

EdgeScience



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HIV Does Not Cause AIDS

The Reincarnation of Mediumship Research

ALSO IN THIS ISSUE

The Gift of Doubt

Alice in the Cosmos

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Why EdgeScience? Because, contrary to public perception, scientific knowledge is still full of unknowns. What remains to be discovered—what we don't know—very likely dwarfs what we do know. And what we think we know may not be entirely correct or fully understood. Anomalies, which researchers tend to sweep under the rug, should be actively pursued as clues to potential breakthroughs and new directions in science.

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The Society for Scientific Exploration (SSE) is a professional organization of scientists and scholars who study unusual and unexplained phenomena. The primary goal of the Society is to provide a professional forum for presentations, criticism, and debate concerning topics which are for various reasons ignored or studied inadequately within mainstream science. A secondary goal is to promote improved understanding of those factors that unnecessarily limit the scope of scientific inquiry, such as sociological constraints, restrictive world views, hidden theoretical assumptions, and the temptation to convert prevailing theory into prevailing dogma. Topics under investigation cover a wide spectrum. At one end are apparent anomalies in well established disciplines. At the other, we find paradoxical phenomena that belong to no established discipline and therefore may offer the greatest potential for scientific advance and the expansion of human knowledge. The SSE was founded in 1982 and has approximately 800 members in 45 countries worldwide. The Society also publishes the peer-reviewed *Journal of Scientific Exploration*, and holds annual meetings in the U.S. and biennial meetings in Europe. Associate and student memberships are available to the public. To join the Society, or for more information, visit the website at scientificexploration.org.

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The Gift of Doubt

Some years ago, security consultant Gavin De Becker wrote a worthwhile book called *The Gift of Fear*, which argues that fear, while ordinarily seen as a negative emotion, can actually serve a useful purpose in keeping us safe.

Maybe it's time for a book called *The Gift of Doubt*.

Those of us who are interested in the subject of life after death may think it would be great to have no doubt—to be convinced of the reality of an afterlife once and for all. No more questions, no more searching, no more listening to that skeptical voice in our heads—just the sweet relief of certainty! We may find it frustrating that the evidence, while stronger than most people realize, is not conclusive.

But perhaps there are advantages to maintaining some degree of doubt.

Many near-death experiencers report that they have lost their fear of death and are convinced that a beautiful afterlife awaits them. This sounds like a desirable frame of mind. But follow-up studies tracking these people (notably those conducted by P.M.H. Atwater) have found that many of them find it hard to readjust to their normal lives. They complain of feeling alienated from other people, of longing for the glorious afterlife environment, of having trouble committing to the priorities of daily life. They may report extreme sensitivity to relatively trivial stresses. Their relationships may suffer; their marriages may fail. On the plus side, they typically report significant spiritual growth. Whatever has happened to them clearly has had both positive and negative consequences.

Not infrequently, people who have had transcendent mystical experiences—glimpses of what Richard Bucke called “cosmic consciousness”—face increased difficulty in dealing with the workaday world. Many of them retreat to a life of solitude and contemplation. Those who continue to take part in the world may find themselves struggling to balance their newfound insights with their ordinary responsibilities.

Is some doubt about the ultimate nature of life and death psychologically healthy? Is doubt necessary to maintain a balanced state of being? People who become unhesitatingly convinced of the afterlife sometimes lose their critical acumen. Sir Arthur Conan Doyle's total commitment to the reality of life after death led him to accept some highly dubious claims, most notoriously the “Cottingley fairies.”

A more troubling development is the fanaticism that can accompany the absence of doubt. The 9-11 hijackers were motivated, in part, by the belief that they would be transported to Paradise; members of the Heaven's Gate cult, who committed mass suicide, were convinced they would be reborn aboard an alien spacecraft. In such cases, an element of doubt might have prevented people from taking rash and tragic actions.

Historically, there have been societies in which life after death was accepted uncritically by nearly everyone. Many of these cultures were strangely resistant to change. Ancient

Egypt's culture remained largely static for thirty centuries. Did fascination with the next world dampen enthusiasm for this one? Did people in those cultures choose not to explore the natural world and reform their societies because they were fixated on the life to come? It may not be a coincidence that scientific, technological, and social progress really took off only when skepticism and doubt became more widespread.

Michael Tymn, who blogs about the afterlife, likes to quote a channeled communication delivered to Victor Hugo while he sojourned on the isle of Jersey: “...doubt is the instrument which forges the human spirit. If the day were to come when the human spirit no longer doubted, the human soul would fly off and leave the plough behind, for it would have acquired wings. The earth would lie fallow. Now, God is the sower and man is the harvester. The celestial seed demands that the human ploughshare remain in the furrow of life.”

If doubt is, in fact, a useful component of our psychological makeup, perhaps it's not surprising that proof positive of life after death remains elusive. The world may be set up to give us enough evidence to dispel *some* doubt but not enough to dispel *all* doubt. If unquestionable scientific proof of life after death were ever announced, the consequences for humanity might be pretty scary. An element of doubt may keep us grounded; removal of all doubt could have unexpected and unwanted side effects.

So perhaps we should make friends with our doubt. Instead of treating doubt as a problem that needs to be solved, we might see it as a component of psychological health. We might even be grateful to the universe for making it possible for us to maintain our doubt. Like the child who longs to play with his daddy's gun, we may be better off not getting what we think we want. And the universe, like a wise parent, sees to it that most of us don't.



Michael Prescott, author of nine suspense novels, has long been interested in evidence for psi and life after death and maintains a blog devoted to these topics at michaelprescott.typepad.com. He argues that various lines of evidence—including near-death experiences, mediumship, children's memories of past lives, deathbed visions, and apparitions—point to the likelihood of an afterlife, though definitive proof may always be elusive.

Alice in the Cosmos

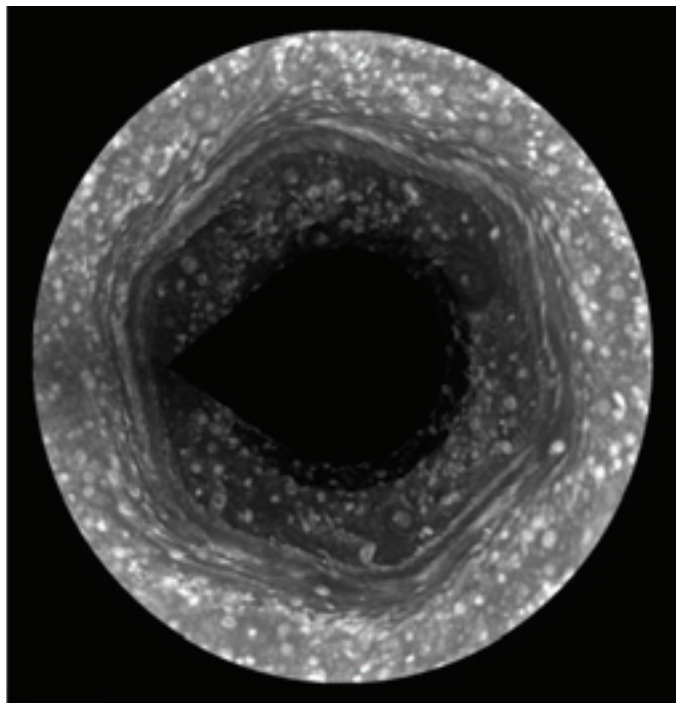
“Our Universe is made of darkness,” write astronomer Geoff McNamara and science teacher Ken Freeman in their book *In Search of Dark Matter*. Why? Because certain gravitational effects on the part of the Universe we can see has led astronomers to suspect the existence of a part of the universe we can’t see. And the part we can’t see is said to be considerably larger than the part we do see. Astronomers call this “dark matter” but they really don’t know exactly what it is. Could it be just the result of bad observation or misguided theories? Even more puzzling is “dark energy,” about which science is totally in the dark, aside from a few equations. But the way astronomers talk about “dark matter” and “dark energy” you couldn’t be faulted for thinking they exist in the way that, say, “dark chocolate” does. But do they? What is real, what is illusion?

Wind-Up Galaxies

The whirlpools of stars that make up spiral galaxies are among the most beautiful objects in the cosmos. But there is something highly puzzling about their movement, or lack of. “Galaxies always rotate in the direction that should make the spirals wind up tighter over time,” notes astronomer Bob Berman in *Astronomy* magazine. “Yet they do not change shape; the arms stay the same.” Take M74 for example. It seems to be winding up like a clock spring as time goes by, but it doesn’t. It’s as if some force wound it up part way—then stopped. The whole galaxy now rotates in lock step. Why?



