

# Society for Scientific Exploration 32<sup>nd</sup> Annual Conference

## Unsettled Science

**Wednesday, June 5**

- 9:30 AM–5:00 PM** Council meeting  
*Firestone Room*
- 6:00 PM–9:00 PM** Opening Reception and Registration  
*Herb Garden Patio*

**Thursday, June 6, Alexandria Ballroom**

- 9:00** Welcome and Introductions
- 9:15** Eddie Bullard “UFO Reports: How to Defend an Anomaly with Less-Than-Ideal Evidence”
- 10:10** Mark Rodeghier “Pattern Changes in the UFO Phenomenon”
- 10:35 AM** **Morning Break**
- 11:00** Michael D. Swords “Military and Intelligence-Sponsored UFO Research: Was Science on the Agenda?”
- 11:25** John B. Alexander “Who Has Responsibility for Researching UFOs?”
- 11:50** Paul J. Huspeni “Application of the Scientific Strong Inference Method to the UFO Technologically Advanced Being Agenda”
- 12:15** Detlef Hoyer “Marginal Notes about a Popular Landform on Mars”

**12:40 PM** **Lunch Break (Young Investigators Meeting)**

- 2:15** Roger Nelson “The Three Rs of the EGG Project: Replication, Replication, Replication”
- 2:40** York Dobyns “Testing Hypotheses about Precognition”
- 3:05** Michael S. Franklin & Jonathan W. Schooler “Can Practice Effects Extend Backwards in Time? An Overview of Seven Years of Experimentation” Sponsored by Robert Jahn.

**3:30 PM            Afternoon Break**

- 3:50** Imants Barušs and Vanille Rabier “Retrocausal Recall”
- 4:15** Garret Moddel “Evidence for a Psi Receptor in the Brain”
- 4:40** Walter Meyer zu Erpen “Do Tables Tilt, Turn, and Float? Table Levitation Phenomena, 1850–2010”
- 5:05** Julian Isaacs & Francis Lionnet “The Infrared PK Effect: History, Prospects, and Physiological Aspects”
- 5:30** Business Meeting

**6:00 PM            Dinner Break**

**8:00–**

**9:30**

Panel Discussion — *Anomalies:*  
*Do topics under the SSE umbrella have enough in common that we can learn from one another?*

Panel: Henry Bauer, with Patrick Huyghe, Roger Nelson, and Ron Westrum

**Society for Scientific Exploration  
32<sup>nd</sup> Annual Conference**

**Unsettled Science**

**Friday, June 7, Alexandria Ballroom**

**9:00** Announcements & Introduction

**9:05** Stephen C. Jett “Six Evidentiary Revolutions in the  
Pre-Columbian Transoceanic Contact Controversy”

**10:00** Erik A. Schultes “Big Data: The Myth of Independent  
Variables”

**10:25** Henry H. Bauer “Three Stages of Modern Science”

**10:50 AM      Morning Break**

**11:15** Julie Beischel “The Source of Mediums’ Information:  
A Quantitative Phenomenological Analysis”

**11:40** Gary E. Schwartz “Anomalous High-Amplitude Photon  
Bursts Replicated during Detection Research with  
Specific Hypothesized Spirits”

**12:05** Masayuki Ohkado & Akira Ikegawa “Japanese Children  
with ‘Life-between-Life’ Memories”

**12:45PM—8 PM      Friday afternoon outing**

# **Society for Scientific Exploration 32<sup>nd</sup> Annual Conference**

## **Unsettled Science**

**Saturday, June 8, *Alexandria Ballroom***

**9:00** Announcements & Introduction

**9:10** Donald J. DeGracia “A Reappraisal of Yoga in Light of Recent Developments in Cognitive Neuroscience”

**10:05** Maria Syldona “Holography and Universal Manifestation: Quantum Physics and the Yogic Science of Kashmir Shaivism”

**10:30** Margaret Moga “Magnetic Field Changes during Energy Healing: Real or Artifact?”

### **10:55 AM Morning Break**

**11:15** Stephen Braude “Follow-Up Investigation of the Felix Circle”

**11:40** Yury Kronn, Simons Svirskis, Linda Klimaviciusa, Zana Dzirkale, Reinis Svarcbahs, Baiba Jansone “Subtle Energy’s Effect on Physical Performance in Stressful Situations”

**12:05** K. C. Blair “New Meaning from the Science of the Subjective” Sponsored by Ulisse di Corpo.

### **12:30 PM Lunch Break**

- 2:00** Larry Dossey “Telesomatic Events:  
When Distant Bodies Behave As One”
- 2:25** William F. Bengston “Re-Thinking Placebo: Transitioning  
from Mice Trials to Human Subject Design”
- 2:50** James E. Beichler “The Neurocosmology of  
Consciousness: A Theoretical Model of Emergence,  
Evolution, Psi, and Survival”
- 3:15** Timothy Brigham “Anomalistic Science: Redefining  
Boundaries and Terminology”

**3:40 PM Afternoon Break**

- 4:00** William H. Kautz “Extending Modern Science to Enable  
Anomalies Research”
- 4:25** David Scharf “Two Dogmas of Materialism:  
Toward a Quantum Field Theory of the Psychic Field”
- 4:50** P. D. Moncrief “I Am a Materialist and So Are You”
- 5:15** CLOSING REMARKS AND ADJOURNMENT
- 6:15** Cocktails
- 7:15** Banquet

**Program Committee:** Henry Bauer, Erik Schultes,  
Patrick Huyghe (Chair)

**Local Arrangements:** Carl Medwedeff

# Who Has Responsibility for Researching UFOs?

John B. Alexander

Joint Special Operations University

Beginning in 1947, when “flying saucers” were first publically identified as such, the U.S. Air Force (USAF) assumed interest and became the lead agency for investigations of the phenomena. Their interest was generated by the possibility that the aerial phenomena might constitute a threat. For the next three decades the USAF conducted a series of UFO-related projects such as Sign, Grudge, and Blue Book. Based on the findings of the Colorado Study, specifically that UFOs did not constitute a military threat, the USAF terminated official investigations into the topic.

Of course that notion of termination of official interest remains controversial. Some believe that a project continues in the “black world.” I suggest that many researchers mistake personal interest for institutional interest/responsibility. As in the general public, a significant number of military/government personnel have observed UFOs and raised questions about them. Even worse are ridiculous assertions being made about the existence and maintenance of military bases on Mars.

They key issue of this presentation addresses the assumption that the U.S. Government has any inherent responsibility for researching aerial phenomena. There are many other phenomena for which there is no expectation of government involvement, even though there are very important implications for the citizens. As examples, minimal attention is paid to alternative healing practices even though the benefits both in health and cost would be enormous. Continuation of consciousness beyond physical death should be of concern to 100 percent of the population, yet such studies are never undertaken by government agencies nor is there any expectation that they should be.

The reality is that when compared to real-world issues, studies of phenomenology do not rank very high. The constituency supporting anomalous studies may be passionate, but represent a very small segment of society. There is a huge difference between general interest in topics and being prepared to commit resources. How many people would be willing to increase taxes to support UFOs studies?

There are significant cultural biases at work as well. Based on a mechanistic model of the universe, western science is willing to spend hundreds of millions of dollars in search of a “God particle.” Given the complexity of the issues elucidated by observations of various phenomena, where will adequate resources come from to address some of the most fundamental problems posed by them? It will not be from government sources. Therefore, it is not reasonable to assume that the government has researched these topics and hidden the answers, as conspiracy theorists assert.

