

ESSAY REVIEW

Medicine To Make You Mad

Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America by Robert Whitaker. Crown Publishers, 2010. 404 pp. \$26 (hardcover). ISBN 9780307452412.

If you want to make someone cry, have them read Chapter 12 of this book: A doctor decided that a child's bed-wetting warranted treatment with a tricyclic antidepressant. That drug's "side" effects were then "treated" with further neurologically targeted (psychotropic) "medications," and 20 years later the formerly bed-wetting child is a permanently "mentally disabled" adult (p. 248 ff.).

Anecdotes, individual cases, prove nothing, of course, at least not scientifically. But this story comes in Chapter 12, which has been preceded by fully documented accounts of the widespread damage done to tens of thousands of adults and children during the last half century, as psychiatry came to assert that all behavioral, emotional, or mental "problems" stem from drug-reversible biological dysfunctions of the brain.

The mainstream research literature is cited by Whitaker on the following points:

— The terminology of "anti-psychotic," "anti-depressant," "mood stabilizer," and the like is fundamentally misleading, because the drugs do not have such specific, targeted effects.

— Instead, these drugs "muck things up" by interfering in a blunderbuss way with various neurotransmitters: They convert normal brain functioning into non-normal functioning. When given to emotionally or mentally disturbed people, they do effect a change of some sort—which can easily be misinterpreted as ameliorating the perceived problem. All too often, however, the drugs transform into chronic illness what might otherwise have been only singular or rare episodes.

— It has never been shown that "anti-psychotics" actually ameliorate, let alone cure, psychoses or schizophrenia. It has never been shown that "anti-depressants" ameliorate, let alone cure, depression. It has never been shown that "mood stabilizers" ameliorate, let alone cure, manic-depressive or bipolar behavior. Indeed, it has never been shown that those conditions even have a biological cause, a "chemical imbalance," let alone specifically among the neurotransmitters targeted by those drugs.

— The same points apply to “attention deficit disorder” (ADD) or “attention deficit hyperactivity disorder” (ADHD). It has never been shown to be a biological dysfunction, and the drugs administered to those diagnosed with the condition doom many children to a life of impaired cognition and dependence.

— Long-term outcomes for people treated with psychotropic drugs are distinctly worse than in the pre-drug era. In clinical trials of psychotropic drugs, long-term outcomes have been better for the placebo-receiving controls.

The Epidemic

The epidemic of the book’s title is the explosion of mental illness in the United States since the introduction and then widespread use of drugs for treatment of mental illness: The numbers of Americans now supported by Social Security Disability payments are far greater than the numbers who were in mental hospitals 50 years ago. It was coming upon these unexpected, surprising numbers that led Whitaker to the further research reported in this book. Among the features that make the discussion so convincing is that the author began his investigations as a believer in the official story about the benefits of drugs against mental illness, until he was astonished at the paradox that the numbers of disabled Americans had risen so dramatically during the era in which treatments had supposedly become increasingly effective. Then he searched the literature for data about outcomes of drug treatment. What he found was an almost complete lack of evidence for the benefits claimed by the drugs and much evidence for the damage caused by taking them for more than brief periods.

By 1987, the rate of “mental disability” in the United States was 2.5 times greater than in 1955. After the introduction of “second-generation” drugs beginning with Prozac in 1987, by 2007 the rate of mental disability had increased by another factor of 2.5. In 1955, 1 in about 620 Americans had been hospitalized for schizophrenia; half a century later, 1 in 125 Americans receives disability support on account of schizophrenia or psychosis (p. 120).

Furthermore, fifty years ago most of the hospitalized mentally ill had suffered from psychoses, which can be genuinely disabling; nowadays, more than half of those on disability are afflicted not by psychoses but by neuroses, affective disorders, emotional disturbances such as depression or bipolar illness, which were not permanently or seriously disabling before psychotropic drugs came into use.

The explosion of mental illness has been particularly dramatic among children. Fifty years ago, bipolarity or depression had been exceedingly rare among children—by 1987, only 5% of children on disability insurance were there because of mental illness. By 2007, the proportion was 50%. Between 1987 and 2007, the number of children said to be disabled by mental illness had

increased by a factor of 35, from about 16,000 to more than 560,000. Nowadays 1 of every 15 Americans enters adulthood with a “serious mental illness” (p. 246).

Attention-deficit disorder (ADHD) and Ritalin yield a story that parallels those of schizophrenia and depression and bipolar disorder (p. 218 ff.). Like bipolar, ADHD was defined for the first time in 1980 in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III). By 2007, more than 4% of all American children aged between 4 and 17 were being “treated” with Ritalin or some other stimulant—on average 1 in every teacher’s class; 3 times the rate in any other country (p. 220). Yet no biological basis for ADHD has ever been demonstrated. Most diagnoses are made by teachers. Ritalin’s physiological effect is the same as that of cocaine, but longer lasting; children are quieted down, to the superficial benefit of their teachers and parents and to the distinct underlying harm to the child. As with the other psychotropic drugs, longer-term clinical trials or follow-ups show that the drugs make things worse rather than better (p. 226 ff.).

A Military Surge in the Offing?

Whitaker covers in great detail the outcomes of drug-centered treatment of schizophrenia, depression, bipolar disorder, anxiety, and ADHD. I asked him by email about obsessive-compulsive disorder (OCD), and his response underscores how carefully he hews to the evidence: Though OCD is treated with anti-depressants (SSRIs, selective serotonin reuptake inhibitors), mood stabilizers, and antipsychotics, which have poor long-term outcomes with all the disorders discussed in the book, he ventured no opinion about the outcome of treatment of OCD because he has not researched that specific literature.

I asked Whitaker also about post-traumatic stress disorder (PTSD). It had occurred to me that the high prevalence of this condition reported among soldiers who have served in Iraq and Afghanistan might presage a surge in the epidemic of chronically mentally disabled Americans, if PTSD is “treated” with the same psychotropic drugs used for other conditions. He agreed.

The Psychiatric Guild

How this epidemic came about does not redound to the credit of the psychiatric profession (Chapter 13). Fifty years ago, clinical psychologists were competing with medical psychiatrists. By the 1970s, the psychologists outnumbered the psychiatrists. Psychiatry had declined into a minor specialty: Psychiatrists earned less than most other medical specialists, and only 4% of medical graduates were choosing that specialty, down from 11% in the 1950s when psychiatry had been the fastest-growing medical specialty. *Quite consciously and overtly*, leaders

of the psychiatric profession set out to vanquish the competition from clinical psychologists by insisting that mental illnesses are *medical* illnesses, which means having a biological basis and being treatable potentially by drugs that could only be prescribed by physicians, not by psychologists. The crowning achievement of this approach was the DSM-III published in 1980. Whereas the earlier DSM-II (1967) had reflected Freudian concepts of mental illness as neurosis, to be treated by psychotherapy, DSM-III identified 265 disorders asserted to be distinct and detectable via symptoms; for instance, if 5 symptoms are present of the 9 common to “major depressive episodes,” a diagnosis of depression can be made. Yet common sense, if nothing else, testifies that “[a]ll psychiatric diagnoses . . . ‘are subjective in adults and children’”; as was admitted even by Joseph Biederman, full professor at Harvard Medical School and himself a leading proponent of the drugs-for-mental-illness approach (pp. 318–319).

However, the official view is that enshrined by DSM-III and continued by DSM-IV (1994), which lists 297 disorders, thus an additional 32. How this diagnostic authority is (mis)used may be illustrated by the nurse practitioner who relied on it to declare a 4-year-old to be bipolar and prescribed a cocktail of lithium (“mood stabilizer”), Depakote (for “seizure disorders”), and Risperdal (anti-psychotic) (p. 33).

Diagnostic criteria have been enormously loosened as well as expanded: Diagnosis of manic–depression half a century ago was based on at least one episode of actual hospitalization for mania and also for depression; nowadays, a few days of “moodiness” suffice (pp. 181–182).

Conventional Wisdom Is Wrong

The popular myth is ill-founded, that the introduction of anti-psychotic drugs allowed mental hospitals to be closed and mental patients to be released into the community. It was federal actions that led to this change, namely, subsidies to states for nursing homes but not for mental hospitals (p. 93). The consequences have been a much larger number of chronically mentally disabled Americans whose individual outcomes are on average worse than in the pre-drug era, together with an escalating cost of medications that is affecting all health insurance programs including Medicare and Medicaid. Closing the mental hospitals has not decreased costs, it has increased the overall cost of the national burden of mental illness.

Evidence-Based Medicine

“Evidence-based medicine” has become something of a slogan and a shibboleth. The term is used as propaganda to proclaim the reliability of modern medicine,

just as the terms “scientific” and “the scientific method” are used as propaganda to claim that anything emanating from any putatively scientific source should be taken on trust as true. But in reality, “evidence-based medicine” is an ideal to be aimed at, a venture announced publicly in the 1990s to transform medical practice toward *becoming* evidence-based because *so much medical practice was not and is not now based on good evidence* (Centre for Evidence Based Medicine).

The lack of evidentiary basis for the drug-centered treatment of mental illness is illustrated by the fact that the very first trial of the first neuroleptic (anti-psychotic) drugs, Thorazine and other phenothiazines, lasted only six weeks, and the criteria of efficacy were weak and subjective (pp. 96–97). A retrospective follow-up decades later revealed that relapses were more common among the drug-treated patients than among those on placebo (pp. 98–99). Even contemporaneously, it was often acknowledged that the “side” effects of these first-generation drugs are so severe and debilitating that the cure could be experienced as worse than the disease (pp. 104–105).

How had these first-generation drugs to “treat” mental illness been discovered? Not through finding the causes of schizophrenia, depression, manic–depressive behavior, or “attention deficits” or “hyperactivity” and then seeking some way to counter those causes. Rather, studies in animals had revealed that certain substances stimulate activity whereas others dampen activity. On hunches like those that had led earlier to insulin-shock and electric-shock treatments and prefrontal lobotomy, these chemicals were tried out on human beings; and indeed they did change behavior. But there never was any indication that these chemicals, which produce abnormal behavior in animals, manage by marvelous serendipity to produce normal brain functioning in disturbed people (p. 65).

The best evidence seems to speak against the use of any of the currently prescribed anti-psychotic drugs. They have produced an epidemic instead of decreasing the number of mentally ill, and countries relying on traditional treatment rather than these drugs have far better long-term outcomes and fewer relapses (pp. 110–111). A long American trial reached the same conclusion (p. 115 ff.). Anti-depressants, routinely prescribed for “bipolar” patients, convert those patients into “rapid cyclers” with longer periods of depression (p. 175 ff.) and far worse long-term outcomes than in pre-drug days (p. 188 ff.).

Whitaker cites many studies that directly disproved the serotonin theory of depression (e.g., p. 72 ff.) and the dopamine theory of schizophrenia (e.g., p. 74 ff.). But one ought to have been highly skeptical of such ultra-reductionist theories in the first place. There are billions of neurons, and multiple connections among them. There are only a handful of neurotransmitters. If there really are the several hundred distinct DSM-defined mental illnesses, it

is inconceivable that increasing or decreasing the availability of one or other of those neurotransmitters could be anything like a specific treatment for any of those disorders. More telling still would be to recall that animal bodies are highly intricate systems of interlocking biochemical reactions and signals seeking homeostasis: When something is disturbed, other things change in order to counteract the disturbance. When the availability of a neurotransmitter is artificially decreased, the body seeks to compensate, and one way of doing that is to increase the number of receptors specific to that neurotransmitter (p. 76). Drugs acting on brain function have an immediate effect—though that is not the conversion of a pathogenic to a “normal” state, any more than an electric shock is. But if the drug continues to be consumed, the body adjusts and the drugs tend to lose their efficacy, and “mental patients” often find themselves perpetually prescribed changes in medications. However, when any given drug is suddenly withdrawn, the enlarged array of its neuroreceptors is suddenly and desperately deprived, and some sort of crisis ensues, so withdrawal from any of these medications must be done excruciatingly slowly (p. 105 ff.). At the same time, such withdrawal crises offer spurious support for the orthodox view: The crisis is misinterpreted as a recurrence of the initially diagnosed illness.

All the evidence, though, points against long-term use of brain-function-altering drugs. The clinical trials that provided support for introduction of these drugs began with that trial running for only six weeks and using a very weak criterion of efficacy, and a later meta-analysis of all pertinent trials by the Cochrane Collaboration—an independent organization that takes no money from drug companies—found that “reliable evidence for [even!] short-term efficacy is surprisingly weak” (pp. 96–97).

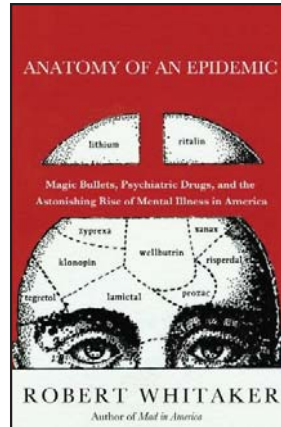
Official reviews had also declared that benzodiazepines should not be prescribed long-term, yet they continue to be widely prescribed against anxiety and in cocktails of drugs given to “bipolar” patients (p. 147). Eli Lilly’s best-selling Zyprexa has done untold damage to countless children as well as adults (p. 207 ff.). “[A]gitation, abnormally increased or decreased muscle tone, tremor, sleepiness, severe difficulty breathing, and difficulty in feeding” can occur in babies when pregnant women take psychotropic drugs including such widely used ones as Abilify, Risperdal, Seroquel, or Zyprexa (FDA, 2011).

Life expectancy is reduced by between 12 and 20 years for people on any psychotropic medication (p. 176). This assertion is so startling that I felt the need to check some of the primary sources cited by Whitaker, and I found them to be accurate (except for the occasional omission of “et al.” in the lists of authors): “risk for death in schizophrenia was doubled on a background of enduring engagement in psychiatric care with increasing provision of community-based services and introduction of second-generation antipsychotics” (Morgan et al., 2003); “With respect to mortality, a substantial gap exists between the health

of people with schizophrenia and the general community. This differential mortality gap has worsened in recent decades. In light of the potential for second-generation antipsychotic medications to further adversely influence mortality rates in the decades to come” (Saha et al., 2007). The risk of sudden death among schizophrenics increased by factors of 1.7–1.8 with benzodiazepines (e.g., Librium, Valium, Xanax), by 2.1 with clozapine, by 2.4 with antipsychotics, and by 4 with promazine (Windfuhr et al., 2010). Anti-psychotic drugs “disturb normal cardiac electrophysiology”; sertindole was implicated in sudden deaths and withdrawn; thioridazine, tricyclic anti-depressants, and lithium carry similar risk (Appleby et al., 2000). Risk of death among schizophrenics increases by a factor of 2.5 with each additional neuroleptic drug (Joukamaa et al., 2006).

The scandalous fact is that “The industry is not interested, the NIMH is not interested, and the FDA is not interested. . . . Nobody is interested” in ascertaining whether psychotropic drugs actually do more harm than good, according to an editorial in *Psychiatric News* as far back as 1994 (p. 161). Instead, the easy superficial way is taken that rocks no boats: Any ill effects shown by patients on medication are ascribed without further ado to the underlying disease, not to the drugs. Yet the evidence seems quite compelling that psychotropic drugs are severely harmful; for example, in the pre-drug era, schizophrenia tended to lead in the longer term to dementia while manic–depression did not; in the drug-treatment era, both conditions show progressive cognitive deterioration, ultimately into dementia (p. 192).

The central problem is that evidence does not speak for itself. Facts do not speak for themselves. Truth does not speak for itself. Science and medicine by the 21st century had become knowledge monopolies that suppress minority views very effectively, so that official pronouncements about matters of science and medicine may reflect anything but the best available evidence (Bauer, 2004, 2009a, 2009b, 2011). Neither medical students nor practicing psychiatrists read the critical literature (p. 263). It was 2009 before an editorial in the *Lancet* asked how practitioners had been beguiled into believing that second-generation psychotropic drugs were better than the first, or that either of them actually do what is claimed for them (p. 303). Whitaker answers that question with a timeline of a few pages recalling the main points documented in earlier parts of the book (pp. 303–312).



Conspiracy Theory?

No matter how often it is pointed out, for example at a meeting of the American Psychiatric Association, that “there are many examples of situations where the vast majority of physicians did something that turned out to be wrong” (p. 172), the inertia of the system is enormous, helped along by the liberal distribution of goodies by drug companies to prominent “knowledge leaders” among psychiatrists—just so long as they put their names on articles praising what the drugs do and playing down the “side” effects (pp. 278, 300). The drug companies also support and thereby co-opt groups such as the National Alliance for the Mentally Ill, which make it seem that consumer advocates independently favor the conventional wisdom about the benefits of drug treatment (pp. 279–280).

In 1985, outpatient sales of drugs to treat depressions and psychoses totaled \$503 million. By 2008, that figure was \$24.2 billion. I have long resisted joining those who describe associated conflicts of interest as out-and-out deliberate corruption, but my resolve was thoroughly shaken by Whitaker’s documented account of how clinical trials for Prozac were fudged, for instance by pre-selecting subjects and dishonestly reporting trial results (pp. 230–231, 284 ff.). The consequent harm done to many children (p. 231 ff.) ought to be regarded as criminal. Childhood mania was “recognized” only after Ritalin use had become common (p. 234).

Yet willful evil-doing need be no more damaging than cognitive dissonance, the inability to take in evidence contrary to one’s belief: to explain the occurrence of mania in children treated with Ritalin or with anti-depressants, it was suggested that the drugs served to make manifest an underlying, formerly hidden disorder, and that the drugs could therefore be used to detect such hidden disorders (pp. 234–235)—and this possible explanation served to evade any consideration of whether it is the drugs that cause the manic behavior, a probability indicated by Occam’s Razor if not by plain common sense.

The Soteria House project had been started in 1971 by Loren Mosher, director of the Center for Schizophrenia Studies at the National Institute of Mental Health (NIMH), to study non-drug treatment of schizophrenia. It delivered better outcomes than drug-based treatments. Nevertheless, funding for Soteria was cut off—by a committee comprising representatives of the orthodoxy (pp. 271–272). Instead, NIMH launched the Depression Awareness, Recognition, and Treatment (DART) program which served as a marketing vehicle for anti-depressants, Prozac in particular (p. 289 ff.).

That’s how knowledge monopolies work, as an interlocking network of public agencies and private companies and purportedly consumer-advocacy groups. George Bernard Shaw pointed out long ago that all professions are conspiracies against the public. Nowadays the medical profession, and science

or research as professions, are constituents of an academic–government–industrial complex that governs individual careers through control of research funding and publication—mainstream professional associations, national and international agencies, book and journal publishers, academic institutions, all take their advice from the same mainstream experts (Bauer, 2011).

Guilt By Association

Whitaker impresses with the range of his historical research, and he uncovered this interesting tidbit: In 1969 there had been established the Citizens Committee on Human Rights to campaign against electroshock treatment, lobotomy, and psychiatric drugs (p. 280 ff.). The founders were the maverick psychiatrist Thomas Szasz (“mental illness is not a medical condition”) and the Church of Scientology, a creation of science-fiction writer L. Ron Hubbard who had earlier invented a bowdlerized version of psychotherapy, Dianetics. There are excellent reasons for dismissing Dianetics and Scientology as quackery. By easily discrediting them, the orthodoxy could make it appear that all the critics of psychotropic drugs were of the same ilk.

How To Restore Sanity?

The pity of it is that more successful as well as patient-palatable treatments than drug-centered ones are available, and they are and have been known to anyone who cared to read the specialist literature. Successful treatments not relying primarily on drugs have been demonstrated over the years in Wales specifically and in the United Kingdom in general, in Lapland (Finland), and in the USA at Duke University, the Seneca Center in California, the earlier Soteria House project also in California, and in Alaska (Chapter 16). Moreover these programs turn out to be less expensive—win–win, one might think. But the grip of the interests-vested orthodoxy does not yield to evidence or logic.

Medicine To Make You Mad

Anatomy of an Epidemic tells of the “medicines” that create rather than cure “madness.” At the same time, this is a story that should make us mad, enraged, furious enough to want to change the circumstances that spawned and continue to nurture “medicine” that harms instead of helping.