NASA, ESA, and the Hubble Heritage



NASA/JPL/Space Science Institute

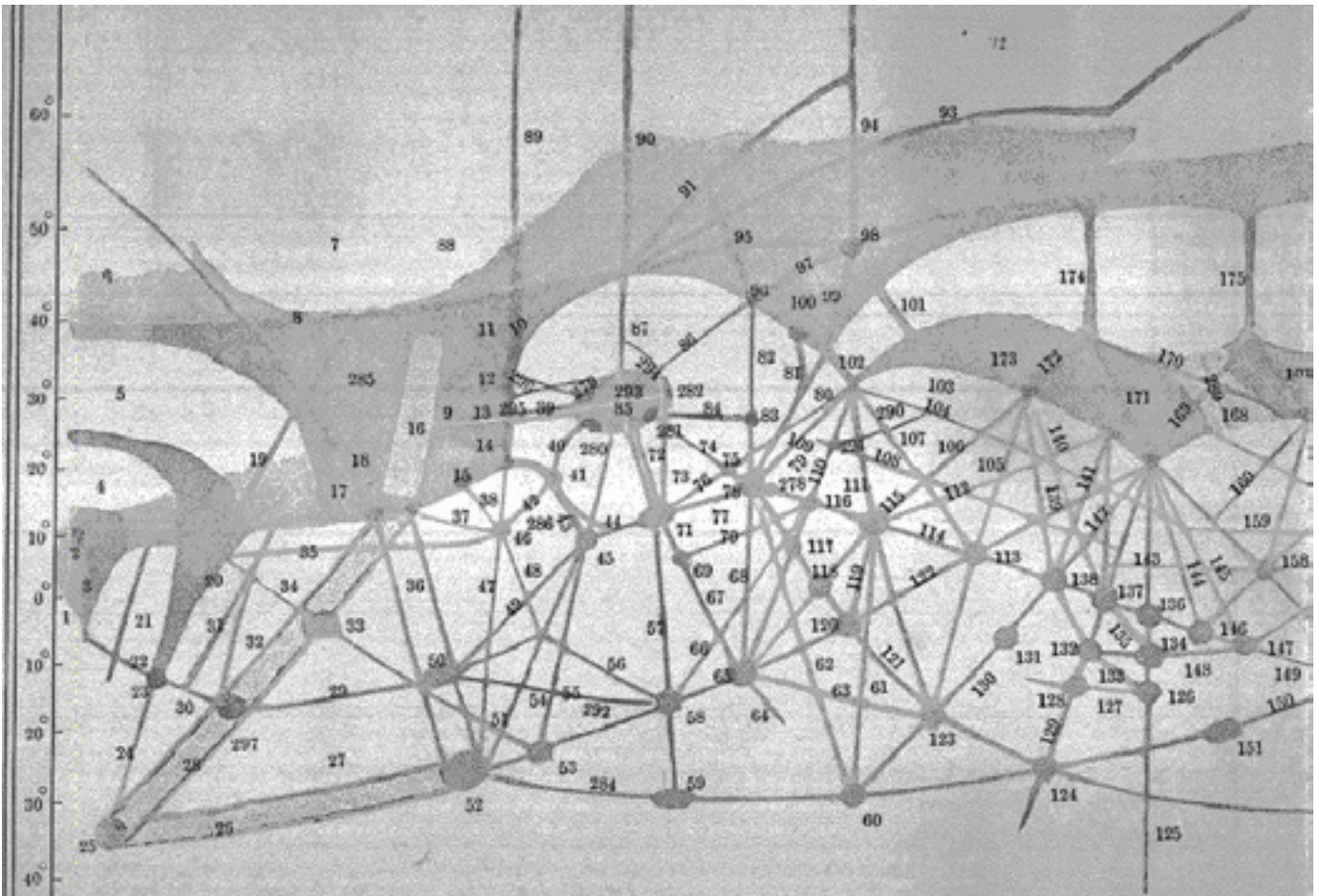
Saturn's Hexagon

There is a strange hexagonal jet stream flowing around the northern pole of Saturn. The Voyager spacecraft first discovered this phenomenon in the 1980s and now the Cassini spacecraft has returned its own images of the hexagon, which is wider than two Earths. In terms of longevity, it’s a weather phenomenon on par with Jupiter’s mysterious Red Spot, but just what causes it is not known. And how could the jet stream make such sharp turns? Atmospheres rarely display such strict geometries. An atmospheric scientist at NASA called it “one of the most bizarre things we’ve ever seen in the solar system.”

But is it? An experiment with a spinning bucket of water by a team of researchers at the Technical University of Denmark in Lyngby suggests that the geometric shapes that appear at the center of swirling vortices in planetary atmospheres may not be so bizarre after all. Using a set-up very similar to the rotating bucket that a 17th century Isaac Newton used to investigate centrifugal forces, the researchers managed to create geometric shapes in whirlpools of water in a cylindrical bucket. The shapes appear once the bucket is spinning at a rate of one to seven revolutions per second. As the bucket’s spin speeds up, they observed first an ellipse, then a three-sided star, followed by a square, then a pentagon, and, at the highest speeds, a hexagon.

Those Martian Canals Again?

For almost a century it was widely believed that the networks of lines that seemed to crisscross the surface of our neighboring planet were quite real indeed, though there was considerable



skepticism surrounding the theory that they were the work of intelligent beings. That was the claim made by Percival Lowell, the brother of the president of Harvard University, who at the beginning of the 20th century popularized the Martian observations originally carried out by an Italian astronomer named Giovanni Schiaparelli. As director of the Milan Observatory, Schiaparelli was the first to identify these features (he called them “canali” in Italian, meaning “channels” but the term was mistranslated into English as “canals”) and produced the first detailed map of these remarkable Martian features in 1877, the year that the red planet’s two moons, Phobos and Deimos, were also discovered. Lowell’s follow up work on the canals (see above) identified more than 180 of them, and later astronomers claimed to have charted 500 or so. A book on astronomy first published in 1922 stated that although some astronomers still disputed their existence, “the canals...have been completely verified.”

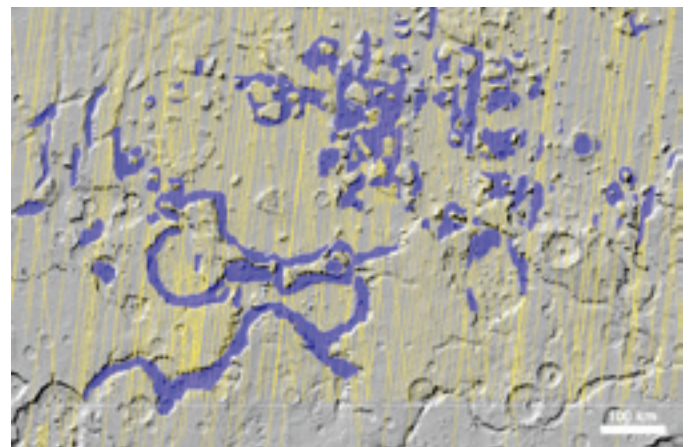
Then in 1965 the Pioneer spacecraft photographed the planet’s surface and shattered that science fiction dream: the cratered moonscape of Mars was *sans canals!* So the canals of Mars were mythical, a combination of variable conditions, observer error, and wishful thinking. Or were they?

Beginning in the 1970s a series of spacecraft and robotic landers visited the red planet and found hints of the existence of water on the planet. The first was Mariner 9, which revealed direct evidence of water in the form of river beds, canyons, and other evidence of water erosion and deposition on the planet’s

surface. Most recently radar maps (see below) of the middle-latitude region of northern Mars by the Mars Reconnaissance Orbiter revealed thick masses of buried ice. Not only are they quite common, but the subsurface ice deposits apparently extend for hundreds of miles.

The spacecraft’s radar images display a Martian landscape scarred with underground, frozen ice deposits that look a bit like those mythical canals of Mars. Or at least enough to make you laugh...and wonder.

Sources: *Science Frontiers*, *Astronomy Magazine*, *io9*, *BioEd Online*, *Science Daily*



NASA/JPL-Caltech/ASI/University of Rome/Southwest Research Institute

Henry Bauer

HIV does not cause AIDS

What everyone knows” is sometimes wrong. When it comes to science, including medical science, history might even suggest that what everyone knows at any given time turns out later to have been wrong to some degree: scientific understanding has progressed, after all, and it has often progressed by overturning earlier theories. But even as it’s widely recognized that science has progressed, it’s usually forgotten that this very progress has often meant superseding or rejecting earlier ideas. And the notion that a *contemporary* consensus might be wrong seems unbelievable to most people.

So the claim that HIV doesn’t cause AIDS, when everyone knows that it does, is treated by the media, the public, and mainstream science as not worth attending to. And yet the proof that HIV cannot be the cause of AIDS is at hand in the technical literature, as well as in dozens of books aimed mainly at a general audience.

To consider that proof, it’s necessary not only to specify that evidence but also to provide some assurance that good alternative explanations are available for what AIDS is and what HIV is. So those questions will be answered after outlining the reasons why the HIV=AIDS theory is wrong.

The Evidence that HIV Doesn’t Cause AIDS

1. If HIV is the cause of AIDS, then there ought to be an obvious correlation between the presence of HIV and the incidence of AIDS. There isn’t. HIV and AIDS are not correlated chronologically; they have changed differently over time. Nor are they correlated geographically: even from the very beginning, places of high HIV were not places of high AIDS. Furthermore, the relative impact on men and women is quite different—the male-to-female ratio for HIV has hardly changed over the years, while the ratio for AIDS has changed dramatically. So too with white and black Americans—the black-to-white ratio for HIV has hardly changed over the years, while the ratio for AIDS has changed dramatically (chapter 9 in ¹).

If HIV causes AIDS, why then are there HIV-negative AIDS cases? Just how many is not known because after a sub-

stantial number had been reported, they were explained away as cases of a new disease, “idiopathic CD4 T-cell lymphopenia”—meaning deficiency of CD4 cells for no known reason, which is precisely the same definition as that of AIDS before the claimed

discovery of HIV as cause of the immune deficiency (pp. 19–20 in ¹).

