaker, gave a lecture to British Quakers of which this short book is the text. Although the book can easily be read at one sitting, many might question the value of spending even that amount of time on it. Scientific cosmology was in its infancy in 1929, despite Eddington’s own pioneering efforts; Lemaître in Belgium and Friedmann in Russia were only just feeling their way to what would become known as “Big-Bang” cosmology—a term and a theory that Eddington would have disliked. The source of stellar energy would not be known for nearly another decade, and Eddington subscribed to a theory of the origin of the solar system that is no longer considered likely. The only sub-atomic particles known were the proton and the electron. In the biological sciences, the so-called modern synthesis of Darwinian evolution and Mendelian genetics was only just beginning to emerge, and the structure of DNA would not be known for nearly another quarter of a century. Religiously speaking, Eddington belonged to what is still a minority group of Christians, when few in the West knew much about non-Christian religions. Can even Eddington’s opinions about the relation of science and religion survive the changes in both fields of the intervening years? I believe they can; Eddington’s insights were so profound that they can still challenge us today: the book is a little gem, and deserves the status of a minor classic.

The phrase “unseen world” was commonly used in Eddington’s day by those who believed in a world of spirit as well as the physical universe. Eddington certainly shared that belief, which fitted well with his conviction, elaborated in other books, that we can know only something of the structure of the physical universe but not what Kant called “things in themselves”. He also believed that we could deduce that structure by pure reasoning, without recourse to experiment. This last feature in his thought was and is, of course, highly controversial and is rejected by the overwhelming majority of scientists, but it is of a piece with Eddington’s own rejection of a materialist philosophy. Eddington’s criticism of the equating

of mind and brain (Section III, pp. 18–25) are still to the point today, despite our much greater knowledge of the working of the brain.

There was no conflict in Eddington's mind between his science and the unseen world, because both were open to investigation by the human mind, and in each realm he was seeking, but not expecting, or even wishing, to achieve a "theory of everything" (p. 16). "In science as in religion" he wrote "the truth shines ahead as a beacon showing us the path; we do not ask to attain it; it is better far that we be permitted to seek." His emphasis on seeking was related to the Quaker indifference to formal creeds. To him, the recitation of a creed as an act of worship seemed as unnatural as would the profession of adherence to Newton's laws of mechanics and Clerk Maxwell's laws of electromagnetism by a science class at the beginning of a lecture (p. 54). On the other hand, he defended the idea of a personal God (pp. 49–50) on the grounds that he saw it as "the very essence of the unseen world that the concept of personality should dominate it." Here is an interesting difference from Einstein who, to the end of his life, denied the existence of a personal God. That may seem surprising given the number of times Einstein referred to God, but I suspect that he did not make so clear a distinction in his mind between a *personal* God and an *anthropomorphic* one as Eddington did in this book.

This concept of seeking was the unifying factor in all Eddington's work, as has been well brought out in a recent study by Matthew Stanley (2007). It led Eddington towards the end of his book (p. 54) to what I believe is one of the most profound statements on the relation of science and religion that anyone has yet made: "You will understand the true spirit neither of science nor religion unless seeking is placed in the forefront." That is a statement that many believers would do well to take to heart and that even some scientists tend to forget; for it alone, I commend this little book to readers of this journal.

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Stanley, M. (2007). *Practical Mystic: Religion, Science, and A.S. Eddington*. University of Chicago Press.

Personality: What Makes You the Way You Are by Daniel Nettle. Oxford University Press, 2007. 304 pp. \$21.95 (hardcover). ISBN 0199211426.

Did you know that "the personality" of the familiar garden bird, the great tit, has been given "what amount(s) to a personality test?" Or that "the personality characteristics" of the mischievous little fish, the guppy, have been studied

intensely? Or that the lowly amoeba is acting on “positive emotions” when it tracks and ingests food?

All of this, and more, seems credible, relevant and meaningful to Daniel Nettle, a Reader in Psychology at the University of Newcastle, the author of *Personality*, which is his attempt to explain “what makes you the way you are.” An enthusiastic adherent of the currently popular five-factor model of personality, Nettle offers a mish-mash of evolutionary notions, neuroscience and behavioral genetics to bolster the theory.

In an early chapter, we learn that the beak of the finch mutates according to ecological conditions, that the aforementioned guppy’s “personality dimension is tantalizingly similar to human Neuroticism” (p. 78), and that “personality traits in humans are heritable, just as beak size in finches is.” (p. 55) Then, in five individual chapters, he addresses each of the factors—extraversion, neuroticism, conscientiousness, agreeableness and openness—as they relate to what sound like contrived clinical vignettes.

Nettle does all of this with a confidence that broaches on evangelical arrogance repeatedly telling the reader that “we know.” However, the “we” he speaks of does not include the general reader or even all other psychologists but refers rather to those like-minded individuals he deems to be “academically *respectable* psychologists.” (p. 17) Having survived over 2 millennia of darkness in which “the field of personality research has been *plagued* by different people using different notions,” Nettle believes that now “we psychologists . . . at last have a set of personality concepts that is firmly based on evidence.” (p. 9)

Relegated to the dustbin are the antiques of Hippocrates’ four temperaments, “Melancholic,” “Sanguine,” “Choleric,” and “Phlegmatic,” each described according to a human body fluid; Sheldon’s three human temperament types or *somatotypes* based on the three tissue layers, endoderm, mesoderm, and ectoderm; and Pavlov’s two-factor model of “extremeness” and “passivity.” Similarly swept aside are Meyers and Briggs’ “Type Indicator” (MBTI), Cattell’s 16 Personality Factors (16PF) and multitudes of other specific and general personality models. Now, thanks to the innovation of “self report” rating systems (he offers a 12-item questionnaire to assess the reader’s personality) and the “modern computer” which can do factor analysis “in less than a second,” Nettles proclaims that “we can quickly tidy the field up.” While this tidying-up loses “a lot of information,” he feels that the benefits of “reducing and simplifying the data” outweigh the costs despite Einstein’s caution that “things should be made as simple as possible, but not simpler.” The amazing result is the Five Factor model: “the Christmas Tree” on which “all particular findings can be arranged” to satisfy Nettle’s vision.

But this particular Christmas tree seems chintzy, laden with too many artificial, ornamental notions. While Nettle defines personality traits as “stable individual differences in the reactivity of mental mechanisms” (p. 43), and “a way of being . . . with consequences for life outcomes” (p. 48), he proceeds to stretch the concept beyond reason describing how specific behaviours of birds, mice and even the aforementioned lowly amoeba have their own personality characteristics.