Shocking as the circumstances of drug treatment of emotional and mental illnesses may be in themselves, it is even more disturbing as merely one aspect of the wide-ranging damage done by drug-centered medicine in the last half-century or so. Prescribing drugs had become an important part of standard medical practice by the middle of the 20th century, helped along by mutually beneficial relations of long standing between the American Medical Association

and pharmaceutical companies (p. 54 ff.). Illnesses were invented (Moynihan & Cassels, 2000). Correlation was and is perpetually confused with causation, symptoms becoming surrogate markers for illness and laboratory tests relied on to discern illness in perfectly healthy people (Greene, 2007). The flaws in medicine's current approach to mental illness are symptoms of a deeper and wider malaise that also spawned and continues to nurture the mistaken belief that HIV causes AIDS (Bauer, 2007), that natural accompaniments of aging are illnesses (Moynihan & Cassels, 2000), and that consuming substances to lower cholesterol, blood pressure, PSA numbers, etc., can prolong healthy life and prevent what comes naturally with age (Greene, 2007). Once those surrogate markers became accepted as indicating to-be-treated-disease, the numbers of people consuming drugs have expanded steadily as the "desirable" figures for blood pressure, cholesterol, blood sugar, were progressively shifted; similarly, by redefining bipolar from episodes requiring hospitalization to episodes of moodiness, the consumption of psychotropic drugs has exploded. Plain common sense ought to reject the perpetual scare warnings that some large and always increasing percentage of people suffer from hypertension, social anxiety disorder, high cholesterol, bipolar disorder, etc.—conditions that, by coincidence, can be rectified by talking to one's doctor about a certain medication, whose manufacturers will even assist those who cannot afford to pay for it.

A remarkable and discouraging feature of this mad story is that the specialist technical literature has been replete from the very beginning with evidence and argument revealing the flaws in what nevertheless became mainstream consensus, conventional wisdom, and "standard of care." A whole host of books, many of them by insiders, has exposed how the mainstream approach is dysfunctional and corrupted by conflicts of interest in medicine (for example, Angell, 2004, Kassirer, 2004, Kauffman, 2006, Abramson, 2004, Avorn, 2004, Goozner, 2004) and in academe (for example, Yoxen, 1983, Kenney, 1986, Porter & Malone, 1992, Rodwin, 1993, 2011, Soley, 1995, Slaughter & Leslie, 1997, Weisbrod, 1998, White & Hauck, 2000, Greenberg, 2001, 2007, Bok, 2003, Krimsky, 2003, Washburn, 2005, Giroux, 2007). Several volumes, some cited by Whitaker and others as well, have exposed the logical and evidential errors of regarding behavioral abnormalities as reflecting diseased physiology. Psychiatrist David Healy has written a number of books describing the history of psychopharmacology and advocating a balanced view of the utility of drugs for treatment of psychoses but not neuroses (for example, Healy, 1990, 2004, 2006), and quite a few other authors have expressed similar views (for example, Ross & Pam, 1994, Breggin, 1994, 1995, 2008, and other books by Breggin, Hobson & Leonard, 2001, Lane, 2007, Moncrieff, 2009).

The hold that the drug-centered mainstream dogma has on current practice may be illustrated by the fact that even when official bodies issue warnings about the ill effects of psychotropic drugs, they leaven and weaken the warning with reminders of how beneficial the drugs are supposed to be; for example, warning that all psychotropic drugs are dangerous for newborns if taken by their mothers, it is also said that the drugs “have been shown to improve daily functioning in individuals with these disorders [schizophrenia and bipolar disorder]” (FDA, 2011)—which is simply untrue; and “Patients should not stop taking these medications if they become pregnant without talking to their healthcare professional, as abruptly stopping antipsychotic medications can cause significant complications for treatment” (FDA, 2011) where “significant complications for treatment” is quite misleading—indeed, another lie—since sudden withdrawal is dangerous only because of what the drugs have perpetrated, not because it complicates treatment.

The attempts from various quarters to make mainstream representatives respond substantively to substantive questions about psychotropic drugs has met the same stonewalling and evading that is familiar to people who have asked, for example, for proof that HIV causes AIDS: “The answers to your questions are widely available in the scientific literature, and have been for years”—without giving any specific citations to the primary literature (pp. 330–331). Formerly lauded insiders such as David Healy are excommunicated when they point out that the evidence goes against accepted practices (p. 334), just as Peter Duesberg was excommunicated when he questioned HIV/AIDS theory.

The dysfunctional circumstances go even beyond medicine and medical science. Dogmatic orthodoxies suppress evidence and persecute dissenters over a host of fields: in archeology, climatology, cosmology, geology, paleontology, physics In open societies and in the absence of official censorship, the mainstream viewpoint on matters of medicine and science has become able to suppress competent dissenting views so effectively that the public and policy makers remain unaware that the appearance of consensus is misleading (Bauer, 2011). That is really dangerous at a time when society has come to regard official pronouncements on matters of science as trustworthy.

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ESSAY REVIEW

Apparitions of the Living: The Views of William H. Harrison and Gabriel Delanne

Spirits Before Our Eyes by William H. Harrison. London: W. H. Harrison, 1879. 220 pp. Available at <http://www.archive.org/details/spiritsbeforeou00harrgoog>. Reprinted by Nabu Press, 2010.

Les Apparitions Matérialisées des Vivants & des Morts. Vol. 1: Les Fantômes de Vivants [Materialized Apparitions of the Living and of the Dead. Vol. 1: Phantoms of the Living] by Gabriel Delanne. Paris: Librairie Spirite, 1909. 527 pp. Free at <http://gallica.bnf.fr/ark:/12148/bpt6k57746213>

*The phantasm of a man . . . may, when the man's senses are laid asleep
or overpowered, be presented to the senses of others in a corporeal form,
in some indescribable way unknown to me . . .*

— St. Augustine, *The City of God*, 1871(2):236–237

The phenomenon of apparitions has a long history coming from antiquity. Historical studies on the topic—among them those of Felton (1999), Maxwell-Stuart (2006), and McCorristine (2010)—have provided us with much information about the social and cultural history of these phenomena, particularly apparitions of the dead. In addition, there is a long history of accounts of apparitions of the living. Roman historian Cornelius Tacitus recorded the following experience Emperor Vespasian had when he visited the temple of Serapis:

He gave orders that all persons should be excluded from the temple. He had entered, and was absorbed in worship, when he saw behind him one of the chief men of Egypt, named Basilides, whom he knew at the time to be detained by sickness at a considerable distance, as much as several days' journey, from Alexandria. He enquired of the priests, whether Basilides had on this day entered the temple. He enquired of others whom he met, whether he had been seen in the city. At length, sending some horsemen, he ascertained that at that very instant the man had been eighty miles distant. He then concluded that it was a divine apparition . . . (Tacitus, 1873:189)

Many other accounts can be found in later years, among them the apparitions of bilocated mystics and saints (Thurston, 1952). There were also cases such as

the appearances of a man to his wife during an accident (Defoe, 1727:263–264) and of a dying woman to her children (Baxter, 1691:147–151). Accounts of this sort led a drama critic in 1826 to refer to fetches and doubles as “the apparitions of living persons, which, without their permission, or even knowledge, kindly fly off . . . , we suppose, to inform interested persons and others, that the party who thus appears by visionary proxy is about to visit the world of shadows” (Theatrical Examiner, 1826:487).

Discussions of the topic can be found in several 19th-century writings of psychic phenomena whose authors argued for the existence of nonphysical aspects of humankind. Among them I may mention J. H. Jung-Stilling’s *Theory of Pneumatology* (1808/1834), Catherine Crowe’s *The Night-Side of Nature* (1848), and Robert Dale Owen’s *Footfalls on the Boundary of Another World* (1860).

American minister and spiritualist Samuel B. Brittan devoted Chapter 32 of his *Man and His Relations* (1864) to apparitions of the living. He wrote:

There may be numerous exceptions . . . but many persons, whose magneto-spiritual effigies appear at a distance from all corporeal restraints, will be found to have been at the time in some other than a normal, waking state. In profound mental abstraction, or introversion of the faculties—when the soul looks within; when present objects disappear and temporal interests are forgotten; when the mind is centered on things remote—on absent friends, the events of the past and the realities of the future; “in visions of the night when deep sleep falleth on men”; in the palsy of catalepsia; in magnetic coma and other trances; in periods of protracted sickness, which jar and weaken the soul’s material connections; when disaster and death are impending and the shadows of the immortal world fall on the soul—in all these imperfectly defined physical and psychical conditions, it would seem that the spirit, in some potential sense, leaves the body while it wanders in distant places, or is possibly intromitted to other worlds. (Brittan, 1864:462–463)

Cases were also discussed in magazine articles, as seen in publications such as *Spiritual Magazine* (Cuppy, 1862), *Human Nature* (Nehrer, 1874), and *Borderland* (Stead, 1896). In the latter William T. Stead referred to apparitions of the living as the double and stated:

Ghosts of the dead are important, no doubt, but they are from the Other Side, and often seem to experience great difficulty in translating their thoughts into the language of earth, and not less difficulty in adjusting their fitful apparitions to the necessities of the psychical researcher. But with the Double it is different, for there is no chasm to be bridged in its case between the living and the dead (Stead, 1896:24)

Apparitions of the living always bring to mind Edmund Gurney, Frederic

W. H. Myers, and Frank Podmore's *Phantasms of the Living* (Gurney, Myers, & Podmore, 1886). This was one of the 19th-century classics of psychical research and the first major work of the Society for Psychical Research. The main theoretical idea presented in the book was that apparitions of the living were hallucinations triggered by a telepathic message, although Myers (1886) authored a section in the book with a different interpretation for some apparitions. Gurney, Myers, and Podmore were influential during the late 19th century in developing the already-old belief of a connection between death—or closeness to death due to accidents or illness—and apparitions. As Myers wrote in the introduction: “On reviewing the evidence thus obtained we were struck with the great predominance of alleged apparitions at or near the moment of death. And a new light seemed to be thrown on these phenomena by the unexpected frequency of accounts of apparitions of living persons, coincident with moments of danger or crisis” (Gurney, Myers, & Podmore, 1886, 1:lxix). But these “crisis” apparitions were not the only apparitions of the living discussed in the book. There were also apparitions of persons who were sleeping, of persons before the appearer died, of persons trying to appear to others, of persons perceived at a place where they were going to before they arrived, and of recurrent apparitions of persons who were not necessarily in any special state or condition.

Later collections of cases included those of Camille Flammarion (1921/1922) and Eleanor Sidgwick (1922). Flammarion (1921/1922) believed that there were some apparitions of the living “due to projections of thought acting upon the brains of percipients who are more or less in harmony with these projections” (p. 79). But he also believed some of these apparitions were objective: “The human being may have a duplicate form analogous to the ordinary one; this form may detach itself from the body, take on a certain consistency, become visible, even tangible, may speak, may produce mechanical effects” (p. 79). To this day many writers discussing apparitions of the living depend almost solely on *Phantasms of the Living* to discuss and evaluate the topic. This is understandable because these writers have been concerned with the evidentiality of the cases and *Phantasms of the Living* is still unrivalled for its attention to both first-hand accounts and corroborating testimony. But such dependence on this work and on its evidential aspects may have contributed to the neglect of other writings that form part of the history of the subject, such as the two books reviewed here.

Spirits Before Our Eyes (1879)

William Henry Harrison was an English journalist and a publisher of works on spiritualism. He was the editor of *The Spiritualist* (an influential publication later called *The Spiritualist Newspaper*) and the author of several works. This included his anthology *Psychic Facts* (1880) in which he collected accounts of

psychic phenomena, particularly mediumship, from various writers.

In the book reviewed here, *Spirits Before Our Eyes*, Harrison presented an examination of apparitions, mainly apparitions of the dying. His purpose, he wrote, was

to classify some of the authenticated apparitions of our own and past times, to examine the conditions under which the spirits of human beings are seen, to show that the spirit of man can sometimes temporarily leave the earthly body, and to seek to draw only those conclusions which well-proved facts warrant. Thus may laws and principles be deduced, to guide future explorers of the realm between the known and the unknown, in relation to spirit existence. (p. 14)

Harrison believed that, unlike mediumship, which critics tried to attribute to non-spiritual processes, apparitions could be explained “only by the presence of the spirit, the whole spirit, and nothing but the spirit” (p. 21). He started discussing what he referred to as deathbed apparitions. Not to be confused with what we refer to today as deathbed visions, or those visions experienced by a dying person, Harrison defined deathbed apparitions as the “occasional appearance of the spirit of a person in one place, at about the time that his body is dying in another place,” cases he believed were “so common as to indicate some connection beyond that of accidental coincidence between the two occurrences” (p. 24).

Such deathbed apparitions, the author believed, were caused by the spirit leaving the body. In his view the dying body provided the spirit “enough materiality to make itself visible” (p. 62). Such speculation was similar to those presented by others at the time to account for materialization phenomena observed with mediums, something that was part of a rich history of ideas of vital forces to explain psychic phenomena (Alvarado, 2006). One of these individuals speculated that spirits “through the exercise of their united will-power attract and gather certain magnetic and material elements from the medium, the persons present, and the atmosphere” (Crowell, 1879:181–182). Related to this idea, Harrison stated that some apparitions produced physical effects, being “objectively and palpably temporarily materialised” (p. 55). He further wrote about materialization to illustrate the point:

Spiritualists who have seen much of materialisation seances know that spirits have a remarkable power of duplicating, not only the forms of their mediums, but their clothes. . . . Still there is no creation of new matter. The law of the conservation of energy is not broken. Recent experiments . . . have shown by means of self-recording weighing apparatus that, while the duplicate form of the medium and his clothes is being materialised in one place, the weight of his normal body and clothes is diminishing in another, and vice versa. There is

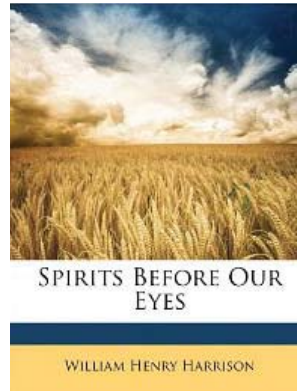
a play of forces between the two, underlying the vulgarly known phenomena of molecular physics. . . . (pp. 60–61)

But Harrison also entertained some cases being explained differently. He believed some apparitions were perceived through normal vision and others were seen psychically, in response to the thoughts of spirits. As he wrote, “when apparitions are psychically recognised, what the spirit thinks the medium sees, and . . . the unearthly visitor becomes visible in consequence of his mesmeric influence over the spectator” (p. 83). The thoughts of distant living persons were also believed by Harrison to be a cause for some apparitions of the living, an idea that had been discussed by others before. One such example was Herbert Mayo’s (1851) assumption that there could be mental connections between people at a distance, particularly at the moment of someone’s death. As he wrote about this idea:

Suppose our new principle brought into play; the soul of the dying person is to be supposed to have come into direct communication with the mind of his friend, with the effect of suggesting his present condition. If the seer be dreaming, the suggestion shapes a corresponding dream; if he be awake, it originates a sensorial illusion. To speak figuratively . . . I will suppose that the death of a human being throws a sort of gleam through the spiritual world, which may now and then touch with light some fittingly disposed object; or even two simultaneously, if chance have placed them in the right relation;—as the twin-spires of a cathedral may be momentarily illuminated by some far-off flash, which does not break the gloom upon the roofs below. (Mayo, 1851:71)

Harrison also argued that some cases of veridical dreams in which the dreamer visited a distant location were not necessarily the projection of the spirit. They “might be instances of natural clairvoyance, or of a dreamer seeing that which a spirit or mortal in rapport with him thought” (p. 146).

Like other writers before him (e.g., Crowe, 1848), Harrison cited a variety of cases to illustrate the existence of the spirit and its powers manifesting during life. He discussed apparition cases in which the appearer was not dying, cases in which the content of dreams was affected, and cases of mediumistic communications from living persons. As stated in the first chapter of the book, Harrison’s intent was an attempt to validate the movement of spiritualism by showing how the human spirit could act at a distance producing mental and physical effects, an idea that was in direct contradiction to the materialistic assumptions of the times.



Furthermore, Harrison made the observation that both apparitions of the living and of the dead were similar. He wrote that “there is no break of continuity in the phenomena of apparitions in consequence of the death of the body. So impossible is it to find any indication in the phenomena, of a natural dividing line coinciding with the death moment, that in this volume several cases of after-death apparitions are included, differing in no way from the apparitions of living persons whose mortal bodies are in a sleeping or quiescent state” (p. vii). Others, such as Owen (1860:360–361), assumed the identity of apparitions of the living and what was later called out-of-body experiences with apparitions of the dead. But it took till the study of Hornell Hart (Hart & Collaborators, 1956) for the issue to be studied via actual comparisons of the features of apparitions of the living and the dead.

Les Apparitions Matérialisées des Vivants & des Morts:
Vol. 1: Les Fantômes des Vivants (1909)

French spiritist leader Gabriel Delanne was known during his time for writings such as *Le Phénomène Spirite* (1897b) and *L’Ame Est Immortelle* (1899). The book reviewed here, *Les Apparitions Matérialisées des Vivants & des Morts: Vol. 1: Les Fantômes des Vivants* is one of the most comprehensive treatises on the topic. The book consisted of two volumes. The first one, and the one reviewed here, was mainly about apparitions of the living. The second was about apparitions of the dead (Delanne, 1911).

The author stated in the first volume of his book that he was trying to empirically show “that the human soul exists during life and after death” (p. 1, this, and other translations, are mine). To accomplish this he presented a detailed review of apparitions of the living based on cases published in *Phantasms of the Living* and in other sources. In addition to presenting many veridical cases, Delanne discussed recurrent apparitions, voluntarily produced apparitions, out-of-body experiences, apparitions producing physical effects, and materialization phenomena. The latter was connected to the idea of a human double, a topic related by some writers to physical mediumship in the past. Some of this involved discussions about the possibility that some materializations did not represent the presence of spirits of the dead but the manifestation of the medium’s double (e.g., Coleman, 1865).

Delanne accepted that some apparitions of the living could be telepathic, but he felt that telepathy could not explain collectively perceived apparitions. In his view some cases showed an “absence of a telepathic action caused by a vivid emotion of the agent” (p. 180), cases that were best explained by “doubling” or the separation of the spirit from the body. He felt that cases of recurrent apparitions of the same living person suggested to him a “physiological

idiosyncrasy” in the agent as opposed to a psychological factor. While superficially similar to Frederic W. H. Myers’ (1903, Vol. 1:264) idea of “psychorrhagic diathesis,” as we will see below Delanne’s idea was more physically oriented than Myers’. Interestingly, Harrison had speculated in his book: “Some individuals are so physiologically constituted, that their spirits are not unfrequently seen in the place to which their thoughts are directed” (p. 161).

Delanne argued that the soul “possesses an ethereal body by which it affirms its presence through the phenomenon of apparitions” (p. 16). Such mention of an “ethereal body” was a reference to the concept of the perispirit discussed by Kardec (1857) and by others such as Delanne (1897a) himself (see also Alvarado, 2008), a concept that has similar versions coming from antiquity (Mead, 1919, Poortman, 1954/1978). This concept of a “fluidic” body was used by Delanne in the book, and by spiritists in general, to account for some apparitions, and physical phenomena such as mediumistic materializations, and photographs of “doubles” and spirits of the dead.

According to Kardec (1857), who based his ideas on statements dictated by supposed spirits through mediums: “The perispirit is of a semi-material nature, that is to say intermediary between the spirit and matter. It takes forms determined by the will of the spirits and under some conditions it can affect our senses” (Kardec, 1857:44). Furthermore, Kardec believed the “substance” of the perispirit came from the “universal fluid” (p. 44). This envelope of the spirit, Kardec (1862) wrote in a different work, was a “fluidic body, vaporous . . . invisible to us during our normal state” (p. 5), and had only a few of the characteristics of physical matter. According to Kardec (or rather to the “spirits”), the perispirit provided the physical conditions necessary for the immaterial spirit to cause physical phenomena such as the movements of tables and apparitions. As he wrote about the latter:

By nature and in its normal state the perispirit is invisible . . . but it may . . . undergo modifications that render it perceptible to sight, by a kind of condensation, by a change in molecular arrangement. . . . The perispirit acquires the properties of a solid and tangible body; but it can instantaneously recapture its ethereal and invisible state. (Kardec, 1862:132)



FIG. 18. — Un faux dédoublement.

EXAMPLE OF A FALSE DOUBLE,
A DOUBLE EXPOSURE.

Delanne was sympathetic to Frederic W. H. Myers' (1903) concept of a phantasmogenetic center. But he did not follow Myers completely. Delanne believed that there was a projection of a "fluidic image without interior organization, without intelligence . . ." (p. 495), something that Myers did not postulate. He was also critical of Myers' idea that apparitions could consist of "some elements of the personality . . . perceived at a distance from the organism" (Myers, 1903, Vol. 1:263). Delanne considered Myers' emphasis on "elements of the personality" an unnecessary assumption and saw the soul as an unitary concept that could not be fragmented in any way.