There are also HIV-positive people who have remained AIDS-free for more than 20 years, the so-called “long-term non-progressors” or “elite controllers” (p. 95 in ¹). The main-

stream acknowledges this, but treats it as a mystery to be solved: why do some people have an uncanny ability to

stave off either infection or, if infected, to stave off the harmful action of HIV? The mainstream view is that this is a rarity. However, since not every healthy person has been tested for HIV, it cannot be known with any certainty how many long-term non-progressors there actually are. Available data suggest that in the United States it might be as many as half of all people who would test HIV-positive.²

2. The lack of correlation between HIV and AIDS numbers ought to be enough to settle the matter. But with so long and firmly entrenched a belief, there is no question of overkill by enumerating further strikes against HIV/AIDS theory. So it is worth noting that, whatever HIV may be, *it is not something infectious*:

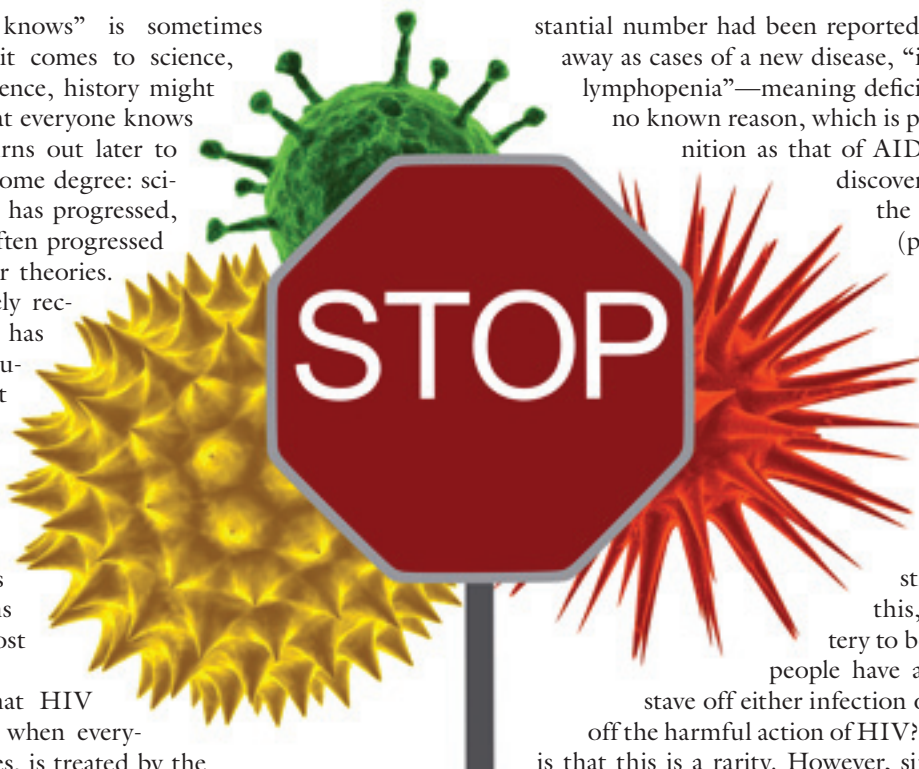
- The estimated number of HIV-positive Americans has hovered around 1 million from the earliest time, the mid-1980s, to the present (pp. 1–2 in ¹), whereas the incidence of infections increases and decreases.

- In any given group, the tendency to test HIV-positive varies with age, sex, and race in the same manner.

Infectious diseases do not display those regular trends (sources cited throughout Part I of ¹). Infection is asserted to occur via blood, including transmission via dirty needles, and via mothers’ milk, but chiefly through sexual activity. However:

- There are no authenticated cases of AIDS from accidental health-care-worker needle-sticks (p. 48 in ¹).

- More breastfeeding correlates with *less*, not more, incidence of “HIV-positive” among the babies.³



- Sexual transmission of HIV has never been proven. The largest prospective study, in which discordant couples (one partner HIV-positive, the other negative) were followed over a period of years, could report no instances where the negative partner became positive.⁴

- Incidence of HIV does not parallel that of known sexually transmitted infections (STIs); often rates of HIV went up as those of such STIs as gonorrhea or syphilis decreased, and *vice versa*. (p. 31 ff. and *passim* in ¹)

- Use of condoms doesn't decrease the incidence of HIV-positive (sources cited in ⁵ and p. 44 in ¹).

- A literally impossible level of sexual promiscuity is required to explain the prevalence of "HIV" in Africa—20–40% of adults having multiple sexual partners and changing them frequently.⁶

- Pregnant women become HIV-positive more often than do non-pregnant women.⁷

3. According to HIV/AIDS theory, the "viral load" determined by polymerase chain reaction (PCR) represents the amount of HIV present, which determines how rapidly the relevant immune-system-cells (CD4 T-cells) are killed off and therefore predicts the course of illness toward eventual death. However, there is no correlation between viral load and CD4 counts.⁸ The official Treatment Guidelines⁹ speak of three *separate* types of treatment failure: virologic, immunologic, and poor patient prognosis. If the theory were correct, then failure of one would bespeak failure of the others.

4. More than two decades of attempts to vaccinate against becoming HIV-positive have all failed. No satisfactory explanation for such failure has been offered, nor have the successive failures turned up clues to possible success.

5. More than two decades of attempts have failed to develop any microbicide that could inactivate HIV to prevent incidence of HIV-positive. Again, no satisfactory explanation for such failure has been offered. Microbicides containing anti-retroviral drugs, which purportedly kill HIV *in vivo*, have not been effective as preventive microbicides.

6. HIV/AIDS theory asserts that there is an average latent period of about 10 years between infection by HIV and signs of actual illness. The actual data reveal no sign of such a latent period. The median age at which people first test HIV-positive, the median age of people "living with AIDS" or "living with HIV," and the median age of people who die from "HIV disease" are all roughly the same: namely, the prime years of adulthood, 35–50.¹⁰

What is AIDS?

A huge complication is that the official definition of AIDS has been changed, moreover quite drastically, several times. The original, early-1980s, pre-HIV-discovery AIDS is not the same as present-day AIDS. A particularly portentous change in definition came in 1993.

It was around 1980 that, it's commonly said, doctors first noted that "young, previously healthy, gay men" were presenting with diseases formerly associated with immune suppression in transplant patients or in old people or babies with insufficiently competent immune systems. Given the concentration among gay men, the phenomenon was described as Gay Related Immune Deficiency (GRID). The predominant manifest illnesses were Kaposi's sarcoma (KS), purple blotches on skin and elsewhere; Pneumocystis carinii pneumonia (PCP); and candidiasis (thrush, yeast infections). GRID was soon renamed AIDS—Acquired Immune Deficiency Syndrome—to avoid placing the stigma for the disease solely on gay men.

A considerable body of evidence suggested that KS resulted from excessive exposure to nitrites, known as "poppers," which were in ubiquitous use in gay circles. A heavy strike against HIV/AIDS theory is that since the early 1990s KS has been attributed to a herpes virus (HHV-8 or KSHV), not to HIV, because there were many HIV-negative KS patients, many of whom had normal or even high immune-system cell-counts.

Initially, PCP had been thought to be a bacterial or parasitic infection, but it was later recognized that it is actually fungal, as is candidiasis. A plausible explanation for the rather sudden increase in those fungal infections among gay men, about a decade after Gay Liberation, indicts certain practices that can damage the intestinal microflora (beneficial bacteria) that protect against fungal infections in particular. Those practices include intensive rectal douching and excessive resort to antibiotics, sometimes for treatment of recurrent infections (gonorrhea, syphilis, herpes, and more) but sometimes even for prophylaxis.¹¹ For descriptions of the unhealthy "fast-lane" lifestyle pursued by a small proportion of gay men, see for example Larry Kramer's novel *Faggots*¹² and the documentary film *When Ocean Meets Sky*.¹³

Moreover, it turns out that the first AIDS cases were not "young, previously healthy, gay men." Their average age was in the late 30s, they were anything but previously healthy, and their salient common characteristic was not that of being gay. It was their excessive use of recreational drugs (p. 186 ff. in ¹), average age, and medical history that made a lifestyle explanation of AIDS highly plausible.

The lifestyle explanation had not been universally accepted, however, in particular not by virologists, who were at something of a loose end after a decade or two of unsuccessfully looking for human-cancer-causing viruses.¹⁴ HIV became acknowledged as the cause of AIDS following a press conference called by the Secretary for Health and Human Services, before any scientific publication on the matter, and the subsequent publications came nowhere near establishing the claim. For example, HIV was only found in two-thirds of all AIDS cases, and the patented test for HIV, which actually is for antibodies against HIV, turned out to give positive results even in many cases when the virus itself could not be detected by actual culture (for details and pertinent sources, see pp. 196–7 in ¹).

Still, the imprimatur of the Secretary for Health and Human Services and the attraction of grants from the National

Institutes of Health, a subsidiary of the Department of Health and Human Services, brought virologists almost universally to research on HIV, and the Centers for Disease Control and Prevention (CDC) soon accepted the theory that HIV was the cause of AIDS. Thereafter, CDC progressively increased the number of illnesses that it regards as “AIDS-defining,” just because some significant number of the patients tests HIV-positive, in tuberculosis, for example, or with cervical cancer. Those diseases are neither new nor opportunistically dependent on finding already damaged immune systems to attack, and so “AIDS” nowadays is an entirely different matter than the original GRID that was later re-named AIDS.