Muddling evolutionary processes, adaptation and situation-specific response patterns, he tries to explain such things as why women score higher in Agreeableness (“because the female response to threat is (to) ‘tend-and-befriend’”) while the lower-scoring male is more suited to the aggressive style of business executive positions.

As for higher scorers in Extraversion, Nettle states that they enjoy sex and romance, have a greater number of sexual partners and casual matings, and like active sports, travel and novelty, all of which he ties to their pursuit of positive emotions (joy, desire, enthusiasm and excitement). However, he believes a dimension rather like Extraversion can be found “even in the spineless octopus.”

When it comes to Neuroticism, greater “negative emotion” is the key that may find its expression in a wide variety of disorders including anxiety disorders, phobias, insomnia, low self-esteem, eating disorders, Post-Traumatic Stress Disorder, and Obsessive Compulsive Disorder (p. 117). Depression, he conjectures, is the “flare up of the underlying personality trait.” If there is a good side to this factor it is that it may discourage them from high risk-taking activities such as mountain climbing (he notes that “Climbing Everest is a very dangerous thing to do”) and may foster creativity, since many artists and writers show clear signs of depression and Neuroticism (p. 125).

Conscientiousness, Nettle defines as “the magnitude of reactivity of those mechanisms in the frontal lobe that serve to inhibit an immediate response in favour of a goal or rule.” Somehow, from this the author is able to conclude that low scorers are more inclined to drinking, drug use, gambling and law-breaking, where as high-scorers risk having Obsessive Compulsive Personality Disorder.

Perhaps unsettled by the idea that our brains are “wired” for these disorders and that our personalities have been predetermined by genetics and “early life influences,” he concludes the book with a feel-better chapter on how readers can give it a better “spin”—although it backhands those individuals with the diagnosis of high levels of Neuroticism. Here Nettle suggests strategies ranging from “exercise, yoga, and meditation, through cognitive behaviour therapy, to antidepressants and anti-anxiety medications.” (pp. 242–243)

While the book abounds in such concocted and absurd examples of the interplay of these five factors with evolutionary theory, genetic and brain studies, one more deserves attention. Nettle states that “evolution (has) built into us a capacity to modulate our personalities in response to our health, intelligence, size, and attractiveness.” He continues: “For men, Extraversion increases with overall size, though this is not the case for women. This makes sense too, since perceived attractiveness and desirability increase with height for men, but not necessarily for women. Larger men also *seem to be slightly less nice*, on average, and *men with antisocial personality disorder are rather larger overall*. This is probably because large men have a much greater chance of getting away with the kind of persistent rule-breaking and confrontation that this disorder entails than more diminutive individuals have.” (p. 231)

If this conjecture makes sense to you, you will enjoy the convoluted thinking of this author. If not, forget the book!

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Dimensions: A Casebook of Alien Contact by Jacques Vallee. New York: Anomalist Books, 2008. 320 pp. \$15.95 (paper). ISBN 1933665289.

Confrontations: A Scientist's Search for Alien Contact by Jacques Vallee. New York: Anomalist Books, 2008. 280 pp. \$15.95 (paper). ISBN 1933665297.

Revelations: Alien Contact and Human Deception by Jacques Vallee. New York: Anomalist Books, 2008. 288 pp. \$15.95 (paper). ISBN 1933665300.

During the 20 years since the first of Jacques Vallee's classic "alien contact trilogy" was first published, much has changed in ufology. Abduction research was just starting to blossom at the time, with researchers such as Budd Hopkins and Whitley Strieber having published their first popular books on the subject, while the iconoclastic John Mack was still to have come to the fore and had his voice silenced all in a short period of time.

Over the past several years, governments of countries such as France, Mexico and Britain have become somewhat more transparent in their release of UFO-related documents. At the same time, there has been a shift in ufology away from detailed investigation of current cases (with a few notable exceptions such as Chicago-O'Hare and Stephenville) towards the re-examination of historical cases and themes.

In terms of the current thinking about the nature of UFOs, ufology (especially American ufology) has become more focused on the extraterrestrial hypothesis (ETH) and this has been significantly enhanced by the media's resurgence of interest in UFOs as alien spaceships. Indeed, this has led indirectly to the proliferation on YouTube and other social media websites of videos of UFOs, usually described as alien spacecraft by breathless witnesses. Many of these are obvious fakes or astronomical objects, but they serve to bolster the public's opinion that aliens are visiting Earth.

With this in mind, it is fascinating to revisit a different perspective on the UFO phenomenon as laid out in the 1980s by Vallee in a remarkable series of books: *Dimensions* (1988), *Confrontations* (1990) and *Revelations* (1991). Presented in a logical, coherent sequence (and with thematically attractive new covers), Vallee makes his case for his position that the UFO phenomenon is not extraterrestrial,

but terrestrial in nature, and not simply physical, but psychosocial in character. This is completely antithetical to popular belief about UFOs, and it is refreshing to revisit Vallee's writings for a different slant on what may be going on. Indeed, many currently active ufologists may not have read Vallee's works and are unaware of other perspectives on the phenomenon.

Vallee starts his exploration of the "ultraterrestrial hypothesis" (UTH) in *Dimensions* by showing through an exhaustive collection of case data and examples how "modern" UFO reports are similar to myths, legends and folktales. These have been part of human history and culture for millennia and Vallee argues that this is not coincidence, but evidence that aliens, leprechauns, sprites and other legendary creatures are differing interpretations of the same entities. This follows as a condensation of his earlier *Passport to Magonia*, which introduced readers literally to a new dimension of ufological thought.

He notes early in *Dimensions*: "Perhaps they [the aliens] have always been here. On Earth. With us." (p. xi)

Vallee notes how governments have generally looked the other way or ignored witnesses' detailed observations of strange craft, sometimes covering up or explaining away the sightings. He even cites what is likely the first government investigation and cover-up of UFOs, not in the 1950s but in 1235, when a Japanese general and his troops witnessed formations of moving lights in the night sky and launched a "scientific investigation." In parallel to recent official efforts, the general's consultants reported back that the objects were only natural phenomena, in this case the "wind making the stars sway." (pp. 11–12) Sadly, the lack of references or index in this volume is frustrating and is perhaps the major flaw in the entire trilogy, leaving the reader eager to find more about some of the stories and cases noted.

