

BOOK REVIEWS

Is God a Mathematician? by Mario Livio. New York: Simon & Schuster, 2009. 308 pp. \$26.00 (hardcover). ISBN 074329405X.

Is God a mathematician? (Or is he a computer programmer or a software engineer?) Is mathematics invented or discovered? Why is mathematics so useful in physics? And why isn't it at all useful in biology? These are stimulating fundamental questions, and Mario Livio obviously had fun collecting the material for this book. Livio gives no definite answers, but the book is entertaining and uplifting, with many beautiful quotations from distinguished thinkers and many photographs of the title pages of books that are inspiring masterpieces of the scientific literature of previous centuries.

Clearly, as Bertrand Russell says at the end of the book, there are no definite answers; everyone must try to answer these questions to their own satisfaction. Here are some of the answers I've come up with. And I'll now give some of my own favorite quotations, not ones that are in Livio.

On why mathematics works so well in physics, I have two answers. First of all, math and physics co-evolved. Secondly, if you believe in the multiverse, there would not be any life in this universe marveling at the mathematical nature of reality if our universe did not have enough structure for life to evolve within it. Chaotic universes have no observers.

On whether mathematics is invented or discovered, I have an ambiguous position. I believe in the Platonic world of ideas, so you might guess that I will answer "discovered." However, our knowledge of this perfect, unchanging, eternal Platonic world is far from perfect, unchanging, and eternal. I believe that our theories are necessarily invented, that we do not have direct perception of the Platonic world of ideas. And here are quotations from Bertrand Russell, Kurt Gödel, and Albert Einstein which also suggest that the answer to whether mathematics is invented or discovered is "invented":

My object in this paper is to explain in what sense a comparatively obscure and difficult proposition may be said to be a premise for a comparatively obvious proposition, to consider how premises in this sense may be discovered, and to emphasize the close analogy between the methods of pure mathematics and the methods of the sciences of observation. [Russell (1907)]

The analogy between mathematics and a natural science is enlarged upon by Russell also in another respect (in one of his earlier writings). He compares the axioms of logic and mathematics with the laws of nature and logical evidence with sense perception, so that the axioms need not necessarily be evident in themselves, but rather their justification lies (exactly as in physics) in the fact that they make it possible for these "sense perceptions" to be deduced; which of course would not exclude that they also have a kind of intrinsic plausibility similar to that in physics. I think that (provided "evidence" is understood in a

sufficiently strict sense) this view has been largely justified by subsequent developments, and it is to be expected that it will be still more so in the future. It has turned out that (under the assumption that modern mathematics is consistent) the solution of certain arithmetical problems requires the use of assumptions essentially transcending arithmetic, i.e., the domain of the kind of elementary indisputable evidence that may be most fittingly compared with sense perception. Furthermore it seems likely that for deciding certain questions of abstract set theory and even for certain related questions of the theory of real numbers new axioms based on some hitherto unknown idea will be necessary. Perhaps also the apparently unsurmountable difficulties which some other mathematical problems have been presenting for many years are due to the fact that the necessary axioms have not yet been found. Of course, under these circumstances mathematics may lose a good deal of its “absolute certainty”; but, under the influence of the modern criticism of the foundations, this has already happened to a large extent. [Gödel (1944)]

[T]he concepts which arise in our thought and in our linguistic expressions are all—when viewed logically—the free creations of thought which can not inductively be gained from sense-experiences. . . . Thus, for example, the series of integers is obviously an invention of the human mind, a self-created tool which simplifies the ordering of certain sensory experiences. But there is no way in which this concept could be made to grow, as it were, directly out of sense experiences. [Einstein (1944)]

Kant, thoroughly convinced of the indispensability of certain concepts, took them—just as they are selected—to be the necessary premises of any kind of thinking and distinguished them from concepts of empirical origin. I am convinced, however, that this distinction is erroneous or, at any rate, that it does not do justice to the problem in a natural way. All concepts, even those closest to experience, are from the point of view of logic freely chosen posits. . . . [Einstein (1949)]

These are all quotations that I believe support what Imre Lakatos termed a *quasi-empirical* view of mathematics, which is the idea that although mathematics and physics are different, perhaps they are not as different as most people think. In particular, mathematical quasi-empiricism denies the primacy of the axiomatic method and maintains that although the axiomatic method may be of expository value, mathematicians actually discover new concepts and principles by trying to unify and organize their mathematical experiences, much as empirical scientists do. For more on this, see any of my books or Tymoczko (1998) and Borwein et al. (2003, 2004, 2007).

Enough of my own opinions. Returning to Livio, what his book shows well is that even though metaphysics is currently out of fashion in academic philosophy, it is alive and well in the scientific community. Just look at Leonard Susskind’s and Max Tegmark’s idea that the physical laws of this universe are not particularly interesting, because they are just, as it were, our “street address” in the multiverse/landscape of all possible physical universes with all possible laws of nature. You cannot get more metaphysical than that, but Tegmark is a cosmologist and astrophysicist, not a professor of philosophy, and Susskind is a string theorist.

Mario Livio is to be congratulated for keeping such high level intellectual ambitions alive in spite of a hostile contemporary zeitgeist and for packaging

his book in such a fashion that it is acceptable to commercial publishers while still being of interest to philosophers and theologians.

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La Lévitiation [Levitation] by Joachim Boufflet. Paris: Jardin de Livres, 2006. 202 pp. ISBN 2-914569-27-0.

Over the years there have been individuals concerned with documenting psychic phenomena—such as bilocation, levitation, luminosity of the body, stigmata—reported to have taken place around mystics and saints, particularly of the Christian tradition. Examples coming from the 19th century to more recent times are Albert Farges, Johann Joseph Görres, Olivier Leroy, Jerome Ribet, Herbert Thurston, and Joseph de Tonquédec. More recently, others have followed in this tradition, such as the author of the book reviewed here, Joachim Boufflet.

Boufflet, who holds a history Ph.D. from la Sorbonne, has worked with the Congregation for the Causes of Saints in Rome regarding beatification processes. He is well known for his writings about the phenomena of mystics and saints, an example being his three-volume work *Encyclopédie des phénomènes extraordinaires dans la vie mystique* (Boufflet, 2001–2003). In the book reviewed here, Boufflet focuses on levitation, with emphasis on Christian mystics and saints. As we will see, his study is heavily influenced by Olivier Leroy's *Levitation: An Examination of the Evidence and Explanations* (1928), a unique study of saintly levitation. Furthermore, and following Leroy and others, Boufflet is concerned with establishing differences between natural and supernatural phenomena.

From the beginning of the book, the author affirms his belief in the reality of the phenomena, and comments that, from the spiritual point of view, unusual manifestations are by-products of spirituality that have caused many controversies. Boufflet starts discussing the levitations of Copertino, comparing them to those of medium D. D. Home (such comparisons were also presented by Leroy). Copertino levitated suddenly, unexpectedly, and in plain light, while Home's levitations seemed to be arduous, took place slowly, and only rarely in plain light. There are other differences. Home, he states, never levitated over 5 feet from the floor, while Copertino went much higher. In summary, he stated that mediums "produce but a pale copy of the spectacular manifestations" (p. 47) shown by some saints, which is also in agreement with Leroy.

Boufflet reproduces a table (p. 68), based on Leroy's study, in which he contrasts features of the levitations of mystics and saints compared with those of mediums. Some of the items, presenting the mystics before the mediums, include phenomena independent of the will vs. willfully induced; spontaneous ecstasy vs. induced trance; bright luminous phenomena vs. weak and rare luminosities; revulsion for publicity vs. looking for publicity; lack of any interest vs. lucrative activities; and place does not matter vs. a specific place. Furthermore, and following Leroy, Boufflet argues that saints and mystics show ecstasy during levitation, while mediums show trance. The first are seen to be highly spiritual, something that is not the case with the second group. Furthermore, and following a French psychiatric tradition barely acknowledged in the book (on this issue see Le Maléfan, 1999), mediums are seen as pathological individuals. In contrast, saints are assumed to be well balanced. In addition, it is said that they look for union with God, for perfection, something that manifests as virtues, particularly as charity.

All these differences led Boufflet to ask if there were two types of levitation: one with a "religious connotation and significance, and a profane one . . ." (p. 66). He also refers to a possible third type, which he calls "natural levitation," taking place in normal people.

Boufflet also documents the fact that levitation is not only reported in Christian contexts. In addition to mediumship, he reviews beliefs in the phenomenon from antiquity and from different places. This includes sections about ancient Greeks and Romans, fakirs in India, witches from Africa, and shamans in America and Oceania. The discussion has examples of "emblematic figures" or important religious figures such as Buddha.

Levitation, Boufflet writes, is sometimes accompanied by other phenomena in mystics and saints. These include luminosity of the body and stigmata. More rarely, there are fragrances around the person's body and, "during some exceptional cases, the apport of flowers . . ." (p. 186).

Boufflet does not enter into speculations about the "physics" of levitation. Instead he follows on the ideas of those, such as Albert Farges, that have stated the phenomenon represents an "outward and visible sign of what happens inwardly, when the soul is raised by God to those heights which approach so closely to

the beatific vision" (Farges, 1926: 169). According to Bouflet: "All extraordinary phenomena . . . signal a high degree of union with God They are the sign and manifestation of ecstatic unity . . ." (p. 186). Levitation represents the "degree of perfection and union with God of the person that is such favored" (p. 200), regardless if the person was a Christian, a Buddhist, or a Muslim. The phenomenon, Bouflet believes, may be interpreted as the objectification of the spirit's internal state into the physical realm through a temporary exemption of physical laws that mimic or dramatize the spiritual liberation of the soul acquired by the grace of God.