## Retrocausal Recall

Imants Barušs and Vanille Rabier

Department of Psychology

King's University College at The University of Western Ontario

There has been considerable evidence for presentience as revealed in meta-analyses carried out independently by Dick Bierman at the University of Amsterdam and Julia Mossbridge at Northwestern University. Daryl Bem at Cornell University found that reversing the order of events in a number of different types of experiments in psychology still produced significant results even though the cause followed the consequent, *i.e.*, the observed retrocausal effects. In particular, in his Experiment 8, he exposed 100 participants to 48 nouns and then gave them a free recall task. After the free recall task, a computer randomly selected 24 of the words and had participants practice those words. He found that the practiced words were statistically significantly more likely to appear on the list of recalled words with Cohen's  $d = 0.19$ . Experiment 9 was a repeat of Experiment 8 except that there were only 50 participants but with an additional practice exercise for the experimental words. Again the results were statistically significantly in favor of retrocausal recall, this time with Cohen's  $d = 0.42$ . For her undergraduate thesis in psychology, Vanille Rabier decided to seek to replicate Bem's Experiment 9, with the addition of having participants complete Jackson's Six Factor Personality Questionnaire. A decision was made to run the experiment until there had been 100 participants so as to avoid the optional stopping problem. At the time that the thesis was due however, only 32 participants had been involved in the study. Analysis of the data at that point gave  $t = 0.96$  which was not statistically significant. The effect size was only  $d = 0.10$ . In Experiment 8 Bem had found a correlation of  $r = .22$  between stimulus seeking and retrocausal recall. That correlation was diminished in Experiment 9 presumably because of the increased effectiveness of the practice sessions. When we checked Bem's measure of stimulus seeking against our measure of personality traits, we found that his measure did not appear to be measuring stimulus seeking in our sample. We did find a correlation of  $r = .24$ , however, between openness to experience, which is related to stimulus seeking, and retrocausal recall scores, although it did not reach significance. At the time of writing this abstract, data have been gathered from 82 participants, but no effort has been made to analyze the data since the completion of the thesis so as to keep any effects of experimenter expectations to a minimum. Data collection continues and the data from 100 participants will be analyzed and reported at the time of the talk.

## Panel Discussion

### ***Anomalies:***

***Do topics under the SSE umbrella have enough in common that we can learn from one another?***

Panel: Henry Bauer, with Patrick Huyghe, Roger Nelson, and Ron Westrum

Some years ago, SSE's relation to anomalistics was compared to the relation between individual sciences and the AAAS, the American Association for the Advancement of Science.

But the membership of AAAS is larger than that of societies catering to individual sciences, whereas the membership of SSE is smaller than that of several groups concerned with particular anomalies. I think those of us in SSE believe that we benefit from being in a multidisciplinary society, and we'd like to find ways of increasing our membership. That was one factor in suggesting this panel, and we hope to get some audience feedback about that.

The comparison between SSE and AAAS has implications for our membership policies. Joining AAAS requires some recognized credentials and also, thereby, adds a bit to those credentials. Anomalists face a problem on that score. Much of mainstream science and the mass media more or less automatically compare our interests to those of flat-earth theorists, so cryptozoologists may actually get even less of a hearing if they are associated with ufologists, say, or *vice versa*. I think that's why the original SSE membership policy called for full members to have credentials in a mainstream discipline. I don't know whether our experience of 30 years has confirmed that approach as useful, or tended to disprove its value, or neither. My own guess is that it hasn't hurt and that dropping it might hurt. But what do others think about this?



# Three Stages of Modern Science

Henry H. Bauer

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**Abstract** — To explore scientifically presumes an understanding of what science does. Unfortunately, the common view of science is a *misunderstanding* of today's science.

Science is supposed to be objectively reliable because it uses “the scientific method” and because scientists work disinterestedly, publish openly, and keep one another honest through peer review. That common view was not too unrealistic in the early days and the glory days of modern science, but it is quite wrong about contemporary science — that has ceased to be trustworthy, because it is subject to commercial and bureaucratic influences which have spawned highly damaging conflicts of interest, institutional as well as personal.

Modern science was born in “The Scientific Revolution” of the 17<sup>th</sup> century and has gone through three distinct stages.

In the first stage, amateurs were seeking to satisfy their curiosity about how the world works. There were essentially no controlling interests other than truth-seeking. Any mistakes came chiefly from the inherent difficulty of making discoveries and from such inherent human flaws as

The second stage, roughly the 19<sup>th</sup> century, saw science becoming a career, a plausible way to make a living, not unlike other careers in academe or professions like engineering: respectable and potentially satisfying but not any obvious path to great influence or wealth. Inevitably there were conflicts of interest between furthering a career and following objectively where evidence pointed, but competition and collegiality served well enough to keep the progress of science little affected by that conflicting career interest.

In the third and present stage, which began at about the middle of the 20<sup>th</sup> century, science faces a necessary change in ethos as its centuries-long expansion at an exponential rate has changed to a zero-sum steady-state situation that has fostered intensely cutthroat competition. At the same time, the record of science's remarkable previous successes has led industry and government to co-opt and exploit science and scientists. Those interactions offer the possibility for individuals to gain considerable public influence and wealth. That possibility tends to corrupt, and great influence and wealth can corrupt absolutely. Outright fraud in research has become noticeably more frequent. The public cannot now rely safely on the soundness of advice from the scientific community.

# The Neurocosmology of Consciousness: A Theoretical Model of Emergence, Evolution, Psi, and Survival

James E. Beichler  
West Virginia University at Parkersburg

New theoretical research indicates that a “living force” can be equated to the overall matter/energy curvature pattern of an organism, while mind and consciousness are the electric and magnetic counterparts of the matter/energy pattern. In fact, all living organisms are complex matter/energy patterns (comprising the structural and biochemical body) supplemented by extremely complex electric field (electromagnetic scalar potential) patterns and magnetic field (electromagnetic vector potential) patterns, constituting mind and consciousness. The brain alone should no longer be considered the home of mind and consciousness in the body. The brain only seems to be the functional seat of mind and consciousness because of the dense concentration of neurons in the brain. A strict study of the magnetic vector potential field patterns associated with neurons and neural nets demonstrates how thoughts and streams of thought originate in the brain and are stored magnetically at and within the points in space-time occupied by the brain and body. Microtubules, which act as bio-magnetic induction coils, form electromagnetic transceivers in conjunction with axon wall capacitors within neurons. They are the primary structural bio-unit used for building, storing, and retrieving memories in the mind. Systems of electromagnetically interacting microtubules act as pattern guides for the storage and retrieval of memories at the quantum level by the quantized nuclear magnetic resonance of water molecules. Mind and consciousness could thus be considered a four-dimensional electric-magnetic (scalar-vector) potential field holographic body that maintains a semi-independent existence that is fully capable of surviving death. In fact, the survival of consciousness is all but guaranteed by a classical electromagnetic theory modified by the existence of a fourth spatial dimension. Under these circumstances, many forms of psi are natural and even required by the hyper-dimensional space-time structure utilized by the model. Just as our normal five senses evolved to operate in the four-dimensional space-time continuum that we occupy, a sixth sense would be required by evolution to operate in the extended five-dimensional space-time. Since consciousness is a physical extension of living organisms into the higher spatial dimension, consciousness becomes the sensing organ for the sixth sense and thus mediates psi contact between different consciousnesses as well as consciousnesses and other material bodies throughout the universe. Furthermore, this physical model implies a new top-down form of evolution based on the emergence of electric and magnetic potential complexities within living organisms. This new form of evolution easily explains paradoxical anomalies in the geological record such as the Cambrian explosion and leads to an expansion of the laws of thermodynamics that renders the evolution of physical systems (as opposed to just biological systems) a natural principle of the physical/material universe that can explain many cosmological anomalies.