Vallee spends most of *Dimensions* showing parallels between contemporary UFO cases and historical or legendary tales. For example, in his discussion of the classic case of Joe Simonton who was given "pancakes" by space visitors in 1961, Vallee notes ancient stories about "the Gentry" who would occasionally appear to unsuspecting Irishmen and offer food and nourishment that were enchanted and cause commotion. These fairy-folk would often whisk away humans for tours of strange lands only to bring them back to have their victims find that many hours, days or years have apparently elapsed, reminding one of modern-day abductees' and contactees' experiences.

One of the most curious sections in *Dimensions* is a further comparison between ufonauts and fairy-folk with regard to sexual behaviour. Vallee notes that folklore often is "watered-down" for the masses and its "adult content" is often lost. But the well-known case of Antonio Villas-Boas in Brazil in 1957 where he had intimate contact with an alien female is similar to legends of demonic sexual encounters as described in religious and mystical texts dating back well before the Middle Ages.

These and other examples lead Vallee to bluntly note:

... the UFO phenomenon does not give evidence of being extraterrestrial at all. Instead, it appears to be inter-dimensional and to manipulate physical realities outside of our own space-time continuum. (*Dimensions*, p. 136)

Vallee admits openly that his theories are not for everyone. Indeed, he recommends most people should:

... subscribe to the magazines that “prove” that “flying saucers are real and from outer space.” I am not writing for such people, but for those few who have gone through all this and have graduated to a higher, clearer level of perception of the total meaning of that tenuous dream that underlies the many nightmares of human history. . . . (*Dimensions*, p. 163)

Far from arguing against the ETH, he notes that:

... the universe might contain intelligent creatures exhibiting such an organization that no model of it could be constructed on the basis of current human concepts. . . . The behaviour of such beings would necessarily appear random or absurd or would go undetected. . . . (*Dimensions*, p. 164)

And yet, Vallee insists, UFO phenomena that are strange and unusual and defy science are nonetheless “real.” For the noted Fatima religious manifestations of 1917, he cites scholarly analyses that noted:

The phenomenon, which no astronomical observatory registered and which therefore was not natural, was witnessed by persons of all categories and of social classes, believers and unbelievers, journalists of the principal Portuguese newspaper and even by persons some miles away. Facts which annul any explanation of collective illusion. (*Dimensions*, p. 196)

Vallee details many classic steps in the development of ufology, from J. Allen Hynek’s infamous “swamp gas” remarks to the irresponsible Condon Committee fiasco. However, he challenges the “spacecraft theory” at every opportunity. He notes:

In ufology, either you are a debunker who doesn’t believe in UFOs at all or you agree they are spacecraft from another planet. But are these necessarily the only two possibilities? (*Dimensions*, p. 256)

One wonders if anything has changed since he asked this question. He finally conjectures:

I propose that there is a spiritual control system for human consciousness and that paranormal phenomena like UFOs are one of its manifestations. (*Dimensions*, p. 272)

and:

I suggest that it is human belief that is being controlled and conditioned. (*Dimensions*, p. 276)

Between 1980 and 1987, Vallee, an iconic figure in ufology, all but vanished from the UFO scene. He was very influential and involved during the formative years of ufology; he was even caricatured as a character in the Steven Spielberg movie *Close Encounters of the Third Kind*. Yet, he pulled back, and researchers

wondered what had become of their ufological role model. It turned out that during that time, he began analyzing and categorizing UFO data, consulting with experts in various fields and personally doing onsite field investigating of cases around the world. He stayed away from the abduction controversy, believing it to be in the hands of unqualified believers or those with set agendas. He stayed away from UFO conventions so he could avoid being frustrated by hardcore nuts-and-bolts ETH adherents.

Confrontations is the documentation and result of his work during this time, expounding on his views of the state of ufology, science and rationalism. Here, he charges that debunkers themselves are the main reason why the public rejects science. By refusing to openly study UFOs, science itself drives many sincere witnesses into cults like Jonestown, while skeptics,

who flatly deny the existence of any unexplained phenomenon in the name of “rationalism,” are among the primary contributors to the rejection of science by the public. (*Confrontations*, p. 21)

Vallee notes the significant difference with *Confrontations* as opposed to other works on UFOs is that the information contained within it comes from his personal investigations and first-hand sources. He presents a UFO photo case he studied in Costa Rica, a multiple-witness UFO case he researched in Northern California, and a UFO-related death he investigated in Argentina. He questions basic UFO investigation methodology (such as it is) and admits arriving at a point where he does not know what happened to some UFO witnesses, even to the point of being “not even sure they had seen a UFO at all!” (*Confrontations*, p. 87).

He is highly critical of the UFO field itself, and lambastes UFO investigators who are too taken up in fervour to treat witnesses with respect and dignity.

In their eagerness to obtain definite answers, or simply to validate their own preconceptions about the extraterrestrial nature of the phenomenon, many investigators rush in, demanding answers, where they should first try to attend to the trauma and the stress surrounding the witnesses . . . the number of untrained, unqualified hypnotists roaming the countryside in the name of UFO research has greatly multiplied. (*Confrontations*, p. 93)

Ironically (or likely intentionally), the title of this book has less to do with encounters with aliens than with ufologists and other “experts” themselves. In fact, the subtitled “alien contact” is essentially a red herring in terms of what Vallee is trying to get across to readers; aliens may not be involved at all. Vallee goes to great length to dispel popular concepts about the UFO phenomenon and show that there is much more going on than “simply” alien spacecraft. To him, researchers and investigators themselves appear to be shooting themselves in the feet by not taking a step back and examining the subject sensibly and at a distance.

Yet how can ufologists view such things as *chupas*, the mysterious beings who attacked villagers in the Amazon delta with beams of light causing pain, injury and death? Vallee studied many cases of these and concluded that they were likely not alien intruders, but something else. (We know of them now as *chupacabras*,

but that's another matter.) He notes bitterly that in America, ufologists tended to ignore or deride his theories on the non-ETH nature of UFOs, whereas in Europe, the reaction was diametrically opposite:

... everything was folklore and there was no physical reality behind the sightings at all. (*Confrontations*, p. 178)

Here, Vallee hints at his suspicions that a secret or clandestine government or military organization is manipulating or otherwise obfuscating UFO reality. To wit:

Somebody in the United States owns a collection of records that contains the proof of the reality of the phenomenon. (*Confrontations*, p. 225)

The most significant part of *Confrontations*, however, is the Appendix, in which Vallee details his new classification system for UFO reports. He suggests 20 categories of cases with an additional 15 descriptors that note a case's reliability, depth of investigation and explanation. His scheme is marvelous and encompasses everything from physical effects, nearness to observers, reality transformation and even injury or death.