The author also postulated that there were cases that were intermediate between the production of a double with physical properties and the projection of consciousness from the physical body. He believed that these cases "show the continuity of this genre of phenomena and the great difficulty that exists in clearly separating one from the other" (p. 496).

Delanne presented a table at the end of his book summarizing the causes of false (hallucinatory) and real apparitions. The latter consisted of the odic phantom (a physical and involuntary emanation that could be seen and photographed and was not conscious), the clairvoyant apparition (a clairvoyant vision seen by some but not by others), semi-materialized apparitions (cases presenting veridical details in the appearance of the apparition, cases in which the agent and percipient could see each other, and those perceived collectively), and materialized apparitions (as seen in physical and photographic effects). Like Harrison and others before him, Delanne argued that apparitions of the living showed the existence of a nonphysical element in human beings, the "existence of the soul during life" (p. 519). Thought, he asserted, was not a function of the brain. He wrote:

We have first established . . . that thought is exteriorized, that it acts at a distance on other human beings, and we have concluded from the analyses of the phenomena that it is not comparable to the known physical phenomena, that it is not material, which confers a special characteristic to the extra-corporeal action of thought, without parallels with the physical, chemical or physiological properties of the brain (p. 514).

Similarly, the evidence for veridical aspects in the apparition cases indicated to Delanne that the brain was not involved in the process. He believed that these phenomena showed that the soul was independent of the physical body.

Final Thoughts

The books by Harrison and Delanne are part of a literature forgotten by many today that represents attempts to understand apparitions of the living in previous eras. As I have argued elsewhere (Alvarado, 2009), these works are

part of the conceptual history of out-of-body experiences and of the idea that apparitions of the living represent the action of a nonphysical aspect of human beings. But as representatives of particular periods, these books also remind us of differences between the past and the present. An example is the rarity of current ideas about the materiality of apparitions as discussed by Harrison and Delanne, at least outside the small contemporary literature in which concepts such as the perispirit are defended.

In addition, such works may inform contemporary writers and researchers interested in apparitions of a variety of interesting cases and ideas relevant to current concerns such as speculations about the independence of the mind and the body. The books are also a reminder that a phenomenon such as apparitions of the living may be conceptualized as different types of experiences explained in various ways. Finally, the books by Harrison and Delanne serve as a reminder of the existence and complexity of apparitions of the living, a phenomenon neglected in recent times.

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BOOK REVIEWS

Phantasms of the Living (2 volumes) by Edmund Gurney, Frederic W. H. Myers, and Frank Podmore. London: Trübner and Company, 1886. Both volumes free at <http://www.esalenctr.org/display/books/phantasms/>

Reports of experiencing ostensible psychic (psi) phenomena go back far in human history, with some of the earliest experiences apparently dating from the ancient Greek and Roman periods (Dodds, 1971). Serious attempts to systematically study psi experiences formally began in 1882 when the Society for Psychical Research (SPR) was founded by a distinguished group of scholars associated with Cambridge University in England. Among this group were Edmund Gurney, a man with broad-ranging interests who served as the SPR's first honorary secretary (Beloff, 1977:12), and Frederic Myers, a classical scholar who also became a pioneer in the study of dissociation and subliminal consciousness (Kelly, 2001, Kelly & Alvarado, 2005). In addition to conducting field investigations and simple experiments, the early members of the SPR began amassing, examining, and appraising personal accounts of spontaneous psi experiences. A painstaking effort at the latter activity by Gurney and Myers, along with SPR researcher Frank Podmore, resulted in *Phantasms of the Living*, which may be considered one of the essential classics in parapsychology and psychical research.

This hefty two-volume collection contains just over 700 individually documented cases of spontaneous psi within its 1,306 pages. Each case is taken from personal accounts sent to various members of the SPR by correspondents from the general public, and many seem to depict an instance of extrasensory perception (ESP) involving two or more individuals, one of whom was often the correspondent. To help ensure that the cases were based on actual experiences that had been accurately and honestly reported, strict criteria were set by Gurney et al. for including a case in *Phantasms*. For example, a case had to have been a first-hand eyewitness account by the correspondent, and the ESP experience it described had to have been told to a third party before the details of the distant individual's situation were learned. As evidence of the latter, each numbered case in *Phantasms* is accompanied by corroborative statements from one or more individuals who either had been present with the experient when the experience occurred, or were told about the experience by the experient very soon afterward. It was also necessary to ascertain that none of the important details in the correspondent's account had been altered or embellished by

comparing it against the account of the third party and/or documented records. It is clear from the accounts that Gurney et al. went to great lengths to verify the details contained within each case. As eminent psychologist William James (1887) commented in his review of *Phantasms* in the pages of *Science*:

Nothing, in fact, is more striking than the zeal with which [Gurney et al.] cross-examine the witnesses; nothing is more admirable than the labor they spend in testing the accuracy of the stories, so far as can be done by ransacking old newspapers for obituaries and the like. If a story contains a fire burning in a grate—*presto* the Greenwich records are searched to see whether the thermometer warranted a fire on that day; if it contains a medical practitioner, the medical register is consulted to make sure *he* is correct; etc. (James, 1887:19, italics in original)

It also had to be determined that the ESP experience between the individuals involved in the cases could not have arisen merely by chance coincidence. In Chapter 13 of Volume 2, Gurney et al. describe their efforts to estimate the odds ratios of chance occurrence for the various kinds of experiences published in *Phantasms*, based on estimates of the frequency of experiences among a random sample of people, the size of the adult population of England at the time, the death rate among adults in the country within a 12-year period, and similar demographic data. Most of their odds come up in the range of trillions to one against chance.

The experiences described in the cases range from simple sensory-like impressions to detailed veridical hallucinations. The latter experiences differ from other types of hallucinations, in that the content of the hallucination seems to actually correspond to verifiable events taking place at a distance, rather than merely being an abnormal product of the experient's imagination (a common psychiatric interpretation of the term *phantasm*). An example of a veridical hallucination case is Case #20, in which a woman, Mrs. Bettany, recounts an experience from her childhood:

On one occasion (I am unable to fix the date, but I must have been about 10 years old) I was walking in a country lane at A., the place where my parents then resided. I was reading geometry as I walked along, a subject little likely to produce fancies or morbid phenomena of any kind, when, in a moment, I saw a bedroom known as the White Room in my home, and upon the floor lay my mother, to all appearance dead. The vision must have remained some minutes, during which time my real surroundings appeared to pale and die out; but as the vision faded, actual surroundings came back, at first dimly, then clearly. I could not doubt that what I had seen was real, so, instead of going home, I went at once to the house of our medical man and found him at home. He at once set out with me for my home, on the way putting questions I could not

answer, as my mother was to all appearance well when I left home.

I led the doctor straight to the White Room, where we found my mother actually lying as in my vision. This was true even to minute details. She had been seized suddenly by an attack of the heart, and would soon have breathed her last but for the doctor's timely advent . . . (Vol. 1, p. 194)

This account was later verified by both of Mrs. Bettany's parents, and in his corroborating statement (p. 195), her father added that neither he nor the family servants had any indication of his wife being ill prior to the crisis, a situation that argues against prior knowledge of the mother's situation through logical inference.

The cases in *Phantasms* are collectively interpreted by the authors in two ways. Since many describe an instance in which one person (the percipient) seems to respond to the situation being experienced by another person (the supposed agent) at a distance, they tend to be regarded by Gurney as cases of *telepathy* (or "thought-transference," in the terminology often used by the authors). In such an interpretation, it is assumed that the agent had somehow mentally "transferred" information or impressions pertaining to his or her situation to the percipient. However, in a note added to Volume 2 (pp. 277–316), Myers recognized the alternate possibility that the percipient could have become aware of the agent's situation through *clairvoyance* (which he initially called *telaesthesia*, or "distant sensing"; Myers, 1903). In this alternate interpretation, the percipient perceives or otherwise becomes aware of the agent's situation without the agent having necessarily transferred something, as in telepathy.

Although telepathy is offered by Gurney as the prime interpretation for the cases (apart from Myers' note) based on the results of early experiments in telepathy (reviewed in Chapter 2 of Vol. 1), the possibility that clairvoyance could be involved is raised by a point made by C. Lloyd Morgan (1887) in his review of *Phantasms* that, ". . . there are great difficulties in applying the thought-transference hypothesis to a great number of cases" (p. 281). Morgan cites the above case involving Mrs. Bettany and her mother as an example, which can be subject to either interpretation when examined closely. Although the mother is still conscious and could have served as a telepathic agent, there is no clear indication that she attempted to intentionally convey a thought, impression, or idea to another person at the time of experience (in contrast to the experimental and spontaneous cases in Chapter 2 and Chapter 3 of Vol. 1, which involved such attempts). While this does not explicitly rule out the possibility of telepathy (since it may be the case that telepathy can operate unconsciously as well as consciously), it does seem to argue against it. Furthermore, it is notable that Mrs. Bettany's description of her vision seems akin to the scenic image of a bystander, which appears more suggestive of clairvoyance than

telepathy. Another case which seems suggestive of a scenic image, and thus of clairvoyance, is Case #66, the account of which is partly reproduced below. According to Gurney et al., the account was given to the SPR by a Fellow of the College of Physicians in 1884:

Twenty years ago [abroad] I had a patient, wife of a parson. She had a peculiar kind of delirium which did not belong to her disease, and perplexed me. The house in which she lived was closed at midnight, that is, the outer door had no bell. One night I saw her at 9. When I came home I said to my wife, 'I don't understand that case; I wish I could get into the house late.' We went to bed rather early. At about 1 o'clock I got up. She said, 'What are you about; are you not well?' I said, 'Perfectly so.' 'Then why get up?' 'Because I can get into that house.' 'How, if it is shut up?' 'I see the proprietor standing under the lamp-post this side of the bridge, with another man.' 'You have been dreaming.' 'No, I have been wide awake; but dreaming or waking, I mean to try.' I started with the firm conviction that I should find the individual in question. Sure enough there he was under the lamp-post, talking to a friend. I asked if he was going home. (I knew him very well.) He said he was, so I told him I was going to see a patient, and would accompany him. . . . (Vol. 1, p. 267)

Upon arriving at the house, the physician was able to enter and found his patient being served strong liquor by her maid, which had apparently contributed to her delirium. At the end of the account, Gurney added that:

In conversation with the present writer [Gurney], the narrator explained that the vision—though giving an impression of externality and seen, as he believes, with open eyes—was not definitely located in space. He had never encountered the proprietor on the spot where he saw him, and it was not a likely thing that he should be standing talking in the streets at so late an hour. (p. 267)

Apart from the scenic nature of the experience, accounting for this case in terms of telepathy is again complicated by the fact that there does not seem to be any clear indication of an attempt to intentionally convey a thought, impression, or idea from agent to percipient. In order to fit the case into the telepathy hypothesis, Gurney suggests that the physician's intention of getting into the house may have had an effect on the proprietor's mind, a suggestion that seems to stretch the hypothesis in such a way that the physician can be viewed as both agent and percipient. Whether this suggestion can be considered a more plausible alternative to the clairvoyance hypothesis, is an example of the possible dilemma faced by readers when attempting to interpret the cases for themselves.

It is cases such as these that seem to illustrate the inherent ambiguity

in attempting to distinguish telepathy from clairvoyance. Although not always recognized, this issue of telepathy vs. clairvoyance is one that persists into the present time, mainly due to the difficulty in designing an unambiguous experimental test for telepathy (Rhine, 1974). The issue is again raised by Gurney et al. in their attempts to interpret cases involving apparitions that were collectively perceived by more than one person (discussed below).

Regardless of their interpretation, the cases in *Phantasms* seem to collectively show patterns that have been found in other collections of spontaneous cases. For example, Gurney et al. note that the agents and percipients are biologically related in nearly half (47%) of the cases, although they add that, “. . . since in many cases the relatives of the percipient will have naturally belonged also to the circle of his intimate friends, it seems reasonable to conclude that consanguinity, as such, has little if any predisposing influence in the transmission of telepathic impressions” (Vol. 2, p. 723). Table 1 compares Gurney et al.’s findings on the relation between the percipient and the supposed agent in the *Phantasms* cases to those obtained in analyses of four separate case collections. The details of these four collections are as follows:



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1) Stevenson (1970, Chapter 2) analyzed 160 cases published in the *Journal and Proceedings* of the American and British SPR from the 1880s up to 1967. (It should be noted that 34 of these cases were included in *Phantasms*, making this the only collection shown in Table 1 that is not entirely independent of Gurney et al.) For convenience, these 160 cases were combined here with the analysis of 35 cases of ostensible telepathy received by Stevenson from correspondents (one case that lacked an identifiable agent was excluded; Chapter 6).

2) L. E. Rhine (1981, Chapter 17) analyzed 2,878 cases of veridical dreams, which had been compiled from a larger collection of more than 10,000 cases sent by correspondents to the Duke University Parapsychology Laboratory between the late 1940s and the mid-1960s.

3) Schouten (1981) analyzed 789 ESP cases sampled from a collection of about 1,000 cases gathered in a 1950 German newspaper survey conducted by G. Sannwald.

4) Persinger (1974, Chapter 3) analyzed 164 telepathy–clairvoyance cases published in *Fate* magazine between 1965 and 1969, which were personal accounts sent in to the magazine by its readers.

In Table 1, “Immediate Family” refers to parent–child, spousal, and sibling relations, while “Extended Family” refers to all other family relations outside the immediate (e.g., grandparents, aunts/uncles, cousins, in-laws, etc.).

Table 1 seems to show a fairly consistent trend across case collections concerning the relation between the agent and percipient, in line with the relation observed by Gurney et al. But contrary to their initial conclusion, median and mean percentages taken across collections seem to indicate that consanguinity, as inferred by immediate family relation, may be a relevant factor in ESP experiences. In addition, these values are consistent with those obtained in a separate analysis by Schouten (1979:420) of 562 cases extracted from the *Phantasms* collection.

In examining the themes of the *Phantasms* cases (i.e. the circumstances which may have precipitated the ESP experience between the agent and percipient), Gurney et al. observed that:

It is the very large proportion of cases in which the distant event is *death*. It is in this profoundest shock which human life encounters that these phenomena seem to be oftenest engendered; and, where not in death itself, at least in one of those special moments, whether of strong mental excitement or of bodily collapse, which of all living experiences comes nearest to the great crisis of dissolution. Thus among the 668 cases of spontaneous telepathy in this book [not including the 34 cases added as a supplement to Vol. 2], 399 . . . are death cases, in the sense that the percipient’s experience either coincided with or very shortly followed the agent’s death; while in 25 more cases the agent’s condition, at the time of the percipient’s experience, was one of serious illness which in a few hours or a few days terminated in death. (Vol. 2, p. 26, italics in original)

This suggests that just over half (59.7%) of the cases in *Phantasms*, as analyzed by Gurney et al., contain a death-related theme. Table 2 compares the themes of the *Phantasms* cases (represented by Schouten’s 1979 analysis, which involved a more in-depth examination of themes) with those of the cases contained in the four other collections.

Median and mean percentages taken across all five collections seem to indicate that, in a manner fairly consistent with Gurney et al.’s initial observation, nearly half of the cases involve a death-related theme. Also of interest is that in nearly three-fourths ($45.8 + 28.4 = 74.2\%$) of all the cases, the supposed agent is facing a death or crisis situation (e.g., serious illness, accident). In contrast, only 19% were about trivial (i.e. non-crisis) situations.

Some research suggests that ESP, both in spontaneous and experimental situations, may be negatively correlated with geomagnetic activity (e.g., Persinger, 1989, Spottiswoode, 1990). A study by Persinger (1987) found this

TABLE 1
Relation Between Agent and Percipient in Spontaneous ESP (% Cases)

Analysis	N Cases	Immediate Family	Extended Family	Friends	Strangers
Gurney et al. (1886)	702	44.2	9.0	31.7	4.3
Stevenson (1970)	194	63.9	7.2	26.3	2.6
Rhine (1981)	2878	39.0	14.2*	14.2*	13.4
Schouten (1981)	789	55.9	11.0	28.0	5.1
Persinger (1974)	164	53.0	16.0	14.0	9.0
Median Percentage	-	53.0	11.0	26.3	5.1
Mean Percentage	-	51.2	11.5	22.8	6.9

* In her analysis, Rhine placed extended family and friends in the same category, which she labeled "Remote Relationships" (pp. 218–219, 222).

same correlation between 109 cases in the *Phantasms* collection and early geomagnetic indices recorded between 1868 and 1886. This negative correlation compares favorably with the one obtained using another SPR collection of spontaneous cases from roughly the same period (Arango & Persinger, 1988).

In addition to veridical hallucination cases, *Phantasms* contains cases in which the percipient perceives an apparition of the supposed agent. As in veridical hallucinations, the agent is often facing a death or crisis situation at the time that his/her apparition is perceived by the percipient, and thus the experience is referred to as a *crisis apparition* case. In order to be considered a crisis apparition case and thus be included in *Phantasms*, Gurney et al. specified that the apparitional experience had to occur within the 24-hour time period surrounding the agent's situation (i.e. 12 hours before to 12 hours after). An example of a crisis apparition case is Case #28, in which N. J. S., a man "... [o]ccupying a position of considerable responsibility," gives an account of his experience of the apparition of F. L., a close friend and co-worker who had fallen ill several days before. An excerpt of the account is reproduced below, which was written by N. J. S. from a third-person perspective:

On Saturday evening, March 24th, N. J. S., who had a headache, was sitting at home. He said to his wife that he was what he had not been for months, rather too warm; after making the remark he leaned back on the couch, and the next minute saw his friend, F. L., standing before him, dressed in his usual manner. N. J. S. noticed the details of his dress, that is, his hat with a black band, his overcoat unbuttoned, and a stick in his hand; he looked with a fixed regard at N. J. S., and then passed away. N. J. S. quoted to himself from Job,

TABLE 2
Themes of Spontaneous ESP Experiences (% Cases)

ANALYSIS	N CASES	THEME		
		Death	Crisis	Trivial
Schouten (1979)*	562	66.7	21.2	12.1
Stevenson (1970)	195	36.9	44.6	18.5
Rhine (1981)	2878	22.7	28.2	14.6
Schouten (1981)*	789	48.7	22.9	28.4
Persinger (1974)	164	54.0	25.0	21.0
Median Percentage	-	48.7	25.0	18.5
Mean Percentage	-	45.8	28.4	18.9

*The values for Schouten (1979, 1981) were calculated based on values given in Table 16 (1979, p. 432) and Table 10 (1981, p. 29), respectively.

‘And lo, a spirit passed before me, and the hair of my flesh stood up.’ At that moment an icy chill passed through him, and his hair bristled. He then turned to his wife and asked her the time; she said, ‘12 minutes to 9.’ He then said, ‘The reason I ask you is that F. L. is dead. I have just seen him.’ She tried to persuade him it was fancy, but he most positively assured her that no argument was of avail to alter his opinion.

The next day, Sunday, about 3 p.m., A. L., the brother of F. L., came to the house of N. J. S., who let him in. A. L. said, ‘I suppose you know what I have come to tell you?’ N. J. S. replied, ‘Yes, your brother is dead.’ A. L. said, ‘I thought you would know it.’ N. J. S. replied, ‘Why?’ A. L. said, ‘Because you were in such sympathy with one another.’ N. J. S. afterwards ascertained that A. L. called on Saturday to see his brother, and on leaving him noticed the clock on the stairs was 25 minutes to 9 p.m. F. L.’s sister, on going to him at 9 p.m., found him dead from rupture of the aorta.

This is a plain statement of facts, and the only theory N. J. S. has on the subject is that at the supreme moment of death, F. L. must have felt a great wish to communicate with him, and in some way by force of will impressed his image on N. J. S.’s senses. (Vol. 1, pp. 210–211)

Apart from visual apparitions such as this one, some cases involve auditory apparitions in which the percipient seems to hear the agent's voice (e.g., Case #33, Vol. 1, p. 221), and at least a few cases have involved visual or auditory apparitions coupled with tactile sensations (e.g., Cases 293–295, Vol. 2, pp. 135–139). Some of the apparitional experiences are collective, in which the apparition is perceived by more than one percipient (e.g., see the cases in Vol. 2, Chapter 18).