AIDS was originally a lifestyle phenomenon associated with particular damage to the intestinal flora. AIDS nowadays is any disease where an appreciable number of patients test HIV-positive.

What is HIV?

Possibly the most incredible part of this story is the demonstrable fact that *HIV tests do not detect HIV*. An incredible part of that incredible story is that HIV has never been isolated in pure form, leaving ample room for the claim that HIV has never been proven to exist.¹⁵ A recent article¹⁶ reviews the relevant points:

- The original HIV test was based on selecting proteins that reacted strongly with something in the sera from AIDS patients, presumed to be antibodies to a presumed AIDS-causing virus.

- However, that these are HIV antibodies could only be confirmed with authentic virus, and no pure samples of virus have ever been prepared by isolation direct from an AIDS patient or after culturing.

- All later tests have been “validated” by demonstrating that they test positive when the original (Abbott Laboratories) test does. There is no “gold standard” for HIV tests and cannot be, since no pure virus has ever been prepared. The so-called confirmatory tests, typically the Western Blot but including the putative “viral load” measurements, are not confirmatory. As Weiss & Cowan¹⁷ point out, they should be called “supplemental,” not confirmatory.

- Rodney Richards¹⁸ has described how “antibody positive” came to be taken as proof of active infection, without the benefit of evidence to that effect.

- An authoritative description¹⁷ for detecting actual HIV *infection* makes plain that the tests in themselves are insufficient. In a population known to be at low risk—i.e., where the incidence of AIDS and presumably HIV is low (HIV ~ 0.1%)—a positive “HIV” test may be a *false* positive 5 out of 6 times if the test has a nominal specificity and sensitivity of 99.5%.

- In practice, the tests were calibrated to have high sensitivity, and therefore reduced specificity, because they were intended for and were approved only for screening blood supplies, where sensitivity matters a great deal but false positives mean only the discarding of some blood.

- When the tests are misused, as they currently are, to bespeak actual infection, considerable harm ensues to individuals who are told they are HIV-positive, and the psychological harm is compounded with physical harm if they receive antiretroviral drugs. Those drugs, widely called “life-saving,” are seriously toxic; the Treatment Guidelines¹⁹ have acknowledged for some years that patients receiving antiretroviral treatment experience fewer AIDS events than such serious adverse *non-AIDS* events as organ failure (of heart, kidney, or liver) and cancer that are typical consequences of toxic medication.

So what is HIV?

It is a postulated but never isolated retrovirus. In practice, HIV means whatever is detected by an HIV test. But those tests are known to generate a high rate of false positives, especially in populations not evidently at risk; you can test HIV-positive after a flu vaccination, for example, and for dozens of other reasons.²⁰ In any case, since rates of positive HIV tests do not correlate with incidence of AIDS, the question of what HIV tests really detect is moot as far as AIDS is concerned.

In Conclusion

The belief that HIV causes AIDS gained hold and then hegemony as a result of hasty actions based more on political than scientific considerations, and the unwarranted consensus has had tragic consequences.²¹ The conventional wisdom was taught that HIV inevitably leads to AIDS, that it is highly infectious, and that it is so life-threatening that even treatment with highly toxic medications represents a good compromise, even when it involves iatrogenic damage to pregnant women, the unborn, and the newly born. A perusal of the “side” effects of all the antiretroviral drugs, set out in the official Treatment Guidelines, makes the toxicity of these chemicals painfully obvious. AZT—nowadays usually called ZDV, zidovudine, brand name Retrovir—has been in use for more than two decades, virtually exclusively for the first decade. As its side effects the Treatment Guidelines (Table 12, 1 December 2009) list bone marrow suppression (“Onset: Few weeks to months”); gastrointestinal intolerance (immediate); liver damage (over months or years); disturbance of lipid metabolism (within weeks to months) with risk of diabetes; severe mitochondrial damage and lactic acidosis (within months); and Stevens-Johnson syndrome, or toxic epidermal necrosis (days to weeks). AZT was recently listed as a carcinogen in the State of California. Nevertheless, it still forms part of the “preferred” treatment regimen for pregnant women (Table 5a in the Treatment Guidelines).

The mistaken belief that HIV causes AIDS has damaged the health of untold numbers of people around the world.

HENRY BAUER is Professor Emeritus of Chemistry & Science Studies and Dean Emeritus of Arts & Sciences at Virginia Tech. Bauer has served as the editor of the *Journal of Scientific Exploration*. His latest book is *The Origin, Persistence and Failings of HIV/AIDS Theory*.

Notes

- 1 Henry H. Bauer, *The Origin, Persistence and Failings of HIV/AIDS Theory*, McFarland (2007).
- 2 Matteo P. Galletti and Henry H. Bauer, "Safety issues in didactic anatomical dissection in regions of high HIV prevalence," *Italian Journal of Anatomy and Embryology*, in press.
- 3 Scientific publications cited in Henry H. Bauer, "More HIV, less infection: The breastfeeding conundrum," 21 November 2007, <http://wp.me/p8Qhq-e>; "HIV and breastfeeding again," 13 February 2008, <http://wp.me/p8Qhq-lt>.
- 4 N. S. Padian, S. C. Shiboski, S. O. Glass, and E. Vittinghoff, "Heterosexual transmission of human immunodeficiency virus (HIV) in Northern California: results from a ten-year study," *American Journal of Epidemiology*, 146 (1997) 350-7.
- 5 Scientific publications cited in Henry H. Bauer, "HIV and sexually transmitted disease: It just isn't so," 28 November 2007, <http://wp.me/p8Qhq-i>; "Condoms and HIV: What everyone knows is once again wrong," 10 February 2008, <http://wp.me/p8Qhq-1r>; "Circumcision and condom idiocies," 10 November 2009, <http://wp.me/p8Qhq-gD>.
- 6 James Chin, *The AIDS Pandemic: The Collision of Epidemiology with Political Correctness*, Radcliffe Publishing, 2007.
- 7 Sources cited in Henry H. Bauer, "Why pregnant women tend to test 'HIV-positive,'" 5 October 2009, <http://wp.me/p8Qhq-hC>; "Spontaneous generation of 'HIV,'" 25 October 2009, <http://wp.me/p8Qhq-hE>.
- 8 Benigno Rodríguez, Ajay K. Sethi, Vinay K. Cheruvu, Wilma Mackay, Ronald J. Bosch, Mari Kitahata, Stephen L. Boswell, W. Christopher Mathews, David R. Bangsberg, Jeffrey Martin, Christopher C. Whalen, Scott Sieg, Suhrida Yadavalli, Steven G. Deeks, and Michael M. Lederman, "Predictive value of plasma HIV RNA level on rate of CD4 T-Cell decline in untreated HIV infection," *JAMA*, 296 (2006) 1498–1506.
- 9 Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services; <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.
- 10 Henry H. Bauer, "Incongruous age distributions of HIV infections and deaths from HIV disease: Where is the latent period between HIV infection and AIDS?" *Journal of American Physicians & Surgeons*, 13 (#3, Fall 2008) 77–81.
- 11 Tony Lance, "Gay-related Intestinal Dysbiosis"; <http://hivskeptic.files.wordpress.com/2008/02/gay-relatedintestinaldysbiosis.pdf>.
- 12 Larry Kramer, *Faggots*, Random House, 1978.
- 13 *When Ocean Meets Sky*; film by Crayton Robey, 2006; shown periodically on the LOGO television channel; www.whenoceanmeetssky.com.
- 14 Peter Duesberg, *Inventing the AIDS Virus*, Regnery, 1996, chapter 4.
- 15 The Perth Group; <http://www.theperthgroup.com>.
- 16 Henry H. Bauer, "HIV Tests are not HIV Tests," *Journal of the American Physicians and Surgeons*, vol. 15, 2010, pp. 5–9.
- 17 Stanley H. Weiss and Elliott P. Cowan, "Laboratory detection of human retroviral infection," Chapter 8 in *AIDS and Other Manifestations of HIV Infection*, ed. Gary P. Wormser, 4th ed. (2004).
- 18 Rodney Richards, "The birth of antibodies equals infection," App. II, pp. 333–40 in *Celia Farber, Serious Adverse Events: An Uncensored History of AIDS*, Melville House, 2006.
- 19 Reference ix: p. 21 in 3 November 2008 version, p. 13 in 29 January 2008 and 1 December 2007 versions.
- 20 Christine Johnson, "Whose antibodies are they anyway? Factors known to cause false positive HIV antibody test results," *Continuum* 4 #3, Sept./Oct. 1996; www.virusmyth.net/aids/data/cjtestfp.htm.
- 21 Robert Root-Bernstein, *Rethinking AIDS: The Tragic Cost of Premature Consensus*, Free Press, 1993.

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 Julie Beischel

The Reincarnation of Mediumship Research

Any casual examination of this year's line-up of television shows will demonstrate society's current fascination with life after death and individuals called mediums who experience regular communication with the dead. And while humanity's attempt to determine the facts about the afterlife spans eons, cultures, and religions, these questions were first tackled by science about 130 years ago. At that time, scholars and scientists in England and the U.S. began to study mediums and systematically address the survival of consciousness hypothesis (or simply "survival"). The survival theory states that an individual's consciousness or personality continues to exist, separate from the body, after physical death.