However, adopting Vallee's system has not been universal to say the least. In fact, it has largely been ignored except for a few experiments such as that by Ufology Research of Manitoba in the early 1990s in its yearly analysis of Canadian UFO reports. (Later analyses reverted back to an expanded, easier to use Hynek classification system.)

The third book in this series is *Revelations*, in which Vallee explicitly states his view that:

... some UFO sightings are covert experiments in the manipulation of the belief systems of the public. And some cases simply did not happen. (*Revelations*, p. 8)

Vallee describes his involvement with the notorious Holloman UFO video promised to film producer Robert Emenegger in 1974, for which no adequate provenance was ever provided. He drove to Norton AFB in 1985 on another occasion to meet with military officials who described close encounters with UFOs, but provided no evidence whatsoever.

Vallee notes his disgust with the "revoltingly amateurish Strawberry Ice Cream Show" of 1988, in which a major TV network aired a ridiculous "tell-all" program about military involvement in the UFO phenomenon. During its presentation, an "informant" told the world that captured aliens at a secret American base preferred a particular confectionary over another.

Vallee goes after UMMO, an obvious conglomeration of UFO nonsense and finds it embedded in controversy and mystery, but possibly related to the intelligence community! He then relates the classic Rendlesham case of 1980 and suggests that:

... the most plausible theory is that the U.S. military has developed a device or a collection of devices that look like flying saucers, that are primarily intended for psychological warfare, and that they are being actively tested on military personnel. (*Revelations*, p. 157)

His final thesis is:

My tentative answer is contained in the following scenario. Suppose that for the last thirty years or so a massive effort has been going on within U.S. government agencies such as the CIA, the NRO, and the Air Force, to study the UFO phenomenon. Not in an attempt to really solve it, since a solution is still beyond the reach of our science, but in an effort to use it, to manipulate it as a cover for something else. (*Revelations*, p. 229)

In essence, then, in this trilogy of ufological exposition, Vallee does several important things towards the advancement of ufology. First, he provides data to show that the UFO phenomenon is real and has been part of human history for millennia. Second, he emphasizes that it is an absurd phenomenon that does not seem to be conformable to simple scientific categorization. Third, he shows that current approaches by both debunkers and believers fail to address the complex nature of the phenomenon and do a great disservice to its witnesses. Fourth, he suggests a methodology that may be more useful in understanding the phenomenon. And fifth, he theorizes that a clandestine organization, military or otherwise, is obscuring the nature of the phenomenon to its own end.

This view is at odds with the popular view that UFOs are alien spacecraft. Vallee's relatively radical ideas have been largely shoved aside by mainstream ufology for their critical nature and their complexity. Perhaps some ufologists would prefer that the UFO phenomenon was simply extraterrestrial. It might be easier to accept that an advanced civilization was sending scout ships in Earth's direction rather than speculate that multi-dimensional beings ride beams of light and can enter our dreams.

And yet, the ETH is not completely satisfying. Why don't we have more physical evidence of aliens' presence? Why hasn't contact been open and pervasive? And why do the government and the scientific community seem so hell-bent on ignoring evidence of alien visitation?

Vallee answers, "Because it's not just aliens." It's us.

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Strange Company: Military Encounters with UFOs in WWII by Keith Chester. Anomalist Books, 2007. 308 pp. \$17.95 (paper). ISBN 1-933665-20-3.

The question I had, as I began reading this book, was when does anecdotal evidence turn into scientific observation. Skeptics will tell us that this book is loaded with the same kind of anecdotal evidence that has plagued studies of the

UFO phenomena for nearly three-quarters of a century. But here we're dealing with the observations of men trained to fly, who understand the sky and what is in it around them because their lives depended on it, and who are certainly not given to hysterical hallucinations. Chester gives us the documents created at the time by intelligence officers trained in interrogation techniques and whose job it was to understand all that the flight crews were telling them because lives hung in the balance.

This, I think moves these observations from the realm of the anecdotal to that of professional, as valid as any a scientist might make. True, some of the stories were related by the men decades after the events, but much of it comes from the documents created at the time and we see a phenomenon that went unexplained then and remains unexplained now.

As I began reading *Strange Company*, I wondered whether we would be treated with a series of stories of indistinct blobs of light, which, I confess, was my concept of the foo fighters of World War II. I thought of them as something maybe no more than 2 or 3 feet in diameter which suggested something more akin to ball lightning or St. Elmo's Fire than a physical craft. But we read of solid objects with sharply defined edges moving the foo fighters from the realm of ionized air and other natural phenomena into something that is solid and probably extraterrestrial.

I wondered if anyone fired on the objects and in the very beginning we're given a discussion of the "Battle of Los Angeles" in early 1942 when anti-aircraft batteries opened fire on what might have been hallucinations created by war nerves. Chester does present documents from the highest levels of the Army that suggest something more real might have been responsible for the hysteria. I'm not sure that he proves it was anything other than war nerves, but this is a minor criticism, certainly not based on the presentation of documentation in the book. Besides, it could be argued that the explanation was pushed to quiet the hysteria that was infecting the west coast in 1942.

I wondered if anyone would report on what happened to the rounds fired at a foo fighter. Chester details one specific mission in which the object was shot at by machine guns in various positions on the aircraft and the rounds were seen to disappear into the haze around the foo fighter. The bullets never emerged, suggesting that the light, the object, the foo fighter, whatever it was, absorbed the machine gun bullets. Certainly something as ephemeral as a foo fighter would allow the shots to pass right through it if it was nothing more than ionized air.

And he gives us other accounts of the soldiers, the airmen, shooting at the objects, always without observable response. These rounds, some of them 50 caliber or higher do nothing to foo fighters. Sometimes they pass through and sometimes the rounds just disappear.

The one problem I had with the book was that it was quite reminiscent of those UFO books from the 1960s and 1970s that recounted sighting after sighting, which, I suppose, might be the point. This was a compilation of sightings, but

unlike those earlier books, this book lists the names of witnesses and the official documents in which their sightings can be found. It adds a note of realism to *Strange Company* that is not found in those earlier works.

For those interested in the Roswell UFO crash, some of the participants in those discussions show up. Most notably is Colonel Howard McCoy, who, after the Roswell crash, would say in a meeting in which the minutes were recorded and later declassified and released that they had no crash recovered debris. Here it becomes clear that McCoy was involved in the UFO phenomena since World War II, when he was one of the top officers investigating foo fighters.