Like the veridical hallucination cases, the crisis apparition cases can be interpreted in more than one way. In the last paragraph of his account, N. J. S. offered a personal theory that his encounter with the apparition of F. L. may have been due to some form of telepathic connection between F. L. and himself. Gurney et al. similarly offer telepathy as the prime interpretation for such cases, suggesting that during a moment of crisis, the supposed agent impresses an image of him or her self upon the mind of the percipient, which is then experienced by the percipient as an apparition. This telepathic approach to apparitions was apparently influenced not only by early experimental and anecdotal accounts of telepathy (Chapter 2 and Chapter 3 of Vol. 1), but also by quasi-experimental attempts by some correspondents to intentionally appear as an apparitional figure before an unsuspecting relative or friend at a distance (Cases 13–16, Vol. 1, pp. 103–109; Cases 685 & 686, Vol. 2, pp. 671–676). Case #13 is partly reproduced below as an example of such an attempt, with the account given by the Rev. W. Stainton Moses:

One evening early last year, I resolved to try to appear to Z, at some miles distance. I did not inform him beforehand of the intended experiment; but retired to rest shortly before midnight with thoughts intently fixed on Z, with whose room and surroundings, however, I was quite unacquainted. I soon fell asleep, and awoke next morning unconscious of anything having taken place. On seeing Z a few days afterwards, I inquired, 'Did anything happen at your rooms on Saturday night?' 'Yes,' replied he, 'a great deal happened. I had been sitting over the fire with M, smoking and chatting. About 12.30 he rose to leave, and I let him out myself. I returned to the fire to finish my pipe, when I saw you sitting in the chair just vacated by him. I looked intently at you, and then took up a newspaper to assure myself I was not dreaming, but on laying it down I saw you still there. While I gazed without speaking, you faded away. Though I imagined you must be fast asleep in bed at that hour, yet you appeared dressed in your ordinary garments, such as you usually wear every day.' 'Then my experiment seems to have succeeded,' said I. (Vol. 1, pp. 103–104)

Cases such as these, which were also mentioned by Myers (1903:689–690) in his book *Human Personality and Its Survival of Bodily Death*, seem to suggest an intention on the part of the agent to precipitate the experience in the intended percipient, and thus seem, on the surface, to be in line with

the telepathy hypothesis. However, there are other factors that do not seem to conform very well to the hypothesis.

One of these factors is that, in many cases, apart from the intentionally generated cases, there often seems to be no clear indication that the agent held an intention to appear before the percipient, and in some cases, the agent may not have been aware that the percipient had seen the figure of him or her. L. E. Rhine (1957:42–43) noticed this same factor in veridical hallucination and crisis apparition cases from her own collection. Since the possibility that telepathy can operate on the unconscious level has not been explicitly ruled out, this factor may not clearly preclude telepathy, but seems to minimally argue in favor of clairvoyance.

Another factor, also noticed by L. E. Rhine (1957:43), is the manner in which the percipient often perceives the apparition. In Case #13 above, it is indicated by Z. that he had witnessed Moses' apparition in the garments that he was accustomed to seeing Moses wear every day. The same goes for the apparition of F. L. in N. J. S.'s account (Case #28 above). Similarly, in the accounts of people who have experienced veridical apparitions of deceased individuals, Broughton (2006) has noted that: "Often the clothing that the ghost appeared in was what the deceased customarily wore, not necessarily those in which the person died" (p. 150). This seems to suggest that the agent is not the only one who has a role in precipitating the apparitional experience; rather, it suggests that the percipient has a role, as well. In this case, the percipient seems to contribute to the details of the apparition (the clothes it is wearing) based on his or her own personal memories of the individual who is perceived. As Broughton (2006) suggests, some veridical apparitions of deceased individuals may be ". . . essentially a product of the mind of the percipient—an [*sic*] hallucination composed of images taken or constructed from the experiencer's memory" (p. 150). Offering preliminary support to this possibility is the experimental and anecdotal evidence suggesting that (long-term) memory has a role in ESP (Broughton, 2006, Irwin, 1979, Palmer, 2006, Roll, 1966, Stanford, 2006).

If this can be extended in any way to apparitions of the living (as in crisis apparitions), then it may suggest a slightly greater contribution to the experience by the percipient, and might begin to tip the scales a bit toward clairvoyance. On the other hand, it should be recognized that the apparent inconsistency between the clothing of the agent and his/her apparitional counterpart is somewhat in line with the percipient's subjective experience in at least some ostensible telepathic experiences. For instance, in ganzfeld telepathy experiments, rarely does it seem that the percipient's subjective experience represents an exact mental picture of the target that the agent is looking at. Instead, the percipient's experience seems more to comprise sensory details from his or her own memory that can

be associated in some way with the target, whether directly or indirectly. This suggests that correspondence in the experiences of the agent and percipient in telepathy may not always be exact. Examples of this can be seen in verbal transcripts of the percipient's subjective impressions from the first ganzfeld experiment by Honorton and Harper (1974:163–164), who also acknowledged the possibility that memory could have a role in ESP (pp. 164–165). If this point has merit, then it could leave some margin for the possibility of telepathy.

A third factor is that, in some cases, the experience is not limited solely to the intended percipient, and seems to require a stretching of the telepathy hypothesis in order for it to “fit the mold,” so to speak. There are two types of crisis apparition cases that seem to require a stretching. One type is a case where the apparition is perceived not by the intended percipient, but by another person, who witnesses the apparition in close proximity to the percipient. When this other person describes the apparitional figure, the percipient may recognize it as resembling a person who he or she knows (Case #355, Vol. 2, p. 256). An illustrative example is Case #242, reported to the SPR by a Mrs. Clarke in October of 1885:

In the month of August, 1864, about 3 or 4 o'clock in the afternoon, I was sitting reading in the verandah of our house in Barbadoes [*sic*]. My black nurse was driving my little girl, about 18 months or so old, in her perambulator in the garden. I got up after some time to go into the house, not having noticed anything at all—when this black woman said to me, “Missis, who was that gentleman that was talking to you just now?” “There was no one talking to me,” I said. “Oh yes, dere [*sic*] was, Missis—a very pale gentleman, very tall, and he talked to you, and you was very rude, for you never answered him.” I repeated there was no one, and got rather cross with the woman, and she begged me to write down the day, for she knew she had seen someone. I did, and in a few days I heard of the death of my brother in Tobago. Now the curious part is this, that *I* did not see him, but she—a stranger to him—did; and she said that he seemed very anxious for me to notice him. (Vol. 2, p. 61, italics in original)

A very similar kind of case exists for apparitions of deceased individuals, where another person perceives the apparition in close proximity to someone who had known that individual in life. L. E. Rhine (1957) had coined the term *bystander-type case* as a label for them, noting that “. . . these cases are suggestive of the haunting cases, the main difference, however, being that in these the link is a person rather than a geographical location” (p. 39). In being so similar, the analogous cases for apparitions of the living, like Case #242, seem to represent a “crisis bystander-type case,” if such a label can be used.

To account for cases like 242 in terms of telepathy, Gurney et al. suggest an extension of the telepathic link by the intended percipient to the third person

bystander who witnesses the apparition. In a sense, the intended percipient now becomes a second agent, who in turn conveys the impression regarding the original agent to the bystander, who now becomes a second percipient. It is suggested that the reason the bystander is able to perceive the apparition, and the intended percipient is not, may be due to a greater psychic sensitivity on the part of the bystander. Again, the reader is faced with the dilemma of whether or not this hypothesis can be considered more plausible than the alternative hypothesis of clairvoyance on the part of the bystander.

In other cases, the apparition is collectively perceived by several persons, and it seems that the more witnesses there are in addition to the percipient, the more severely the telepathy hypothesis must be stretched. Gurney attempts to stretch the hypothesis by proposing a form of “telepathy by infection” among the witnesses. As Tyrrell (1953/1961) succinctly describes it,

. . . an agent, A, telepathically influences, in the first place, the primary percipient B, in whom he is interested, and that B, while creating his own sensory image, acts as an agent, in turn transmitting the apparition on to C, who repeats the process, retransmitting the apparition to D, and so on. (Tyrrell, 1953/1961:43)

Myers seemed to recognize the conceptual difficulty that arises with the complexity of stretching the telepathy hypothesis in this manner to account for collectively perceived apparitions, and in his added note to Volume 2 (pp. 277–316), he offers the alternative hypothesis of clairvoyance, along with what he calls a “phantasmogenetic” effect on the part of the agent. Myers (1903, Vol. 1) somewhat expounds upon this idea in his book *Human Personality and Its Survival of Bodily Death*, in which he seems to suggest that the agent acts as more of a direct agent in creating the apparition through “. . . a psychical element probably of very varying character, and definable mainly by its power of producing a phantasm, perceptible by one or more persons, in some portion or other of space” (p. 264). However, he does not seem to regard this effect as one on physical space *per se*, for he states that,

. . . when the phantasm is discerned by more than one person at once . . . it is actually effecting a change in that portion of space where it is perceived, although not, as a rule, in the matter which occupies that place. It is, therefore, not optically or acoustically perceived; perhaps no rays of light are reflected nor waves of air set in motion; but an unknown form of supernormal perception, not necessarily acting through sensory end-organs, comes into play. (Myers, 1903(2):75)

Instead, Myers posits that the changes may occur in what he calls “the metetherial,” which seems to be an aspect of space parallel to, but also separate from, that occupied by matter. He does not seem to clearly outline its properties

or any other of its aspects, suggesting that it may have represented a working concept in progress.

In general, Myers' view seems to lie somewhere in between the telepathy and clairvoyance hypotheses:

I hold that this phantasmogenetic effect may be produced either on the mind, and consequently on the brain of another person—in which case he may discern the phantasm somewhere in his vicinity, according to his own mental habit or prepossession—or else directly on a portion of space, “out in the open,” in which case several persons may simultaneously discern the phantasm in that actual spot. (Myers, 1903(1):215–216)

This statement seems to acknowledge the possibility of telepathy in the case of one percipient (through an effect upon the percipient's brain), while also indirectly acknowledging the possibility of clairvoyance in the case of multiple percipients, who perceive the apparition in open space. In some respects, this phantasmogenetic effect by the agent sounds very much like a psychokinetic effect on the part of the agent.

A slightly similar interpretation is the one offered by Tyrrell (1953/1961) in his book on apparitions, which, through the metaphorical analogy of a stage production, seems to acknowledge possible contributions by both agent and percipient to the apparitional experience. This possibility is suggested by a quasi-experiment described by German Councillor H. M. Wesermann in 1819, in which he (as the agent) made several attempts to willfully appear to unsuspecting percipients in their dreams. In one instance where he assumed that the male percipient, Lieutenant N., would be asleep at a certain hour, Wesermann attempted to make the image of a deceased woman appear to him in a dream. However, Lieutenant N. was not asleep at the time, and the image instead appeared before him as an apparition, which was also perceived by another witness. Gurney et al. cite the account of this instance, as personally given by Wesermann:

The intention was that Lieutenant N. should see in a dream, at 11 o'clock p.m., a lady who had been five years dead, who was to incite to him a good action. Herr N., however, contrary to expectation, had not gone to sleep by 11 o'clock, but was conversing with his friend S. on the French campaign. Suddenly the door of the chamber opens; the lady, dressed in white, with black kerchief and bare head, walks in, salutes S. thrice with her hand in a friendly way, turns to N., nods to him, and then returns through the door. Both follow quickly, and call the sentinel at the entrance; but all had vanished, and nothing was to be found. Some months afterwards, Herr S. informed me by letter that the chamber door used to creak when opened, but did not do so when the lady opened it—whence it is to be inferred that the opening of the door was only a dream-picture, like all the rest of the apparition. (Vol. 1, p. 102)

Although the apparition witnessed by the two men seemed to largely conform to Wesermann's stated intention as the agent, there are a few aspects of the experience that seem to deviate from his intentions. As mentioned, Wesermann apparently assumed that Lieutenant N. would be asleep in his bedroom when he made his effort. Thus, one might expect that the apparition should have appeared in N.'s bedroom, but it did not; it appeared in the room where he was talking with S. And instead of appearing in a dream as intended by Wesermann, the figure appeared before N. as a waking apparition. The apparition also acknowledged the presence of S. with N., even though it does not seem that Wesermann was aware that S. would be present with N. at the time of his effort. Assuming that the effect of suggestion was not involved in this case, these deviations would seem to suggest a possible contribution of the percipients. As Roll (1974) commented of this case:

The Wesermann ghost also supports Tyrrell's theory that an apparition is usually the product not only of its creator but also of the perceiver. The lady ghost would have performed in an empty room had something not brought her to the anteroom—that something presumably being the unconscious minds of the officers reacting to Wesermann's attempts. In [psychical researcher Hornell] Hart's terminology, the three men had together produced a persona. This all sounds rather strange, but in fact, it is typical of ESP. Even in card tests, the result is rarely an exactly copy of the target but an interaction between the target, the mind of the subject, and often of the experimenter's mind too. (Roll, 1974:403)

Such an interpretation would seem applicable to crisis apparition cases, although for postmortem apparition cases, it confounds the possibility of ESP with that of survival after death. As Tyrrell (1953/1961) stated: "If an apparition represents a dead person . . . this is not sufficient proof that the dead person is the agent. A living agent *can* produce it" (p. 133). However, he goes on to note that: "On the other hand, the consensus of evidence goes to show that this kind of apparition must be produced by *some* agent; and in the majority of cases it is hard to find a plausible candidate other than the person the apparition represents" (p. 133). This raises another difficult issue apart from that of telepathy vs. clairvoyance, but given the limit of this review to Gurney et al.'s cases of apparitions of the living, it will not be addressed here, although the interested reader should perhaps consult the articles by Roll (1977; 1982, Sect. 2) and by Stevenson (1977, 1982) for broader discussions of the issue.

Somewhat similar to the veridical hallucination cases, the crisis apparition cases in *Phantasms* seem to show at least a few suggestive patterns found in other case collections. For example, many of the apparitions seem to represent a close relative of the percipient. The relation of the percipient to the supposed agent (whose apparition is seen) is shown in Table 3 for five other case collections of

TABLE 3
Relation Between Percipient and Agent in Apparition Cases (% Cases)

Analysis	N Cases	Immediate Family	Extended Family	Friends	Strangers
Persinger (1974)	193	47.0	22.0	18.0	13.0
Osis & Haraldsson (1977)	418	60.3	12.2	6.9	20.6
Haraldsson (1988–1989)	100	53.0	-	10.0	11.0
Haraldsson (2009)	337	46.0	-	8.0	29.7
Arcangel (2005)	590	58.2	11.3	-	12.7
Median Percentage		53.0	12.2	9.0	13.0
Mean Percentage		52.9	15.2	10.7	17.4

The values for Osis and Haraldsson (1977) are calculated from their Appendix Table 2 (p. 218). The values for Arcangel (2005) are calculated from her Appendix survey (pp. 284, 291). Values not cited are marked with a dash (-).

apparitional experiences. The details of the collections are as follows:

1) Persinger (1974, Chapter 6) analyzed 193 crisis and postmortem apparition cases published in *Fate* magazine between 1965 and 1969, which consisted of personal accounts sent in by readers.

2) Osis and Haraldsson (1977) analyzed 418 apparition cases received from physicians and nurses in the United States and India between 1961 and 1973. These cases consisted of deathbed visions, in which the apparition of a living or a deceased person was perceived by a terminally ill or dying patient shortly before death.

3) Haraldsson (1988–1989) analyzed 100 cases of crisis and postmortem apparitions obtained through interviews with people who responded to a national survey in Iceland in 1974.

4) Haraldsson (2009) analyzed 337 additional crisis and postmortem cases obtained through interviews with people who responded to a questionnaire placed in five popular magazines circulated in Iceland in 1980–1981.

5) Arcangel (2005) analyzed 590 cases received through a multi-phase, worldwide survey of people who attended grief workshops and media events, responded to radio interviews, or participated in an online survey.

As in Table 1, “Immediate Family” refers to parent–child, spousal, and sibling relations, while “Extended Family” refers to all other family relations outside the immediate (e.g., grandparents, aunts/uncles, cousins, in-laws, etc.).

Gurney et al. did not perform a separate analysis of their crisis apparition cases. However, they noted (Vol. 2, p. 723) that the agent and percipient were biologically related in 47% of the *Phantasms* cases, which includes the crisis apparition cases. If this value can be taken as a rough estimate of the relation between agent and percipient in the latter (while recognizing that it may be an overestimate), then a comparison of this value with the median and mean percentages for “Immediate Family” in Table 3 indicates that the values are in fairly close range. Of course, because of the possible overestimate, this should only be taken as a tentative pattern.

In analyzing 314 apparition cases from the *Phantasms* collection, Stevenson (1982:346) found that 28% of the agents in the cases had suffered a violent death. Similarly, Haraldsson (1988–1989, 2009) found that, in his 1974 and 1980–1981 surveys, the number of agents suffering a violent death was 23% and 30%, respectively.

As it may be clear from this review, *Phantasms of the Living* is a book containing spontaneous case reports that, when read closely, can potentially raise complex issues, ones that still remain largely unresolved within parapsychology even in the present time. However, this should not take away from the knowledge of the greater importance, as well as the enjoyment, that a reader can gain from reading these classic cases. As mentioned, Gurney et al. went to great lengths to verify the details in these cases, which make them difficult to dismiss as mere fabrication, suggestion, or misperception. Instead, the cases collectively offer evidence to suggest that ESP and apparitional experiences can and do manifest in the lives of people from all walks of life, a suggestion that is still echoed in the spontaneous cases being reported many years later (e.g., Feather & Schmicker, 2005, Stevenson, 1995). The anecdotal evidence available from spontaneous cases across time, coupled with the experimental evidence in parapsychology, seems to form the best case for serious consideration of the existence of psi phenomena.

The potential value of spontaneous cases in parapsychology has been addressed before by several researchers in the field, who have argued that such cases can: 1) illustrate the various ways in which psi can manifest in nature, 2) reveal more about the content and depth of the subjective experiences of agents and percipients, 3) highlight rare and interesting forms of psi phenomena that have been neglected by researchers in the past, and 4) be useful for uncovering general patterns across cases that can possibly be developed into testable hypotheses, among many other values (Alvarado, 1996a, 1996b, 2002, Irwin, 1994, Rhine, 1977, Watt, 1994, White, 1992). *Phantasms of the Living* remains

a source useful for demonstrating all of these values, and for that reason should continue to be brought to the attention of psi researchers of the current and future generations.

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Nonsense on Stilts: How To Tell Science from Bunk by Massimo Pigliucci. The University of Chicago Press, 2010. 336 pp. \$20 (paperback). ISBN 9780226667867.

While its declared goal is to “allow us to tell the difference between it [science] and bunk, *Nonsense on Stilts* contains, unfortunately, its own bunk which makes the (borrowed) title apply to the book itself in addition to what is described in it. Here are some examples of “nonsense on stilts”:

—p. 63: *The earth . . . has an axis of rotation (which causes the alternation of day and night) and an axis of revolution (around the sun). These two axes are not parallel, but diverge by a little more than 23°. . . .*

Each of those two sentences is bunk:

1) There is no such a thing as an *axis of revolution around the sun*. The Earth is revolving around the sun on an *elliptical path that has two axes*.

2) Following the error in the first sentence, here comes the error about the angle of *a little more than 23°*. In reality, Pigliucci seems to describe the Earth’s obliquity or tilt angle. The tilt angle can be defined not as he defined it, but by one of the following statements:

- a. The angle the Earth’s axis of rotation makes with a line perpendicular to the plane of the ecliptic, or
- b. The angle that a plane passing through the Earth’s equator makes with the plane of the ecliptic

—p. 93: *This is simply false, as the idea of a temporary cooling of the earth’s temperature was advanced in the popular press (not in academic, peer-reviewed journals) . . .*

At least a dozen papers, discussing the idea of a temporary global cooling were published, in the mid-1970s, in academic, peer-reviewed journals, such as *Nature*, *Science*, and the *Journal of Atmospheric Research* (see below).

Barrett, E. W. (1971). Depletion of short-wave irradiance at the ground by particles suspended in the atmosphere. *Sol. Energy*, 13, 323–337.

Bryson, R. A. (1974). A perspective on climatic change. *Science*, 184, 753–760.

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—p. 136: . . . *we do have an atmosphere, and carbon dioxide (CO₂) is a major component of it.*

This is a huge “nonsense on stilts”: **CO₂ represents only 0.039% of the entire atmosphere.** Even if Pigliucci meant to say that CO₂ is a major greenhouse gas, he would be wrong by two orders of magnitude, because the most important greenhouse gas is water vapors (1%–4% concentration).