The strength of the book lies in the presentation of a variety of levitation cases from the literature about mystics and saints. Many sources in various languages are used to illustrate the phenomenon. In doing this, Bouflet has reminded us that, because of its long history and recorded observations, this phenomenon needs to be remembered as an important aspect of the history of religion and mysticism. In addition, the book also restates the important fact that many of the testimonies for levitation are better than some critics in the past have assumed them to be.

Another good thing about the book is that it reminds us that saints and mystics exhibit more dramatic levitations than mediums. This also seems to be the case with other manifestations, as I have noticed in the case of luminous phenomena (Alvarado, 1987). Such an observation deserves further study, even if this consists only on new analyses of old cases. In fact, the study of accounts of past phenomena such as levitation is in need of systematic quantitative analyses of case features and antecedents, analyses that could support and give better and more precise empirical support to the observations presented in this book. What I have in mind is something such as the coding of cases for a variety of features such as Alan Gauld did in his analysis of hauntings and poltergeists (Gauld & Cornell, 1979).

On the weak side, Bouflet's analyses are not very detailed. I do not believe he has examined the "profane" levitation literature in much detail, particularly the mediumistic one. Contrary to what he states, D. D. Home levitated beyond a height of 5 feet. I would also question the assertion that mediums produce levitation willfully.

The author does not consider levitation in poltergeist cases, a topic examined by Owen (1964). In addition, his contrasts of the levitations of mystics and saints and mediums do not tell us the proportion of features in question. Lacking this information we cannot be sure if Bouflet is referring to small or to marked differences.

I also feel that Bouflet is too quick to classify mediums as individuals with pathology, and saints and mystics as well adjusted. First of all the author does not review the subject in great detail. He focuses on old descriptions of the presumed pathology of mediums but, conveniently, he glosses over a literature that has classified saints as hysterics and the like (Mazzoni, 1996). While I am not arguing for the latter, and I feel both literatures are problematic in different ways, I feel more balance is needed before one classifies both groups as sharply as the author does.

It is also important to realize that Boufflet fails to consider other possibilities. The “reduced” manifestations of levitation in the séance room are used to show they come from a lower source, while the levitation of saints and mystics comes from the highest possible agency, that of God. But no allowance is made of the psychological context. Assuming both groups of individuals have similar psychic potential—admittedly a concept far from being understood—perhaps the difference can be found in training, expectations, and the like. Certainly mystics and saints work in a tradition in which certain phenomena are expected, while mediums also have a tradition in which they have developed. Higher magnitude manifestations may be the province of mystics and saints because their ascetic way of life leads them to focus their mind in more efficient psi-conductive ways than do mediums. Mystics and saints may develop more piety and selflessness than mediums, aspects that may be associated to the manifestation of large effects. The point here is that the observed differences may not be a question of different sources. One can only speculate what type of phenomena (or what magnitude) D. D. Home would have shown if he had lived the same life as Copertino. Contrary to Boufflet, I do not present my speculations as facts. I am not even convinced of their validity. But authors such as Boufflet should consider these issues in more detail, if only to be fair to other perspectives.

It is unfortunate that Boufflet’s treatment of the subject is so one sided. He basically promotes a Christian worldview that does not consider alternate arguments. In any case, one hopes that more studies about the past literature of levitation will continue to appear in the future so as to learn more about these manifestations.

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My Stroke of Insight: A Brain Scientist's Personal Journey by Jill Bolte Taylor. New York: Viking, 2009. 183 pp. ISBN 978-0-670-02074-4.

In 1996, at the age of 37, Harvard-trained neuroanatomist Jill Bolte Taylor suffered a major stroke on the left side of her brain. The stroke produced a life-transforming experience, which is the subject of her memoir. The feature of interest to this journal lies in a special combination of facts. The first was the character of the author's hemorrhage, which affected her motor and sensory cortex, her ability to speak (Broca's area) and to understand speech (Wernicke's area), and the part of the cortex that mediates the subject's orientation in space and time (p. 55). The second was that the subject was a neuroscientist able to observe, remember, and describe (brilliantly) the stages of her neuro-functional disintegration as well as her experience. The third fact concerns the nature of the experience, which had all the earmarks of profound mysticism. By the time Taylor realized she was having a stroke, finding the phone number of her colleague, dialing it, and pleading for help had become a task of immense difficulties; the parts of her brain that enabled her to negotiate the external world were rapidly falling apart. In the midst of her struggle and growing fatigue, however, she also noticed a remarkable change taking place: "... I was consistently distracted by an enveloping sense of being at *one* with the universe ..." (p. 54). She could no longer distinguish writing as writing or symbols as symbols; memories of her empirical self were washed away, the sense of her physical boundaries vanished, along with her internal clock; she ceased feeling like a solid being but perceived herself as something fluid and diffuse. Engulfed by a growing bliss, she still clung to the vestiges of her left-brain idea of who she was. As the left-brain chatter involuntarily died down, fear and pain retired to the background of her consciousness.

Once she could discriminate between her traumatized left-brain self and the vast right-brain consciousness that was unfolding, she felt despair at having survived her stroke, and yearned to cut loose from her shattered body. (This reaction is reminiscent of near-death experiencers.) "I felt like a genie liberated from its bottle," she writes. "The energy of my spirit seemed to flow like a great whale gliding through a sea of silent euphoria. ... As my consciousness dwelled in a flow of sweet tranquility, it was obvious to me that I would never be able to squeeze the enormousness of my spirit back inside this tiny cellular matrix" (p. 67).

Dr. Taylor's cerebral accident (due to a genetic arteriovenous malformation), achieved what mystics the world over try to achieve by means of fasting, sensory and conceptual reduction, and countless other techniques practiced from time immemorial to induce higher states of consciousness.

Her insight? This is how she put it: "My stroke of insight is that at the core of my right hemisphere consciousness is a character that is directly connected to my feeling of deep inner peace. It is completely committed to the expression of peace, love, joy, and compassion in the world" (p. 133). She describes various practical consequences of her experience, and sketches a new worldview, based on her personal discovery of the hemispheric duality of the brain.

Taylor, before her stroke, was an advocate for people diagnosed as mentally ill. This concern took on new meaning in light of her experience. She speaks to a certain mindset, predominantly left-brain in character, that can be more toxic than therapeutic for traumatized or mentally disturbed patients. Although a wreck in her stricken condition to the outward eye, her receptive mechanisms had sprung into high gear. During her near vegetative state she experienced heightened empathy, which sharpened her insight into the value of therapeutic kindness and compassion. Dr. Taylor argues for a more holistic education of medical professionals. Caregivers should train their right-brain circuits and free up their capacity for love while moderating the more abstract and less sensitive left-brain functions.

As testimony to the power of this stroke-induced experience, Dr. Taylor thinks the right brain should be the basis of a *general re-education of humanity*. Her premise for this spectacular claim: “For me, hell existed inside the pain of this wounded body as it failed miserably in any attempt to communicate with the external world, while heaven existed in a consciousness that soared in eternal bliss” (p. 73). Her idea of how to bring this blissful form of awareness into the center of our lives would entail a paradigm change in the conduct of daily life.

In order to grasp from within the values and qualities of right-brain enlightenment, she recommends that we shift from over-reliance on rationalistic “mental chatter” to more esthetic and contemplative modes of thought. Everyday life is the great field of experiment; we need merely to pay attention to the flow of the now to wean ourselves from the debilitating excesses of the left brain. The more we are present to the world, the greater the influx from the right hemisphere of consciousness. The arts, moreover, are tools toward this end, and the great spiritual teachings of the world are there for us to draw upon.

Dr. Taylor’s call for the re-education of humanity around the premise of right-brain consciousness is visionary, with a touch of the messianic. But if her conception is sound—her experience is one piece of testimony for it—we should listen carefully. The idea of a science of enlightenment may seem visionary; but for all we know it may be the wave of the future.

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Intermediate States: The Anomalist 13 edited by Patrick Huyghe and Dennis Stacy. San Antonio and New York: Anomalist Books, 2007. 188 pp. \$12.95 (paperback). ISBN 978-1-93366-526-9.

The Anomalist, which shows up every year or so, is not a magazine, a journal, or a book, but something of all of them. Its various articles are usually

intelligently written and researched, but not scholarly in any formal sense. As the title indicates, its focus—broadly speaking—is on the sorts of mysteries that engage the curiosity of *JSE* readers, though *Anomalist* writers are as concerned with the folklore of anomalies and the paranormal as with their actual manifestations and mechanics. Thus, while certainly no pinch-mouthed debunking exercise, the current issue—11 contributions long—typically is as devoted to things that have been claimed to happen but did not, or at least not quite in the manner alleged.

The proceedings open with John Reppion's strangely fascinating "Suspension of Disbelief: The Great Yarmouth Bridge Disaster of 1845," whose subject could hardly be more arcane: did a clown floating in a tub propelled by geese cause hundreds of spectators to drown when an overloaded suspension bridge collapsed in that English city? Nothing extraordinary—at least in the otherworldly sense—is implied in any of this, but Reppion's investigation is driven by his curiosity about whether a clown known simply as "Nelson" in fact existed and whether a stunt such as alleged could have occurred. If you're curious, you can read the article, which eventually provides an answer, and an amusingly counterintuitive one. It's the kind of item that makes *The Anomalist* so likably unpredictable, as willing to probe esoteric oddities as profound enigmas.

At the other extreme, literally (it's the last piece) and figuratively, is Mark Macy's "In Touch With Other Worlds," which recounts the writer's research into electronic and computer communications with believed-to-be discarnates. It's riveting stuff, but at a considerable distance past my boggle threshold. Consequently, I leave it to others less reflexively resistant to its more than usually fantastic claims to judge its credibility.