# The Source of Mediums' Information: A Quantitative Phenomenological Analysis

Julie Beischel, Adam Rock, Mark Boccuzzi  
Windbridge Institute

Previous research has demonstrated that skilled mediums can report accurate and specific information about the deceased loved ones (termed discarnates) of living people (termed sitters) using anomalous information reception (AIR); that is, without any prior knowledge about the discarnates or sitters, in the absence of any sensory feedback, and without using deceptive means. The source of the information obtained using AIR, however, has not been established. The body of proof-focused data collected to date cannot differentiate among (1) super-psi; (2) psychic reservoir models (collectively "somatic psi") in which mediums use clairvoyance, precognition, and/or telepathy with the living to acquire information about discarnates; and (3) the survival of consciousness hypothesis in which mediums use "survival psi" to communicate telepathically with discarnates. Recent qualitative research, however, indicates that mediums' subjective experiences during mediumship readings for the deceased are distinguishable from their experiences during psychic readings for the living. In order to further investigate these findings, this study employed the Phenomenology of Consciousness Inventory (PCI), a standard retrospective phenomenological analysis tool that quantitatively measures 26 phenomenological dimensions, to assess the experiences of ten Windbridge Certified Research Mediums (WCRMs) during readings for living targets and readings for deceased targets. During each reading, the medium was given the first name of a target and then asked specific questions about the target (e.g., physical and personality descriptions, hobbies/interests). Both the WCRMs and the experimenter interacting with them were blinded to which targets were living and which were deceased. After each reading, the medium completed the PCI. During 19 of the 20 readings, the WCRM stated her impressions regarding the status of the named target (living or deceased). In 14 of those cases, the WCRM's impressions accurately reflected the status (74%, binomial probability, one-tailed,  $p = 0.032$ ). In addition, six of the WCRMs were able to accurately determine the status of the targets in both of their readings. It should be noted that the WCRMs were instructed that the target for each reading could be living or deceased and not that they would be reading one of each type of target. A significant difference was seen between the living target condition and the deceased target condition for the dimension Love with higher scores in the deceased reading condition (living target:  $2.65 \pm 1.11$  vs. deceased target:  $3.55 \pm 0.55$ ,  $p < 0.05$ ). In the subset of six WCRMs who accurately determined the status of both targets, significantly higher intensity values were seen for readings for deceased targets (vs. readings for living targets) for the dimensions Positive affect, Joy, and Love (all  $p < 0.05$ ). These quantitative data collected under blinded conditions reflect the WCRMs' qualitative descriptions of the differences between communication with the deceased and acquisition of psychic information and provide further evidence distinguishing between survival psi and somatic psi.

Re-thinking Placebo:  
Transitioning from Mice Trials to Human Subject Design  
William F. Bengston  
St. Joseph's College

Among the assumptions of traditional experimental design is that subjects, randomly separated into experimental and control groups, are distinct and independent. Double-blinded studies are assumed to control for both experimenter bias and anticipation effects on the part of human subjects. The latter is often called the placebo effect, presumed to be psychological in origin. Data analysis focuses on the differential outcomes between experimental and control groups, which are assumed to be due to the given stimulus. If there are no post-experiment differences between groups, the stimulus is interpreted as having had no effect.

In a dozen experiments at five independent labs, mice were injected with a fatal dose of cancer and treated by volunteer healers. Both experimental and control mice exhibited an anomalous remission pattern that seemed to mimic the placebo effect. As this placebo effect in mice should not have had any psychological component, it is instead hypothesized that placebo may in fact at least partially be explained by resonant bonding. If resonant bonding can be widely demonstrated in nature, then there exists a very real possibility for widespread misinterpretation of experimental results, especially type II statistical errors.

An experimental design using human subjects is proposed which will unravel the proportion of placebo that is due to psychological factors and the proportion that is due to resonant bonding.

# New Meaning from the Science of the Subjective

By K. C. Blair

Good Samaritans International  
Sponsored by Ulisse Di Corpo  
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Early in my search to satisfy my curiosity of how healing and health work, I learned that mom's soup helps us heal due to her servings of TLC, not so much the physical ingredients. After soup I studied the placebo (sugar pill) effect and learned it helps us heal due to (1) the physician's caring intent to please the patient, (2) the patient's caring intent to please the physician, and (3) their combined compassion for each other, not the physical starch sugar pill.

After soup and the placebo, I studied integrative medicines' treatments. Overall, allopathic medicine does more harm than good, making it worse than the complementary and alternative medicines studied. While the attention and care of the physicians and their staffs enhance healing and health, the pharmaceutical companies' contribution from invasiveness and its unintended consequences have been doing more harm than good.

Finally, I learned that when we want to help others, whether in medicine, religion, advertising, or one-on-one communications, it is our compassion and love that contribute to our well-being, like healing, health, happiness, peace, longevity, and everything good.

Recently, I became aware of how much my life has changed from before I started my large-scale experiments and then personally started following my data to the present. Now, unintentionally and unknowingly, I find myself to be a sample of one with pre- and post- measures in many personal experiments of the subjective. I have created a new and better life for myself and now would like to share some of my personal research and findings with you.

# Follow-Up Investigation of the Felix Circle

Stephen E. Braude

Emeritus Professor of Philosophy

University of Maryland Baltimore County

In the Spring of 2010 Peter Mulacz and I conducted a preliminary investigation in Hanau, Germany, of the Felix Circle's physical medium Kai Muegge. Although controls were minimal, we agreed that the apparent dramatic psychokinetic phenomena occurring at a distance from the medium, as well as the ostensible ectoplasm visible under red light, merited further investigation, provided the Felix Group allowed us to control the proceedings.

In August 2012, filmmaker Robert Narholz joined me in Hanau for a new series of sittings with the medium. In addition to table levitations experienced in darkness (but in one case recorded in infrared video), during a "cabinet" sitting large-scale physical phenomena occurred under considerably tightened conditions, including a strip search of the medium, thorough examination of fresh clothes provided to him, and my hands-on physical control during the production of phenomena.

This presentation will describe the phenomena and controls in detail, show relevant video, and report on another series of sittings in Robert Narholz's private Austrian farmhouse, scheduled to take place a few weeks before the SSE conference.

# Anomalistic Science: Redefining Boundaries and Terminology

Timothy Brigham  
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The terms “parapsychology” and “ufology” now implicitly carry unscientific, negative, and dismissive connotations in the minds of a significant number of both scientists and members of the public, due to a variety of factors to be discussed. These terms have also demonstrated an increasing lack of clarity in description as to what phenomena are included in their definition and study.

We discuss the latter problem as resulting from a better understanding of the range of unusual phenomena researchers encounter. Further, misperception regarding what, for example, “parapsychology” is, the phenomena it encompasses in its study, and what methods it utilizes, continues to be a barrier to both public understanding of these fields and appreciation by other scientists of the (often) careful nature of the science involved.