During the last century, studies of psychic abilities such as telepathy (mind to mind), clairvoyance (mind through space), and precognition (mind through time) increased in both frequency and rigor. Progress in developing sound methods to study the information mediums report, on the other hand, suffered a slow death during that time and has only in the last decade experienced life again.

Among those studying mediumship are Tricia Robertson and Archie Roy, researchers in Scotland who published three key papers between 2001 and 2004 describing and testing a method used to examine mediums' abilities to report information relevant to the recipients. In addition, mediumship research has been performed at both the University of Virginia and the University of Arizona in the U.S.; however, the latter research program, where I served as co-director, closed at the end of 2007.

At that time, my husband Mark Boccuzzi and I founded the Windbridge Institute in order to continue performing this important research. Windbridge is based in Tucson, Arizona, but the research participants with whom we work are located all over the country. At Windbridge, we continue to address the mediumship phenomenon via several research initiatives, described below.

Today, mediumship researchers can confidently offer the conclusion that certain skilled mediums, during events called readings, can report accurate and specific information about the deceased loved ones, known as "discarnates," of living people called "sitters." They do this using what we call Anomalous Information Reception, or AIR, meaning they do so without any prior knowledge about the discarnates or sitters, in the absence of any sensory feedback, and without using fraud or deception.

Nevertheless, numerous questions about mediumship remain.

Bringing Mediumship into the Lab

In order to study mediumship appropriately in the controlled environment of the laboratory, we treat it like any other natural phenomenon being studied. This involves two equally important factors: (1) an optimal research environment and (2) maximum experimental controls.

In order to create an optimal mediumship research environment, we recognize that there are potentially three people participating in each reading—the medium, the sitter, and the discarnate—and design protocols accordingly. We also optimize the process for the mediums by, for example, performing phone readings at times chosen by the mediums and requesting information commonly found in "regular" medium-client readings. In addition, we screen, train, and certify research mediums and work only with mediums whose abilities have been demonstrated under controlled conditions. By optimizing the research environment, we increase the probability of capturing the phenomenon, if it exists, in a laboratory setting.

We also want to eliminate all conventional explanations for the accuracy of the mediums' statements by maximizing experimental controls. To do this, we use a quintuple-blind protocol, which is a method that employs five separate levels of controls: the medium, the sitter, and three experimenters are each blinded to different pieces of information.

During a typical quintuple-blind experiment, I contact a certified medium on the phone at a scheduled time with the first name of a discarnate that another experimenter has provided to me by email. The medium and I are both blinded to any other information about the discarnate or the associated sitter. During the reading, I ask the medium several specific questions about the named discarnate. The sitter does not hear the reading. The medium then performs a second reading at a different time for a second discarnate and sitter. The two readings are then transcribed and formatted to remove references to the discarnates' names, and the two sitters associated with the named discarnates then score each of the two readings for accuracy without knowing which is which. The experimenters who interact with the sitters during their initial training and during the scoring of the readings are blinded to which medium read which discarnates, which reading goes with which name, etc.

This quintuple-blind protocol prevents the inadvertent (or intentional) leakage of information and successfully eliminates all the "normal" explanations commonly put forth by so-called skeptics attempting to dismiss the reality of AIR. These include fraud, rater bias, information so general it could apply

to anyone, cueing by the experimenter, and “cold reading,” a technique in which visual or auditory cues from the sitter are used to fabricate “accurate” readings.

Proof-focused Research

We are currently collecting data from certified research mediums using this quintuple-blind reading protocol in a study that will replicate and extend a previously published triple-blind study of unscreened mediums that demonstrated positive results. These types of studies are called “proof-focused” because they gather proof that systematically and definitively addresses the existence of AIR.

However, even if we collected a library full of positive proof-focused data, we could not conclude that mediums are talking to the dead.

Why not? Though we can eliminate all the “normal” explanations for the accuracy of a medium’s statements using the quintuple-blind protocol, three “paranormal” explanations each still fit the data. The first is a theory called super-psi, which posits that the medium retrieves information through clairvoyance, precognition, and/or telepathy with the living (collectively called “psi”) at a level that exceeds that demonstrated in laboratory studies of psi. In the super-psi theory, mediums use telepathy to read the minds of the sitters, use precognition to see into the future to a time when they receive feedback about the reading, use remote viewing to see death certificates and photo albums, and so on to gain informa-

tion about discarnates. Along these same lines is the psychic reservoir hypothesis, which claims that all information is stored somehow and somewhere in the universe and mediums are simply accessing that cosmic database to gather information about discarnates.

The third possible explanation for the accuracy of a medium’s statements is survival or life after death. Under this explanation, mediums are communicating with the survived consciousnesses of people who have died. In a recent issue of the *Journal of Scientific Exploration*, philosopher Michael Sudduth coined the term “survival psi” to point out that even under the survival hypothesis, mediums are using psi to gain information telepathically from the discarnates. In a subsequent issue of the *Journal of Parapsychology*, my co-author Adam Rock and I used the term “somatic psi” to collectively include both the super-psi and psychic reservoir theories. Under the somatic psi explanation, mediums use telepathy with living persons, clairvoyance (including of a psychic reservoir), and precognition but not survival psi to gain information about discarnates.

The introduction of these two terms has allowed for a more accurate discussion of what had previously been termed the “survival vs. psi debate.” For some time, parapsychologists have been engaged in this debate about whether mediumship data better support the survival psi or somatic psi theories. Individuals in this field have clear opinions regarding which of the theories tops the other, but no consensus has been reached.

At Windbridge, we’re looking to break the tie.

Dragan Trifunovic/iStockphoto



Process-Focused Research

To address the survival psi vs. somatic psi debate, we are using a process-focused approach. In these studies, we systematically analyze the mediums' experiences of communication with the deceased.

As part of the services they offer clients, many modern-day mental (vs. trance or physical) mediums perform psychic readings in which they may use telepathy, clairvoyance, and/or precognition to retrieve information about the client or other living people. Thus, the mediums know how those psi phenomena "feel." Our process-focused line of mediumship research essentially asks the mediums if communicating with discarnates feels different than psychic readings in which psi is used.

The short answer is "yes." During a study we recently published in *Transpersonal Psychology Review*, we noted one medium's succinct description of this difference: "a psychic reading is like reading a book... a mediumship reading is like seeing a play."

Further studies under blinded conditions are required to more completely address the survival psi vs. somatic psi debate but we have taken some initial steps.

Applied Research

At Windbridge, we are also interested in the practical social applications of mediumship readings. In this applied research initiative, we have begun investigating the therapeutic potential of mediumship readings in grief recovery. Researchers at the University of Memphis recently published an analysis of 61 clinical psychology studies which demonstrated that traditional psychotherapeutic bereavement interventions provided little to no benefit to the patients. In sharp contrast, spontaneous and induced experiences of after-death communication have been repeatedly demonstrated to dramatically diminish or even entirely alleviate grief. However, though numerous anecdotal reports exist regarding the positive and profound effects a reading with a medium can have on the grieving, very little is known about the potential therapeutic effects of a personal reading with a non-denominational, credentialed medium.

In our recent exploratory collection of reports from 83 individuals who received mediumship readings, the participants indicated noteworthy relief from grief. The participants also commented on the short- and long-term effects of a mediumship reading, their negative experiences with a mental health professional (MHP), and the importance of the combination of the two interventions (mediumship reading and work with the MHP) in recovery. We recently presented these results at the Toward a Science of Consciousness 2010 meeting.

The Future

After a long hiatus, the mediumship phenomenon is once again being scientifically examined and public interest in the subject continues to thrive. We hope that this wave of attention will soon carry over to mainstream academics as well as

funding organizations so that addressing this topic in a timely, rigorous, and productive fashion with the necessary resources and personnel continues to be possible.

Further Reading

- Beischel, J. (2007/2008). Contemporary methods used in laboratory-based mediumship research. *Journal of Parapsychology*, 71, 37-68.
- Beischel, J., & Rock, A. J. (2009). Addressing the survival vs. psi debate through process-focused mediumship research. *Journal of Parapsychology*, 73, 71-90.
- Currier, J. M., Neimeyer, R. A., & Berman, J. S. (2008). The effectiveness of psychotherapeutic interventions for bereaved persons: A comprehensive quantitative review. *Psychological Bulletin*, 134, 648-661.
- Robertson, T. J. & Roy, A. E. (2001). A preliminary study of the acceptance by non-recipients of medium's statement to recipients. *Journal of the Society for Psychical Research*, 65, 91-106.
- Rock, A. J., Beischel, J., & Cott, C. C. (2008/2009). Psi vs. survival: A qualitative investigation of mediums' phenomenology comparing psychic readings and ostensible communication with the deceased. *Transpersonal Psychology Review*, 13, 76-89.
- Roy, A. E. & Robertson, T. J. (2001). A double-blind procedure for assessing the relevance of a medium's statements to a recipient. *Journal of the Society for Psychical Research*, 65, 161-174.
- Roy, A. E. & Robertson, T. J. (2004). Results of the application of the Robertson-Roy protocol to a series of experiments with mediums and participants. *Journal of the Society for Psychical Research*, 68, 18-34.
- Sudduth, M. (2009). Super-psi and the survivalist interpretation of mediumship. *Journal of Scientific Exploration*, 23, 167-193.



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tions, investigators, news, studies, opportunities, and certified research mediums is available at www.windbridge.org.