And William Blanchard, the commanding officer in Roswell but then commander of the 40th Bomb Group, appears. I wouldn't mention this, except that during the October 25, 1944 mission, three of his B-29 crews reported high-altitude balloons on three separate occasions. About 3½ years later, a high altitude balloon called Mogul allegedly would fool Blanchard's intelligence officer. Makes you wonder what it is about Blanchard and high altitude balloons.

For those who wish to pick nits, I found some minor mistakes that hardly deserve comment. On page 66, for example, Chester identified Lt. General Walter Bedell Smith as the U.S. Army Chief of Staff. In 1944, that was George Marshall. Smith was the Chief of Staff at SHAEF. On page 114 he has a picture of a soldier with a caption saying that he is receiving the Distinguished Flying Cross but the medal in the picture is clearly the Air Medal. As I say, minor things that suggest only that Chester and his editors weren't familiar with these nuances and this is something that really doesn't detract from the book. Skeptics might leap at something like this but it really is trivial.

This also tells us that this book is a unique history of the Second World War. We see the inside operations of some of the intelligence missions and intelligence gathering during the war. What is fascinating is seeing how they deal with the possibility that the enemy is deploying some kind of new weapons system and how they gather all that information. We also see, to a limited extent, the attempts to stop the Nazis from using the V-1s and V-2s against the British.

What *Strange Company* does quite well is move the modern era of the UFO from June 1947 when Kenneth Arnold's report hit the newspapers to World War II. It is clear that these sightings, considered at the time to be classified information and therefore weren't widely discussed, are the beginning of the modern era. This is a book that is required in the library of every UFO researcher because it supplies a new and different perspective to UFOs. They didn't arrive 2 years after the atomic blasts in New Mexico and Japan, but as the war raged around the world. They followed aircraft, task groups, and flew over infantry emplacements. They were studying us at war and probably seeing us at our very worst. But they were here, and this book goes a long way in proving it.

Maybe Captain William Mandel described it best in a letter he sent to J. Allen Hynek in 1967: "The most interesting point to be considered, I think, is that not until several years later did I first hear of the terms 'flying saucer' and 'UFO,' nor was I aware that others before me had recorded similar sightings. It certainly

did not occur to me at the time that I might be witnessing the passage of an interplanetary vehicle.”

And because of that, and the belief that the foo fighters were some kind of enemy weapon system, these sightings haven't been thought of as part of the UFO history. Chester has now corrected that misconception requiring all of us to reevaluate all these sightings. In this Chester has performed a valuable service and should be commended for it.

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Chapter 13 of: **Plotting the Globe: Stories of Meridians, Parallels, and the International Date Line**¹ by Avraham Ariel and Nora Ariel Berger. Explorations in World Maritime History. Praeger Publishers, 2005. xii + 235 pp. \$49.95 (hardcover). ISBN 0-275-98895-3.

Avraham Ariel is an Israeli freelance writer and businessman with much experience of ships and the sea. Nora Ariel Berger works in the field of business media in New York. Together, they have written a fairly light book on the nature and history of measuring and mapping the earth in terms of the earth grid—that is, lines of latitude and longitude, including the equator, the prime meridian, and the International Date Line, beginning with Antiquity and moving forward through later history. In this review, we are concerned almost exclusively with the book's Chapter 13 (pp. 163–185), “Who Did It First?”—that is, who first crossed the equator by ship. Of course, skippers and crews of many local equatorial-area watercraft did so routinely, from time immemorial, but the authors mean a crossing via a significant historically documented voyage—which translates to: Who from Europe, North Africa, or Asia is earliest recorded as having done it.

The *Holy Bible*'s Old Testament more than once mentions a distant land called Ophir, where “gold, and silver, ivory, and apes, and peacocks” (1 Kings 10:22, RSV) were obtained; kings Solomon of Israel (ca. 973–ca. 933 B.C.) and Hiram of Phoenicia's Tyre (989?–936 B.C.) sent joint trading fleets there every three years. According to the authors, the “simple and irrefutable conclusion” is that the sailors involved had to go southward at least as far as Kenya in East Africa to where these products occurred and that, therefore, these mariners are the first recorded as crossing the line. But what Ariel and Berger claim to be simple and irrefutable is, in fact, far from being either. First, there has been debate as to the true translations of the names of the products concerned (see, e.g., Lancel, 1995: 9). In any case, the Phoenician ships involved could have obtained these

things from middlemen at some entrepot in southern Arabia's Sheba (Saba, present Yemen) or elsewhere far to the north of the equator rather than directly from the products' homelands. Further, the Indian subcontinent is a much more likely original source area for the items named than is Africa, owing to the fact that all of the products mentioned exist there, with the qualification that although monkeys are common anthropoid apes are absent. Further, the peafowl is a South Asian species and is not native to Africa. Another verse of 1 Kings (10:11), not cited in the book under review, mentions two more products: precious stones, for which India (but not Africa) was famous, and logs of the *almug* ("sandalwood") tree, another southern Indian export. Note, too, that tradition and customs indicate that Jews settled on the coast of India's Maharashtra state circa 800 B.C., which supports the idea that biblical Ophir of the tenth century B.C. was in India; the Hebrew names of some of India's products—'ivory', 'peacock', 'sandalwood'—appear to have Tamil roots, Tamil being a Dravidian language of South India (Gupta, 2001). Similarly, the Phoenicians' Canaanite language also incorporated Tamil words for certain objects (Selimkhoanov, 1996–1997). If Ophir was indeed in India, then the fleets of Solomon and Hiram did not cross the equator when sailing there, for the line lies well to the south of the subcontinent.

The authors next tackle Herodotus's report that, a couple of centuries earlier than he was writing, the Egyptian pharaoh Necho II (Nekau, 610–594 B.C.) had sent out a Phoenician Red Sea fleet that successfully circumnavigated Africa. Ariel and Berger state that historians dismiss this story because important facts that would have been included in a genuine account were omitted. Yet, why should we suppose that Herodotus's source had necessarily related every relevant fact to the Greek historian, or that the latter got everything important told to him down on papyrus? Herodotus himself was skeptical of the tale, because it mentioned the sun's being on the right hand when the ships were rounding Africa's tip; yet, later scholars have pointed to this as evidence that the fleet really *had* been in the Southern Hemisphere. The authors of *Plotting the Globe*, reveling in "debunking," say that pro-authenticity "Sensation-seeking scholars clutch at every clue, vague as it may be, in order to support their case. When the evidence is not there—they have no qualms about fabricating it or its interpretation." "Serious—and cautious scholars" conclude that the voyage crossed the equator south of Somalia but "dismiss the circumnavigation story," which was promulgated by Phoenicians, some of "the greatest liars, in history" (p. 168). Ariel and Berger point out that from anywhere south of the Tropic of Cancer, at the proper time during the summer one could experience the sun's being to the north; one does not have to cross the equator to be south of the sun's apogee. (They also aver that there is insufficient evidence to support the conjecture that Phoenicians discovered the Madeira Islands [p. 197]).