Dutch Fortean Theo Peijmans contributes an excellent summation of an obscure Massachusetts legend, "The Black Flash of Cape Cod: True Heir of Spring Heeled Jack." The subtitle refers to a British leaping-ghost tradition that sometimes figures (if dubiously) in UFO-age aliens-in-our-midst ruminations. The Black Flash was, in the words of one account, "an elusive superman, a superhuman leaping lizard . . . dressed all in black," which scared the bejesus out of Provincetown from 1938 to 1945. Local rumor held the depredations to be an on-going prank perpetrated by several prominent citizens (presumably with more time on their hands than was good for either them or their community), though the truth—as with the original Spring Heeled Jack tales of the mid-19th century—remains hazy and probably by now unrecoverable. Peijmans offers up speculations about how seemingly impossible feats of jumping could have been accomplished, but one wonders if the story isn't simply too nebulous to merit the effort.

In "The Flying Saucer That Never Was," Nick Redfern links a phony Hollywood-generated story of a UFO filmed in Alaska in 1948 with some remarkable real sightings in the same general time and place. The latter, he writes, accounts for the otherwise-inexplicable official interest in the former, concocted as a promotional scheme for huckster Mikel Conrad's Grade-Z 1950 science-fiction flick *The Flying Saucer*.

Other notable contributions include Victoria Alexander's extended inquiry into "Medieval Mysticism and Its Empirical Kinship to Ayahuasca." Alexander's charmingly good-humored tone, I presume, is intended to sooth the reader's stomach. Some of the appallingly unappetizing practices described—vomiting figures prominently, and it's almost the least of it—may generate distress in the more susceptible digestive system. The closest thing to a straight popular-science article is Sharon Hill's "Whispers from the Earth: Can Science Grasp the Hints Before an Earthquake?" Ulrich Magin answers the question posed in the title "Sargon's Sea Serpent: The First Sighting in Cryptozoology?" in the negative, but interestingly so.

Any issue of *The Anomalist* is welcome, but this one is even more entertaining than most. Here's to the next issue and—let us hope—more to come.

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The Body Electric: Electromagnetism and the Foundation of Life by Robert O. Becker and Gary Seldon. William Morrow & Co., 1985. 364 pp. (paper). ISBN 978-0-68800-123-0.

Robert Becker passed away May 14, 2008 at the age of 84. His most famous book is entitled *The Body Electric* (1985) and although a heavily reviewed book, it seemed appropriate to write another review on the occasion of his passing.

The Body Electric is one of those classic books that can be read, and then read again, with each reading opening up new wonders. Breakthrough discoveries can be gleaned from its pages as the book takes the reader into hidden and diverse areas, some of which continue to remain unexplored.

Despite its two authors, the book is written in the first person, and is substantially chronological. When it deviates slightly, the chapters are arranged by subject matter, so the reader is able to follow along both chronologically and substantially. This makes the book especially easy to follow. The story, however, is not so much about the life of Robert Becker as it is about the scientific life of a serious researcher.

The Body Electric begins with a lamentable introduction to penicillin. Lamenting not the saving power it offered to those who were sick, but the impact it had on the philosophy of medicine. Becker reminisces that medicine became very mechanistic, too biochemical, and sorely lacking in innovation once penicillin hit the medical scene. Becker comments that most doctors who have graduated since 1950 have never even seen pneumococcal pneumonia in crisis. As I write this review, this would include almost all doctors today.

This difficult past helped to shape Becker, the medical student, as well as reshape the direction his research would eventually lead. In an effort to move away from a purely chemical way of treating patients, he wandered into the field of bioelectromagnetics, the study of electromagnetic fields on life. This scientific field was not as developed as it is today, so Becker is credited with being one of its pioneers. He used bioelectromagnetics in order to study bone healing, and did so with wildly successful results. In addition to bone, he would eventually open up to the more generalized field of regeneration, and investigated the head of the hydra, the body of the flatworm, the legs of the salamander, and finally skin regeneration in man. As a scientific field, regeneration is relatively new. The first description of it came in 1712 from a French scientist, René Antoine Ferchault de Réaumur, and it would be remiss of this entomological reviewer not to mention that this Frenchman studied insects and other invertebrates during his productive scientific career.

Although Robert Becker earned an M.D. and not a Ph.D., he possessed a penchant for research. This desire to conduct research led him to find the truth, which unfortunately, offered no guarantee of popularity among his peers. Forced out of research in 1980, Becker was unable to continue his groundbreaking research in bioelectromagnetics. The shortening of Becker's scientific career did not adversely affect the quality of the work he completed, nor the book that so wonderfully came as a result of it.

Because Becker had his medical degree, and because he was not a full-time researcher, he did see patients occasionally. He was a devoted researcher and this research philosophy permeated his practice. He was often trying to improve someone's life utilizing the scientific method, rather than writing a drug prescription, shaking the patient's hand while shuffling him out the door, and then sending him a bill. He writes, "I've spent far too much time on a few incurable patients whom no one else wanted, trying to find out how our ignorance failed them." One memorable case for this reviewer was of a man who suffered from a broken leg that had not properly healed despite bed rest for over a year. When Becker was introduced to him, he let the patient know in advance that he wanted to try something new, but could not guarantee the outcome. Becker wanted to implant some electrodes and apply a tiny electric current directly to the bone. Becker's results needed no apology as the man improved immediately; the bone began to grow, and he gained the use of his leg within a few short months. This type of success is not common, but it speaks well for maverick researchers who are willing to move out of their comfort zone and challenge prevailing dogma.

As a researcher, Becker discovered the existence of electrical currents in parts of the nervous system. These are not the usual neuronal pulses familiar to many scientists, but direct currents (DC) in the glial cells. Prior to his work, the glial cells had been considered "blankets" for the nerve cells, their function beyond protection and insulation being unknown. It is unfortunate that universities still teach that glial cells are mere insulators for the neuron. Becker writes in regards to generally accepted theories:

Science is a bit like the ancient Egyptian religion, which never threw old gods away but only tacked them onto newer deities until a bizarre hodgepodge developed. For some strange reason, science is equally reluctant to discard worn-out theories, and, even though there was absolutely no evidence to support it . . . (p. 45)

and he continues

After all, you can disagree with a theory, but you should respect the data enough to check them. If you can't duplicate them, you're entitled to rest easy with your own concepts, but if you get the same results, you're obligated to agree or propose an alternate theory. (p. 84)

The small amount of electricity in the glial cells is important for many life functions, but most notably regeneration. For example, Becker was able to dedifferentiate certain somatic cells with a very small charge of electricity (200–700 picoamps). These dedifferentiated cells could then develop into any one of a number of alternate cell types. This regenerating ability has parallels in modern research, which has shown that adult stem cells can cure or alleviate almost 100 different ailments.

He also contributed to the field of anesthesia. Becker discovered he could anesthetize salamanders with currents and then have them regain consciousness in a matter of seconds. This method contrasts sharply with other forms of anesthesia. I have personally heard of this type of anesthesia being used today, but not in this country.

Once while attempting to treat a patient, Becker decided to switch the more common stainless steel electrode to a silver electrode. The desired effects were to use a less reactive metal as well as to more efficiently transmit the electrical current. But the side effect led to the re-discovery of a beautiful antibiotic (silver) and the dedifferentiation of many cells that subsequently rearranged to form clean, healthy tissue. This in turn led to the discovery of utilizing a silver nylon mesh to treat osteomyelitis (bone infection), which in turn led to the accidental discovery that this treatment healed bones quite nicely. Becker commented:

Whatever its precise mode of action may be, the electrically generated silver ion can produce enough cells for human blastemas; it has restored my belief that full regeneration of limbs, and perhaps other body parts, can be accomplished in humans. (p. 175)

More amazingly, Becker observed complete regeneration in a newt's heart so long as a minimum of 30% of the heart was removed or severely traumatized. Less than 30% damage produced less than impressive results. Becker learned that massive trauma was not just sufficient, but necessary. Becker calls this the Polezhaev principle, which states, the greater the damage, the better the regrowth (named after Lev Polezhaev who spent his career investigating this seeming contradiction). To Becker's surprise, regeneration was found to be well under way 15 minutes after removing most of the heart and then completely healed, without scar tissue, in about a day. Amazing discoveries like these are sprinkled throughout the book with a lively scientific discussion as to how he arrived at these unsuspecting discoveries. Sometimes he got lucky, and he admitted that. Sometimes

tremendous results were achieved through common sense. All of these scientific discoveries were described in such a way that anyone with a background in high school biology would be able to follow along. No previous background in regeneration nor in bioelectromagnetics is necessary to read *The Body Electric*. This book is truly written for the public and helps to explain its popularity.

The Body Electric is, in my opinion, a scientific odyssey. A good scientific story is a page-turner, and this book will not disappoint. Becker and co-author Gary Seldon weave a scientific drama that includes his own research, his own thoughts, but at the same time builds these on the research of others, who are duly named. Becker has thoughts about morphogenetic fields, acupuncture, the connection between brainwaves and atmospheric waves, biological semiconductors, extrasensory perception, Kirlian photography, and the Shroud of Turin. I could unreservedly recommend it to any fellow scientist, no matter their field. To the non-scientist, there is enough in *The Body Electric* to entertain since politics and personalities are woven into his stories and these will hit home to many of us in the SSE (also read *The Emperor of Scint* [2002] by Chandler Burr, reviewed by Henry Bauer in *JSE* 17[3] for a similar but more political story).