Patrick Huyghe

Reports of Luminous Seas

There was no moon on that May night in 1983. Of that Chief Officer Peter Newton is certain. The sky was already pitch-black, and he had just taken a star sight from the bridge of the M.V. *Mahsuri*. The refrigerated cargo ship was less than three hours out of Bandar Abbas, an Iranian port off the Strait of Hormuz. Having discharged its load of New Zealand lamb, the ship was passing through the Gulf of Oman, on course toward the Arabian Sea, and bound for Fremantle, Australia.

Then something very strange happened. What first caught Newton's attention was a pale green glow on the horizon just ahead of the ship, but he said nothing to the cadet standing watch with him. Moments later, parallel bands of blue-green light began to sweep silently over the water toward the ship from the southeast. Still, Newton said not a word, but he felt as if he should duck. Each light band was about 10 to 15 feet wide and at least 500 feet long, and appeared to be some 15 feet above the water. They came rapidly every four or five seconds.



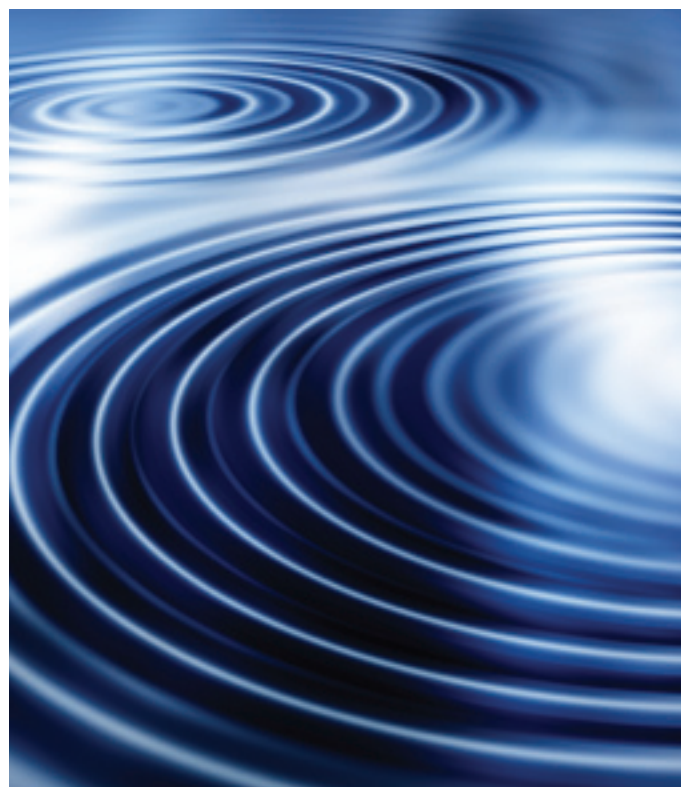
Oweek/iStockphoto

The 33-year-old Englishman remained quiet, simply because he thought he might be seeing things. In 15 years of plowing those waters, he had often seen bioluminescence in the water, but he had never seen anything like this. He needed confirmation. When the apprentice looked over at him, wide-eyed, Newton said, with characteristic British understatement: "Well, that's strange, isn't it?"

The ship, by then in the midst of a chaotic light show, was totally surrounded and almost enveloped by random light movement. "There were many different effects going on at the same time," says Newton, "so I told the cadet to start recording what we were seeing. I was observing it and he was writing

it down, standing there with a torch. I also called the captain, who was down having coffee after dinner, and I said, 'Bring up whoever else is down there and come and have a look.'" They did, and they saw.

After the first ten minutes, the bands gave way to expanding circles of light that spread rapidly, like ripples created by a stone thrown into the still waters of a pond. The wheels' diameter ranged from ten feet to more than 600 feet.



Kirsty Pargeter/Vivozoom

"Each wheel would last for a couple of minutes, continually flashing," Newton recalls. Successive flashes came less than a second apart and glowed a pale green. Newton noticed that the centers of the wheels appeared to travel along with the ship; those on the beam seemed to remain there until they faded and were replaced by a new pattern.

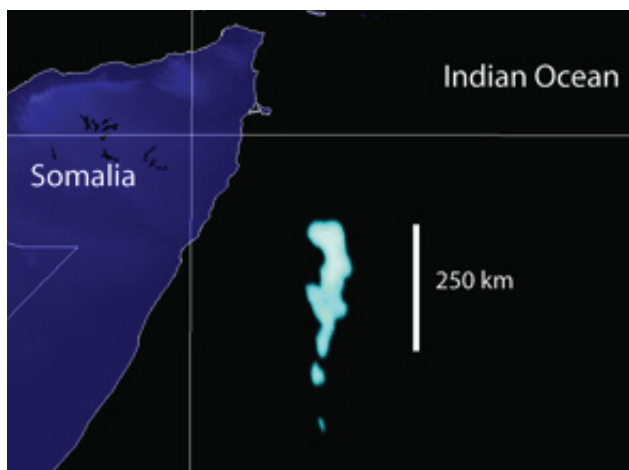
The eerie display frightened some of the observers. Newton remembers crewmen running for cover. "The one on the wheel ran away and so did the lookout," he says. "They were scared." Those who remained were treated to more of the visual smorgasbord. As many as four light wheels were visible at once. Sometimes their outer rings would turn into long parallel bands. At the height of activity, light circles expanded this way and that, and systems of parallel bands traveled off, seemingly in random directions. After 15 minutes of maximum intensity, the phenomenon waned, and then all was blackness again. All told, the spectacle had lasted about a half-hour. No one had thought to take a photograph.

It's no secret that the sea is full of light; bioluminescence is a fact. It is caused by a light-emitting molecule, present in some organisms, called luciferin. When this molecule is mixed with an enzyme in the presence of oxygen, the result is a brief burst of light or a continuous glow. This cold light reaction (light without heat) is exactly like that which occurs in fireflies. The sea contains myriad light-emitting forms of life, including bacteria, copepods, ostracods, and other plankton, as well as larger animals like jellyfish, *Pyrosoma*, and squid. But the flashiest ones are the dinoflagellates. Given a supply of the proper nutrients, these tiny, single-celled organisms can develop in prodigious numbers—sufficient to create brilliant luminescent displays in the presence of a passing ship.

But is marine bioluminescence really sufficient to explain the extraordinary geometric displays of the kind seen from the deck of the *Mahsuri*? Chief Officer Peter Newton, who was no stranger to ordinary bioluminescent displays, said, “It happens on almost every trip. You look over the bow and everything under the water is aglow. And you see dolphins—these illuminated creatures—going along in the water. It’s a really beautiful sight.”

Observed from Space

The “milky seas” phenomenon, which is sometimes observed on its own and sometimes precedes the more elaborate geometric displays, was detected by a satellite for the first time in 1995. One of the satellites in the Defense Meteorological Satellite Program imaged the glow, which was approximately the size of Connecticut, on three consecutive nights in the northwestern Indian Ocean near Somalia. It was corroborated on the first night, January 25th, by the *S.S. Lima*, which was transiting the area at the time. The ship’s log reports that “...on a clear moonless night a whitish glow was observed on the horizon and, after 15 min of steaming, the ship was completely surrounded by a sea of milky-white color with a fairly uniform luminescence. The bioluminescence appeared to cover the entire sea area, from horizon to horizon...and it appeared as though the ship was sailing over a field of snow or gliding over the clouds.”



Dr. Steve Miller, Naval Research Laboratory, and PNAS

But what Newton saw on that night of May 9, 1983 was, he insists, “totally different.” To begin with, normal bioluminescence is clearly visible as being in the water. What he—as well as others who have reported these large-scale displays—saw seemed to happen above the water. And he clearly remembers that there was no mist in the air. “The whole lot was out of the water,” he recalls. “I was looking out from the bridge, rather than looking down. Some of the effects were almost parallel with my line of sight.”

So extraordinary was the display of light he saw from the *Mahsuri* that Newton submitted a report on the occurrence to the *Marine Observer*, the British journal of maritime meteorology. It was published in 1984, along with similar reports from the South China Sea and the South Pacific. Newton’s account is not unusual. There have been hundreds, if not thousands, of such reports since ancient times.

Are these reports credible? Scientists unfamiliar with the evidence tend to think of such large-scale, geometric, phosphorescent phenomenon in the same way they used to think about giant squid just a few decades years ago—as something not to be believed. Now we know better: giant squid are quite real. But when I interviewed scientists knowledgeable about this oceanic phenomenon for an article in *Oceans* magazine some years ago, most had no doubt about its reality.

“I’m sure the phenomenon exists,” said Mahion Kelly, an environmental scientist at the University of Virginia. “There are just too many observations.” Howard Seliger, a professor of biology at Johns Hopkins University, agreed. So did Elijah Swift, a biological oceanographer at the University of Rhode Island, who explained why he, too, sees no reason to doubt the reality of the phenomenon: “If it just happened once, you’d say, well, they all ate something bad that day and they were just ignorant seamen. But there have been a lot of reports by ships’ officers, and the phenomenon occurs again and again.” Only one scientist expressed any doubt about the reports, and he was only skeptical of those observations detailing the more dramatic geometric patterns. But at what point does a geometric pattern pass from fact into fantasy?

Science hasn’t made much of an effort to find out. “It has always been perplexing that scientists have made no concerted effort to find the cause of the many forms of the geometrical luminescent displays seen in the Persian Gulf, the Indian Ocean, and other warm waters,” says physicist William R. Corliss, the author of *Lightning, Auroras, Nocturnal Lights and Related Luminous Phenomena*, which collects many of these sightings from the marine meteorological literature. “True, a few individual researchers have looked at the literature and done some theorizing, but no expeditions have been launched that we know of. Here is a well-verified, richly complex, eerily beautiful, natural phenomenon that is almost completely neglected by science.”