The Carthaginians of North Africa were Phoenician descendants and were also great liars, according to this book. The writers are extremely cautious as to what extent they should credit the well-known story of Carthaginian chief magistrate Hanno's voyage out through the Strait of Gibraltar and down the West African coast. First, they point out that the 60 ships mentioned in the account could

not have carried anything close to the 30,000 colonists supposedly on board. Ariel and Berger assert that those scholars who accept Hanno's story are making a "Science-fiction interpretation in order to prove their fallacious and sensational theories . . . to buy themselves some fame" (p. 171). But we don't have the original of the relevant document, and if, at some point, a copyist misread 3,000 as 30,000, then each ship would have transported not 500 but 50 colonists, a reasonable figure. Cautious scholars, the authors say, estimate an average ship speed of 4.8 kilometers (3 miles) per hour and conclude that the expedition went no farther than Sierra Leone (and thus far short of the equator), whereas more reckless writers posit a speed of 9.7 kilometers (6 miles) per hour and identify the voyage's farthest point reached as having been a fiery volcano in Cameroon. But, warn the authors, 9.7 kilometers per hour is an unrealistically rapid speed, and maybe no volcano was seen, only grasses afire during the seasonal burning intended to improve forage for animals. Hairy little "men" called *gorillae* were reported, but these could have been baboons in Sierra Leone, not what today are called gorillas in equatorial Africa. Even Pygmies, say the authors, could have been meant—but Pygmies are not hairy. Even Cameroon is a bit short of the equator, so Hanno is eliminated from the "contest."

In disparaging open-minded scholars' conclusions, Ariel and Berger are apparently classing authors of standard books on ancient science, geography, and exploration such as Walter Woodburn Hyde (1947) and George Sarton (1970) as self-serving fantasists and fabricators, at least as far as the voyages of Necho's and Hanno's fleets are concerned, because these academics acknowledged the possible reality of the interpretations derided above.

The book then considers the possibility that one or more of the voyages of the early-fifteenth-century Chinese admiral Zheng He reached latitudes beyond the equator, but finds the dimensions of the giant "treasure ships" described on memorials to Zheng and his voyages to be beyond belief: not only would the ships have been too large to be built by available methods, but also the beam would have been very much wider in proportion to length than is the norm in naval architecture. And, the writers ask, why, if these voyages really took place, were there no impacts in the lands to which they went, no stories of the visits told in those countries, and no Chinese artifacts or wrecks there. Since very little nautical archaeology has been undertaken in the Indian Ocean or China seas, a dearth of known wrecks should not be surprising. What *is* surprising is the authors' statement that: "[T]he remains of not a single Chinese ship of that era have ever been found" (p. 206). Of course, Gavin Menzies (2002) has provided piles of what he thinks is evidence of the impacts of these voyages, but *Plotting the Globe's* authors consider Menzies' scenario to be "science fiction" (p. 177). Granted that Menzies has vastly overreached (see Jett [2003] review in *Journal of Scientific Exploration*), nevertheless he does discuss a verified Chinese wreck of 1423, found at Pandanan, at 8 degrees north latitude off Palawan in the Philippine Islands, and alleges many more elsewhere (Menzies, 2002: 227–228). And, another known wreck, from Quanzhou in South China, dates to about A.D. 1400 (Green, 1996: 161). In fact, in 1962 an actual rudderpost from one of the Ming

treasure ships was discovered archaeologically and is so enormous (11 meters/33.5 feet long) that it implies a ship between 146 and 163 meters (479 and 535 feet) in length (Ronan, 1986: 123–124). I know of no historian who doubts the reality of Zheng He's treasure fleets or that they completed several long-distance expeditions. According to the records of the voyages, their ports of call included Java and Kenya, both of which are to the south of the equator (see Levathes, 1996).

Thus, Ariel and Berger's Chapter 13 minimizes the long voyages of Antiquity, other than the Israeli ones to Ophir—which the authors say, almost certainly erroneously, crossed the equator. As seen in the following chapter, by so doing they allow the Portuguese—traditionally, recognized as the first to have crossed the line—to retain their perceived post-Solomonic priority.

All in all, although it raises a few legitimate questions I would evaluate Chapter 13 of Ariel and Berger's *Plotting the Globe* as being fairly shallow in content and analysis, excessively skeptical in outlook, and smugly sneering in tone. And, a price tag of almost \$50.00 is certainly a disincentive to purchase.

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Note

¹ This review also appeared in 2007 in *Pre-Columbiana: A Journal of Long-Distance Contacts*, 4(2).

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Shamanism in North America by Norman Bancroft Hunt. Buffalo, NY: Firefly Books, 2003. 232 pp. \$49.95 (hardcover). ISBN 1-55297-678-5.

Webster's II New Riverside Dictionary (1984) defines the term *shaman* as: "A priest who uses magic to foretell and control events and to cure the sick" (p. 635). Norman Bancroft Hunt's book on shamanism, which is based on his own field research on the topic among Native American tribal cultures, shows that the role of the shaman in these cultures is actually broader than this. The book provides a valuable overview of shamanistic history, tools, practices, and beliefs within seven tribal regions found across North America, outlining the various roles that the shaman can take in tribal life (which include diviner, dream interpreter, therapist, artist, craft maker, trickster, warlord, and historian).

Though the details vary among tribes, most Native Americans have long held the belief that the physical and biological elements found in the natural world, as well as the forces of nature, are guided by deity-like spirits inherent in their spiritual traditions of creation. To help ensure that these elements and forces are balanced in a way beneficial to the tribe's survival, shamans are often asked to partake in rituals designed to honor the spirits on behalf of the tribe. Bancroft Hunt gives a basic view into these rituals through general description, coupled in certain places by intriguing anecdotes from historical and anthropological sources. Although the text reads as general as a textbook (likely because of its broad survey of many tribes), it still offers the reader with a useful insight. In addition, the pages are richly illustrated with photographs of artifacts that supplement the text.