With a growing negativity in the minds of the public and mainstream science regarding the scientific merit and scope of said fields, a change in reference has often been discussed (e.g. Simmonds-Moore, 2011). Carpenter (2012) suggests changes in terminology may also have a positive effect on the manner in which phenomena under study are conceptualized and approached by authorities in the fields of medicine and psychotherapeutics.

We further the argument that a less “loaded” term be adopted. Pointing to the Cognitive Sciences as an umbrella term under which interdisciplinary collaboration is exhibited by, for example, researchers in cognitive psychology and artificial intelligence, leading to a better understanding and utilization for the wide range of research taking place in these areas, we suggest use of the umbrella term Anomalistic Science (adapted from *Anomalistic Psychology*; Zusne and Jones, 1982).

Carpenter, J. C. (2012). *First Sight: ESP and Parapsychology in Everyday Life*. Rowan & Littlefield, Lanham MD.

Holt, N., Simmonds-Moore, C., Luke, D., and French, C. (2012). *Anomalistic psychology*. Palgrave Macmillan, Hampshire, UK.

Zusne, L. and Jones, W. H. (1982). *Anomalistic Psychology: A Study of Magical Thinking*. Psychology Press, New York, NY.

UFO Reports:  
How to Defend an Anomaly with Less-Than-Ideal Evidence  
Eddie Bullard  
University of Indiana, Bloomington

The argument that a distinctive UFO phenomenon exists does not rely on anything as incontrovertible as alien bodies or unearthly technology. Instead we depend on anecdotal testimony, a form of evidence so weak that science largely despises it. So it goes with most anomalies. Eyewitness accounts claim their reality but precious few will ever cross the barriers of proof and enter into the realm of consensus acceptance.

In starkest terms, at least one UFO report has to hold up as genuine or UFOs do not exist. Given the weakness of anecdotal evidence, UFOs stand a fighting chance only if supported by a body of sound reports revealing some coherent pattern of appearance and behavior. Ufologists have long trusted that the UFO record manifests such a body of evidence. Skeptics have tried to chip away at this core, arguing that if some of the seemingly infallible cases fall on close examination, all cases in principle can meet the same fate and therefore there are no UFOs.

The skeptics have gotten the better of this dispute lately. They have found plausible explanations for several impressive cases, even the 1965 Exeter sighting that many ufologists, myself included, felt sure would stand forever. These embarrassing failures call for some soul-searching among the defenders of UFOs. With some urgency now, questions of what constitute sound evidence and a defensible case demand consideration.

I offer examples of the weaknesses of seemingly genuine cases to show what ufologists have overlooked. A pattern of blind spots becomes apparent. Other examples illustrate the qualities of strong cases and sound investigations to reaffirm that something unconventional seems to exist after all. In this argument I do not promote any particular interpretation; in fact one of the pitfalls of ufology lies in its readiness to force experiential phenomena to fit cultural expectations. What I want to establish is a bottom-line case for a coherent phenomenon that does not reduce to conventional terms (and for this reason the focus will be on basic sightings rather than more controversial subjects like abductions or Roswell). The principles that serve a critical and science-friendly ufology can also apply to the study of other experience-based anomalies, in an effort to make the best of the less-than-ideal evidence characteristic of, but not necessarily fatal to, fringe subjects.



# A Reappraisal of Yoga in Light of Recent Developments in Cognitive Neuroscience

Donald J. DeGracia

Associate Professor of Physiology  
Wayne State University School of Medicine

The mind-body problem has perplexed and challenged the Western intellect from ancient to modern times. In spite of millennia of debate and attention, the issue has been unresolved. Solving this problem would affect all aspects of human endeavor including science and philosophy, medicine, the arts, industry, and social institutions. It is not generally appreciated in Western understanding that the classical Raja Yoga of Patanjali, and its diverse offshoots, solves the mind-body problem. Yoga makes the extraordinary claim that the nature of objective reality can be found only in the depths of subjective consciousness. This is the opposite of Western approaches that assume the nature of objective reality is to be found in the detailed study and intellectual characterization of our sensory experience. Until recently, the impasse between Eastern and Western views of the mind-body problem could not be bridged. In this talk I will discuss how recent advances in the neurosciences are producing an empirical view of brain function that supports the yogic solution to the mind-body problem.

We first discuss that yoga is not a philosophical or intellectual system, but is a system of introspective methods for systematically exploring consciousness. The premise of yoga is that our mind derives from a projection of consciousness through a point-like “anu,” hidden in the depths of consciousness. The goal of yoga is to find this anu, pass through it, and discover the objective nature of reality. The methods of yoga: (1) systematically silence mental functions (“*yoga chitta vritti nirodhah*”); (2) develop the technique of samadhi, or the extreme concentration of consciousness; and (3) use samadhi to find the anu and penetrate it. This seemingly fantastic view of the power of introspection is supported by recent findings in neuroscience.

The notion that the brain, in any sense, records an external reality has eroded. Instead, the brain is now understood to be a self-referential and closed informational system. Brains display complex spontaneous patterns of activity, even during rest and inactivity. Dramatically, sensory stimulation has been shown to evoke pre-existing patterns of neural activity that spontaneously occur in the absence of sensory stimulation. Such findings imply that we do not experience an external world in our sensory experience; we experience patterns in our brain, and hence mind, that we interpret as an external world. Thus, the objective reality we discover studying sensory experience is the structure of the human brain and mind, implying that science itself is a form of introspectionism. Thus, the gap between traditionally Western and Eastern approaches is closed as these views converge to a common paradigm. This provides a foundation to consider the literal nature of yogic claims and to make a serious effort to integrate yogic methods with traditionally Western methods of knowledge discovery.

# Testing Hypotheses about Precognition

York Dobyns

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A small-scale but long-running experiment in precognition aimed, in part, at testing the “conventional wisdom” of parapsychology took place in the period 2009–2012. The experiment was forced-choice. Multiple trials (usually five) were conducted in a single session, while feedback was provided only between sessions. A single participant generated all data.

A feature that may be of some methodological interest is provided by an alternative statistical evaluation for binary precognitive outcomes. Many precognition protocols, including standard Associative Remote Viewing, allow only a binary outcome. If the underlying phenomenon being predicted is a quantitative rather than pure binary variable, however, it can be possible to achieve greater statistical resolution by computing a test statistic that takes this variation into account. The sum  $S = P_1V_1 + P_2V_2 + \dots + P_nV_n$ , where  $P$ s are predictions (interpreted as + 1 or -1) and  $V$ s are values of the predicted process, can be shown to have expectation 0 and a directly computable variance under rather modest assumptions. For certain behaviors of the predictions  $S$  will have greater statistical power than a simple count of correct predictions.

The experiment in question, evaluated by either approach, appears to have shown a substantial early effect followed by a decline. The experimental database also allows evaluation of attempts to vary the protocol to retrieve a sense of freshness and interest for the operator while maintaining the same statistical design so as to permit pooling of data, and of the effect of different degrees of experimenter blinding on the outcomes.

# Telesomatic Events: When Distant Bodies Behave as One

## Larry Dossey

In the 1960s, the American neuropsychiatrist Berthold E. Schwarz coined the term *telesomatic* from the Latin for “distant body.” Schwarz documented events in which individuals experience similar sensations or actual physical changes, even though they may be separated by great distances. Telesomatic events have been called “telepathy with an attitude.” Hundreds of these often dramatic events have been reported over the decades. They suggest that the persons involved are somehow linked through consciousness, as if two bodies were sharing a single mind.