The Body Electric ends with a change of pace. Moving away from the personal stories of research inquiry in the first three-quarters of the book, it then switches to recent issues surrounding electromagnetic pollution. The book takes a noticeable change and the tone is not as enjoyable to read. True, he makes good points in regards to electropollution, but this reviewer found the tone dry and a laborious read; the tone of discovery morphed into a tone of speculation. Now instead of talking about his own research, exciting as it was, many of the studies he quotes later in the book are not his own, and there are many he quotes. The end of the book starts to read like a long list. The list covers individual research projects, their results, and maybe a brief commentary by Becker. This part of the book should have probably been removed, or at least saved for another book. I understood better why this ending was chosen when I realized that another book dealing with electropollution had been penned by Becker, *Cross Currents: The Perils of Electropollution, the Promise of Electromedicine*, although nowhere as near as popular as *The Body Electric*. *The Body Electric* ends essentially as an introduction to *Cross Currents* so I cannot fault Becker if this was his intended goal.

Becker made an important point, however, in regards to experiments in which cells or organisms are exposed to a single unmodulated frequency, as opposed to more complex modulated frequencies. Although these experiments may provide some useful answers in a laboratory setting, they are irrelevant outside the laboratory. They are most often conducted by researchers whose only goal is to be able to say, "See, there's no cause for alarm." While attending a Bioelectromagnetics Society meeting in 1998, I noticed with dismay that almost all the research on single, unmodulated frequencies had no effect on the test organism, whereas studies involving modulated frequencies almost always had observable effects.

Becker's now prophetic observation is still valid today, and I consider it a shame that we have not corrected this seemingly blatant error.

I found my interest returning while reading the final chapter entitled "Post-script: Political Science." While *The Body Electric* weaves a truly fascinating story on the excitement of discovery, there is also the element of politics. I refer not only to governmental politics, but also scientific politics, which is not so familiar to many in this country, but has been the main subject in other important books (i.e., *Profscam* by Charles J. Sykes [1988]). There are plenty of examples of scientific dishonesty littering the book, so many of us in the SSE will nod our heads at some of Becker's experiences with the implicit understanding of having "been there and done that." Our respective scientific field might be different than Becker's, but the politics are identical.

Since Becker worked at a university and applied for grants, he was continually subjected to the domineering spirit of peer review that seeks to squelch true advancements in science. The excuse used by the scientific establishment is that they only wish to fund reputable science, but in so doing, fund "safe" science that is largely boring, uncited, and irrelevant. Becker's experiences help to bring some of that excitement back into research. *The Body Electric*, although penned in 1985, should be brought back as required reading for scientists today.

Thank you for presenting this research synopsis and congratulations on your reward, Dr. Becker. May you rest in peace.

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Forbidden Science: Volume Two: Journals 1970–1979 The Belmont Years by Jacques Vallee. Documatica Research, LLC, November 2008. 547 pp. \$44.42 (hardcover). ISBN 978-0-615-24974-2

A decade and a half after publishing *Forbidden Science: Journals 1957–1969*, his groundbreaking book about the early days of Ufology, Jacques Vallee has presented the public with another insightful work. *Forbidden Science: Volume One* detailed the events of the late 1950s and 1960s. *Volume Two* addresses the next decade in fascinating detail.

The format is that of a diary, with entries sequentially spaced every few days for the entire decade. The information is not limited to UFOs, but also includes other significant events in Vallee's life, as well as some of his family members. Those who know Vallee are well aware of his involvement in the development of the field of computer science, and events leading to what is commonly accepted today as the Internet. Therefore, he has included substantial background about

advances in information technology. As a diary, the reader learns quite a bit about Vallee's personal life. That even includes commentary on French cuisine and selected restaurants in which he dines. Also included are a few historic markers of major world events that provide both temporal context and background pertaining to the environment in which his research projects were conducted.

Members of the Society for Scientific Exploration (SSE) are treated to an extensive *Who's Who* of the formative membership of our organization. Vallee informs us of the pre-conception inquisitive activities of many of the key personnel of the SSE. Among those in the Stanford area with whom he worked extensively are Peter Sturrock, Hal Puthoff, and Russell Targ. In Part Six of this book, "Psychic Underground," Vallee describes how closely the historical study of UFOs and other psychic phenomena are intertwined. In particular, readers are provided a little known perspective about the development of remote viewing at SRI, the experimentation with Uri Geller, and intellectual curiosity of lunar astronaut Edgar Mitchell.

Worth noting is an experiment conducted with Uri Geller at Lawrence Livermore National Laboratory. While the desired effect of bending metal without touching the material was achieved, it was another observation that may have been equally significant. The infrared cameras that were placed to ensure Geller had no physical contact with the metal object captured unexplained coherent light beams of high intensity bathing him during the experiment. The source of the illumination could not be determined, despite repeated attempts to identify them. As Vallee notes, although both effects were scientifically significant, there was no published report of this unique experiment. This lesson will not be lost on SSE members.

Even those well versed in these topics are likely to be amazed at the intricate interpersonal relationships that formed and influenced the evolution of phenomenological research. We would not be where we are today without the architectural pressure of these pioneers. The list of names is extensive and well worth exploration by young researchers who are interested in the formative factors in the study of various phenomena.

Of course the UFO discussion includes extensive material about the U.S. Air Force chief scientific consultant, Dr. J. Allen Hynek, with whom Vallee was at times closely associated. This research period includes both case studies and the eventual publicity that attended Hynek following the publication of his books, *The UFO Experience: A Scientific Enquiry* (1972) and *The Hynek UFO Report* (1977). There is also mention of Vallee's meetings with Steven Spielberg during the development of his blockbuster movie, *Close Encounters of the Third Kind*, in which the character of the French scientist, Claude Lacombe, played by François Truffaut, is tailored after Vallee.

There are physics and physicists of all ilk. These range from the most rigid, like John Archibald Wheeler, who acted aggressively to evict consciousness studies from the halls of science, to the very flaky, some of whom he does name. Then there are mysterious deaths, such as SRI remote viewer Pat Price, and UFO

investigator Jim McDonald, plus intrigue and murder in the exploits of Ira Einhorn who later became an international fugitive. Conspiracy theories abound as Vallee had encountered many of them both in the U.S. and abroad. His exploration covered the nutty, such as The Two (Bo and Peep) who emerged very publicly as contactees, to the tragic Marshall Applewhite, who later led his Heaven's Gate cult to mass suicide. He cites the Philadelphia Experiment as a "ludicrous myth," delves into the occult world of Aleister Crowley, and tackles the UMMO hoax that gained global notoriety.

Vallee's experience with members of the Intelligence Community (IC) evokes a sense of both fascination and caution. His extensive relationship with Dr. Christopher "Kit" Green, then a CIA Life Sciences officer, is central to his ventures into the IC. While many UFO buffs might know of Kit, few are likely to be aware of other important, but lesser-known figures, such as Art Lundahl, the director of the National Photographic Interpretation Center, or NPIC as it was called by those who even knew of its existence. When Vallee interacted with these various agencies, he was surprised to learn that he knew more than they did about the UFO topic. More importantly, he came to understand that each agency was more interested in what the others were doing about the field than in the UFOs themselves. All seemed to believe that the other agencies, including friends, were holding information back. In reality, this may have actually foreshadowed the findings of the 9-11 Commission, which determined that interagency rivalry was a key factor in lack of sharing of critical data which prevented them from identifying the Al Qaeda attack.

The perspective of projects is as perceived by Vallee, and includes personal observations pertaining to the status of relationships between people. These are not always smooth and harmonious. Not infrequently he elucidates his own emotional state as it relates his wife, Janine. One criticism is the need to have a *program to tell the players*. Vallee often uses only first names, and those not totally familiar with the participants may have some trouble keeping track of whom he is speaking. Considering the breadth of scientific fields covered, it is easy to get lost in those topics with which the reader is not familiar. There are a few characters, usually personal friends not involved in research, who are only identified by first name. There is an index that will assist the reader, but the accuracy is not 100%.

The conclusions in this book are consistent with Vallee's other publication. Some of these include

- The phenomenon is real but it offers multiple levels
- No simple extraterrestrial explanation fits the facts
- Some governments have keen interests, but no scientific research projects seem to exist
- No solution will be found by mediocre, amateurish research

For truth in advertising, I should mention that I have known Jacques Vallee for several decades and consider him a personal friend. In general, I agree with

his conclusions, especially that the UFO phenomena are terribly complex and no single solution is likely to provide an explanation that fits all of the facts. However, we differ slightly on the role of governments in studying UFOs. My position is that while there has been periodic official scrutiny, by far the most significant reports can be attributed to intense personal interests of individuals who happen to serve in those agencies. One thing that comes to light is the episodic recurrence of UFO studies within U.S. Government agencies, often at the instigation of an internal champion supported by likeminded players. Readers are invited to examine the material and make up their own mind concerning the depth of involvement any agency might have.

Forbidden Science: Volume Two is essential reading for serious UFO and phenomenology aficionados. To quote Hal Puthoff, "I'm sure glad somebody was taking notes." Now that Vallee has brought us up through 1979, let us hope he will quickly fill in the next decade.

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Flying Saucers and Science: A Scientist Investigates the Mysteries of UFOs: Interstellar Travel, Crashes and Government Cover-ups by Stanton T. Friedman. Franklin Lakes, NJ: The Career Press, 2008. 317 pp. \$16.99 (paper). ISBN 978-1-60163-011-7.

Stan Friedman has been talking openly about flying saucers and UFOs for 42 years, presenting his own book review of Frank Edward's *Flying Saucers—Serious Business* in 1967. I was privileged to meet him two years later, and have followed his remarkably determined career sharing his views with everyone who cares about the UFO problem. This book is a great summary of what he has been saying about the topic over the years, and it displays his natural tendency towards very logical thought. His goal has been to try to shed light where there is ignorance and to back it up with impressive evidence of research, with credible references to meticulous hours spent in archival libraries all supporting his arguments.