Bioluminescence—if indeed the phenomenon is due to bioluminescence, as there seems no reasonable alternative—occurs from pole to pole and at all depths, but it appears to be present more in some places than in others. A report by the Naval Oceanographic Office states: “The Arabian Sea is prob-

ably the most luminescent sea in the world.” According to the report, those waters are also the source for “some of the more unusual reports of surface bioluminescence.” And according to Peter Herring, a marine biologist at the Southampton Oceanography Centre in England and one of the world’s foremost expert on large-scale bioluminescence, some 95 percent of the phosphorescent-wheel reports come from waters in and around the Indian and Pacific oceans. The most frequent reports come from the Persian Gulf, the Strait of Hormuz, the Gulf of Thailand, the South China Sea, the Strait of Malacca, and the coastal seas adjacent to Karachi, Rangoon, and Bombay.

One characteristic all these areas have in common is relatively shallow water. This, along with the fact that the phenomena seem to show some seasonal variation, has led many scientists to believe that bioluminescent displays are the product of huge masses of marine organisms feeding on the nutritional materials running off the land during the monsoons.

A lot of nutrition produces a lot of organisms, and that in turn produces a lot of bioluminescence, argued Arthur Stiffey, a microbiologist who worked at the Naval Ocean Research and Development Activity office in Bay St. Louis, Mississippi, and had witnessed a bioluminescent event himself during World War II. “I was in a convoy of five ships in an area south of Samoa,” he told me. “It was around midnight and there was no moon. I was on deck at the time and I couldn’t see any ships. We were blacked out, of course. Then suddenly for about 15 minutes we were apparently in what I would describe as a sea of fire. It was sort of bluish-green and there was a tremendous amount of light coming up the bow wave of the ship. This solid mass of light—what we call a bloom—encompassed about 10 to 15 acres, and our five ships were clearly outlined.

I was hoping that a Japanese submarine wasn’t around there because we were a perfect shot. I spoke to the captain about it, and he said, ‘Oh, that’s phosphorescence.’ Apparently he had seen this many times. But, by golly, I never forgot it.”

But more than a just rich diet is needed for such large-scale bioluminescent displays. “In most cases,” said one marine biologist I spoke with at the Bay St. Louis Naval Oceanographic Office who asked not to be named, “these organisms will not luminesce unless they are moved by shear forces in the water: the passage of a vessel, for instance, or a diver close to shore. If you stir up an organism, be it a large animal or whatever, its physiology—the heart rate and so forth—will increase. The same goes for smaller organisms. When you stir them up, things start to happen.”

Over the years, scientists have devised a variety of explanations for these remarkable, large scale manifestations. In 1966, a German hydrographer named Kurt Kalle, having noticed that areas of high bioluminescence are also usually seismically active, proposed that submarine earthquakes cause the phenomenon. Seismic shock waves, he said, travel upward in an expanding cone as they rise from the sea floor to the surface and stimulate luminous organisms in their passage. Kalle argued that the interference patterns set up by multiple reflections of shock waves on the seafloor and surface could produce a variety of rotating wheels, parallel bands, and concentric circles. But the complex nature of the displays, and its persistence (about half an hour, on average) suggest other stimuli must be involved.

UVA’s Kelly cited an even more basic problem with the tectonic shock wave idea: “If I put some of these bioluminescent

A Sampling of Reports

On November 24, 1908, as the steamship *Dover* crossed the Gulf of Mexico, it encountered two parallel corridors of luminescence, each about a half-mile wide and alternating blue and green.

The S.S. *Socrates*, while off the coast of Brazil on March 18, 1924, reported water so white that the vessel appeared to be moving in “a sea of milk.”

In 1985, the M.V. *Samaria*, on a course through the equatorial eastern Pacific, encountered what appeared to be balls of bioluminescence rising to the sea surface and spreading out into luminous greenish-white rings as large as 500 feet in diameter. *Samaria*’s captain described the event, which lasted for a period of hours, as “intense.”

On October 7, 1991, the M.V. *Wiltshire*, while in the Gulf of Aden, reported the glow of bioluminescence “illuminating the hull above the waterline,” followed by a series of luminous wheels, 6 to 8 at the time, passing on either side of the vessel. The large ones were about 50 feet in diameter, the small ones 20 feet in diameter. Samples of collected seawater, when shaken, revealed glowing tiny luminous yellow-specks. The display lasted about two hours.

The M.V. *Liverpool Bay* was crossing the Strait of Hormuz on March 26, 1993, when it was “strangely illuminated for several minutes” by bioluminescent organisms. The vessels “moved through a wave-like form of light which initially appeared to be above the water in the

pitch-black night.” Then “an even more amazing display of concentric circles” emanated from a single point several hundred yards off the port side.

While in the Strait of Hormuz on April 30, 1994, the M.V. *BP Argosy* first reported large faint whitish patches of bioluminescence on the port side that increased in intensity to a brilliant fluorescent green, followed by fast moving parallel bands heading toward the vessel. These then changed to numerous rotating spirals. After about 20 minutes the display returned to the milky white patches before disappearing totally.

The M.V. *British Reliance*, while in the Persian Gulf on April 17, 1995, first noticed “a small amount of blue phosphorescence” in the sea ahead. Suddenly the wind picked up and bright blue phosphorescent cartwheels about 50 feet or so in diameter began to form all around the vessel. They were spinning at high speed in random directions, and sometimes in opposite directions next to one another. The display lasted about 18 minutes.

On June 5, 1995, the M.V. *Tokyo Bay* while in the East China Sea noticed what seemed to be hundreds of “blobs” about the size of tennis balls right ahead of the ship and stretching from horizon to horizon. When the ship passed through the line of blobs, the glare from the luminescence was as bright as daylight.

organisms in a barrel and I kick the barrel hard, I've transmitted a shock wave through the water, but I have not produced any shear. To get a large amount of luminescence, you must actually produce a shear, placing a stress on the organism. That's the only way [the organism] can sense it. Otherwise, it's just a compression wave, which is probably too slight to sense. It's hard to imagine a submarine earthquake, or something like that, producing a shear stress."

A more prosaic explanation for such large displays involves a variety of physical factors, such as large-scale convergence cells and currents, winds and waves, and local turbulence and agitation. Whatever cannot be explained in this way, it is argued, is probably a kind of optical illusion. Such reasoning holds, for instance, that parallel bands of light might be produced either by the interaction of a bow wave and intersecting surface waves as a ship passes through a batch of luminescent organisms, or by the refractive effects of surface waves on deeper luminescence. The wheels and their rotation could then be explained in terms of the illusion of perspective on parallel bands.

But Peter Herring does not find such explanations very convincing. Even if the very large wheels are illusory, how can one explain the numerous small wheels? Or the concentric spreading rings, which cannot be a similar product of perspective? Herring, in fact, leans toward an explanation that involves the vessel itself. He notes that the frequency of light pulses reported is often in the same range as the engine revolutions of most vessels, implying that engine vibrations disturb the water in a way that intensifies the bioluminescent display. He also points out that the ships are often said to be the center of the phenomenon. Nearly all the reports, he observes, come from large ships, or "large vibratory sources," rather than small boats. But in the end, Herring, who is anything but dogmatic, concedes that there may be several possible explanations.

Intriguing, though perhaps unlikely, is the notion that some of the events may be not strictly marine, but low-level atmospheric phenomena caused by the same electromagnetic forces that create the auroras—indeed, it is rare for water drawn from these displays to contain bioluminescent organisms. None, for instance, were found in a sample of seawater taken by the *Mahsuri* crew. Corliss points out that observers of some low-level auroras have in fact reported a luminous mist resembling the aerial phosphorescence seen in some marine displays. And some ship captains have, he says, noted the similarities between auroral and marine phosphorescent displays. Lending further credence to the suggestion that the displays may involve electromagnetic activity are reports that the phenomenon has sometimes shown up on the ship's radar. But the key word here is "sometimes," not "always." The puzzle remains.

Also tantalizing is an explanation that assumes some kind of collective behavior among bioluminescent organisms. Some travelers in the tropics tell of immense assemblages of fireflies whose flashing is synchronized. Could marine organisms indulge in similar cooperative action? Could adjacent organisms be responding to one another, propagating waves of light?

But while such a reaction could explain reports of concentric rings and parallel bands of light, it strains credulity as an explanation for the reports of rotating pinwheels and other such complex arrangements. Most scientists consider the idea of cooperative behavior on the part of such simple animals just too farfetched.



Peter Zelei/Stockphoto

Luminous phenomena like those seen by Chief Officer Peter Newton are so elusive, so impossible to drag into the lab, that they are likely to remain a mystery for a long time. Until then, those who have seen them will believe, and those who have not are likely to laugh. When Newton is back home in England, he keeps his mouth shut about what he saw in the Gulf of Oman. "It's not something I would bring up at a party or a bar" he says. "They would think I was mad. But people at sea believe me. Seamen tend to believe each other. There is no reason not to. You see many strange things at sea."

PATRICK HUYGHE spent a quarter century as a science journalist. He is now the editor of Anomalist Books.