A classic case is reported by Guy Lyon Playfair in his book *Twin Telepathy* (2002). It involved four-year-old identical twins, Silvia and Marta Landa. When Marta burned her hand on a hot clothes iron and a large red blister was forming, an identical blister was forming on Silvia’s hand, who was miles away visiting her grandparents. The blisters were on the same part of the same hand and were identical in size. Playfair’s study of twins concluded that only about 30 percent of identical twins are highly prone toward telepathic and telesomatic exchanges, and that these events occur most commonly during a crisis.

The famous twin studies at the University of Minnesota are often cited by skeptics as evidence that telesomatic and telepathic exchanges do not occur between twins. But Playfair showed that the Minnesota researchers found no telepathy in twins for good reasons: they did not test for it, and they were looking in the wrong place.

Professor Ian Stevenson, a founder of the Society for Scientific Exploration who is best known for his investigations of children who remember past lives, was also interested in “telepathic impressions,” his term for Schwarz’s “telesomatic” events. In his classic book, *Telepathic Impressions: A Review of 35 New Cases* (1970), Stevenson reported that telepathic impressions/telesomatic events usually take place between individuals who are emotionally close, and that the events usually center on situations involving physical danger, crisis, illness, or impending death. He suggested that these experiences might convey a survival advantage to those experiencing them.

David Lorimer, a founder of the U.K.’s Scientific and Medical Network, reports several typical cases in his book *Whole in One* (1990). Lorimer makes a case for what he calls “empathic resonance,” which he believes links individuals across space and time.

Telesomatic events may be prefigured in recent evidence demonstrating non-local communication between isolated and shielded human neurons; correlated EEG and fMRI patterns between distant individuals; and correlations in emotions and behaviors between distant strangers.

# Do Tables Tilt, Turn, and Float? Table Levitation Phenomena, 1850–2010

Walter Meyer zu Erpen

Since 1848, scientists have investigated the possibility that human beings (individually or collectively) can cause objects to move at a distance through some inexplicable ability, often referred to as psychokinesis (PK). With the advent of the modern Spiritualist movement, table-tilting as an alleged means of communication with the spirit world spread rapidly. While some Spiritualists believe that surviving spirits directly cause objects to move, others believe that spirits somehow draw upon the “energy” contributed by the séance participants in order to communicate.

While science cannot accept either Spiritualist explanation, most scientists who undertake first-hand investigation conclude that séance-room table movements are not produced through normal physical means. Investigation of these phenomena falls within the realm of “Unsettled Science” because there is no consensus about their causation, despite numerous attestations as to their reality.

Can table movements be explained by the vague concept of unconscious muscular action (UMA) that Michael Faraday (1791–1867) proposed to dismiss them in the 1850s? William Jackson Crawford (1880–1920) and other scientists continued to investigate and reported inexplicable forces, including complete levitation of heavy tables. In the 1920s, Canadian medical doctor T. Glen Hamilton (1873–1935) conducted séance room experiments that resulted in the best photographic collection of non-contact table levitations, worldwide.

If UMA cannot explain all table movements, might they be a mind-over-matter effect? To understand the psychological factors in the manifestation of PK, clinical psychologist Kenneth Batchelor (1921–1988) began conducting experiments with his students in the 1960s. Using infrared flash photography, in complete darkness, one photo shows the table tilted with the added weight of a student seated on it.

In the 1970s, Iris Owen (1916–2009) and A.R.G. (George) Owen (1919–2003) (early SSE members) discovered Batchelor’s work on the important role of “witness inhibition” and “ownership resistance” regarding paranormal events. Working with the Toronto Society for Psychical Research, the Owens filmed good table movements in full light. The group addressed the inhibiting psychological factors through creation of “Philip”, an imaginary ghost.

In 1991, the presenter began an historical study of T. G. Hamilton’s Winnipeg experiments and soon met the Owens. From 1998–2010, in a Spiritualist home circle, Walter observed strong psychokinetic table movements, including lifting, rocking, and pivoting of a sturdy table. In collaboration with Iris Owen, the Victoria-based group was featured in the documentary “Conjuring Philip” (2007).

With historical photographs and video clips of the Victoria group’s table moving in good light, Walter will argue that the phenomena are genuine. Can you help explain them?

# Can Practice Effects Extend Backwards in Time? An Overview of Seven Years of Experimentation

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Sponsored by Robert Jahn

Despite a significant amount of research on the topic of precognition, and the recent publication of significant findings across nine experiments in a top-tier mainstream journal (Bem, 2011), there has yet to be an experimental paradigm that has convinced the scientific community at large that retrocausality can influence human behavior. In 2007, results from a basic two-phase precognition task with promising results were presented at the SSE conference in East Lansing. Since then, over 5000 subjects (from University of Michigan, University of California, Santa Barbara, and online participants from Amazon's Mechanical Turk) have participated in the *identical* precognition experiment, but in different task contexts in which attentional states were manipulated and measured.

Cumulative data suggest that these attentional variables may contribute to the range of effects that we have observed with this paradigm, and that systematically controlling for such factors may provide more conclusive evidence. Additional confirmatory work with larger sample sizes is required, however, and currently underway, to examine this issue. Specifically, while the current prediction algorithm using these variables allows us to predict the outcome of random on-line roulette spins (black vs. red) for the UCSB and Mechanical Turk populations above chance (N = 5181, NBets = 1119, proportion bet on = 21%, Hit Rate = 56%), some of the earlier datasets were used to create the algorithm, so further confirmatory studies are needed to see how these results hold with subsequent real-time predictions. A summary of this systematic line of research along with the results from our latest confirmatory study will be provided.

Overall, we believe this particular paradigm has the potential to provide compelling evidence for precognition for the following reasons: (1) If a precognitive effect exists with this paradigm, then it can demonstrate tangible, real-world applications based on this effect (*i.e.*, the successful prediction of the spin of an online roulette wheel [black vs. red]); (2) Demonstration of a precognitive effect does not rely on an assumption of randomness of the presentation of the stimuli, so any observed effects cannot be attributed to conscious or unconscious sensitivities to stimulus order; (3) The use of novel stimuli that participants have not encountered before allow for the minimization of experimental 'noise' associated with differential familiarity; (4) The online version of the experiment allows for easy replication.

Bem, D. J. (2011). Feeling the Future: Experimental evidence for anomalous retroactive influences on cognition and affect. *Journal of Personality and Social Psychology*, 100, 407–425.

# Marginal Notes about a Popular Landform on Mars

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On all images of the popular landform located in the Cydonia region on Mars, one's eye notices the margins of the beveled slopes, which seem to form straight lines and circular arcs. This appears on the very first image of the mesa taken by Viking Orbiter 1 in 1976, as well as on all further images, such as those of Mars Global Surveyor taken in 1998 and 2001, as well as on the ones of Mars Reconnaissance Orbiter and Mars Express taken in 2006.

In 1986, a so-called "Independent Mars Investigation Group" was organized to study this mesa with respect to proportions, supporting structure, and expression. They came to the conclusion that the feature on Mars shows aspects of art and architecture. Concerning the platform supporting the mesa, artist James Channon, a member of that group, stated: "...we can still see four sets of parallel lines circumscribing four sloped areas of equal size. Having these — at right angles to each other — creates a symmetric geometric rectangle."

Marc Carlotto made a geometrical fit with two rectangles as inner and outer frame for the surrounding slopes using the image of 2001. He found a ratio of height to width of 4 to 3 for each rectangle; the outer rectangle area has twice the size of the inner one. He also made a fit of ellipses to the bottom and upper slope. An aspect ratio of 4 to 3 for the edges of rectangles means that they have a diagonal of length 5. This is a basic mathematical background, which Carl Friedrich Gauss suggested could be used as a sign in an interplanetary or interstellar message.