Although the book will appeal mostly to anthropologists, archaeologists, and historians, it might also appeal to some parapsychologists and practitioners of alternative medicine because of its consideration of some psi-related and distant healing phenomena. For example, some Arctic tribes believe that the soul is capable of detaching from the body, allowing astral excursions similar to the out-of-body experience (pp. 13, 18, 23). Eskimo, Aleutian, and Sub-arctic shamans make use of controlled dreaming to locate animals and distant resources (pp. 22, 67), akin to clairvoyance and remote viewing. They may also use a technique similar to trance mediumship to impart messages from the deity-like spirits to the tribe (p. 24). Navajo tribal healers may use hand trembling to diagnose illness (p. 128), akin to ESP through motor automatism. Other psi-related aspects of Southwestern tribal traditions have been noted elsewhere (Williams, 2007).

Stanley Krippner (2002) points out that Western perspectives on shamanism that have developed over the years have been rather limited and conflicting, and that these issues hinder the contributions that the study of shamanism could potentially make to psychology, medicine, and anthropology. One way to get past these issues and possibly develop a better perspective is simply to return to those sources that directly and more fully survey shamanism in the cultures that have

upheld its tradition for generations. This book should be counted as one of those sources.

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FURTHER BOOKS OF NOTE

Parapsicologia [Parapsychology] by Massimo Biondi and Patrizio E. Tressoldi. Bologna: Il Mulino, 2007. 190 pp. 11.50 Euros (paper). ISBN 978-88-15-12021-2.

The purpose of the volume briefly noted here is to present an overview of modern experimental parapsychological research. It was written by physician Massimo Biondi, known in parapsychological circles for his previous books on the subject, and by psychologist Patrizio E. Tressoldi, who is also active in his country in parapsychology. The authors propose to present short reviews and to focus their discussion on the empirical database of parapsychology.

After some conceptual discussions about what is not part of parapsychology (UFOs, astrology, miracles), they present a concise but informative discussion of the history of the field. In addition to the work of the Society for Psychical Research and other workers such as René Warcollier and J. B. Rhine, there is also a short review of Italian work. I found this section very interesting, and I hope the authors will enlarge it later into a longer publication.

A chapter on methodology precedes the actual discussion of experimental work. These are presented in chapters about anomalous cognition (including sections about ESP in the ganzfeld, in dreams, and presentiment studies), mind-matter interaction (micro-PK, global consciousness studies, distant healing), and facilitating factors (internal states, experimenter effects, sidereal time).

There is a chapter about a variety of theoretical concepts, including the obligatory mention of entanglement. In another chapter, the authors mention organizations and publications in the field. They end by stating that there are arguments both in favor and against the reality of the phenomena discussed.

The book is fairly complete in coverage. Two topics that could have been added are experimental studies considering global geomagnetic activity, as well as recent studies with mediums. But Biondi and Tressoldi accomplish much in their book, which can be recommended as a good introduction to current experimental work in parapsychology and

to the use of meta-analysis. Such a book is needed in English, and I hope *Parapsicologia* gets translated.

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Rebels, Mavericks, and Heretics in Biology edited by Oren Harman and Michael R. Dietrich. Yale University Press, 2008. 400 + viii pp. \$40.00 (hardcover). ISBN 978-0300116397.

I had learned of this book through an article in the *Chronicle Review* (“Dynamic dissent”, pp. B7–8, 11 July 2008, *Chronicle of Higher Education*). The article’s statements about resistance to new ideas and the book’s title made it a natural to review for the *Journal of Scientific Exploration*. But I’ve found it very difficult to review. It’s really an edited monograph of case studies in history and philosophy and sociology of biology, a number of them probably too detailed and academically in-bred to appeal to most readers of this journal. On the other hand, I certainly don’t want to discourage anyone from looking at the book, because it’s brim full of little-known facts as well as opinions by the various authors that are likely to stimulate thought. I came to understand “neutral theory” of evolution better than ever before, for one example. For another, David Hull’s essay on Leon Croizat is exemplary in its clarity, accessibility, and insights into science. (Hull’s book, *Science as a Process*, is must reading for anyone who wants to understand how science is done.) My chief disappointment is that the Preface promises something cohesive, a taxonomy of iconoclasm, but the book delivers no such thing. I had expected a concluding chapter by the editors, putting into the Preface’s frame the various contributions; instead, there’s an Epilogue by Richard Lewontin that expounds his own views instead of reviewing how the other contributions might add up to more than the simple sum of their parts. Lewontin, an enthusiastic Marxist, focuses on institutional matters and won’t recognize as an iconoclast anyone who hasn’t been publicly effective, which excludes Gregor Mendel, for example, who was certainly a maverick and whose ideas were surely iconoclastic.

The choice of featured characters, too, is not explicitly justified by any coherent concept: Alfred Russell Wallace; Hans Driesch; Wilhelm Johannsen; Raymond Arthur Dart; C. D. Darlington; Richard Goldschmidt; Barbara McClintock; Oswald T. Avery; Roger Sperry; Leon Croizat; Vero Copner Wynne-Edwards; Peter Mitchell; Howard Temin; Motoo Kimura; William D. Hamilton; Carl Woese; Stephen Jay Gould; Thelma Rowell; Daniel S. Simberloff. These hardly live up to the *Chronicle* article’s description of “19 of the most notable iconoclasts in the last 150 years of biological research”. The book’s Preface indeed steps away from this claim by mentioning a few “who got away”; but why would Stephen Gould be included when Lynn Margulis is not, when Margulis’s long-contested and now universally accepted contribution to evolutionary theory—symbiosis,

bringing a step-wise leap in evolution, creating a new class of organisms—is so dramatically different from mutation-and-selection? For that matter, Carl Woese—whose inclusion I wouldn't contest—established the Archaeobacteria as a self-standing group, where Margulis had discovered how new classes can come about.

But, again, I don't want to discourage anyone from learning from the mass of factual material in this book, and the discussions by some of the leading academic pundits of biology. Just be warned that no striking generalizations emerge; as the editors themselves remark in the Preface, “all rebels seem to rebel in their own particular fashion”.

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Conversations on Consciousness by Susan Blackmore. New York: Oxford Press, 2006. 288 pp. \$23.00. ISBN 0-19-517958-7.

If you combine 21 of the leading minds on the topic of consciousness, ask them the same question about the problem of consciousness what will you get? Twenty-one very different answers.

Susan Blackmore, a senior lecturer in psychology at the University of the West of England, former parapsychologist, recent author of *Conversations on Consciousness* and *The Meme Machine*, interviews scientists and philosophers who work full-time in the field. The chapters are question-and-answer style arranged alphabetically by author. Blackmore starts each discussion by asking, “What's the problem with consciousness?”