The next comments refer to Pigliucci’s criticism of Bjorn Lomborg’s book *The Skeptical Environmentalist*.

—On p. 137, Pigliucci writes: *We will go into a bit of detail analyzing **one chapter** [emphasis added] of Lomborg’s book . . . because it represents a good example of how science can be used to oversimplify complex topics and how hundreds of pages and thousands of notes do not necessarily make good scholarship.*

In other words, by analyzing one chapter out of twenty-five or 66 pages out of 515 pages, Pigliucci hopes to show that the remaining hundreds of pages and thousands of notes do not necessarily make good scholarship because of one bad chapter. This is a logical fallacy called *hasty generalization*, and it is weird when it comes from a philosopher of science who wrote a book about “nonsense on stilts” trying to debunk such kinds of misconceptions.

—On p. 138, Pigliucci tells us that *Lomborg is not a climate scientist . . . Why, then, attempt to write a scholarly book about the “true” state of the environment?*

HINT: read p. xx of Lomborg’s Preface. Another hint: Pigliucci himself

is not a climate scientist, but he expresses opinions like a climate scientist. Unfortunately, many of them are deadly wrong.

—On p. 139, Pigliucci writes: . . . *Lomborg's own book—though published by the prestigious Cambridge University Press—has not been reviewed by a single natural scientist . . .*

Nor do we know if a single philosopher of science has reviewed *Nonsense on Stilts!* But if we read Lomborg's Acknowledgements, we will find no fewer than five scientists who can qualify as "natural scientist" (professor of geology Henning Sørensen, Ed Dlugokencky and P. Tans from the Climate Monitoring and Diagnostics Laboratory of the US National Oceanic and Atmospheric Administration, John H. Dyck from the US Department of Agriculture, and Dr. Johann Glodammer at the Max Plank Chemistry Institute). These scientists as well as many others listed in the Acknowledgements "commented on large parts of the book."

—On p. 139, Pigliucci writes: "*The claim that the temperature is higher now than at any time throughout the past 1,000 years seems less well substantiated.*" *He is technically correct, as we are in fact coming out of a so-called Little Ice Age, but his own graph of the data shows remarkable convergence of estimates from various studies showing not only a steady increase in temperatures over time, but a recent steep rise that seems compatible only with an anthropogenic explanation.*

Is Lomborg contradicting himself? According to Pigliucci, the answer is yes. But, if we go back to Lomborg's book (pages 260–263, Figure 134) we will notice that Pigliucci did not pay attention to criticism made by Lomborg with regard to one set of temperature data (Mann, M. E., Bradley, R. S., & Hughes, M. K. (1999). Northern hemisphere temperatures during the past millennium: Inferences, uncertainties, and limitations. *Geophysical Research Letters* 26(6), 759). That set of data illustrates the infamous "hockey stick," where the Little Ice Age was completely obliterated to make "the recent steep rise" in temperature more obvious. Probably, Pigliucci does not know (remember, he is not a climate scientist by his own recognition) that the "hockey stick" model was discredited a long time ago, that its author himself, Michael Mann, dropped it, and that the latest IPCC report in 2007 no longer includes it. What is remarkable, however, is that Lomborg, in 2001, advances plenty of reasons for which Mann's temperature data should be regarded with skepticism. And the recent "Climategate" scandal clouded Mann's work even more. But Pigliucci seems to ignore what happened between 2001 and 2010 in order to win the point against Lomborg.

—Referring to Figure 146 of the first book, Pigliucci writes on p. 142: *Let us set aside for the moment the non-negligible detail that there is very little understanding of the causal link between sunspots and global temperatures (and without a well-established causal link, a correlation is just an interesting but potentially misleading statistic).*

Apparently, Pigliucci never heard about Maunder and Sporer sunspot minima and their links to the Little Ice Age in the Northern hemisphere. He does not know either that some scientists suggested that changes in solar irradiance accounted for 50%–75% of the 0.6°C increase in temperature during the 1900s and that other scientists (such as the famous P. D. Jones and M. E. Mann from the infamous “Climategate”) place the solar irradiance changes since 1880 at about 10% of the amount of 0.7°C warming during the last century.

—On p. 142, Pigliucci writes: *Lomborg adds: “however, these are global figures over the next 63 years [this is an odd number to pick; your baloney detector should go yellow alert]. . .*

In fact, my baloney detector went again straight to red alert because he (voluntarily or not, who knows?) misrepresented that number. It’s not odd at all if he noticed that Lomborg refers to a Canadian report published in 1997 dealing with overall cost until 2060 of the implementation of the CFC protocols. You do not have to have a PhD to realize that 2060 – 1997 = 63 years. “It’s elementary, my dear Watson . . .”

—Regarding again Lomborg’s Figure 146, Pigliucci writes (p. 142) that *Lomborg glosses over the fact that the otherwise very good match between the two curves he shows (. . .) completely breaks down during the last few decades, with temperatures continuing to increase regardless of the solar cycle.*

But on p. 278 of his book, Lomborg writes that *the connection between temperature and the sunspot cycle seems to have deteriorated during the last 10–30 years, with temperatures outpacing sunspot activity in Figure 146.* Is this “glossing”? I would argue that Lomborg is aware of the disconnection between the two curves, and indeed he in fact “draws readers’ attention to this annoying detail.”

—Continuing the critique of the same Figure 146, Pigliucci writes (p. 143): *He [Lomborg] attributes this to an “emerging greenhouse gas signal,” that is to human-caused global warming!*

Going back to Lomborg’s book on page 278 (Pigliucci’s endnote #11 gives the wrong page for the above-quoted words), one can read the following: *. . . the fact that the emerging greenhouse gas signal only appears now seems to indicate once again that the estimated CO₂ warming effect needs*

to be lowered. One such IPCC-loyal study finds that the solar hypothesis explains about 57 percent of the temperature variations and that the data suggest a climate sensitivity of 1.7°C, a 33 percent reduction of the IPCC best estimate. It seems to me that Lomborg says quite the opposite of what Pigliucci is claiming.

—On p. 142, Pigliucci pokes fun at Lomborg: . . . *His example [of a better technology]? At the beginning of the twentieth century icebergs were considered “a major climatic threat impeding travel between North America and Europe.” But all it took was for us to invent jet liners and, voilà, no more Titanics. Hardly the sort of argument that belongs in a scholarly book.*

I would argue that this is a cheap shot. Because Lomborg, citing the *Titanic* example from the literature, explains in the next paragraph why he chose that metaphor (p. 278): *To remain with the metaphor above, it seems that the scenarios are more concerned about plotting a better course for the Titanic than investigating the likelihood of alternative means to travel.* It is Pigliucci’s right to not include this sort of argument in one his scholarly books, but, personally, I appreciate the power of a well-chosen metaphor.

—On p. 144, Pigliucci writes: *I guess that was why in 2003 . . . thirty-five thousand people died in Europe (not in central Africa) during a heat wave . . .*

While this is a gruesome number when talking about victims of a heat wave and, by extension, of possible consequences of global warming, I am wondering why Pigliucci is not quoting the following: *In Europe as a whole, about two hundred thousand people die from excess heat each year. However, about 1.5 million Europeans die annually from excess cold. That is more than seven times the total number of heat deaths. Just in the past decade, Europe has lost about fifteen million people to the cold, more than four hundred times the iconic heat deaths from 2003. That we so easily neglect these deaths and so easily embrace those caused by global warming tell us of a breakdown in our sense of proportion* (Bjorn Lomborg, *Cool It*, 2007:17).

—On p. 146, Pigliucci writes: *Lomborg quotes **with disdain** [emphasis added] University of California Berkeley’s physicist John Holdren (later director of the White House Office of Science and Technology Policy under President Obama), who pointed out that the major problem we have for the future isn’t a lack of energy, but how we use it.*

Going back to Lomborg’s book on p. 321, we read: *UC Berkeley physicist John Holdren pointed out that “clean-burning, non polluting, hydrogen-using bulldozers still could knock down trees or build housing developments on farmland.”* Now, could somebody tell me, where is the disdain here?

I declare I stopped reading *Nonsense on Stilts* after Chapter 6 because of a quote used by Pigliucci himself when discussing Lomborg's book. According to Thomas Henry Huxley, "many a beautiful theory was killed by an ugly fact." I cannot think of a more appropriate quote for Pigliucci's book.

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Nonsense on Stilts: How To Tell Science from Bunk by Massimo Pigliucci. The University of Chicago Press, 2010. 336 pp. \$20 (paperback). ISBN 9780226667867.

Nonsense on Stilts, by Massimo Pigliucci, takes its name from a quote by Jeremy Bentham, the English utilitarian philosopher. The book aims to provide the average person with the tools required to differentiate science from non-science—a classic problem in philosophy of science. Massimo Pigliucci is both a scientist and a philosopher as, according to his bio at platofootnote.org, he holds a doctorate and two Ph.D.s—in genetics, evolutionary biology, and philosophy. He is currently a professor at the City University of New York and "noted skeptic."

The writing style of *Nonsense on Stilts* is readable and accessible to those who don't have a philosophy or scientific background, and some sections are bound to be informative even if you do, as the scope of the book is huge. It contains information about basic philosophy of science to the representation of science in the media as well as discussions about controversial scientific topics in politics and the courtroom (global warming and intelligent design, respectively). It also contains a quick rundown on the history of the development of science as a break-away discipline from the grips of theology and philosophy (from the pre-Socratics to the founding of modern science). And he also manages to cover more current developments in philosophy of science with two chapters dedicated to the "science wars" and finally a chapter where he discusses the role of the expert.

He skillfully manages to cover this extensive ground while making the book an enjoyable, easy read. His apparently affable personality shines through which is refreshing in comparison with many books on philosophy of science/science, and he slips in an appropriate level of personal information about his own history, opinions, and experiences. It is remarkable what he manages to

cover in the book (which runs to 300 or so pages), and it is replete with many great quotes, examples, and backstories which make the ideas discussed come alive.

But perhaps because the scope is large we don't see the analysis put to work as it should be. Massimo Pigliucci obviously has a great love of science and what it can do to help us understand the world and universe we live in. I fully support the idea that drives the book: the need to provide people with the tools to make a judgment about scientific knowledge for themselves. He acknowledges that science is complex and that it is not easy for the average person to come to grips with how to make an assessment about what constitutes good science and what bad or even what to make of the information that science presents us with. His knowledge of what is currently accepted as "good science" is well-founded and thoughtful.

The troubles start when you begin to see he uses the same rhetoric he set out to dispel to promote his own skeptical agenda, which he wears on his sleeve. This is a shame, because if you take his basic message and apply it you will be able to do as he wishes—make an informed assessment of science, controversial or not, based on the notion that:

What all scientific inquiry has in common, however, are the fundamental aspects of being an investigation of nature, based on the construction of empirically verifiable theories and hypotheses. These three elements, naturalism, theory, and empiricism, are what make science different from any other human activity. (p. 303)

He lets the reader down because he doesn't apply his own analysis to the all of the topics he is examining in the book.

For instance, even early in the book, before a definition of pseudoscience has been given, we are informed that "The disciplines in the middle land may one day be recognized as full members of the scientific enterprise, as is happening to areas of psychology that are turning into cognitive science; *or they may slide into pseudoscience, as happened in the past to astrology and parapsychology*" (p. 25, my italics). This is an early indication that once you get to the section on psi research it is going to be a teeth-grinding exercise if you are more familiar with the actual evidential status of parapsychology. And sure enough it is.

He has clearly already made up his mind about what areas of human enquiry are to be categorized as pseudoscientific. This goes against the grain of the book which is otherwise a rational, thoughtful exploration of science. It would have been much more helpful and, I think, led him to a different analysis of parapsychology had he first of all set out the benchmarks he would use to delineate a pseudoscientific enterprise (which he outlines on p. 42) and then

applied them to an analysis of the best available contemporary evidence for the areas that are controversial such as parapsychology (the aspect of the book on which I've been asked to focus for this review).

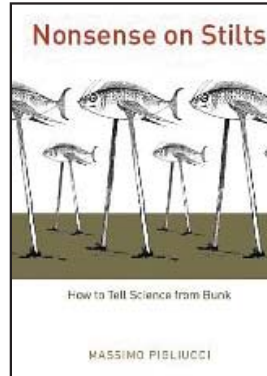
When Massimo Pigliucci does come to reveal why parapsychology is pseudoscientific he admits that he can grant it only a short space in this book. He says so much has already been written in this area, which presumably is a reason not to give it much space. He refers the reader to the other books using a footnote; these are: *Flimflam!* by James Randi, *Skeptical Odysseys: Personal Accounts by the World's Leading Paranormal Inquires* by Paul Kurtz (Ed.), *Pseudoscience and the Paranormal* by Terence Hines, *The Skeptic's Guide to the Paranormal* by Lynne Kelly, among others, also noted skeptics. Need I go on?! It would be refreshing to see a skeptic reference other than their own, but alas we are let down here. As we are with the analysis.

The two examples selected for scrutiny in this section are the PEAR laboratory PK experiments and the J. B. Rhine Zener card experiments. Pigliucci acknowledges that "what the PEAR group did surely qualifies as science" (p. 78), but he criticizes them for using statistical significance to measure the results of a long-run experiment, as well as failing to maintain adequate baseline readings. The first is a problem which any scientific endeavor using statistical significance for large amounts of data will encounter (something he acknowledges does occur in other areas of science). But he ends with the point that when the measurement is small and indicative of something which "violates the laws of physics!" (p. 80), you would be better to dismiss the evidence. This contradicts something earlier in the book where he acknowledges "indeed, physicists themselves are beginning to question whether the so-called laws of the universe are truly universal or instead apply locally, in either time or space" (p. 53). In contemporary philosophy of science the idea that there are universal, unbreakable laws is certainly debated. If you are going to critique parapsychology for its use of statistics in these instances, you will need to apply the same analysis across the board to every other area of scientific endeavor.

On the second count, the lack of a baseline, he references a skeptic's account of the criticism but fails to mention that a member of the PEAR group of researchers, York Dobyms, had responded to this critique and that currently there is no unanimous agreement among scientists who have weighed in on the issue as to whether or not the problem invalidates the research (Broderick, 2007:33–38). The lack of discussion is alarming.

Massimo Pigliucci then goes on to introduce the work of J. B. Rhine. But here the little snippets of information that make the book interesting in many other sections are used to produce the notion that Rhine was motivated by crazy beliefs in things such as talking horses as well as a dated interest in Lamarckian theory. Whether consciously or not, Pigliucci is priming the reader to think that it is unlikely good science could come out of the lab of someone like this. It is also a strange selection. J. B. Rhine's research was first undertaken in the 1920s,

so it is representative of research from nearly a century ago. The study of psi has progressed significantly since then and though Rhine was an important “founding father” of parapsychology, he is in no way representative of what is going on in contemporary parapsychology. For instance, the long runs of the same boring material are not carried out anymore. Pigliucci criticizes the research on the same account as the PEAR experiments: problems with randomness and statistical significance. But rather than take the point into a broader discussion about the use of statistics in science he instead infers Rhine’s experimental methodology was flawed and open to fraud. Thus leaving the uninitiated reader in doubt as to the validity of psi research unfairly. (No wonder the myth perpetuates!)



He fails to mention that parapsychology as a scientific discipline has learned from these early experiments and continued to produce positive results at the same time as taking into consideration some of the methodological problems apparent in the early experiments. Look at the development of the ganzfeld and autoganzfeld experiments to see where these early Zener card experiments eventually led—to the point where even some skeptics acknowledge there is something going on (for example the Honorton/Hyman joint communiqué in Bem & Honorton, 1994:9). If more thinkers approaching the evidence from the skeptical perspective acknowledge there is something to explain, then we might see further theoretical development leading, eventually, to a satisfying explanation for all concerned.

It is on this area of scientific explanation that the book is noticeably silent. Psi does pose a challenge to science because the mechanisms are not able to be explained. This doesn’t mean it is impossible nor that it will never be explained. The idea that theories compete to account for the same dataset is explored briefly (p. 74). But how to judge between the theories is only glanced at. There is the recommendation that one should employ Occam’s Razor, but contemporary discussions in philosophy of science involve much more sophisticated analyses when confronted with competing explanations.

With regard to scientific explanation, philosophy of science has been in a state of debate since the demise of the covering law theory in the early 1970s. Although one wouldn’t expect a detailed analysis of this complex area of philosophy in a book already covering so much ground, there should be some acknowledgement of how philosophers (and some scientists) are attempting to develop thought in this regard. (For example, the competing explanation theories of Bas Van Fraassen, Philip Kitcher, and Wesley Salmon.) Some ideas put forward in the discussions that do take place in philosophy are that the “best” explanation is the most comprehensive explanation vs. the “best” explanation is

the most useful explanation. These all impact on areas of science in which there are data but competing explanations, such as in parapsychology.

At one stage in the book Massimo Pigliucci himself admonishes skeptics for leaping to conclusions without first becoming acquainted with the facts (in the section on UFOs, p. 75). And yet he does the same thing in his brief discussion of parapsychology. It is possible for both sides to acknowledge the evidence and agree to disagree about the explanation and see what eventuates. It would be good to see a book like this, which already covers the territory so well in other areas, acknowledge that the problem is not the doing of the science, it is the explanation of the data which is at issue. And discussions about explanation can lead to discussion (rather than debates), which is expected and helpful when there is a scientific problem to solve.

There is one chapter in the book which is equally relevant to both groups: the representation of science in the media. Much of what Pigliucci has experienced as he takes his message to the mainstream press will be familiar to those who have also tried to get a fair hearing on controversial topics such as psi research. His experiences show how difficult it is for anyone making public comment about complex issues in science. It is in this chapter that you feel you get to know the author and can identify with some of the problems he faces.

I can recommend this book as an excellent source of readable information about science—its history and controversies. But not as a book which applies the analysis fairly to all areas of scientific enquiry. It also provides insight into the sophisticated rhetoric and views of a “noted skeptic” where topics such as parapsychology are covered. It left me feeling sad that so much work in psi research is still dismissed by those who should clearly be able to apply their own calls for intelligent, thoughtful analysis to bear on the subject.

So, if you do read this book, it is wise to heed the advice Massimo Pigliucci leaves us with: “Never, ever, forget to turn on your baloney detector” (p. 305).

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The Logical Leap: Induction in Physics by David Harriman. New York: New American Library, 2010. 275 pp., including Index. \$16. (paperback). ISBN 9780451230058.

The so-called problem of induction has been with us since David Hume first drew attention to it in the mid-18th century. The problem is that we infer from a number of similar events laws of nature that are universal. We infer the idea of a cue “causing” a billiard ball to move, by observation of many similar events of cues striking billiard balls. Therefore we suppose that the next time we strike a billiard ball with a cue that the ball will move in a similar way. But, says Hume, there is no valid chain of reasoning that can lead to that conclusion (there is no valid Aristotelian syllogism that leads from “some” to “all”). We can introduce an axiom “the future resembles the past” or “nature is uniform in certain regards,” but by so doing we are arguing in a circle:

all inferences from experience suppose . . . that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible therefore that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. (Hume, 1748)

This problem of being unable to get from past observations to some necessarily *true* general principle is known as the “problem of induction.”

Induction is contrasted with deduction, which is moving from some true premises inevitably to true conclusions. Aristotle formulated the laws of logic which showed which kind of deductions (syllogisms) lead to correct conclusions, regardless of the actual objects to which the various premises refer. The ubiquitous example is “All As are B; C is A; therefore C is B.” Thus “All men are mortal; Socrates is a Man; Therefore Socrates is mortal.” The point is that the deduction is *valid* whatever is substituted for A, B, and C. The deduction is not necessarily *true* if the premises are not true: “All men are women; Socrates is a man; therefore Socrates is a woman.” There is thus a distinction in Aristotelian logic between the validity of an argument and the truth of the conclusion. Aristotle came to his universal laws of logic by a process of induction. First he examined a great many arguments and arranged them into 192 possible forms, removing the particulars to which the arguments referred. Aristotle then isolated 14 valid syllogisms out of the 192 (later expanded to 19 out of 256) which give true conclusions if the premises are true. Although a syllogism may be valid and true, it does not necessarily get you very far. Take

for example the valid syllogism “no women are immortal; some people are women; therefore some people are mortal.” All the valid syllogisms have “all” or “no” in one or the other of the premises. But the only way such premises can be arrived at is by induction or by definition (as in mathematics).