Instead of a simple mathematical background, we get a background of art and architecture, if we emphasize the factor 2 between the area sizes of the rectangles. This double/half ratio between the areas implies a ratio of square root 2 for comparison of both widths and both heights. Fixing this ratio also for the long and short sides in both rectangles, we get aspect ratios of 4 to 2.83, which is nearly 4 to 3 with a deviation of 6%. In this way the margins of the slopes match with parts of squares and circles. Those are archetypal symbols and form structures which we know as Mandalas. Mandalas have a basic meaning in Buddhist architecture, especially in India, and appear in this mesa.

A geometric figure based on a chessboard pattern is built from circular arcs and straight lines. It is scaled and orientated to the images by variation of the four coordinates of two points: the upper and the lower end of its central axis. A least square algorithm is applied between the pixel coordinates of virtual survey stakes at the edges of the slopes and the geometric figure, to compute the best fit. The results are impressive and may push both sides of the Cydonia Controversy to reconsider the evidence.

# Application of the Scientific Strong Inference Method to the UFO Technologically Advanced Being Agenda

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The purpose of this paper is to apply the rigorous scientific strong inference methodology to the possible motives and agenda of presumed technologically advanced beings (TABs) controlling UFO craft. The strong inference (SI) method concepts were initially formulated by Francis Bacon (1561–1626) and more formally developed by John R. Platt<sup>1</sup> (1964), William O'Donahue/Jeffrey A. Buchanan<sup>2</sup> (2001), and Don L. Jewett<sup>3</sup> (2005).

The SI method incorporates the following steps: 1) Clear statement of the problem or description of observed phenomena; 2) Generation of alternative hypotheses (causes); 3) Design of crucial experiments for each alternative hypothesis; 4) Conduction of designed experiments to obtain definitive results; 5) Elimination of hypotheses that have been refuted by experimental results; 6) Repetition of steps 2–5 above and the development of sub-hypotheses or sequential hypotheses to refine remaining possibilities; and 7) The hypothesis remaining after applying the above procedure is the most likely one.

A major challenge confronting the researcher evaluating UFO-related phenomena is the inability to design or conduct critical experiments aimed at refuting or supporting proposed explanatory hypotheses. Despite this limitation, application of the SI is possible utilizing available and acknowledged data in the form of attributes or observations. This paper examines decision trees related to material reductionist vs. primary consciousness worldviews and UFO phenomena reality vs. non-reality. The basic assumptions made in this paper are that consciousness is primary, UFO phenomena are real, and that UFOs are under intelligent direction by technologically advanced beings (TABs).

The problem statement serving as the initiation point for the SI analysis is: What are the agenda and purpose of the earth UFO visitations by technologically advanced beings (TABs)? The two alternative hypotheses examined are: #1: All TABs have a benevolent and altruistic motive to provide guidance and aid humanity's moral, spiritual, and material development; or #2: The motivation of at least some TABs is exploitive with regards to the earth's natural resources, including minerals, flora, fauna, and human beings. This agenda and purpose are essentially equivalent to those of the European explorers colonizing Africa, and North and South America.

The SI method was applied to the two above hypotheses using "data" in the form of generally acknowledged UFO phenomena, a partial list of which includes the furtive behavior of UFOs, earth government UFO secrecy, positive abductee experiences, non-consensual abductee experiences, men-in-black visitations, cattle mutilations, and human mutilations. The application of the SI analysis eliminated hypothesis #1 based upon refuting data and gives support to surviving hypothesis #2. The implications of the results from the SI analysis are discussed with regards to possible manipulation of humanity's "mental environment" by exploitive TABs.

1) "Strong influence: Certain systematic methods of scientific thinking may produce much more rapid progress than others." John R. Platt, *Science* 16 October 1964, Volume 146, Number 3642.

2) "The weaknesses of strong inference." William O'Donohue, Jeffrey A. Buchanan, *Behavior and Philosophy*, 29, 1–20 (2001).

3) "What's wrong with single hypotheses? Why it is time for Strong-Inference-PLUS." Don L. Jewett, *Scientist*, 2005 November 7; 19(21): 10.

# The Infrared PK Effect: History, Prospects, and Physiological Aspects

Julian Isaacs and Francis Lionnet  
IRPK Project

The infrared PK (IRPK) effect was discovered fortuitously in Paris in 1930 by Dr. Eugene Osty and his son Marcel. They were studying the medium Rudi Schneider's telekinetic effects and created a PK target system whereby flash photographs would be automatically triggered if a handkerchief were levitated from a small table and interrupted an infrared beam positioned above it. In early séances the flash was triggered several times just as the medium announced that the "power" would move the handkerchief. The resulting photographs showed no handkerchief movement, however, nor was the medium revealed cheating. The Ostys then monitored the output of the infrared photocell receiver and discovered that partial occultations of the beam were occurring in response to Schneider's efforts. They explored this effect over the course of 77 séances from 1930 to late 1931. They were the first parapsychologists to utilize automatic continuous multi-channel chart recording for detecting and recording PK effects. They also discovered a curious relationship between the breathing rate of the medium and oscillations in the depth of absorption of infrared, which appeared to synchronize. A summary of the Ostys' findings was presented to the (UK) Society for Psychical Research by Osty in the form of the 1933 Myers Memorial Lecture that was published by the SPR the same year.

In the 1930s, the IRPK effect was successfully replicated with the same medium by three independent European groups. Each obtained infrared beam occultations under apparently well-controlled conditions. Anita Gregory reported IRPK events in her replication performed in London during 1978, under fully illuminated conditions with multiple observers, using Matthew Manning as PK agent. The history of this field will be reviewed in our presentation, as will the current IRPK research project and its initial results as achieved by June 2013.

IRPK appears highly promising as a tool for exploring the physics of macro-PK. The signal-to-noise ratios exhibited by the Ostys' chart recordings of IRPK events are several orders of magnitude higher than those occurring in REG/RNG PK studies. The "invisible substance" seemingly discovered by the Ostys is a candidate for being the interface between quantum level PK and macroscopic PK effects. Obtaining an absorption spectrum of this mysterious quasi-gaseous substrate would be highly significant for physics modeling of the effect. The development of secure internet based IRPK target systems offering remote audio and visual feedback would appear to minimize the problem of subject fraud and readily permit subject screening and training. Use of internet-based feedback systems is also anticipated to permit long-distance and international research collaborations. The use of multi-channel DAQ systems will free the measurement, recording, and statistical analysis of results from the limitations of paper chart recordings.

Based in the San Francisco Bay Area, the IRPK Project is privately funded. It seeks to develop, establish, and disseminate methodologies and instrumentation for the exploration of IRPK. The project welcomes prospective collaborators.



# Six Evidentiary Revolutions in the Pre-Columbian Transoceanic Contact Controversy

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The long-smoldering dispute as to whether there were significant cultural interinfluences across the oceans during the millennia before 1492 has, during the past twenty years, benefitted from six revolutions in our knowledge and understanding of relevant phenomena.

(1) It has become increasingly clear that capable watercraft and way-finding skills go much farther back in human prehistory than thought only a couple of decades ago, with humans reaching some rather remote islands before the Last Glacial Maximum.