The problem with consciousness within science is that it balks when attempting to adequately measure and describe a person's perspective. Science excels at capturing objective information and quantifying the same. But consciousness, which is by its nature wholly subjective, creates a stealthy disguise when scrutinized. It's similar to asking someone whether they love their mother without permitting acts of charity or loudly declaring so to serve as evidence. The feeling part of emotions or a person's consciousness cannot be observed or objectively measured.

One way of working around the consciousness issue is by placing consciousness into a workable scenario. This is done by using the “zombie hunch”. A zombie in this case is not a corpse reanimated by Voodoo, but a thought experiment that sorts how consciousness works. The thought experiment asks, “Can a zombie exist that looks like you, talks like you, acts like you, dresses like you, is identical to you, but has no inner life and no conscious experience?” Your zombie hunch depends on how you answer the question.

If you say yes, then you see consciousness as separate from the brain and corresponding neurological functions. The brain is intact, separate from consciousness. If you say no, then zombies could not exist. You might argue the zombie must have an inner life, a conscious mind to carry out the normal actions such as walking a dog or typing at a computer.

Consciousness is only one of the topics discussed. Such larger than life icons as Sir Francis Crick, Vilayanur Ramachandran, best known for his work with synesthesia, and David Chalmers, who organizes the biennial “Toward a Science of Consciousness,” all discuss free will, life after death, lucid dreaming, and classical dualism.

Throughout the interviews, each expert explains his or her views on all these topics, but there is no compelling finite answer, no definitive resolution. It will probably be a long time before we see a book titled *Conclusions on Consciousness* with a treatise on whether zombies can exist.

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ARTICLES OF INTEREST

“Testing the Speed of ‘Spooky Action at a Distance,’ ” by Daniel Salart et al. *Nature*, 454, 861–864, 2008; and “Quantum Mechanics: The Speed of Instantly,” by Terence G. Rudolph. *Nature*, 454, 831–832, 2008.

Quantum mechanics predicts that in some circumstances an action of one particle will *instantly* change the action of another particle regardless of distance. These two particles are “entangled,” and we know this condition leads to normally impossible things. This business of instant communication between two entangled particles across great gulfs of space is especially unreasonable to humans.

But we can measure “instantly” in the lab and D. Salart and his team devised such a timing experiment in Switzerland. They designed a way to check the actions of quantum-entangled particles separated by 18 miles. The experiment showed that the signals marking the activity of one of the particles were communicated to its entangled partner 18 miles away—if not instantaneously—were traveling at least 10,000 times the speed of light.

From the experiment of Salart et al, Rudolph concluded:

... that any theory that tries to explain quantum entanglement by invoking a transmission mechanism will need to be very spooky—spookier perhaps, than quantum mechanics itself.

All actions-at-a-distance have this speed problem. The velocity of gravitational effects has long been a matter of speculation. But we do not know whether the “instantly” attribute of quantum mechanics is the same phenomenon involved in gravitation, magnetism, etc.

Actually all actions at a distance might use different “mechanisms.” It may be that mechanisms are not involved at all, rather something else we do not perceive. Dark matter and dark energy were below our knowledge horizon until just recently—presuming that they exist at all!

“Nuclear Physics: A Neutrino’s Wobble?,” by Philip M. Walker. *Nature*, 453, 864–865, 2008.

Anomalies often pop up in places where scientists thought they had explained everything completely. For example:

It is a well-established fact that the rate at which a collection of radioactive atoms decays, itself decays exponentially over time.

But beneath the “well-established” terrain of radioactive decay there now seem to be periodic earthquakes—at least for two decay schemes put under the physics magnifying glass.

The two decay schemes so far observed for this phenomenon do not merely deviate slightly from the classical smooth exponential curve. Far Worse! Their decay curves oscillate in time! Such periodic deviations from “normality” may betoken a radically new underlying phenomenon complicating what has always thought to be a simple process. The element was Promethium 192.

Neutrinos might be behind this startling radioactive-decay phenomenon, since these ghostly, chargeless, almost massless particles for some unknown reason oscillate between three known types.

But Philip Walker, the author of this article, remarks in this regard: “That explanation itself would raise a host of further questions.”

But the radioactive-decay problem has become much worse in the following second phenomenon:

“Half-Life (More or Less),” by Davide Castelvecchi. *Science News*, 174, 20, November 22, 2008.

This article describes two long-running measurements of radioactive-decay rates at recognized scientific institutions that show that some (only some) radioactive elements decay at rates that vary with the earth’s distance from the sun. How could the sun’s distance be involved? During the 1980s, experimenters at Brookhaven National Laboratory saw this effect in the decay of silicon-32. More recently, in the 1990s, the same phenomenon in radium-226 was seen at a German institution.

(Astrologers might be pleased at this news, but nuclear physicists are not.)

Rock solid proof of either phenomenon above would definitely be of “textbook-rewriting” stature in physics.

(It is true that radionuclide decay rates are slightly affected by temperature, pressure, and even the chemical compounds in which they are incorporated.)

Stretching one’s imagination, the apparent solar effect described might be affecting macroscopic time-related phenomena, perhaps something analogous to the Allais-Saxl observations of solar-eclipse effects on pendulum periods.

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“Sovereignty and the UFO,” by Alexander Wendt and Raymond Duvall. *Political Theory*, 36(4), 607–633, August 2008.

Modern sovereignty is anthropocentric, constituted and organized by reference to human beings alone. Although a metaphysical assumption, anthropocentrism is of immense practical import, enabling modern states to command loyalty and resources from

their subjects in pursuit of political projects. It has limits, however, which are brought clearly into view by the authoritative taboo on taking UFOs seriously. UFOs have never been systematically investigated by science or the state, because it is assumed to be known that none are extraterrestrial. Yet, in fact, this is not known, which makes the UFO taboo puzzling given the ET possibility. Drawing on the work of Giorgio Agamben, Michel Foucault, and Jacques Derrida, the puzzle is explained by the functional imperatives of anthropocentric sovereignty, which cannot decide a UFO exception to anthropocentrism while preserving the ability to make such a decision. The UFO can be “known” only by not asking what it is.

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Readers are encouraged to submit for possible inclusion here titles of articles in preferably peer reviewed journals (typically, which do not focus on topics about anomalies) that are relevant to issues addressed in JSE. A short commentary should accompany. The articles may be in any language, but the title should be translated into English and the commentary should be in English.