Yet science proceeds from individual experiments and observations to general principles. It is to the problem of when and why the inference from “some” to “all” is legitimate—“in short, how can man determine which generalizations are true (correspond to reality) and which ones false (contradict reality)” (p. 7)—that Harriman sets his mind in *The Logical Leap*, subtitled *Induction in Physics*.

To answer the question, Harriman relies on the Objectivist philosophy of Ayn Rand (1905–1982, author of the novel *Atlas Shrugged* where she describes her philosophy in detail, of other works of fiction, and of numerous philosophical essays). Objectivism takes for granted the validity of sense perception and causality (p. 9). Sense perception is our only contact with reality. From sense perception we find out what exists in the world: tables, chairs, etc. “We form concepts by grasping similarities that make a group of existents stand out against a background of different existents” (p. 10). The concepts formed in this way do not imply that all existents grouped into a concept are the same: Their differences are quantitative. For instance, tables have different surface areas, different heights, and different numbers of legs. “When we form a concept, our mental process consists in retaining the characteristics but omitting their differing measurements”(p. 10).

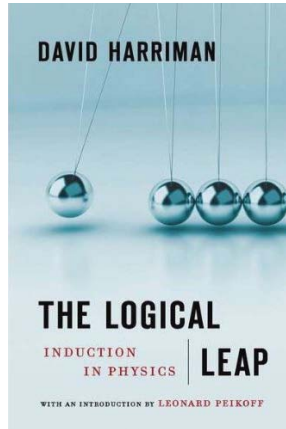
Concepts are hierarchical. “The meaning of first-level concepts can be made clear simply by pointing to instances” (p. 12). For higher-level concepts we need definitions which must be empirical statements that specify the distinguishing characteristics and condense our knowledge of them. A concept however cannot be equated with its definition:

The concept ‘temperature’ had the same meaning for Galileo and Einstein, i.e. both men referred to the same physical property. The difference is only that Einstein knew much more about this property; he understood its relation to heat, to motion, and to the fundamental nature of matter. (p. 13)

Generalizations are also hierarchical, and all generalizations ultimately depend on first-level generalizations: “all generalizations—first level and higher—are statements of causal connection. . . . there is nothing to make any generalization true except some form of causal relationship” (p. 21). Thus, contrary to Hume, we perceive causation directly in the case of the cue and the billiard ball, and in the case of high-level generalizations we discover causes by experiment. We do not discover causes by simply counting regularities or finding correlations.

The above is a (condensed) version of Rand's theory of concepts. The so-called problem of induction relies on prior concepts. "Deduction takes for granted the process of conceptualization. Induction is the conceptualizing process itself in action" (p. 35). The process of making higher-level concepts requires thought and is therefore not infallible. In fact it is quite difficult.

As an example of correct induction, Harriman cites Benjamin Franklin's famous experiment with a kite in a thunderstorm which showed that lightning is essentially electricity. Franklin drew on a number of concepts:



'electricity', 'discharge', 'conductor', 'insulator', 'Leyden jar'. These concepts were made possible by and represent a wealth of earlier knowledge (which was also discovered by means of experiment). Without this conceptual framework, as we may call it, Franklin could only have stared uncomprehendingly at sparks and shocks. Given such a framework, however, he can at once identify what he is seeing: The kite apparatus is a long conductor, and thus the electrically charged thundercloud causes [the Leyden jar to become charged]. Once Franklin can identify what he is seeing in such terms, his conclusion—the generalization—follows directly. (p. 32)

Harriman then discusses at length the progress of scientific knowledge in astronomy, physics, and chemistry by the "greats" such as Copernicus, Galileo, Kepler, Newton, Lavoisier, Dalton, Maxwell, and Mendeleev and brings out the mechanics of valid induction, though the accounts might be construed as rather Whiggish, wherein the later theory is accepted as correct, the good guys are the ones who got the answer right, and the bad guys are the ones who tried to resist the right answer.

From this survey, Harriman shows when induction is valid and delineates several fallacies which make induction appear invalid:

- a) Dropped context: To say Newton's laws are falsified by the development of relativity and quantum mechanics is to drop the context. They are true in the context of the mechanics of ordinary bodies and the motion of planets, in which context the laws were validly induced. (p. 8)
- b) Substituting a regularity for a cause: Lavoisier thought that the presence of oxygen in a chemical compound was what made the chemical acidic. This was merely a regularity in those acids he studied and was not found in hydrochloric acid (then known as muriatic acid). (p. 196)

- c) Inadequate experimental controls: Galvani thought that the reason a frog's leg placed on a silver plate jerks when touched by a bronze hook was because electricity was stored in the leg. Volta thought the reason was contact of the different metals and the frog was irrelevant for the production of electricity. Galvani and Volta both performed variations of the experiment which 'proved' their point. Davy later showed that the frog's leg provided a salt solution vital for the operation of the silver-bronze battery. (p. 200)
- d) 'Cognitive fixation': The physicist Lord Kelvin 'refuted' the up-and-coming science of geology on the grounds that the age of the Earth, according to the then known physics, was too young for the formation of mountains as postulated by the geologists. Kelvin could not see that the facts of geology suggested another energy source apart from gravity, on which he based his calculations. (p. 206)
- e) 'Cognitive promiscuity': Pons & Fleischman proclaimed they had been able to obtain the 'cold fusion' of deuterium atoms in a room-temperature electrolysis experiment, "despite weak evidence and a context that makes the idea implausible. . . . A mind that is open to any 'possibility', regardless of its relation to the total context of knowledge, is a mind detached from reality and therefore closed to knowledge." (p. 207)
- f) 'Theory stealing': Accepting a theory as an instrument for research whilst not believing that the theory refers to reality. This was the situation through much of the 19th century when many chemists did not believe that atoms actually exist, whilst still using the theory to guide their research. (p. 220)

In the final chapter, Harriman turns his attention to quantum theory.

As a mathematical formalism, quantum theory has been enormously successful. It makes quantitative predictions of impressive accuracy for a vast range of phenomena, providing the basis for modern chemistry, condensed matter physics, nuclear physics, and optics. It also made possible some of the greatest technological innovations of the twentieth century, including computers and lasers. Yet as a fundamental theory of physics it is strangely empty. . . . It gives a mathematical recipe for predicting the statistical behavior of particles but fails to provide causal models of subatomic processes. (p. 248)

According to Harriman, the *necessity* of supposing that a single reality exists, that the human mind has a reasonably clear access to it, and that the scientist can explain it, has been surrendered not by reference to experimental facts ("the knowledge gained by experimental discovery of facts can never lead to the denial of knowledge and fact") but by the influence of post-Kantian philosophy,

an enemy that operated behind the front lines and provided the corrupt framework used to misinterpret facts. By rejecting causality and accepting the unintelligibility of the atomic world, physicists have reduced themselves to mere calculating machines (at best)—and thus they are unable to ask further questions or to integrate their knowledge.

Harriman does not discuss the double-slit experiment, the EPR experiments of Alain Aspect and others, the quantum Zeno effect, quantum computation, and the various other puzzling phenomena in quantum physics. Harriman himself seems to be “theory stealing” here in that he is willing to accept the benefits he lists from quantum theory without subscribing to the theory itself, nor addressing the really puzzling *experimental* facts on which the theory is based. There is no explanation of why quantum mechanics gives such precise answers whilst it does not correspond to reality.

I do not deny that modern physics is in something of a crisis. 96% of the universe as we know it consists of ‘dark matter’ and ‘dark energy’ which we have only the vaguest idea about. The two most successful theories we have, quantum mechanics and general relativity, refer to completely different contexts and are deeply incompatible in those areas where perhaps they both apply (such as black holes). The effort to unify these two great theories has stimulated physicists to retreat into metaphysical speculation of great mathematical complexity (string theory) with as yet no hint of an experimental test.

In short, Harriman presents a reasonable theory of how a science can proceed by induction to true theories (provided you read “true” as “true in context” and not “absolute truth”). He shows, following Rand, that the problem of induction depends on prior concepts that had not been examined by Hume and that science is possible (contrary to the pessimistic conclusions of certain philosophers over the centuries). I am skeptical about his insistence that physics must conform to some pre-ordained form (which might be construed as “cognitive fixation”). As Neils Bohr said in response to Einstein’s insistence that “God does not play dice with the universe,”: “Do not tell God what to do.”

“Physics is the most universal of the natural sciences” (p. ix), and Harriman does not address the sciences such as biology, psychology, sociology, which suffer from “physics envy” but rely even more on statistics than quantum mechanics. It is here that his theory of induction might meet even tougher challenges.

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Paranormal America: Ghost Encounters, UFO Sightings, Bigfoot Hunts, and Other Curiosities in Religion and Culture by Christopher D. Bader, F. Carson Mencken, and Joseph O. Baker. New York University, 2010. 272 pp. (paperback). \$20. ISBN 9780814791356.

To belong to the SSE is, de facto, to be a member of “Paranormal America,” and so we are all fit subjects for this informative book. The three sociologists (hereafter BMB) who authored this study drew chiefly on the data from two waves (2005 and 2007) of the Baylor Religion Survey, funded by the John Templeton Foundation (<http://www.isreligion.org/programs-research/surveys-of-religion/>). Administered by the Gallup organization for the Baylor Institute for Studies of Religion, these surveys were large national samples of American adults that asked a wide-ranging set of questions about religious beliefs and practices, but also about a number of paranormal beliefs, including some of those that preoccupy us at the SSE.

Social scientists have investigated those who profess a religious faith from many angles, and a portion of these studies have attempted to understand the sociology, psychology, and motivations for religious belief. Another, closely related, strand of work has been a parallel examination of believers (a label many of us reject) in various paranormal phenomena—psi, UFOs, cryptozoology—with broadly the same aims. These studies have usually been relatively small in scale. Many of the major survey organizations have regularly conducted polls asking the public’s opinion on paranormal topics, demonstrating (as we well understand) that interest and belief in some of our favorite subjects is widespread.

The chief contribution of BMB is to look jointly at attitudes toward religion and paranormal beliefs with enough subjects that all sorts of interesting relationships can be teased from the data. All three authors have experience as scholars of religion, so they are well-situated to conduct this study. As BMB are sociologists, there is very little mention, perhaps mercifully, of the psychology of belief. The focus is first on demographics and social status: who believes, or not, in various subjects or religious tenets. Then BMB explore how religious and paranormal beliefs are intertwined and whether some are more commonly associated, some not.

All of this is relevant to those who study phenomena rejected by science. It is useful to know the proportions of the public who express belief in these phenomena, as that belief may translate into various forms of support. And, as I discuss below, it is valuable to understand what factors are related to support, or to disbelief.

BMB necessarily asked about a limited, though reasonable, set of

paranormal beliefs. And, unavoidably, one must ask a survey question using particular language, so it is easily possible to disagree with their constructions. For example, the question about UFOs asks “Some UFOs are probably spaceships from other worlds.” It may seem straightforward, and it certainly captures what many might consider the most exciting possible origin for unexplained sightings. However, stating the question that way ignores the possibility that UFOs might be time travelers, or come from other dimensions (does that count as “other worlds” or as a “spaceship”?), let alone more esoteric, but still currently inexplicable, generating mechanisms. Choices such as this are why the *absolute* percentage of respondents answering in the affirmative must be viewed with caution, and why relationships between attitudes are perhaps more revealing.

Within *paranormal* beliefs BMB include psychokinesis (PK), fortune-telling, astrology, the existence of Atlantis or other lost civilizations, communication with the dead, haunted houses, premonitory dreams, UFOs, and crypto animals. They also asked about alternative medicine and whether we are entering a New Age that will radically change our current views. BMB are not always careful with the distinction between the *supernatural* and the *paranormal*. The former refers to phenomena that appear to transcend the laws of nature or be inexplicable by science. The latter refers to phenomena that are not generally accepted by science (UFOs) or outside of normal sensory channels (psi).

The book is targeted at a popular audience, and so while well-written it includes interspersed accounts of one or more of the author’s visits to persons who are interested in one of these subjects, or even actively investigating them (e.g., Bigfoot hunters in Texas). These anecdotal reports enliven the text, and they allow the authors to provide some needed background information on various anomalous subjects that is helpful to the unfamiliar reader. But they hardly contribute much to our knowledge of these subjects, and they sometimes blur important distinctions between those who simply profess belief in a paranormal topic, and those who are actively involved in studying it and making their beliefs public by joining a group, attending meetings, etc. The vast majority of those interested in one or more paranormal topics expresses that interest privately to friends and family (otherwise membership in various paranormal-oriented groups would be huge) and confines that interest to the occasional book, television program, or website visit.

So what did BMB learn about the public’s belief in these topics? They explain to the reader the standard disdain that the academy and the establishment hold toward such beliefs, and so they are a bit astonished to report that these beliefs are widespread and exist among all segments of the population. The exact numbers, again, depend on the mix of beliefs and question wording, but

overall, about 68% of adults believe in the reality of at least one of the above phenomena.

Given the diversity of paranormal topics, of just as much interest to *JSE* readers may be the percentage who believes in the three key topics of PK, UFOs as spaceships, and crypto animals. While about half of the sample (from 2005) believes in at least one of these, only 6% agree in the reality of all three. While not focusing on the exact percentages, this pattern illustrates why each of these areas attracts its own supporters and how there isn't one constituency for the paranormal in America (or elsewhere). Instead, as BMB point out, there is a continuum, ranging from paranormal *particularists*, with a belief in one or a few anomalous phenomena, to paranormal *generalists*, with multiple beliefs. These results also underscore the importance and unique position of the SSE in the study of rejected and anomalous topics. The SSE is a welcoming home for the full spectrum of such subjects, with some of the concomitant internal tensions.

Females generally have a greater belief in most paranormal phenomena, sometimes much bigger (i.e. 27% to 14% for males for the possibility of communicating with the dead). They are no different from males in their beliefs about large crypto animals. Only on UFOs do they have lower levels of belief than males. For race, a higher proportion of non-whites has paranormal beliefs compared to whites, with the greatest difference on belief in PK. The relationship with education is more complicated, but looking at those who didn't complete high school versus those who have high school education or above, those who dropped out of high school have substantially higher belief in fortune tellers, astrology, and ghosts.

As BMB state, people who believe in the paranormal are different, and in the ways detailed above, consistent with the hypothesis that they are more likely to be in marginal social positions, using paranormal beliefs to gain some measure of control or power. Nevertheless, to their credit, BMB note that "in spending time with people who have experienced the paranormal, we have been continuously struck by how poorly they seem to fit a marginal person model." The Baylor surveys also asked about paranormal experiences in these nine areas and found inconsistent relationships with standard demographic characteristics. BMB declare that "To attribute these beliefs and experiences to being 'crazy,' we would have to believe that more than half of the adult population of the United States is 'crazy,' a frightening prospect, to be sure." This may be the chief contribution for academics and the general public (though I have more faith in the latter in this regard) of *Paranormal America*: making it plain that *normal* people believe and experience these things.

The authors investigate several other hypotheses about paranormal beliefs. One that you may find credible is the idea that those who are less tied to the

conventional order of society are more prone to unconventional beliefs. Consistent with this, persons who are cohabiting have a higher level of belief, as do political independents. But there are no differences by one's involvement in community groups.

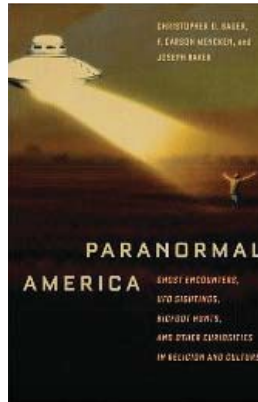
By creating a scale of conventionality, though, BMB are able to show that there is a clear relationship on the whole, such that as a stake in conformity increases, paranormal belief decreases. This has immediate relevance for the SSE, and I have personally observed the pattern in the reaction to and evaluation of the UFO phenomenon. The elites of society—political, media establishment, and the academy—are more negative about UFOs than the average person in the street. It is plausible that *one* factor (nothing is simple in society) is their stake in the status quo. This is certainly the feeling one gets from observing organized skeptics (e.g., CSI), who have an amazing ability to defend the current scientific status quo as if their system of beliefs/worldview depended on it.

Turning to religion and its association to the paranormal, we find another mixed bag of findings that is not supportive of a simplistic view. In overall belief, the various religious traditions (Catholic, mainline Protestant, evangelical Protestant, etc.) are about equal, with Jews and evangelicals evincing a bit less belief, those from other religions—Hinduism, Buddhism, and so forth—having the highest level of belief. Those with no religious affiliation have about average levels of belief. BMB expected larger differences between the religious traditions based on past work.

Some headway is made when the relationship between various types of religious behavior and belief are contrasted with paranormal belief. Those who hold the view that the Bible is literally true have a lower level of belief, but those who are on the opposite end of that spectrum and think it a “book of fables” do not have the highest belief. Instead, it is the group who believe it “contains some human error” that has the most belief in the paranormal. In a similar vein, those with a moderate level of church attendance have the highest paranormal belief and paranormal experiences. In other words, it is those with a middling level of commitment to conventional religion who are most open to the paranormal.

Unconventionality also appears again, as those who view God as a “cosmic force” have a higher level of belief compared to believers in a literal God (with doubts or without).

In summary, people open to religious ideas but more liberal in their view of religion have higher levels of belief than strong believers or nonbelievers.



As is usually the case in social science research, there are some caveats to all this. It is basically impossible in these studies, which were cross-sectional, to estimate with any certainty whether the relationships BMB find are causal, and, if so, the direction of the effect. Does being more of a religious literalist lead to lower paranormal belief? Does being unconventional lead to higher paranormal belief, or is there mutual reinforcement? Second, the amount of variance explained in BMB's multivariate models is modest. A complete understanding of what causes someone to believe in a paranormal topic lies beyond our current knowledge, although here an integrated multidisciplinary approach would be necessary. No sociological theory about belief can be more than a component of a full model.

Paranormal America would make an excellent reference to use to reinforce the point, with data, that those who believe in various anomalous subjects are not that different from anyone else. As BMB conclude, "Statistically those who report a paranormal belief are not the oddballs; it is those who have *no beliefs* that are in the significant minority" (emphasis in original). That is no small comfort for those of us involved in the serious business of studying topics rejected by mainstream science.

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Loch Ness, Nessie, & Me: The Truth Revealed by Tony Harmsworth. Drumadrochit: Harmsworth.net, 2011. 356 pp., b/w illustrations, index, photograph list, references. \$22.66 (paperback). ISBN 9781446734865.

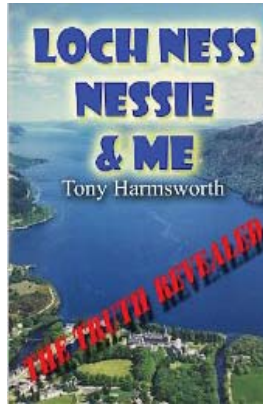
Over the years, virtually every major personality in the long-running cryptozoological saga of the Loch Ness Monster (LNM) has published one or more books, reports, or scientific papers on this ever-intriguing subject—Professor Henry Bauer, Dr. Maurice Burton, Tim Dinsdale, F. W. Holiday, Professor Roy Mackal, Dr. Robert Rines, Sir Peter Scott, Adrian Shine, Nicholas Witchell, even notorious photo-hoaxer Frank Searle. Indeed, only two notable omissions from this eminent list of Nessie-linked names come to mind. One is Steve Feltham, who has spent much of the past 20 years living in a converted mobile library on the shores of Loch Ness, hoping to make that breakthrough Nessie sighting one day, and who will assuredly write a book of his extraordinary life at some point in the future. The other is Tony Harmsworth, founder of the original LNM exhibition centre in the Scottish Highlands village

of Drumnadrochit, on the west shore of Loch Ness, during the early 1980s, but whose long-awaited story has now finally been published—and what a story it is.

Unlike previous Nessie books, this volume is not devoted exclusively to the LNM. Instead, it is Harmsworth's own autobiography, documenting an eventful life, but in which Nessie has certainly played a major part. Consequently, its text, arranged chronologically as one would expect with a book of this nature, has for the most part a much less formal style than those of its predecessors. Only when dealing with various key pieces of evidence, such as the sonar traces and controversial “flipper” photos, does it become rather more technical. Inevitably, it covers much the same ground as other Nessie books when documenting the LNM's history, but what makes it unique and particularly interesting is its personality-driven format, so very different from the vehemently objective style of presentation typifying previous LNM coverages.