The scope of the book includes discussion of most of the questions that both ordinary people and scientists would typically raise. Most UFO researchers encounter these questions right away: where do they come from, why are they here, why the cover-up, why don't they land on the White House lawn, why aren't our scientists excited, and are there documents that prove there has been a covert program? Stan deals with the logical answers to all of these. The book is organized generally along the lines of the answers to these questions in the first 10 chapters, finishing with Chapter 11, "The Operation Majestic 12 Documents."

Like many of the topics that *JSE* deals with, this one is controversial, and Stan and the book are at their best dealing with the skeptics who have not done their “homework.” He identifies the flawed logic and incomplete research not only with the classical skeptics such as Phil Klass, but also with the scientific skeptics like Robert L. Park (former Executive Director of the American Physical Society), Seth Shostak, Jill Tarter (current head of SETI—the Search for Extraterrestrial Intelligence), and Carl Sagan, with whom he was a contemporary at the University of Chicago. No one is safe from Stan’s incisive logic with his fascinating encounters with renowned science fiction writers Isaac Asimov, Ben Bova and Arthur C. Clarke, each of whom is the loser of the hypothetical argument with Stan.

Scientists who study anomalies are sometimes accused of representing a “cult.” Because ad hominem attacks are not infrequent, especially in UFO research, he takes the trouble to define the word in a logical way and then goes on to show that some of the skeptics are more cult-like than the UFO “believers” by applying it to the SETI program. Cults have charismatic leadership, strong dogma, tend to ignore or repress testimony opposed to their beliefs, and have an enlarged view of their importance. Stan’s summary: “Case closed.” This is discussed in credible detail in Chapter 5, “The Cult of SETI.”

Stan’s healthy skepticism is displayed in many examples: checking the claimed academic background of questionable witnesses to reverse engineering; basing many of his points on research he has personally accomplished at Government Archives; and being prepared to go to any level of detail in connection with claims of authenticity of documents, e.g., document control numbers, military rank confusion, typewriter fonts, date format, and apparent emulation suggesting fraudulence.

This is a very good book for academics to read because one of Stan’s breakthroughs was to determine very credibly that astronomer Don Menzel of Harvard did indeed have connections into a highly classified world of UFO study while maintaining a debunking position in publications and books. The procedures of classified projects and the ability of the various agencies to keep them secret from the general public is something that many academics are unable to grasp unless they have been directly involved in a top secret project.

The last chapter on the Majestic Documents is particularly interesting because it deals with aspects of more current research about the authenticity of some of the documents. He presents convincing evidence for the authenticity of several documents that reveal a comprehensive Government evaluation project and claims that some others have been faked. This reviewer believes that because of the large number of documents of this genre, it is necessary to apply a variety of tests to the leaked or faked documents individually, and that there is a lot of work still to be done before we can confidently describe the genuine history reflected by some of the Majestic Project documents.

Notwithstanding the many excellent attributes of the book, the title is a bit misleading. One might logically expect that if flying saucers are real and have the

remarkable attributes reported, then we would wish to understand how they work. Never does Stan try to deal with any of the scientific aspects of the genuine debate about how our laws of science would have to be modified, other than to refer briefly to the work of Puthoff, Haisch, Maccabee, or Deardorff, all SSE members. Chapter 2, “You *Can* Get Here from There,” is limited to essentially established scientific principles, albeit with fascinating detail on our pre-1960s aircraft nuclear propulsion work with which he is intimately familiar.

The well-written and highly applicable forewords by Edgar Mitchell and Bruce Maccabee offer helpful perspective. A comprehensive bibliography and a solid index reinforce the quality of presentation offered by this book, an excellent summary of the thought processes of one well-known flying saucer researcher, Stan Friedman.

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Body Snatchers in the Desert: The Horrible Truth at the Heart of the Roswell Story by Nick Redfern. Paraview-Pocket Books, a division of Simon & Schuster, 2005. 256 pp. \$14.00 (paper). ISBN 0-7434-9753-8.

It's obvious that films based on comic books are among the most successful in Hollywood's current output. They feature everything that the prime moviegoing demographic finds most appealing: violent action, gaudy special effects, gadgets, mutants and aliens, and especially stories of secret identities, government conspiracies, conflicted motives, and the apocalyptic struggle of good versus evil. Often, too, there are Nazis.

Modern writers and producers, aware that even the most popular characters can become overly familiar and stale over time, have come up with the concept of “rebooting” the hero and his “origin story”: rewriting his universe from the ground up, updating locales, and incorporating modern cultural references to make the story relevant to the sensibilities of young audiences. The fundamental characters may be essentially the same, but the stories grow more elaborate. Entire plotlines can be modified or eliminated completely. Inconvenient inconsistencies can be voided. Historical figures and events can be intertwined with fictional ones. Elaborate “backstories” can be added to flesh out unexplained aspects of the original world.

Another term for this technique is “retconning,” short for the phrase “retroactive continuity.” First recognized by comic book connoisseurs, retconning has become integral to the modern entertainment industry—a commercial necessity to ensure maintenance of market share and franchise viability.

British author Nick Redfern's book *Body Snatchers in the Desert* represents an ambitious retconning of the well-known Roswell story. Constructed as a journalistic reexamination of the events in New Mexico in 1947, *Body Snatchers* tells, in Redfern's words, a "distinctly darker" version of the facts—one based on his claim that what actually occurred was not the crash of an extraterrestrial spacecraft, but a coverup of a bizarre program of top secret weapons experiments and their effects on hapless human victims. This retcon allows for preservation of the "real world" aspects of the case—the 1947 media stories, most of the eyewitness testimony—while providing a completely alternative deeper explanation for them, one that incorporates a panoply of comic book stock villains and contemporary cultural bogeymen, plus a lot of cool technology, mutants, and Nazis. This reboot of the mythos is more appealing to modern tastes, since it carries none of the negative associations of "little green men" but presents a superficially more believable alternative scenario involving Pentagon "black programs" and US politico-military perfidy.

Arguably, the "classical Roswell" story drew much of its power from 1980s hostilities to governmental secrecy stimulated by Watergate and the intelligence scandals of the 1970s. Redfern's Bush-era reboot is far more sophisticated than Stanton Friedman's graying meme that the official UFO coverup is a "Cosmic Watergate"—much more in line with ultra-jaded post-9/11, post-anthrax, post-Iraq conspiracy theories about U.S. "false flag operations" on massive scales.

What Redfern presents in *Body Snatchers* is a grand synthesis of several genuine WW II and post-war experimental projects, including the following:

- Project Paperclip, the importation of German scientists to the US
- Horrific Japanese biological warfare experiments by "Unit 731," and similar atrocities perpetrated by the Nazi researchers on human victims
- The German Horten flying wing projects
- The Japanese Fu-Go balloon-bomber program
- The U.S. Skyhook high-altitude plastic balloon program
- Radiation experiments on human subjects in the United States during the Cold War
- The Nuclear Energy for the Propulsion of Aircraft program (NEPA)

He provides considerable background detail on each of these threads, establishing an air of documentary verisimilitude, and includes an appendix featuring actual papers related to them. But the weakness of the story is that the "horrible truth" about Roswell referred to in the book's title only comes to light thanks to a trope familiar to all *X-Files* fans: the Anonymous Whistleblower.

As Redfern tells it, he was launched on his investigation after he was contacted by several of these dubious characters, designated "Levine," "the Black Widow," and "the Colonel," who he encountered in 1996, 2001, and 2003, respectively. Levine, a British Home Office employee, told Redfern that in 1989 he had been

shown, by representatives of British and U.S. intelligence agencies, a movie that sounds a lot like the infamous *Alien Autopsy* film. The Ministry of Defence (MoD) intelligence officer informed Levine that this was in fact an autopsy of an alien body. Levine says the British agent later reversed his story and claimed that the film was part of an elaborate multinational disinformation project (a joint effort of the U.S. National Security Agency [NSA], the U.S. Air Force Office of Special Investigations [OSI], and the Royal Air Force's Provost and Security Services) designed to contain the "real truth" behind Roswell! According to Levine, the MoD official claimed that since UFO investigators were verging on discovering the sinister reality at the core of the Roswell story, the intelligence agencies had conspired to fabricate documents and information that represented a "limited hang-out" of factual information mixed with complex and fanciful fabrications, all designed to confuse and distract future civilian investigators. The MoD source, for whatever reason, was leaking this to Levine, who was in turn passing it to Redfern.

As a professional investigative reporter, and far more sophisticated than many researchers, Redfern doubted that his unsubtle and talkative source was genuine—that is, until he encountered the Black Widow, who claimed to have worked at the NEPA project at Oak Ridge, Tennessee, and said she had seen several "Oriental" bodies with "devastating injuries" that were brought to the site from New Mexico in 1947. She told Redfern that these dead bodies were no aliens at all—they were Japanese people. Victims of a horrible conspiracy, these individuals were deformed survivors of unspeakable Second World War experiments who had been collected by the U.S. and strapped into an experimental, balloon-launched vehicle that was part of the nuclear-powered aircraft program. This bizarre contraption, the story went, was an amalgam of German flying wing gliders, Japanese balloons, and U.S. prototype atomic airplane engines, intended to test concepts for actual NEPA aircraft. When it crashed, traumatically injuring the mutant crewmembers, it was only natural that the U.S. authorities were determined to cover the whole thing up because of the tremendous secrecy of the nuclear energy projects and the horrendous scientific atrocities (both Japanese and American) represented by the human victims. The alien UFO story, just as Levine had said, was only the cover story for the horrible truth of human nuclear and biowarfare experiments.

Topping off the Whistleblowers was the Colonel, who approached Redfern with an expansion on the previous accounts. This alleged former Defense Intelligence Agency officer claimed to have seen voluminous documentation dating from the 1960s on a long-term "psyops" disinformation project aimed at hiding the Japanese-mutant-victims-launched-in-experimental-NEPA-balloons story. It was all designed as far back as 1951, according to the Colonel, to be released to the Soviets to "flood their intelligence channels with disinformation" to prevent their discovery of the sinister and illegal biowarfare and nuclear experiments. The secondary victims of the "blowback" from this operation, said the Colonel, would

be naïve ufologists and the U.S. public, who would be conned into believing in nonexistent aliens and UFO crashes.