Book Review by Deborah Blum

A Glimpse of the Unbelievable

I started reading Stacy Horn's book, *Unbelievable*, which concerns the famed ESP-researcher Joseph Banks Rhine, shortly before a visit to my parents' home in Georgia. My father had been ill and I was pondering gentle but interesting forms of entertainment. Inspired by Rhine's work, I decided to design a telepathy experiment. Upon arrival, I corralled my father, mother, and one of my sisters into participating.

On the first day, I must tell you, we were brilliant.

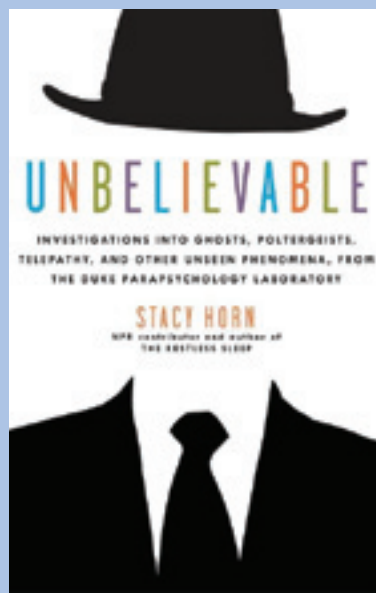
My test had a very simple design. Each of us held a notepad and pencil. We sat around a table, facing away from each other. One person then drew a picture. The other three were then expected to draw that picture on their own notepad without being able to see the original drawing. "No laughing," I said sternly, in advance. "And no talking either."

But once we sat hunched over our tablets, it didn't matter. All I could think about was a boat. I drew one that resembled a small ocean liner, with little portholes dotting the sides and a smokestack puffing out gray curly loops. I sketched in some waves underneath it. When my father put his tablet down for comparison, he'd drawn a boat. It was bigger. It had more smokestacks. But it was startlingly close. My mother had also drawn a ship. My sister had drawn a bird but then she had found the whole idea ridiculous anyway.

Over all, we were slightly dazzled—or maybe unnerved—by that first result. Of course, it marked our only real success. In the other seven tests, I drew flowers when it should have been houses, little birds instead of roaring bonfires. By the end of the experiments, my father—bored, I deduced—was simply doodling more boats with shark-fins circling around them.

All of which illustrates (in an admittedly amateur-time way) some of the challenges that confronted J. B. Rhine in his years of trying to explain telepathy. He wanted to build an indisputable scientific case for extra-sensory perception. But even carefully controlled studies of telepathy often yield inconsistent results. The most talented subjects appear to wax and wane in their aptitude. The scientific explanation for such erratic findings remains elusive even today. A method for reliably predicting success or failure, which would give a major boost to the field's credibility, has yet to be developed by paranormal researchers.

Nevertheless, Rhine, described by Horn as "the Einstein of the Paranormal," probably came closer to achieving that



Unbelievable: Investigations into Ghosts, Poltergeists, Telepathy and Other Unseen Phenomena, from the Duke Parapsychology Laboratory by Stacy Horn. Ecco, 2009.

credibility than any other scientist in the history of the field. From 1930 to 1980, Rhine gained national eminence as the driving force behind Duke University's parapsychology laboratory, along with his wife, Louisa, an equally driven researcher.

Rhine first caught the country's attention with the publication of his 1934 book, *Extra-Sensory Perception*, which detailed his methodical experiments with telepathy. His central method involved asking one participant to mentally send images from a series of picture cards to another participant. It was during this period that he discovered a young man who apparently had an exceptional gift for receiving the images. Hubert Pearce, a divinity student, routinely identified at least 10 cards out of a deck of 25, and once correctly named every card in the stack. Probability theory indicated that anything above five could be considered significant.

"Hubert's abilities were astounding," Horn writes. The experiments also taught Rhine that a participant who was invested emotionally in the work tended to perform better. Pearce's highest scores occurred when Rhine bet money that the student couldn't get the correct answers.

And eventually it taught him, as psychological researchers of the 19th century had also concluded, that such abilities are usually transient. And, again, possibly affected by emotion: Pearce's ESP successes ended when his then-girlfriend ended the relationship. They did not return.

Years later, the British physicist Freeman Dyson would cite this emotional connection as one of the issues that made telepathy research so antithetical to the standard model of research. Scientific studies strive for cool objectivity, he said, and "The experiment necessarily excludes the human emotions that make ESP possible." And without emotion, he suggests, the experiment is bound to fail.

The book is most engaging as it explores the simmer of excitement surrounding the Rhines' work, and the deepening frustration of having finding after finding dismissed by the scientific community. The Duke experiments were good enough to gain the laboratory some influential allies; even Albert Einstein raised the possibility that physics might one day explain telepathy. But they were never quite enough to move supernatural research out of the fringes of science.

"It was the parapsychology critics themselves who finally convinced me that the lab's work was sound," Horn writes. In investigating the criticisms, she concludes that although Rhine

Steve Hammons

MEDIA WATCH: Will “Weird Science” News Transform Science?

“Weird science” and “weird science journalism” may reconfigure how science is explored, communicated, and understood. The field of journalism is going through significant changes as print and broadcast media are transformed by electronic media of various kinds. Science journalism is no exception.

Online and e-journalism, including citizen journalism, are changing not only media platforms but also content and focus. Sometimes, this is perceived as, and generally acknowledged to be, a trend that has some negative aspects. However, parts of these changes are related to more vigorous coverage of topics that science journalists may have been covering inadequately. Often sticking with safe and conventional science topics, some science journalists might have missed very interesting emerging developments in a range of scientific areas.

Emerging Views

Certain topics deemed unconventional, anomalous, metaphysical, fringe, or even paranormal may, in fact, be very legitimate subjects that science journalists can cover. In the area of emerging discoveries, the public may be ahead of some science journalists in recognizing coming trends.

Where to begin? Interesting discoveries have been made in the fields of human psychology and consciousness, quantum physics, and anomalous flying objects, to name a few. Granted, some of the normal scientific inquiry and scientific journalism coverage over past decades may have been stifled by national security restrictions on these topics. However, the times are a changing and topics that previously were kept under tight security may now be more appropriate for public education and acclimation.

For example, the U.S. defense and intelligence communities’ research and operational activities often referred to as Project STAR GATE were top secret for over two decades. However, since the mid-1990s, information on the rigorous scientific protocols involved has been declassified and released. These activities made highly significant discoveries about the nature and capabilities of human consciousness. What has been called “anomalous cognition” might actually be just alternative cognition, complementary cognition, or integrative cognition. This research also led to the innovative concept of “transcendent warfare,” a term coined by a Navy SEAL officer.

Related to these consciousness studies, quantum physics research has uncovered further anomalous indications that seem to point toward revised views of the nature of the Universe. Some researchers now refer to the Universe as a multi-universe where various dimensions interact and intersect.

And then there is the topic of what are generally referred to as unidentified flying objects (UFOs). This terminology could now be somewhat obsolete—at least in the cases of some UFOs. According to many respectable and reliable researchers, some UFOs that appear to be solid craft are, in fact, identified. Some may be U.S. advanced aircraft or spacecraft. Some may be spacecraft of a more exotic origin. Some may be various kinds of phenomena we do not fully understand, but should try to.

Open Minds

When considering these and other unconventional scientific topics, it might be useful for science journalists to abandon the term paranormal and think about aspects of them that may be normal and natural, and therefore worthy of normal journalistic inquiry.

Again, science journalism can possibly be excused over past decades of inattention to certain unconventional topics because of security measures that discouraged legitimate coverage of them. This excuse may no longer be valid.

If science journalists want to attract readers, viewers, and audiences who are interested in relevant and meaningful topics, the integration of conventional and more unconventional journalistic coverage is probably appropriate. In this sense, integrative journalism may be similar to the concept of integrative medicine or integrative cognition—taking the best of both conventional and emerging science to create more useful perspectives and understanding.

To avoid responsible and thorough coverage of important scientific subjects, including the unconventional, may diminish the perceived relevance of science journalism to millions of Americans and people worldwide. More important than the fate of establishment science journalists, the human race may be affected by the lack of open-minded inquiry about vitally important emerging phenomena and developments.

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“The reason we’re so resistant to anomalous information—the real reason researchers automatically assume that every unexpected result is a stupid mistake—is rooted in the way the human brain works. Over the past few decades, psychologists have dismantled the myth of objectivity. The fact is, we carefully edit our reality, searching for evidence that confirms what we already believe. Although we pretend we’re empiricists—our views dictated by nothing but facts—we’re actually blinkered, especially when it comes to information that contradicts our theories.”

—Jonah Lehrer, “Accept Defeat: The Neuroscience of Screwing Up,”
Wired, January 2010

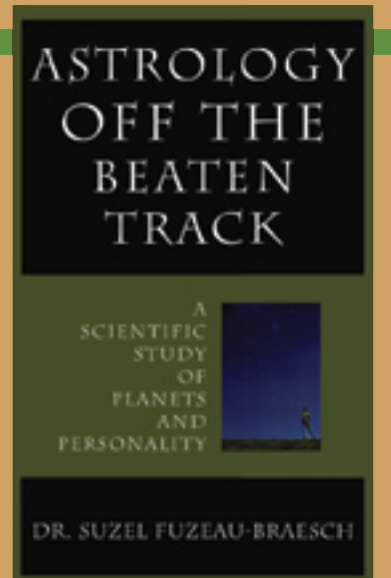
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