As his life story unfolds, Harmsworth reveals all manner of Nessie-linked facts and insights that have not previously been documented or widely publicized. His prolonged but ultimately unsuccessful battle to retain part ownership of the exhibition that he conceived is especially revealing. So too is the saga of *Nessie Hunt*, an award-winning LNM-seeking board game that he also conceived, and which received considerable critical acclaim. Sadly, however, it never attracted a comparable degree of commercial success, despite receiving some welcome publicity from none other than Doctor Who—or at least the actor Colin Baker who played the television Time Lord during the mid-1980s. Another hitherto-unsuspected event is the somewhat hapless albeit unfortunate loss en route by aeroplane from the States to Scotland of an 8-ft.-long fiberglass replica of one of the famous flipper-like images snapped underwater at the loch by Rines's research team during the early 1970s. Imagine having to claim for “One Loch Ness Monster flipper” on the Lost Property form at the airport!

What is most entertaining and informative of all, however, is Harmsworth's own take on every noteworthy LNM personality (having met them all at one time or another during his extensive, ongoing involvement with this most famous of all cryptozoological cases), and also on every newsworthy piece of research or evidence brought to public attention during the previous decades, including all of the most celebrated photos purported at one time or another to show Nessie. He is not afraid to state his own views, and his gradual transformation from an enthusiastic optimist to a somewhat-resigned apparent



agnostic (notwithstanding his own putative Nessie sighting) as to the existence in the loch of a bona fide mystery beast makes absorbing reading. So too does his elucidation of how Nessie herself has metamorphosed in the eyes of her eyewitnesses through that same period, from a large fish to a Jurassic Park-style prehistoric survivor of plesiosaurian persuasion and then back again to a large fish—with such metamorphoses seemingly effected more by outside influences than by what the eyewitnesses were actually observing.

The book is illustrated by more than 200 b/w photographs, but although an entertaining read it would certainly have benefited from an experienced proofreader, because a fair number of typographical errors have crept in. So too, rather more worryingly, have some factual mistakes of the kind that should have been readily spotted and eliminated. For instance, when documenting a certain extremely famous bestselling author and Conservative Party peer, Harmsworth consistently refers to him not as Jeffrey Archer but as Geoffrey Archer (who is a totally separate writer of thriller novels). Similarly, on p. 142, “MP Charles Brandreth” should read “future MP Gyles Brandreth” (Charles was his non-MP father, and Gyles himself was not an MP during the period documented on that page). And when ruminating upon the annual Eurovision Song Contest, Harmsworth states “It is always thoroughly enjoyable” (i.e. present tense) listening to UK compere Terry Wogan’s much-loved humorous asides—even though Wogan had actually resigned from this post back in 2008 (having been replaced from 2009 onward by Graham Norton). One can only hope, therefore, that his Nessie coverage, a subject upon which he is no doubt far more knowledgeable, does not contain any such slips.

That aside, however, I certainly recommend Harmsworth’s book as an enjoyable, often eye-opening, and very personal view of the LNM’s colorful history and enduring mystery, and I for one will in any event always be thankful to him for providing one of the most memorable cryptozoological statistics ever—which I freely confess to having used on more than one occasion myself since. While chatting as a guest on *Saturday Superstore* (a British teenage television show) one autumn morning in 1985, Harmsworth stated: “You can put the entire population of the world, every man, woman, and child on Earth, in Loch Ness THREE times over. And you’d still have room for a few mysteries.” Surely, then, somewhere amid that unutterably vast volume, there is enough room for at least a few monsters too . . . isn’t there?

KARL P. N. SHUKER

Conscious Connections: About Parapsychology and Holistic Biology by Göran Brusewitz. Saarbrücken, Germany: VDM Verlag Dr. Müller, 2010. 100 pp. \$68 (paperback). ISBN 9783639291148.

The first question when holding this book in my hands was: Why is it so expensive? For a book of 100 pages, \$68 is not a usual price. The author has informed me that he was unaware of this high price when he closed an agreement with the publisher, so I regard it as a matter of publisher policy. Materialistic issues aside, the book is valuable in several regards. It starts with an approving Foreword by Stanley Krippner, and continues with an Introduction to the contents of the book. After that, three somewhat heterogeneous chapters follow. The first describes an experimental study the author has performed, the second chapter is a review of modern research in parapsychology, and the third consists of a review of the research performed in the field of bioenergetic effects on organisms. I will highlight the contents of these different sections below.

The Introduction contains a short description of the skeptical movement in Sweden and some of their critics. Among them is Martin Gustafsson of the University of Stockholm. Brusewitz summarizes an interesting line of reasoning put forward by Gustafsson. Among other “ideals,” the Swedish skeptics profess to continue to use the principles of the philosophers of the Enlightenment era to strengthen the resistance of people to irrationalism by popularizing the methods of and the results gained in science. However, Gustafsson argues that there is an obvious discrepancy between the aim of the philosophers of the Enlightenment, who aimed at awakening people’s motivation to educate themselves and not to simply trust in authorities, and to persuade people to trust in the methods and results of academic authorities. Clearly, this latter recommendation is *not* what the philosophers of the Enlightenment had promoted. Gustafsson makes a good point here, and it might be appreciated by all those who argue with skeptics every now and then. This revelation is characteristic of the book: The author draws much of his work from Scandinavian and Eastern European literature that is not well-known in the West by those writing on the border areas of science, and I found it refreshing to read about persons and experiments I had never heard of before.

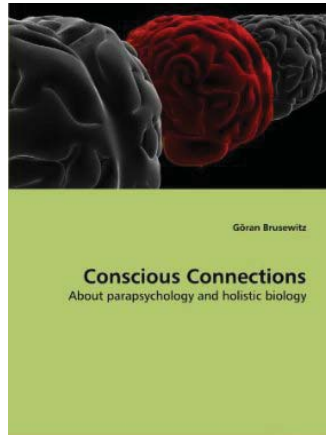
The first chapter describes an experiment that Brusewitz performed at the University of Stockholm to detect effects in electrodermal activity in persons as a response to remote “sending” individuals—effects that had been reported in earlier studies. However, the replication attempt by Brusewitz failed. To account for the negative results, the author raises several methodological issues and provides suggestions for future research.

The second chapter contains the mentioned overview on recent research

in parapsychology, supplemented by an impressive reference list. Among other topics, Brusewitz includes such diverse themes as Ganzfeld studies, fMRI studies, telepathy between twins and also between animals and humans, near-death experiences, apparitions and hauntings, but also an overview on the cutting edge studies on quantum physics in biological processes.

Chapter Three, titled “Biomagnetism, Biofields and Holistic Biology,” constitutes the most important part of the book, being a valuable introduction into studies assessing bioenergetic or psychoenergetic effects on organisms. Brusewitz expounds on many different aspects of research into bioelectricity and biomagnetism, such as the influence of electrical and magnetical fields on organisms, bioelectrical systems operating in the body, “biolight” (infrared light that is said to stimulate wound healing), and “biophotons” (very low amounts of coherent light emitted by organisms), the role of the heart in the body apart from being a blood pump, but also animal navigation, aspects of dowsing, and possible connections between this field of research and parapsychological findings. He briefly discusses holistic biology and vitalistic concepts of life, and concludes by describing the basics of a new view of life, which he conceives as being rooted in some kind of bioelectrical field. All this results in an intriguing line of reasoning, which updates previous similar concepts and weaves together aspects of diverse contemporary fields of research. However, there is one detail in this chapter that I found particularly intriguing. Here, Brusewitz briefly summarizes research performed by Swedish artist Göte Andersson. Andersson had experimented with an apparently highly psychic boy, who, among several other remarkable faculties, seemed to be able to perceive luminous emanations around the poles of magnets. Apparently, these emanations seemed of different quality above each pole to the boy, and he was able to distinguish correctly the poles of a magnet in prolonged series of blind and double-blind trials—making no mistakes. This curious ability has been reported before, starting with the first writings of Baron Karl von Reichenbach (1849) on the “Od” he claimed to have discovered, a universal vital force permeating all matter, but being concentrated in crystals, magnets, and living organisms. The experiments performed by von Reichenbach with his “sensitive” persons are usually regarded as ill-founded, with the results produced by (auto-) suggestion, but it remains remarkable that the observations described were also reported by several subsequent authors (e.g., Barrett et al., 1882–1883, Büchner, 1854, de Rochas, 1895, Durville, 1895–1896). One of them, Floris Jansen (1907) in The Netherlands, has even implemented a fully automatized laboratory setting. It is intriguing that a boy who has stated that he had never heard of these experiments before 2010 (Brusewitz, personal communication, 2011) seemed to confirm these earlier reports. And, as with other things in his book, Brusewitz deserves credit for his making this quite-unknown Scandinavian episode known to a broader audience.

However, I'd also like to highlight one weakness of the book. Sometimes important background information and historical concepts dealing with the introduced phenomena are described too superficially for my (admittedly historically biased) taste, or even misleadingly. For example, the concepts of holistic biology and vitalism as discussed by Brusewitz need clarification. The author acknowledges that there are unsolved problems in biology, and he seems to think that electrical processes in the bodies play an important role in governing some of these phenomena. He seems to conceive holistic biology as being based on bioelectrical foundations, a perspective that appears too limited. Similarly, Brusewitz asserts that vitalists “believe that biological life is based on electricity and solid-state physics in biology” (p. 50), apparently relying on secondary sources that have characterized vitalism in inappropriate terms. The essence of (neo-) vitalistic concepts lies in the propositions that the functions of a living organism are not explicable by the laws of physics and (organic) chemistry alone, but are mediated by a vital principle distinct from the factors governing physico-chemical reactions, and that organisms display self-determining and autonomous qualities (Driesch, 1928, 1935a, von Hartmann, 1925, *Merriam-Webster Dictionary*, <http://www.merriam-webster.com>). In short, vitalistic concepts typically go far beyond entailing electric fields as a vital principle of organisms, and several influential vitalists such as Hans Driesch and Eduard von Hartmann explicitly referred to this vitalistic life principle as being immaterial by nature. Hence the many writings of Driesch about possible connections between vitalism and the phenomena assessed in parapsychological research, most of which certainly cannot be explained by some kind of (bio-) electrical field or force (e.g., Driesch, 1933, 1939). Moreover, Brusewitz characterized Driesch as having postulated an “extrabiological” principle guiding the structural development of organisms—quite misleading terminology. Rather than being “extrabiological,” the vital guiding principle in Driesch’s philosophy, *entelechy*, is the fundamental and dynamic source of life without which no biology would be possible. It lies at the heart of all biology and distinguishes life from inanimate matter. Apart from governing physiological processes and form development on a mere biological level, it also comprises a soul-like quality that also governs actions on a higher level of biological organization—then being termed *psychoid* (Driesch, 1928). In addition, it entails a primordial quality of wholeness that mediates



the orchestrated functioning of an organism by implying a characteristic form of causality that Driesch had termed *wholeness-causality*. It can be conceived as an advanced form of the older—and, according to Driesch, sometimes ambiguous—concepts of *teleology* and the *causa finalis* in the Aristotelian philosophy (Driesch, 1927, 1928, 1935b).

The misconception that vitalists endorsed electrochemistry to explain unsolved riddles in biology becomes also apparent when Brusewitz states that a specific chemical model which describes hypothetical pathways leading to the origins of life, relying on electrochemical properties of the molecules involved, could provide connections to the vitalistic view of life (p. 50). No vitalist I am aware of would have subscribed to this idea. And, I take the opportunity here to stress that the origins of life are far from being understood at present, despite recurrent proclamations in scientific journals and in popular newspapers that state the opposite. In a previous publication (Nahm, 2007), I have identified and discussed 24 serious problems for pre-biotic chemistry that need to be overcome both in theory and in practice before it can be stated with justification that life has developed “by itself” through mere physicochemical reactions, including the fashionable concept of self-organization as a means to enhance these hypothetical processes. Although interesting articles have been published in the meantime (e.g., Powner et al., 2009), the situation has basically remained unchanged. Almost 60 years after the famous Urey-Miller experiments, we still don’t have the slightest clue about the historical pathways that have led to the origins of life on our planet. On closer look at the details, all we have are highly speculative and problematic hypotheses that rest on doubtful experiments with largely disappointing results, focusing on isolated and primitive aspects of organic chemistry.

Be that as it may, I conclude by stating that apart from the conceptual drawbacks just discussed, I deeply appreciate the way in which Brusewitz has highlighted unsolved problems in biology, has pointed to their possible connection with related findings in parapsychology, and has underscored that the prevalent paradigm in mainstream biology, namely focusing on molecular biology and biochemistry, implies severe deficits prohibiting a deeper understanding of the nature of life. For my part, I am sure that he is on the right track here, and that following this track has the potential to provide an important step forward toward a fruitful and innovative branch of future biology. May his book contribute to increasing the interest in these intriguing phenomena, and in their implications for a better understanding of life, including human nature.

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Science & Spirit by Hernani Guimarães Andrade (edited and with an Introduction by Guy Lyon Playfair). London: Roundtable, 2010. 198 pp. \$17 (paperback). ISBN 9780956449337.

In a well-written Introduction, Guy Lyon Playfair presents Hernani Guimarães Andrade’s significant biographical data and how important he is for Brazilian Spiritism. Andrade’s works are crucial for those Spiritists who study mediumistic phenomena. Andrade is important in this context not only because he is considered one of the most charismatic and sympathetic among Spiritists, but especially because his work had—and still has—a strong impact on the Spiritist culture in Brazil. With a flawless method of data collection, Andrade has investigated a wide variety of cases related to psi phenomena, such as cases of reincarnation and poltergeists, healings, and other manifestations of mediums. In addition to case studies, Andrade conducted experimental research on his theory of a “biological organizing model,” an anticipation of Sheldrake’s morphic fields.

As can be seen, Andrade was productive, having collected case studies,

conducted experiments, and built theoretical models. The book *Science & Spirit* aims to present part of his huge production with the publication of four papers that are representative of a part of his work. It presents three case studies: a poltergeist case, a “drop-in” case, and a case suggestive of reincarnation. The descriptions of the cases are extremely detailed, and show how rigorous Andrade was when he was collecting data. The book also presents his “biological organizing model” in the last chapter.

The first chapter presents a poltergeist case study that occurred in Suzano, a small city close to São Paulo City in Brazil. In this case—which was called The Poltergeist of Suzano—the occurrences were characterized by the appearance of spontaneous fire in a humble house. The spontaneous fire started in May, 1970. However, for about two years before the fires had started, stones had been thrown at the house in a mysterious way.

Andrade’s team took note of the case through the press. Soon they went to the location of the poltergeist-like occurrences, which was already being investigated by the police. Andrade’s team started collecting data, including interviewing the people involved. The interviews were later transcribed in full. Through the interviews it was possible to raise the family history and discover a plot that, according to Andrade, could be the cause of the paranormal occurrences. The father of the family, Jeziel Eleuterio de Souza, had an extramarital affair with Maria Cristina Silva. Both abandoned their families to live together. The families that were abandoned suffered to maintain themselves. Laura, who was Jeziel’s daughter, had to abandon school to care for siblings and keep house. Four years after the separation, Jeziel decided to leave Maria Cristina and return to his family. So, Maria Cristina decided to perform rituals of Umbanda, a magic Brazilian religion, with the aim of causing harm to Jeziel and his family. Laura and her father did not get along. In addition, Laura had fallen in love with a man who was not interested in her, so she was also unhappy because of that, too. Then, the phenomena began to occur. Several expedients were used to try to stop the phenomena: A Catholic priest and two Protestant pastors blessed the house and other people performed Candomblé rituals, but nothing worked. Only after an exorcism performed in the Spiritist Center *Mãe Pobre* did everything return to normal. According to the center’s staff, a strong magic ritual had been performed against Jeziel’s family. The entities that were around his house were virgins, that is, they had never incarnated because they constituted a legion of evil spirits.

Upon completion of the case, Andrade examined the factors involved: the historical antecedents of Jeziel’s family; the tension between Laura and her father; the threats made by Maria Cristina; the intervention of various religious people; the cessation of events when Laura was kept far from the house for a few days; and the cessation of events after the Spiritist exorcism. Andrade

dismisses any possibility that psychological trauma caused by the separation between Laura and her father could have been a cause or even that the contact with the religious people who tried to solve the case could have reduced tension and thereby cooled the occurrences. He says that the first hypothesis is untenable, arguing that

... if Laura's psychic tension came to provoke such a violent phenomenology, it was because her emotional imbalance may have reached a plateau near the climax. A patient in this condition would require months or years of psychotherapeutic treatment to be normal again. (Andrade, 1988:117)

Andrade concludes that the case of Suzano meets the four conditions proposed by his model for poltergeist occurrences. There was a wizard (first condition) who, sought by Maria Cristina, performed a ritual of black magic (second condition) against the family of her ex-lover, enabling evil entities (third condition) to use Laura's energy (fourth condition) to provoke the phenomena in order to meet the goals of Maria Cristina's revenge against Jeziel. During the Spiritist exorcism, the entities were removed, thereby blocking one of the conditions necessary for the occurrence of the phenomena, namely the presence of incorporeal agents.

Chapter 2, titled "The Ruytemberg Rocha Case," discusses a "drop-in" case, i.e. the alleged manifestation of a spirit unknown to everyone present at the seance. On November 6, 1961, during a seance, several people witnessed the words of the medium in trance, Dona Tulia, introducing herself as another person, a man, providing many details of his life, as well summarized by Andrade:

... a. his name was Ruytemberg Rocha; b. he was a pupil in the second year of School for Officers of the São Paulo State Police; c. he had been established in the Marcílio Franco Battalion engaged in fighting on the Buri front, in the State of São Paulo, during the military operations of the 1932 Constitutionalist Revolution; d. he had been wounded by grenade shrapnel and felt much pain in the region of the upper clavicle (or on the left side of the breast) over which place the entranced medium kept her open hand for practically the whole session; e. he had been brought to the session by his father and some friends; f. he had been born in São João da Bacaina, State of São Paulo, in 1908 (his town is now called just Bocaina); g. his father's name was Osório Rocha; h. his mother's name was Julieta Simões. He also gave her a nickname (which the witnesses unfortunately could not remember, although some thought it was "Lilita"); he had a sister, whose name he gave at that time, but the witnesses could not recall as they had not taken it down. Marina [one of the participants of the seance] however remembered that the name given was Olinda. (p. 84)

Some participants of the session commenced an investigation into Ruytemberg Rocha. They went to the school for the Preparation of Officers

of the Police Force, searched for information about him, and looked for his personal records. Many details given by the medium seemed confirmed. They also found two newspapers that announced Rocha's death, which also seemed to confirm data provided by the alleged entity.

Andrade did not attend the session. The data were passed to him by a doctor and parapsychologist friend, Dr. Alberto Lyra, who in his turn was a friend of a person who attended the session called Waltencir Linhares. Andrade learned of the séance about eight or nine years after its occurrence. In 1970, he and his team began the investigation, collecting data through interviews and written testimonies from people who had attended the sessions. Andrade considered it unlikely that the event was a fraud, considering the medium was a "person of social standing and clear moral sense," and that her activities as a massage therapist would not have allowed her the time to search for information about the deceased. So the first objective was to find some information that could support the hypothesis of unconscious memory (cryptomnesia), i.e. that the medium would have retained information about the Rochas, even without remembering it consciously. The historical material consulted allowed researchers to find a few references about Ruytemberg Rocha. Books, newspapers, public archives, and the police were consulted; relatives and friends were interviewed. Virtually all information provided by the supposed spirit was confirmed. However, some important information has not been confirmed, such as the cause of death (he had been shot in the head), the fact that his father would not be alive when Rocha died, and the fact that the name of Rocha's mother was *Julita* and not *Julieta*.