The conspiracy, then, extends back to the Truman era itself, and involves intelligence agencies on both sides of the Atlantic—if the tales of the Whistleblowers are true.

What can be made of this?

The issue is not whether the experimental programs listed above existed. They did. Assuming Redfern's accounts of the Whistleblowers' stories are accurate, the issue is whether the fantastic story of the Japanese victims is true. My opinion is that it is utterly absurd. I have a personal interest in the NEPA project and have collected a considerable amount of documentation from official sources on the actual hardware that was developed by the program. If these reports make anything clear, it's that as of 1947, NEPA envisioned any future operational nuclear aircraft as being enormous and tremendously heavy. NEPA based its studies on the Convair B-36 bomber, which had a wingspan of over 200 feet and weighed almost half a million pounds. The conceptual nuclear engine and its radiation shielding weighed on the order of fifty tons. The idea that any sort of meaningful experimentation could have been conducted on a vehicle lifted by balloons is ludicrous. The documents also make it abundantly clear that as of 1947, the NEPA project had barely started its work. There are countless other technical arguments that contradict the nonsensical "cobbled-together Nazi flying wing hanging from balloons" idea. Why would malformed mutants be used for the experiments? Wouldn't healthy subjects, which would more closely resemble actual crewmen, be more scientifically useful? If the experiments were to test radiation shielding technology with simulated nuclear engines, why couldn't they be conducted on the ground? (In reality, they were.) Why would they be conducted with such a jury-rigged assembly of illogical, unreliable components?

But to even discuss these facts is to dignify the comic book yarns of Redfern's sources with a level of seriousness they in no way deserve. The new story is a clever retcon of Roswell that can gain some media attention, but it makes no sense, adds no clarity, and is fundamentally no more believable than the versions it tries to replace.

The central question about *Body Snatchers In The Desert* is, what are these sources trying to accomplish? Is there in fact any reality in this wilderness of mirrors? Is Redfern's account of his sources' stories itself a product of journalistic license? Is this retconned version of Roswell merely an attempt to milk another few years out of the tired UFO crash story, or is it yet another official attempt to confuse the issue with yet another complex layer of deception? In order to believe that, we would have to accept that the sources are accurate about one thing: that an elaborate deception project has focused on Roswell for decades. The *Alien Autopsy* film and the MJ-12 documents are then all lies concocted by military intelligence forces. The Roswell eyewitness accounts have been completely misinterpreted. But logically, the *Body Snatchers* tales are bogus too. The reader is

left to decide which story is more plausible: the coverup of the crash of an alien vehicle, or the coverup of heinous war crimes involving Japanese mutants dangling from balloons. Neither is very attractive. The disinformation project may, after all, have been a success. It will be interesting to see how the next permutation of the Roswell Retcon takes shape, and what new layers will be added to the story the next time it is revived.

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Body Snatchers in the Desert: The Horrible Truth at the Heart of the Roswell Story by Nick Redfern. Paraview-Pocket Books, a division of Simon & Schuster, 2005. 256 pp. \$14.00 (paper). ISBN 0-7434-9753-8.

Nick Redfern is a British journalist whose career has focused primarily on ufology and Fortean interests. Having previously authored several best-selling books on government intelligence and UFOs, Redfern was uniquely qualified to investigate what is arguably the watershed event behind modern UFO interest: the crash of an unknown object near Roswell, New Mexico, in 1947.

For Redfern, events at Roswell had nothing to do with intelligent extraterrestrial life. Rather, the incident involves the intersection of highly classified activities on the part of Imperial Japan, Nazi Germany, and the United States during WW II and the years immediately following. Briefly, these programs were as follows:

1. **The Japanese Fugo Balloon Program**—This program involved the use of experimental high-altitude balloons as weapons. The goal was to launch these balloons from Japan in such a way as to ensure that they would be carried by the winds over the western United States. The intended payload on these balloons were lethal biotoxins.
2. **Japan's Unit 731**—Unit 731 was an officially sanctioned and funded bioweapons facility headquartered in Harbin, Manchuria. Headed by Shiro Ishii, Unit 731 has become synonymous with human experimentation for those who know of its existence. This Unit was the potential source of the bioweapons to be used for the Fugo balloon project.
3. **Operation PAPERCLIP**—The now well-known program began under the Truman administration to bring Nazi scientists to U.S. soil for their knowledge and expertise. As Redfern demonstrates, the program eventually included Japanese scientists.

4. **Nazi Advanced Wingless Aircraft/the Horten Brothers “UFO” Development**—This refers to the work of Reimer and Walter Horten, mainly toward the end of the war, to produce a flight-worthy wingless disk aircraft. Although models were tested and commissioned by the Luftwaffe in 1944–1945, the war ended before the Nazis could more perfectly develop and mass produce the model. The Horten craft was discovered by the British, after which the Horten brothers were invited to Britain to continue their work.
5. **NEPA (Nuclear Energy for Propulsion Aircraft)**—This program focused on developing nuclear energy for the propulsion of aircraft. One of the significant obstacles with achieving the project goal was shielding pilots from radiation. Redfern argues that, in the wake of the 1947 close of the Nuremberg trials—which called for the end of human experimentation—those involved in our testing program felt rushed to gain official permission to use human subjects. Redfern demonstrates that attempts were made to procure legislation allowing human experimentation and that certain “specimens” (possibly mongoloid children or progeria victims) were procured from Formosa, home of Unit 731.

The intersection of all these elements produces a simple but complex answer as to what crashed near Roswell in 1947. The disc-shaped craft referred to by witnesses and various de-classified and unprovenanced government documents published prior to Redfern’s work was in reality a wingless craft launched from a U.S. base in the southwest via a high-altitude Fugo balloon. Two or more of these crafts crashed at Roswell and other nearby locations, explaining the multiple site and date problem referenced by debunkers. The bodies reported over the years by Roswell Army Air Base personnel and a few civilians were human, but physically unusual to those who discovered them. Redfern speculates that the victims were small and perhaps Asian, or even children who suffered from progeria or Turner’s syndrome (which involved baldness, enlarged head, and polydactylism). The UFO explanation was deliberately leaked to the public to deflect attention away from the fact that Nazis and other Japanese war criminals were on the U.S. payroll. After the late 1940s, the UFO scenario proved useful for misdirecting the Soviets, and so the myth was continued. Roswell was, in effect, a PAPERCLIP debacle.

Redfern supports this reconstruction in a twofold way: de-classified documents and unidentified clandestine sources. The former allows Redfern to make a compelling case that secret programs in all these areas were being conducted simultaneously and that personnel in these programs had occasion to know each other and work at more than one of the project sites. Definite links between the projects with the specific goals outlined by Redfern are provided by interviews with project insiders whose knowledge was not unexpectedly compartmentalized. The most important of these insiders did not wish to be identified.

What does all this add up to? On one hand, there is strong documentary evidence for the data points of Redfern's thesis. Redfern has presented a compelling case that potentially has comprehensive explanatory value. Nevertheless, the most important relationships between the data points are ultimately dependent on anonymous testimony. Without unassailable documentary evidence for the connections articulated by his witnesses, Redfern's work is not completely successful in burying the extraterrestrial hypothesis. Those who are not already committed to that view will welcome Redfern's work and the explanatory power it provides. Those on the other side will not be persuaded. But by presenting a thesis that *can* account for all of the "alien" features of Roswell lore, Redfern has advanced the discussion in an important way.

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The Tujunga Canyon Contacts by Ann Druffel and D. Scott Rogo. San Antonio and New York: Anomalist Books, 2008. 302 pp. \$16.95 (paper). ISBN 978-1-93-366533-7.

When an old UFO book is reprinted, we revisit two things: whatever data the book might present and whatever thoughts the writer had about that data. When I read this reissue of a book first published in 1980 (and then updated in 1989), or rather reread it since I'd bought it when it first came out, it's the thoughts that struck me the most.

That's not to say that the data isn't worth having. Druffel and Rogo tell us about some apparent abduction cases, linked because they involved a group of women who were friends and in some cases lovers, and who all lived at various times in Tujunga Canyon, northeast of Los Angeles. That the women were gay is something the writers treat discreetly for most of the book, though as we'll see, it jumps up to take center stage at the end.

The cases themselves are standard abduction stuff—unsettling lights, beings by the women's beds, the women floating away to UFOs for what seems to be medical examinations. Some of the abductions (or supposed abductions) were shared. Some of the women remember a lot of what they think happened to them, some remember very little. Some want to examine their memories, some resist. (Since the women involved in shared abductions fall on both ends of these spectra, the shared abductions don't tell us as much as they might.) Hypnosis is used, and the hypnotists don't seem impartial. Sometimes they ask leading questions. Hypnotist: "What's happening now?" One of the women: "Nothing." Hypnotist: "Make something happen."

There's no scientific corroboration of any of this, and sometimes the writers seem credulous. They endorse alleged photos of aliens, taken by Harrison E. Bailey, which have since been debunked. They get excited over similarities with other abduction cases, but they ignore differences. When they compare the beings these women say they've seen with the entities that Betty Andreasson reported (she's a famous abductee from that time), Druffel and Rogo just about gush. "Both types of creatures had extremely thin arms, legs, and body, and had *three-fingered hands!*" [Their emphasis.] But when one of the women says her abductors wore black or charcoal gray clothes, not at all a standard abduction detail, the writers skip right over it.