(2) The rise of molecular genetics has radically refined our ability to apply genetics to the reconstructing of past human movements, and certain genetic markers seem explicable only by early ocean crossings.

(3) The study of communicable diseases and archaeologically occurring human intestinal parasites previously believed to have been absent in the Americas has indicated astonishingly early transoceanic passages by humans.

(4) Whereas skeptics have long contended that no domesticate except the bottle gourd was shared between the two hemispheres before 1492, archaeological specimens, added to long-known cultural evidence, have recently come to show that dozens of domesticates that are unable to cross oceans on their own were found in both Old and New Worlds, some surprisingly early.

(5) American Indian languages, long believed unrelated to any Old World tongue, now appear, in certain cases, to be in the same phyla as certain Old World language families or to represent hybrids between an Old World tongue and a New World one.

(6) Comparative work on the calendar and the cosmological systems of Eurasia and the Americas, begun many decades ago, has now reached a degree of analysis that seems to demonstrate a close relationship among these systems.

Taken together, all this evidence appears to prove significant voyaging between the hemispheres, over several millennia.

# Extending Modern Science to Enable Anomalies Research

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The scientific exploration of the most challenging anomalies confronting SSE is confronted with a serious impasse, namely, that the scientific methodology we are required to employ for investigating them is disallowed by *the fundamental metaphysical assumptions* which underlie science and on which it is directly dependent for its success. Science's methodology must somehow be judiciously extended to transcend one or more of these limiting assumptions of objectivity, measurability, rationality, repeatability, and causality (mainly reductionism). Following a brief review of these limitations of modern science, we will examine how one or more or more of them might be circumvented or modified in order to enable a significant extension.

Two opportunities emerge. First, an alternative way of generating new knowledge and understanding, called "innate knowing" or "intuition," is resurrected from its extensive pre-scientific usage, and its current status as a scientific "taboo," and enlisted in the form of a systematic approach for *discovering* entirely new knowledge. Four examples of applying intuition to significant scientific problems are described, and these demonstrate clearly the validity, accuracy, breadth of use, and future potential of this novel approach. Other examples are encouraging despite the lack of verification.

The second opportunity derives from on-going changes in the means employed for *validating* scientific findings. These means are nowadays leaning less on science itself and more on independent public assessment, largely as a consequence of today's better-informed public. Examples are given. As science's privileged role as society's accepted arbiter of collective truth gradually weakens, the doorway opens for an extended science to supply badly needed solutions to many outstanding human-related problems, both individual and societal. This trend may be encouraged and deliberately accelerated to allow the new discoveries to become publicly and more promptly accepted and applied, thereby bypassing science's conventional and slow means of validation.

## Subtle Energy's Effect on Physical Performance in Stressful Situations

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Reinis Svarcbahs<sup>2</sup>, Baiba Jansone<sup>2</sup>

Supporting the living organism's whole system is important when treating any disease. The aim of our experiment was to see if subtle energy can be used for this purpose.

We studied the subtle energy pattern "Peak Performance" created by Vital Force Technology, in the following behavioral tests with mice: Porsolt and Open Field tests. We used i.p. administration of Peak Performance (PP) energy pattern infused in trace minerals, and tested mice in acute and chronic situations.

Preliminary results indicate that PP has anxiolytic effect in acute studies, which was demonstrated by a 36% increase of number of entrances into the central zone of arena and 84% increase in the distance walked in the central zone.

In chronic studies PP induces antidepressant and psycho-stimulating effects in mice demonstrated by the increased total distance swam and fast movements (by 32% and 110%, respectively), and 42% decreased immobilization time in Porsolt test.

Results indicated that subtle energy patterns can be studied in behavioral models *in vivo* and could provide an alternative way to efficiently support the whole body system, at the same time decreasing the effects of stress on the organism.

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# Evidence for a Psi Receptor in the Brain

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From multiple experiments we know that psi interactions can occur over large distances, so large that they preclude the transmission of any electromagnetic signals because of the substantial transmission power that would be required. Attempts to block psi interactions by use of Faraday cages (which block mid- to high-frequency electromagnetic waves) or any other means have not been successful — the interaction gets through. It is almost certain that that the transmission is not electromagnetic.

Quantum entanglement has been proposed as a mechanism for psi interactions, but at this point it is speculative. The physics of quantum entanglement as currently understood dictates that only correlations, not information, can be conveyed, and the evidence is substantial that psi does convey real information. If quantum entanglement does turn out to be involved, we are still left with the question as to how the signal it conveys produces an effect on the brain. What is the psi receptor in the brain?

A hint about the nature of psi interactions comes from the magnitude of the observed effects. Micro-psi interactions, including ESP and micro-psychokinesis, are always subtle. They occur below the level of the noise (*i.e.*, random fluctuations) in whatever system is involved. Logically, there can be no psi in a deterministic system, because some degree of randomness is required for the psi to operate on. Noise is required and the “signal” cannot exceed the noise.

Another hint comes from experiments in which human subjects affect the output of electronic random number generators (RNGs) using intention. The state of the random number generator at each moment in most RNGs is determined by electronic noise. That is, the psi interaction is received by the RNG in the form of structure in the noise.

If there were neural structures that used noise to produce neural signals then, in analogy with the RNGs, they could serve at the receivers of psi. In fact, there are neural noise sources. Over the last few years, noise generation has been observed in the nervous system, both in individual neurons and in neural systems.

In the research literature the purpose for this noise has been relegated to stochastic resonance, a process by which a sub-threshold signal becomes measurable with the addition of noise. Even if the assertion is correct that these noise generators provide for stochastic resonance, they may have another purpose as well. Biological systems often make use of internal structures and processes for multiple purposes, so these neural noise sources may provide both stochastic resonance and also the means to channel psi information into our brains. Neural noise sources may well function as psi receptors.

# Magnetic Field Changes during Energy Healing: Real or Artifact?

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Energy healing therapies, such as Reiki, hands-on healing, Healing Touch, and pranic healing, are thought to involve some sort of putative energy transfer between healer and client and/or a balancing of the client's energy biofield. It is not presently understood how "energy healing" works.

There have been reports of magnetic field changes during energy healing. In the present study, we record low-frequency (0–40 Hz) magnetic field (MF) activity within three feet of healer-client pairs during 26 Healing Touch (HT) sessions using a Hall-type magnetometer. The magnetic field oscillations during Healing Touch energy healing were significantly greater in amplitude than oscillations observed during control experiments involving clients only (listening to a relaxation CD) or healers only (performing sham HT over an empty massage table). The highest MF amplitude changes during Healing Touch were observed in sessions where (1) the client presented with an emotional complaint (e.g., stress, grief, anxiety), (2) the client experienced energy healing for the first time, and/or (3) the healer detected a density or densities in the client's biofield. The sham HT control experiments were important because low-frequency magnetometers have been reported to be sensitive to vibration (for example, the movement of healers in the room or traffic outside the treatment room).

In an additional series of experiments, vibration-dampening materials, such as neoprene and C-1002, were placed under the magnetometers to determine whether the vibration artifact could be reduced. Another methodological issue was the MF oscillations observed when the magnetometer was first turned on, which faded out in the first 30 minutes of recording, and which appeared to be an experimenter effect. Similar MF oscillations were observed with a fluxgate-type magnetometer.

Our results suggest that MF measurements of energy healing may be feasible, but must be adequately controlled.

# I Am a Materialist and So Are You

P. D. Moncrief

*Journal of Scientific Exploration*, Book Review Editor

This provocative (at least for this conference) title is meant to bring attention to our cognition, and what concepts and explanations of phenomena bring an experience of Understanding.