After presenting the case and its investigation, Andrade pointed to and discussed some explanatory hypotheses. As already mentioned, he thought it was unlikely this was a fraudulent case. The hypothesis of cryptomnesia was discarded. Andrade believed that misinformation (as about the cause of death) showed that the medium could not have had previous contact with and information about Rocha's death. He also rejected the hypothesis of extrasensory perception (ESP). Andrade believes that an ESP hypothesis does not explain a lot of data, such as the reason why the medium would have "focused" exactly on Rocha, the reason for the inconsistency about the cause of his death, the reason for the misconception of his mother's name, why the medium had "selected" the name *Olinda*, Rocha's closest sister among his several brothers and sisters, when she was already dead (1961), and the reason why the medium mentioned Rocha's military rank when he was alive—he was a lieutenant—while historical records say that he won a military rank as a Captain after his death from the government. Andrade presents an alternative hypothesis to those discussed above that he considers the most plausible: the manifestation of a disembodied agent (drop-in). This hypothesis, in his opinion, gave meaning to

the apparent inconsistencies in information. Firstly, the deceased knew of his military rank (lieutenant) while alive. To explain the misunderstanding of the cause of death, Andrade, builds an ingenious hypothesis:

Ruytemberg was killed by a shot through his forehead. This is the truth. What could Ruytemberg have felt when the bullet pierced his head? The impact must have been followed by a roar and a flash of light as a reaction to head concussion, and he may have felt pain. The shot, on piercing his head, might have excited the nerve centers corresponding to the place where he did feel the pain. In the fraction of the second before he died, Ruytemberg might have interpreted what he felt as the result of the explosion of a grenade, the shrapnel having hit him in the area corresponding to the nerve centres in the brain which had been excited. This, in our opinion, is the explanation for the discrepancy. (p. 133)

The third chapter is titled "A Case Suggestive of Reincarnation." This is the case of a girl whose pseudonym, given by Andrade, is Jacira, who not only remembered an alleged previous life, but also behaved as if she was the deceased. The deceased was her uncle, whose pseudonym is Ronaldo, her mother's brother, who killed himself about five years before Jacira's birth. Ronaldo committed suicide by drinking poison to kill ants mixed with *guaraná*, a typical Brazilian soda. After the suicide, the alleged spirit of Ronaldo was present in several seances at the spiritist center, and in one he gave an indication that he would return to his family. The confirmation that Ronaldo would actually reincarnate was provided by the spirit guide of the spiritist center attended by Jacira's parents. According to the medium who coordinated the spiritual work at this center, the spirit guide claimed that Jacira's mother was already pregnant and her baby girl would be Ronaldo reincarnated as a woman. The couple doubted this information because Jacira's "future" mother had no symptoms of pregnancy and also because she had been operated on to avoid getting pregnant. But the information was correct and when the message was given by the spirit guide, the woman was already pregnant for about one month, and Jacira was born in October 31, 1956. During pregnancy, her mother experienced various physical symptoms, as if she had drunk poison. In fact, the medium had predicted that the girl would not suffer anything because of poisoning from Ronaldo, but the mother would suffer the consequences. Jacira was born healthy and perfect but with a squint in both eyes, just like Ronaldo. Strabismus was corrected after a year. Over the first seven years of life, Jacira made several references to a previous life, but she forgot it later. Some of these references were: aversion to red liquid (which is related to the coloration of the poison drunk by Ronaldo); detailed memories of events experienced by Ronaldo in his childhood, as the occasion when the cow named Morena attacked him and other children, forcing one of his brothers to help them; when she talked

to her father, Jacira behaved like Ronaldo, speaking as a grown man, despite being a two-year-old girl; she showed her displeasure about not having the same name (Ronaldo) from her other life; when she was three years old, she wept when she learned that the former fiancée of Ronaldo would marry. Andrade presents 27 memories like these in detail, by presenting the transcription of reports by Jacira's parents. Andrade discusses several hypotheses for the case: deliberate fraud, cryptomnesia, telepathy, memory, genetics, reincarnation, and psychic incorporation. After presenting counterarguments for each of the first hypotheses, he concludes that the latter is the best that could explain both the history of the case—such as the information that Jacira's mother was pregnant—and the memories of the girl, in addition to the “birthmark” (strabismus).

The last chapter of *Science & Spirit*, entitled “PSI Matter,” is a conceptual presentation of Andrade's biological organizing model. Andrade argues that biological life can only be understood if we assume an extramaterial principle, which would guide the laws of nature to intelligent action. Andrade called this principle the *psi factor*. Through a complex action of this extramaterial principle over matter, little by little life would be organized from the simplest organisms to the human constitution.

In another study (Andrade, 1984), published 14 years after “PSI Matter” was written, his biological organizing model was again developed, now in greater detail and relating it to various forms of paranormal phenomena. Basically, he postulated that there would be a fourth dimension where incorporeal beings would live, who would be responsible for many of the allegedly parapsychological events. Andrade pursued this hypothesis throughout his life and, as the studies published in *Science & Spirit* can illustrate, this hypothesis was always chosen by him over the competing hypotheses, even if the latter were simpler. When in 1996 we visited Andrade in Bauru, a city in the State of São Paulo where he lived, he showed us his laboratory and his spatial electromagnetic tensioner (TEEM, from Portuguese *tensionador espacial eletromagnético*). According to Andrade, the TEEM would create an electromagnetic field so strong that it would be able to bend space, thus forming the fourth dimension. At that time, Andrade was conducting studies with the TEEM and bacterial cultures. His hypothesis was that the field formed by TEEM would have a biological nature, the same that allowed the existence of life on our planet. If the field really had a biological nature, the bacteria placed inside the TEEM would multiply more quickly than the control sample kept under the same environmental conditions outside the device. According to Andrade, the results of his research were encouraging. Unfortunately, his death in 2003 did not allow these experimental studies to be completed and published by him.

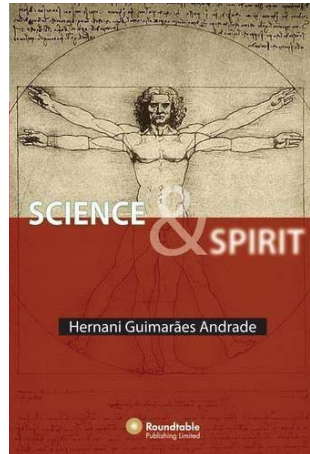
After finishing *Science & Spirit*, the reader realizes that Andrade was a man passionate about truth who was always concerned with methodological rigor.

We may not agree with his interpretations of his obtained data, but probably nobody can reproach or criticize him with regard to his ability to do research. It is amazing to see how meticulous he was in data collection, making a huge effort to have all the information necessary to evaluate his hypotheses. We are convinced that Andrade, in fact, believed that the assumptions chosen as preferred were consistent. He was a Spiritist and his preferred hypothesis met his personal beliefs. It suggests that Andrade's interest in this research topic was not merely theoretical.

Moreover, his choices show that his mind concepts were more static than psychology has revealed. For example, when considering the hypothesis of unconscious memory (cryptomnesia), Andrade argues that it is not acceptable when the information presented by the medium is inconsistent with the real information. Thus, if a small amount of information does not match the actual information, though most of the information does match, cryptomnesia could not have occurred. Andrade did not take into account studies on memory and how it can be modified by the subject. Regarding the ESP hypothesis, one can see that Andrade seems to understand the action of ESP as being limited to what the experiments show of its functioning. We know, however, that we know little about how ESP works out of a laboratory setting, and if there are limits for ESP we simply do not know them yet. But Andrade seems to believe in a simplistic way what is or is not possible with ESP.

Another of his criteria, in addition to evaluating the laboratorial limits, is the purported lack of bonding between the medium and the dead person. Andrade asks the reason for such "random choice," but he cannot find any, so he concludes that it cannot be ESP. But it is important to emphasize that Andrade, perhaps because he was not a psychologist (he was an engineer), had no clinical interviews with the medium, so how would he have known of the existence of a psychological bond between the medium and dead? Finally, probably because he was a good and well-intentioned man, Andrade has not assessed rigorously enough the possibility of fraud. Thinking that a person will probably not commit fraud because he or she is considered a "person of social standing and clear moral sense" seems wrong or at least naïve.

Thus, Andrade's preference for the spiritist hypothesis can be based on: (a) the limited view he had of ESP; (b) the "static" conception he had of human memory; and (c) his benevolence in considering the medium incapable



of fraud. We do not believe that Andrade would distort the facts to fit the spiritist hypothesis. Rather, we believe that he actually found the evidence he was searching for exactly because of the misconceptions he had about the hypotheses other than the spiritist one.

Science & Spirit is a well-balanced book, featuring some of the best cases studied by Andrade, and with a chapter devoted to his model. Playfair has written an excellent Introduction, which gives a good presentation of Andrade's work, contextualizing the chapters. Although not agreeing with the Andrade's case interpretations, we welcome this important example of the research effort Andrade represents in the study of anomalous experiences in Brazil.

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The Sixth Sense Reader edited by David Howes. Oxford/New York: Berg, 2009. 375 pp. \$44.95 (paperback). ISBN 9781847882615.

The Sixth Sense Reader is a product of the “Anthropology of the Senses,” a topical area of research within Cultural Anthropology. In the last two decades following Stoller’s (1989) seminal contribution, *The Taste of Ethnographic Things: The Senses in Anthropology*, the area has been systematically developed by the efforts and works of David Howes (e.g., 1991) and his colleague Constance Classen (e.g., 1993) at Montreal’s Concordia University. This includes Howes’ creation of a scholarly series of anthologies on all of the senses, called “Cultural Readers,” published by Berg (e.g., Drobnick, 2006, Howes, 2005). But what was missing in the series was a Cultural Reader on perceptions or senses that fell outside of the fivefold division of the Western “sensorium,” the “extra” senses or the “sixth” sense. In researching the topic, Howes soon learned that the search for such a sixth (or seventh, or eighth) sense had produced a substantial and valuable literature across several disciplines, with much to tell us about the different ways that diverse social and cultural groups conceive, use, and experience the senses and the “extra/senses.” He then selected articles from not only anthropology, but also from comparative religion, history, biology, and other fields. The result is this newest volume in the series, *The Sixth Sense Reader*, edited by David Howes.

The *Reader*’s seventeen articles are grouped into four parts, sandwiched between a substantive “Introduction” by Howes and an “ABCDERIUM of Extra/Sensory Powers.” The latter is a brief index of terms, concepts, or substances (e.g., hallucinogens) associated with “other-sense” or “extra/sensory” faculties, as identified and discussed in the book. All but one of the articles derive from previously published works, and most were abridged and arranged for the *Reader*.

Howes’ Introduction, “The Revolving Sensorium,” is an important contribution of its own, offering a cogent argument for the overarching rationale and contribution of the *Reader*, while introducing the terrain to be explored to support it. That central argument is that

one cannot know what the sixth sense entails in any of its contemporary manifestations unless one excavates its cultural roots and attends to its context of expression. (p. 34)

Thus, he shows us at the outset that a people’s “sensorium,” as a model of the senses (and what would fall outside of it, as “extra” senses), varies with the culture. For instance, the sensorium of the Cashinahua of Peru is based on

six, instead of five, “percipient centers”—skin, hands, ears, genitals, liver, and eyes—and all of their associated “senses” are conceived differently than the five Western senses (p. 2). Other sensoriums he describes are likewise culture-bound, including, he argues, our own Western sensorium.

Given that relativity, Howes then asks us to consider the biasing impact of our Western sensorial expectations on our research. In the case of animal studies, for example, it impeded the discovery of animal senses outside the Western sensorium (i.e. “extra”/senses), such as: “echolocation in bats, electroreception in eels, the internal compass and ‘celestial navigation’ in birds, infrared vision in reptiles, and vibrational or seismic sensitivity in elephants” (p. 12). One implication is that our Western sensorial expectations may be similarly impeding our research of human senses and “extra/senses.”

While the *Reader* covers many of the candidates for a sixth sense, from the stoics’ “inner sense,” an inner touching of the self, to the neuroscientists’ inner sensing of balance, motion, and posture, the primary candidate since the late 19th century has been some kind of psychic perception, solidified in the 1930s by J. B. Rhine’s work at Duke University (pp. 6–7). But here, Howes argues that the public’s embracing of Rhine’s modeling of a sixth sense derived from diverse social and cultural “gaps” that believing in it filled and continues to fill. In other words, our modeling of a sixth sense is culture-bound (pp. 7–8), and thus standard parapsychological research, guided by the Western premise of separate (independent), mostly organ-based senses, aims to eliminate those senses (as in the ganzfeld) in order to isolate psi functioning, or the sixth sense. Perhaps, freed from that Western premise, we might discover that the sixth sense is intimately intertwined with other senses (cf. Batchelder, 1984).

Part I, “Bearings,” continues Howes’ introduction to the terrain with a sampling of disciplinary approaches in four articles. In the first, **Nicholas J. Wade** traces the historical development of the search for the sixth sense in the budding field of neuroscience, from the biases of Aristotelian “senses” to the identification of muscle, vestibular (movement), and temperature “extra/senses.” **W. H. Hudson** (a 1920s naturalist) follows with his plausible suggestion, on the basis of his experiences with South American Indians and rural Gauchos, that humans, like animals, have a (“sixth”) sense of direction, a homing sense, though it may be suppressed in urban contexts. The article by **Wilhelm H. I. Bleek and Lucy C. Lloyd** is their translation of a Bushman elder’s fascinating description in his own words of how presentiment manifests as a sensation on the skin. It is akin to sensing touch and signals all kinds of things, such as that a certain game is nearby when that game’s hair is felt on one’s own back or that grandfather is coming when a sensation of tapping in a place on the body corresponds to a wound that grandfather had. Finally, **Jess Byron Hollenback** argues that a “mystic’s” “sight” or “experience” constitutes a sixth sense or set

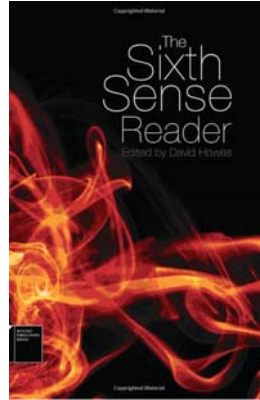
of “extra” senses (“I could see and hear in a totally different way” [p. 98]).

In Part II, “Historical Investigations,” the reader is treated to a host of in-depth examinations of the impact of notable figures and movements on the study and modeling of the sixth sense. **Louise Vinge** describes the invention of the five senses in the Western tradition by the ancients (e.g., Aristotle) and argues that their struggle to understand them (e.g., Xenophen and Philo) led to the modeling of a “spiritual sense,” much later, by Origen, an Early Church Father (AD 248), to explain the visions and experiences of the biblical prophets and Jesus.

Jessica Riskin then relates two extraordinary and instructive aspects of Anton Mesmer’s story. One was his magnetic-fluid model of a sixth sense, animal magnetism, where the magnetic fluid “provided a material foundation for sensation” and was at the same time “‘related to the whole universe’ and could perceive distant past and future events” (p. 128). The other was the explosive threat of Mesmer’s popular demonstrations of mesmerizing (and successful curing) to Western science’s sensationist principle, “that sensations necessarily originated in the world outside the mind” (p. 132), when the mesmerized could “see,” “hear,” or “feel,” without any outside stimulus. Reactionary investigations of Mesmer by the French Academy of Sciences led to the discovery of suggestion.

In the equally rich and provocative articles that follow, **Leigh Eric Schmidt** traces the impact of the Swedish 18th-century “national philosopher-turned-Christian-visionary” (p. 157) Emmanuel Swedenborg on the American New Age Movements at the time, particularly his “sensorium of the celestial world,” a synesthetic seeing, hearing, and talking with angels and spirits; **Pamela Thurschwell** unravels the role of Swedenborgians and Spiritualists in the modeling of the sixth sense by “scientific” psychical researchers of the newly founded British Society of Psychical Research in 1882, and in a second article she identifies the psychocultural functions of “ghost” beliefs, spirit photography, and phantom filming; and **Ruth Barcan** examines how “intuition” (“clairvoyance”) in alternative medicine and the current New Age Movement is conceptualized as part of an expanded sensorium.

Part III, “Uncanny Sensations,” offers two new models of uncanny sensing. In the first, **Rupert Sheldrake** draws from his book, *The Sense of Being Stared At and Other Aspects of the Extended Mind*, to present the basics of his model of human sensing. This includes “paranormal” sensing, which Sheldrake argues is a misnomer. For Sheldrake, psychic phenomena, like telepathy and precognition, are



“normal,” biologically based, abilities. They only seem paranormal in the context of the prevailing Western sensorium. What psychic phenomena suggest (as do sensory phenomena) is that the mind extends and interacts with other minds and objects. This extending is accomplished by what he calls mental pseudopodia of attention and intention (analogous to the very far-reaching physical pseudopodia of certain amoeba) that operate, detect, or sense within “morphic fields.” Through “morphic resonance,” one senses across time, not unlike (as Howes points out) Anton Mesmer’s model of a universal medium or “fluid” tied to all of nature and through which past and future events could be “sensed.”

In the second article, **Michael Taussig** outlines his complex model of a “mimetic faculty” employed in “sensuous knowing” and in sympathetic (or “imitative”) magic, where “like” is believed to influence “like” (e.g., stabbing an image, or “copy,” of someone affects the actual person). He aims to tie this mimetic human faculty to what he calls an “everyday tactility of knowing” (p. 269), a kind of taken-for-granted or habitual knowledge obtained in one’s distracted state of awareness and pre-conscious “sensing” of the ordinary (like one’s urban surroundings). Taussig is brilliant. But this rough-draft musing from a talk he gave in 1990 is unclear and disappointing, especially in light of Taussig’s (1993) later systematic explication of the model in *Mimesis and Alterity*! Read that!

The final Part IV, “Cross-Cultural Investigations,” begins with **Mircea Eliade**’s little-known but substantial and provocative essay (originally published in 1954; 1960 in English) on (primarily) the shamanic initiatory experience of illness, “death,” and “re-birth,” and its transformation of ordinary (profane) sensibility into extra-ordinary mystical (sacred) sensibility—including clairvoyance, clairaudience, and other forms of psi. Eliade offers a sample of many supporting accounts that he finds persuasive, such as of an Iglulik Eskimo shaman who becomes *elik* (i.e. “has eyes” or is clairvoyant), the paranormal powers described by ethnologists of Siberian Yakut, Chukchee, and Tungus shamans [note the typos, p. 287, of “Tonga” instead of Tungus], as well as those of Selk-nam shamans of Tierra del Fuego, Indo-Tibetans, and many others, with useful references to further reviews (cf. Giesler, 1984). Particularly interesting to me were his suggestions about what in the initiatory transformation of “madness (cf. Noll, 1983) lead to an awakening of the extra-sensory. **Barbara G. Myerhoff** follows with her classic account of a pilgrimage to *Wirikuta*, the sacred land of the Huichol Indians (of Mexico), with a group of Huichol and led by a Huichol shaman. She describes the careful preparations for the journey, their ritual ingestion of the sacred hallucinogenic plant, peyote, and their extraordinary perceptions and inner revelations versus those of the shaman. She then analyzes the structure of the mystical vision in the context of the whole

experience. In a similar vein, fellow anthropologist **Carol Laderman** describes her internalization of Malay beliefs about the spiritual aspects of the Malay self and her subsequent “sensing” of those aspects during and after a dramatic ritual trance experience induced by a Malay shaman. She argues that her ritual trance experience awakened, as Eliade put it in his article, an altered sensibility she had never experienced before.

In the last two articles of the section, **Bilinda Straight** and **David Chidester** describe very different African cases of magico-religious beliefs, practices, and “extra/sensory” or miraculous phenomena and their native interpretations and uses. **Straight’s** very interesting account of Samburu diviners of Northern Kenya, who “read” communications from Nkai, a divinity, in nature, like “reading” the “language” of animals’ movements, suggests another modality for psi functioning. But unfortunately, it seems completely disconnected from her treatments of other topics—Samburu conceptions of “cutting” (e.g., “cutting” a woman out of a girl), Piercian semiotics, and Samburu interpretations of actual cases of “near-death experiences.” **Chidester’s** piece, so different from others in the book, traces the development and impact of communications from Credo Mutwa, a self-proclaimed Zulu witchdoctor-turned-sangoma-turned-medium/victim of extraterrestrial influences, on a global New Age following over the Internet and charts his ever-evolving sensoriums.

Overall, *The Sixth Sense Reader* is a valuable collection of essays which, with the exception of Straight’s and Taussig’s pieces, encapsulate well the authors’ larger works and their informative, insightful, and provocative treatments of a “sixth sense” or “extra/senses” in historical, cultural, or theoretical context. However, as is often noted of anthologies, especially when diverse disciplinary approaches are represented, I found it difficult to obtain a unifying sense of this book when reading through it, though Howes’ portrayal of an overarching thematic in his Introduction was helpful. But even there, he had to divvy up his discussion of the book’s topical areas into twelve different sections, which deterred from its coherence! Nevertheless, apart from Sheldrake’s biological theory, the book as a whole does lend support to Howes’ important argument that “one cannot know what the sixth sense entails” without excavating its cultural roots and “its context of expression” (p. 34). For that, I believe, most SSE readers will want a copy to read, reflect on, and consult in the future.

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