I can smile at all of this, because the faults are transparently obvious, because I know that abduction research hasn't been done by qualified scientists, and because I myself have encountered abduction stories first-hand and know how gripping they are and how breathtaking their similarities can seem.

But I can't accept Druffel and Rogo's speculations. At the end of the book, both writers (with great respect for each other) present their own conclusions. Druffel thinks (among other things) that the women were abducted in part because they were gay: "Those UFO entities concerned with the reproduction (and evolution) of the human race were possibly investigating to obtain details of this non-procreative life-style [sic]." Rogo thinks one of the abductions was "*a rape fantasy drawn from Sara's mind and objectified into physical reality in the form of a genuine UFO sighting and abduction.*" [His overwrought italics.]

Which makes me sigh. Druffel—to state what ought to be obvious—should first have asked whether gays are abducted more often than heterosexuals in the overall abduction picture (or less often, which might be equally suggestive). Rogo's idea totters on top of two assumptions, which Rogo doesn't (and couldn't) substantiate. Did Sara really have a rape fantasy? He doesn't know. Can fantasies really manifest themselves physically? He couldn't know.

But still I'm touched by this book. Both authors and subjects seem a little lost, as people often do when they're face to face with the abduction phenomenon (whatever it might turn out to be). One of the women (Sara again) thought the aliens taught her a cure for cancer. She tried to verify that cure, and most of all bring it to the rest of us, throwing herself into these efforts with great hope and passion. I feel for her. If she really thought she was abducted, and really thought the aliens showed her the cure, why wouldn't she want to share it with the world?

In fact, I feel for everyone who's had these experiences, and also for people who say they've had close-up sightings of UFOs. Anecdotal accounts, I know, are hardly scientific proof. But when a dozen different people (some of whom have never heard of abductions) independently tell me they've awakened with beings around their beds, and when half a dozen more tell me they've seen unexplainable craft floating in utter silence over their homes, or their cars, or over a farmer's field, what am I supposed to think? What if the stories are true?

And what if the stories in this book are true? Then the lack of real investigation and analysis would truly be something to sigh about.

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The Invasion from Mars: A Study in the Psychology of Panic by Hadley Cantril (with a new introduction by Albert H. Cantril). New Brunswick & London: Transaction Publishers, 2005. xxxii + 224 pp. \$24.95 (paper). ISBN 0-915554-45-3.¹

Everyone knows where he or she was on 11 September 2001. I was sitting in my car early in the afternoon (CET) on that date. Just a short drive, the return trip from a quick visit to the bank. A melody like thousands of others on the car radio. Suddenly, an urgent announcement interrupts the music. A breathless voice reports that an aircraft flew into one of the twin towers of the World Trade Center in Manhattan just a few minutes before. The initial reports would seem to indicate that only a small light aircraft is involved. However, the person in the broadcast, on the verge of losing control of his voice, says that he can clearly see the WTC from his vantage point just a few city blocks away and that the damage must be enormous. There had been a huge explosion. An inferno of flames. Several stories had been destroyed according to eye witnesses. People trapped in the upper stories were desperately waving at those below. Everybody was in complete panic. A studio presenter's voice assures the listeners that there will be an update as soon as exact information is available. The music starts up again. The whole event has lasted little more than a minute.

"Orson Welles", is my first thought. "More than 60 years after he and the actors of his Mercury Theatre had created utter panic among thousands of people, mostly in New York and New Jersey, who were listening to a CBS radio broadcast on 30 October 1938, the evening of Halloween, with Howard Koch's 1-hour adaptation of H. G. Wells' classic *The War of the Worlds*, he's trying it again with another of his dramatic productions." Just like back then, everything sounds both realistic and at the same time unreal. The only thing missing now is the announcement, which was repeated four times in those memorable 60 minutes all those years ago, that this story is fiction.

"But", my second thought, "I'm sure that that great genius Orson Welles died 16 years ago. And I also know that the American broadcasting networks agreed at

the time they would never again transmit fictional news reports on the ether. So why would German radio stations, and ones governed by public law at that, now act differently? This couldn't be a radio play—or could it?—so early in the afternoon? No, very unlikely”. I get home in time to switch on the television and see live footage of a second aircraft—no, not a light sports plane—burying itself in the second of the WTC towers. I don't feel any panic. And how could I? I am not in Manhattan. But I am certainly horrified.

Not even Orson Welles would have dared to create a multi-media spectacle of such monstrosity. But his panic-sowing CBS radio play about a blood-thirsty Martian invasion is at least as legendary as its literary predecessor (Wells, 1898), with barely concealed political intentions that have been almost completely forgotten today. We can refrain from a more detailed description of the original story or its dramatic adaptation here. It is sufficient to point out that the radio programme, with a combination of relaxing dance music and increasingly frequent interruptions and ever more threatening sounding reports of an invasion of fearsome, malicious and uncivilized Martians in Groves Mill, New Jersey, apparently drove many listeners to flee for their lives or caused other panic-stricken reactions. Many people, according to newspaper articles at the time, wandered through the streets and in the parks wrapped in blankets (!) as protection against the anticipated gas and death-ray attacks. On the following day, the newspapers were full of reports on injuries and some deaths caused by heart attacks, miscarriages and even suicides. Parts of the population of the United States in the late 1930s, who, having just survived the Great Depression, were perhaps more fearful and expectant of a German rather than a Martian invasion, appeared to have lost all sense of reality and reacted hysterically to the broadcast.

As a brilliant dramatic touch, Welles, Koch and Houseman, the producer, used a recently introduced technique that had been tried and tested in the same year during the Munich conference and other events, in order to interject direct eyewitness reports. In fact, only a few short weeks before the broadcast, millions of listeners had kept their radios tuned for the latest news from a Europe apparently about to go to war. They had learned to expect that musical programs, dramas, basically broadcasts of all kinds would be cut off in a serious emergency to inform or warn an eager and apprehensive public. However, shortly before the broadcast took place, Orson Welles, who was only 23 years old at the time, and his ensemble considered cancelling the radio play altogether and broadcasting a substitute programme—not because the subject matter seemed too risky, but quite to the contrary, because as producer John Houseman was to say 10 years later, they doubted whether the piece could “be made interesting or in any way credible to modern American ears” (Houseman, 1948: 76).

On the other hand, rumor has it that the broadcast was a psychological warfare experiment in fear conducted by the Princeton Radio Project that was funded by the Rockefeller Foundation from the fall of 1937. An Office of Radio Research had been set up at Princeton University with sociologist Paul F. Lazarsfeld as

director, and Frank Stanton (who also was a CBS executive) and Hadley Cantril, a young Professor of social psychology, as associate directors (Garfinkel, 1987). A mere week after the *War of the Worlds* radio play was broadcasted, Hadley Cantril, who in spite of his youth was an experienced researcher into the social influence of radio (see Cantril & Allport, 1935), seized the opportunity and used a special grant from the General Education Board to study the effects of the broadcast. He recorded interviews with 135 selected listeners whose reaction to the broadcast had been predominantly one of panic, resulting in absurd actions and odd perceptions in some cases. In addition to these extensive interviews, he also performed multiple questionnaire-based surveys and analyzed approximately 12,000 newspaper clippings, which were published in the period immediately after the radio broadcast, and telephone records kept by the police and the radio station. Cantril published his study in book form in 1940 as part of a series of studies sponsored by the Federal Radio Education Committee. New editions were to follow in 1942, 1947, 1966 and 1985. Today, this study is widely regarded as *the* classical, authoritative work on the psychology of panic reactions. After many years of being out of print, the new edition of 2005, which includes an extra, highly detailed and instructive introduction (pp. vii–xx) by Albert H. Cantril, the son of the author who died in 1969, is most welcome. Like the first edition of 1940, the current version contains the literal and complete text of the radio play that Orson Welles directed and played in (pp. 3–44) and the author’s forewords from the 1940 and 1966 editions.

Cantril’s research is of particular significance because—contrary to earlier, partly theoretical studies (e.g., Gudden, 1908; Le Bon, 1896)—it is probably the first study to use unique empirical material resulting from a presumed mass hysteria that had just occurred. The primary goal of the study was to discover why so many people were under the impression that they were listening to eye-witness accounts of an actual, real-time invasion from Mars, while many others, even though they had tuned in later on and missed the first of the four announcements that these events were not in fact happening, had no difficulty in identifying the broadcast as a fictional radio play. Many were apparently too stricken by fear to realise that the time-line of the described events was much too short for them to have actually taken place (pp. 89–102). What Cantril and his team of researchers found most surprising was that people of a low educational level in particular were not made to feel insecure by the broadcast (pp. 120–124), while an astonishing number of well-educated listeners were obviously less able to see through the suggestive power and, for the time, extraordinary technical brilliance of the programme.

The educational level of the listeners and the situational circumstances in which they respectively listened to the broadcast were obviously insufficient to adequately explain the different reactions. So what was the reason why many listeners demonstrated a greater “susceptibility to suggestion” than others? Why did they believe “what they heard without making sufficient checks to prove to

themselves that the broadcast was only a story” (p. 190)? Cantril is certain that the greater suggestibility evidenced by many listeners can be attributed to a lack of self assurance, extreme fatalism, exaggerated concern, control issues or deep religious beliefs. In his analysis, while none of these personal characteristics is responsible for exaggerated, partly panic-stricken reactions on its own, they are certainly capable of making certain individuals more susceptible to panic reactions when they occur in combination. Cantril describes this form of hysterical “susceptibility syndrome” in the following way: “We must infer that some predisposition has operated as a selective force so that some persons are consistently impressed by experiences which leave others unaffected. This particular pattern of sensitivity and the characteristic behavior it determines is a general personality trait” (p. 137).

Probably nobody would subscribe to this surprisingly simple explanation in this form today. The methodology and the statistical analyses of the research, which in 1940 may have been in accordance with normal standard, would almost certainly not be accepted today. And drawing far-reaching conclusions about a general disposition to panic from interviews with a sample population of 135 people, of whom at least 100 were only selected because they had already previously admitted to experiencing panic reactions as a result of the radio play broadcast, would probably not even properly satisfy the methodological requirements that were applicable at the time. As one might expect then, Cantril’s research and his conclusions were challenged to some degree, particularly in the 1980s and 1990s. Based on various surveys and estimates based on those surveys, Cantril believed that of the reported 1.7 million listeners of *War of the Worlds*, approximately 1.2 million could be described as “excited” (p. 58) to a lesser or greater degree. Contrary to this, the number of the few actually documented cases of unusual or “panic-stricken” behavior (collecting together belongings, the over-hasty flight away from the places that had apparently been attacked, arming oneself with firearms) is significantly less than one would expect by chance of more than 1 million people on any other night (Bainbridge, 1987). Miller (1985: 106), for example, concludes that it would also not be permissible to assume a case of mass hysteria based on the limited number of interviewees who had been specifically selected on the basis of their relevance. Furthermore, a 40% increase in telephone calls during and after the radio play broadcast is hardly meaningful, if these phone conversations cannot be broken down and evaluated in terms of their content (Goode, 1992: 315; Miller, 1985: 107). In contradiction to Cantril’s findings, Forman (1963), in his own study, which he performed 25 years later, even diagnoses a general “attitude of resignation” among the American people in reaction to uncertain threat scenarios. The latter finding appears to be supported, at least to some extent, by the results of an (unpublished) study that, again a few years later, Marcello Truzzi conducted on organizational rather than individual responses to the threat of destruction for the Society Under Stress Project for the Office of Civil Defense (Truzzi, 1970).

Something however that is not disputed is that the listeners' reactions, whatever their strengths and whatever the individual variances, were triggered immediately by the broadcast and were therefore directly media-induced. This arguably illustrates the influence that the media can have on the population, particularly in times of general uncertainty. As if that were not enough, the media in this particular case also had a remarkable effect at a secondary level: the newspaper reports about deaths, miscarriages and suicides resulting from the broadcast of the radio play have all subsequently been shown to be false or remained highly controversial (Harrison & Elms, 1990: 214). Furthermore, Cantril's study also provides no evidence that lends any plausibility to the original descriptions of these events. In spite of this, the media (newspapers, radio and television and more recently Internet) have also perpetuated this myth of mass (and in some cases fatal) hysteria and made it part of accepted American folklore. The lesson we learn here is that the media determine reality. Reportedly far more dramatic than the factual effects of Orson Welles' radio play broadcast in 1938 were the consequences of panic reactions to Spanish adaptations of this same radio play, which were broadcast by radio stations in Santiago, Chile (12 November 1944) and Quito, Ecuador (12 February 1949). There were documented fatalities in both cases; for example, 15 people died when an agitated crowd burned the radio station in Quito to the ground (Bulgatz, 1992: 130–137).

The legendary radio play event of 1938 itself, which—even if in distorted and mythologized versions—has become part of our collective memory, the reactions of the listeners and Cantril's study also have a further facet, which has regained particular relevance for the sociological study of anomalies in recent years: About a quarter-century ago, Jan H. Mejer (1983) ventured to suggest exo-sociology as a new sociological sub-discipline, and he asked how “alienity” was socially constructed and what conclusions might be drawn for our understanding of the concept of the extraterrestrial alien. While Mejer's approach was largely ignored at the time, it has found several late followers in recent years (e.g., see Harrison, 1997; Michaud, 2007; Schetsche, 2008; Schetsche & Engelbrecht, 2008; Wendt & Duvall, 2008), and the topic has entered even such an unlikely place as the Vatican (see Valiante & Funes, 2008). In the context of these investigations and discussions, Cantril's study of presumed panic reactions in the wake of the *War of the Worlds* broadcast has re-acquired the status of a standard reference.

These scenario analyses are mainly using sociological, psychological and futurological methods to project and evaluate conceivable social consequences in case a SETI project would actually be successful or mankind would be confronted in any other way with the existence of an advanced extraterrestrial civilization. Potential consequences of contact with an extraterrestrial civilization for life and culture on earth in fact can be considered on the basis of our actual knowledge of terrestrial circumstances such as the psychological constitution of mankind and its forms of social and political organization. The question is not so much whether we will actually find extraterrestrial intelligence, but whether we should want to.

Encounters with extraterrestrials can conceivably come in a variety of ways and with a variety of consequences. They are likely to have dramatic impact on life on earth and its social and cultural organization. The results of the current projective scenario analyses, such as the ones referred to above, remind us that a meeting with intelligent aliens, if it ever takes place, will likely be the stuff of nightmares and possibly even a disastrous experience. If make-believe and suggestively evoked aliens are capable of leaving behind such deep-rooted psychic, social and cultural marks as the ones sketched out by Hadley Cantril, what extremes should we be prepared for when they do actually come knocking on the door, either in peace or in an aggressive attack?

In spite of, but also mindful of, the stated inadequacies of the contemporary research that took place immediately after the radio play broadcast, the primary scientific and historical significance of Cantril's research with regard to the effect of the media is absolutely indisputable. This research continues to be regarded as one of the definitive works on the psychology of individual and collective panic reactions and as such is still worthy of being read today, either again or for the first time. Whoever is interested in the power and subtle (and sometimes not-so-subtle) influence of the media will find copious and informative material in both Cantril's book and in the discussion that it sparked in later years. It is highly recommended reading in particular for starry-eyed SETI enthusiasts who cannot wait for the arrival of extraterrestrial visitors.

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Note

¹ This book review is an expanded and up-dated version of an earlier review that was published, in German, in the *Zeitschrift für Anomalistik*, 6, 252–257, 2006.

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ARTICLES OF INTEREST

"Au delà de Paris et Nancy, 'l'École de Charles Richet' selon Pierre Janet: Son impact et ses réseaux, ses membres et son hétérodoxie de l'appel à un congrès international de psychologie (1881) à la fondation d'un Institut Psychique (1900)" ["Beyond Paris and Nancy, 'The School of Charles Richet' according to Pierre Janet: Its impact and its network, its members and their heterodoxy, from the call to an international congress of psychology (1881) to the foundation of a Psychical Institute (1900)"] by Frédéric Carbonel. *Janetian Studies*, 5, 2008. Available online: <http://pierre-janet.com/JSarticles/2008/fc08a.pdf>

This paper was published in the online journal *Janetian Studies* (<http://pierre-janet.com/JanetianStudiesHome.htm>) supported by the Institut Pierre Janet, and devoted to topics related to the life, work, and influence of Pierre Janet (1859–1947). Its author, Frédéric Carbonel, focuses on a suggestion presented by Janet to the effect that, in addition to the Salpêtrière and Nancy rival schools that shaped views about hypnosis and hysteria in late 19th-century France, there was a third group Janet called the "School of Charles Richet." Carbonel includes in his discussion aspects relevant to the history of psychical research.

According to Janet there were nine members of this "hypothetical" school, as Carbonel refers to it. From France there were Henri Beaunis (1830–1921), Alfred Binet (1857–1911), and Charles Féré (1852–1907). The group also included American G. Stanley Hall (1844–1924), Swiss Auguste Forel (1848–1931), German Paul Möbius (1853–1907), Polish Julian Ochorowicz (1850–1917), and English Frederic W. H. Myers (1843–1901) and

Edmund Gurney (1847–1888). In addition to being interested in hypnosis and hysteria, these individuals were characterized by representing various countries, by their contributions to the psychology and physiology of the idea of the unconscious mind, and by their openness to many areas of research, one of which was psychical research. In fact, some of these individuals were members of the London-based Society for Psychical Research (SPR) founded in 1882.

The author starts with a discussion of Charles Richet (1850–1935), a remarkable figure by any account, who contributed to multiple areas of knowledge, including physiology, medical research, literature, the humanities, and psychical research. Six of the members of the school were involved in the Société de Psychologie Physiologique, founded in 1885. A meeting of this organization was what Carbonel refers to as a “major event” for the members of the school: Janet’s presentation of his tests of induction of trance at a distance with the celebrated Léonie. Other important events that involved members of the school were the 1889 International Congress of Physiological Psychology, later known as the International Congress of Experimental Psychology, and the founding of the Institut Générale Psychologique, which in its beginnings, included psychical research. Carbonel also points out that some of the individuals in question were SPR members.

Focusing on psychical research, there are some short but interesting discussions about Ochorowicz, Gurney, and Myers. Carbonel recognizes Myers’ pioneering work regarding the subconscious mind and credits him with popularizing the work of Janet. However, it is important to remember that there are indications that Myers influenced Janet. The latter cited Myers several times in his classic 1889 work, *L’automatisme psychologique*, and stated that Myers had done more than other authors for the scientific study of the phenomena of spiritism.

Unfortunately, I do not think Carbonel makes a good case for the existence of a Richet school. The discussion of each of the figures is not specific enough to support commonalities or generalizations. In fact, it can be argued that their ideas about the subconscious mind were dissimilar. The author is clear in stating that part of this group’s interest was to “reintegrate to ‘general psychology’ the scientific study of paranormal phenomena otherwise called ‘psychic researches’ or *Psychical Research*.” While this statement may apply to Richet, Gurney, and Myers, and perhaps to Ochorowicz, it is doubtful that it applied to Binet and Hall, who had expressed skepticism about such phenomena.

On the positive side, the author’s recognition that psychical research interacted in significant ways with psychology during the 19th-century is not only part of recent developments in the historiography of psychology, but also a contribution that informs psychologists, psychiatrists, and other current professionals of the complex nature of the past of these disciplines.

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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.