While most scientists appear to make the unwarranted assumption that our ability to understand all of reality is unlimited, the opposite assumption is made here: that our ability to understand reality is limited. Some examples supporting this alternate assumption will be attempted.

If this alternate assumption is entertained, the need arises to investigate our cognitive system, investigate what explanations produce for us the wonderful experience of Understanding. And then, can we find phenomena that are, in principle, outside our ability to understand; that is, beyond our cognitive abilities to grasp.

As a start it is proposed that Aristotle's Four Causes will be presented as actually a survey of four types of theories available to us, to our cognitive system. (Thanks to Joseph Rychlak for originally tweaking the Causes into possible theories.)

And that only the first two, Material + Efficient (or matter + force, *i.e.*, mechanical Explanation) produce theories that humans can fully understand. We tend to reduce everything to this, even if we deny that. (By the way, I'm a Reductionist, too.) The last two Causes, or types of theories, amount for the most part as mere descriptions, or are resorted to when no physical explanation seems available.

But to further complicate things, some have speculated in what they see as the uncanny possibility that these two, Formal and Teleological Causes of Aristotle have a reality in their own right ... beyond description or beyond a lack of a mechanical explanation.

There will be an attempt to further define and elaborate on Marcello Truzzi's distinction of two types of anomalous phenomena: "Para" and "Crypto." It will be suggested that some phenomena of established science might be labeled Para.

The goal of this talk is not so much to prove something but to start a much needed conversation and dialogue with the aim of examining our cognition and our assumptions, especially as relatable to how we handle and think about anomalies.

# The Three Rs of the EGG Project: Replication, Replication, Replication

Roger Nelson  
Global Consciousness Project

The EGG Project (aka GCP) records random data 24/7 from a world-spanning network of research grade physical random number generators. At each node, custom software collects one 200-bit trial per second and sends the data to Princeton, NJ, for archiving and eventual analysis. The result is a 15-year database of synchronized parallel sequences from independent, widely separated REGs. It is like a broad tapestry of randomly colored threads unrolling through time.

It takes a special attitude to regard this swath of unpredictable numbers as interesting, but we have discovered that the disorder is modulated sometimes by faint patterns or structure, and this poses extraordinary questions for physics and for psychology. The network was built to extend laboratory and field REG experiments, which show effects of individual and group consciousness, to a global scale. The EGG project asks whether REGs might respond to special states of mass consciousness: if millions of people think and feel the same thing, will there be a correlated shift in the random network data?

The short answer is yes. Terrible tragedies and great celebrations can be linked to small but ultimately significant changes in the network output. We find structure where there shouldn't be any, in the form of correlations between the widely separated, truly random devices. Over the years we have repeatedly asked whether the data show anomalous deviations during events like terrorist attacks, natural disasters, religious pilgrimages, political moments, and web-organized meditations.

This is a natural experiment with replications defined as selected moments in the ongoing history of the world. We study the data generated during those moments, and we've collected a database of more than 430 experiments in a conceptual replication series testing the hypothesis that *data recorded during deeply engaging events will diverge from random expectation*. Each test we conduct addresses this same proposition, but in widely varying contexts — we lump together 9/11, the Japanese tsunami, New Years, and the election of Barack Obama. Each test is rigorous, but the variety suggests to critics that the GCP hypothesis is vague. Here we consider what happens when we sharpen it.

A number of types of GCP events lend themselves to quite exact replication, at least as natural experiments go. I will show the results of some of these, which, although they don't comprise repeatedly dropping the same ball and feather, are at least all apples (or oranges). I believe these replication clusters help illuminate the GCP work, and touch on broader questions about the role of consciousness in the world.

In addition to the general categories (positive vs. negative, large vs. small, external vs. internal source) we can extract and analyze several sharply defined replication subsets. We have a dozen tests of the "Obama effect" which all show positive results — except for the two inaugurations! We have half a dozen cases looking at the "Pacquiao Effect" combining aspects of sports and politics. There are over 100 assessments of prayer and meditation events in service of peace and a brighter future. Bryan Williams recently re-examined that ethereal category, showing it replicates very well, with odds against chance of 2000 to 1.

The third R? An independent global REG network.

[www.scientificexploration.org](http://www.scientificexploration.org)

# Japanese Children with “Life-between-Life” Memories

Masayuki Ohkado, Chubu University

Akira Ikegawa, Ikegawa Clinic

Studies of children claiming to have “past life” memories have revealed that some of these children also claim to remember the “bardo” or “life-between-life” state. Although their number seems to be small if we only focus on those with “past life” memories [cf. Tucker (2005, 183–184)], the number appears to expand greatly if we also consider children without “past life” memories. We would like to report on some cases of Japanese children who claim to have “life-between-life” (or “before life”) memories.

The stories these children talk about share a number of features in common: (1) the place where they stayed before they were born is typically referred to as “the clouds” or “the sky”; (2) there is a god or god-like entity who instructs or guides them in the realm and also arranges the process of their birth; and (3) they were able to see their parents from the realm, and occasionally what they say they saw from the realm, e.g. their parents’ actions or behaviors, is verified by their parents. Some of them say they chose their parents, the mother in particular, on their own; others say they were chosen with the help of the god or the god-like entity. This occurs, the children state, because there is a purpose in life. Some of them have “past life” memories as well. Interestingly, whereas staying in a tree or shrine in the “life-between-life” state is commonly reported by Burmese children (Sharma and Tucker 2004, p. 108), none of the Japanese children made such statements.

The results of the present investigation reveal that the presence of “life-between-life” memories does not depend on the presence of “past life” memories. Thus, children with “past-life” memories will have to be viewed within larger contexts: There is a large group of children with “before-birth” memories, and children with “past-life” memories and those with “life-between-life” memories are subgroups of the large group intersecting with each other. The present paper also suggests that, since there are substantial differences between the statements made by Japanese children and those made by Burmese children, “life-between-life” memories, just like near-death experiences, are influenced by the subjects’ cultural background [cf. Kellehear (2009)]. We need to determine which parts of the “life-between-life” memories are common to all who report them, and which parts are culture-specific.

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# Pattern Changes in the UFO Phenomenon

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It has been difficult to make progress in understanding the UFO phenomenon, and even this is a bit of an understatement. UFO sightings continue, but the phenomenon remains elusive, offering little tangible to study beyond the witness accounts themselves.

This doesn't mean, though, that the *what*, *when*, and *where* of UFO reports have been constant throughout the modern era of UFO sightings. UFOs have perplexed us, in part, because they have not remained invariant but instead have shifted in unpredictable ways that we have sometimes been slow to grasp (as I will explain with my own and others' past reactions to these shifts).

Naturally, those not intimately familiar with the UFO evidence might first think of abduction reports as constituting something radical and new, and undeniably the rise (and fall?) of those reports was a sea change in the history of UFO investigation. But there are other changes that are just as far-reaching and even more critical in how they affect our efforts to study UFOs and how we think about the ultimate meaning of the phenomenon. These include changes in UFO waves; in close encounter cases, especially those with trace evidence; in the reported shapes and sizes of UFOs; and in the locations of sightings. None of these critical changes seem strongly related to witness characteristics or the chances for a sighting. It is difficult to quantify some of these, as very few comprehensive databases exist that allow for an unbiased review of the wide range of reports across time and space, but I will discuss statistics when available, and otherwise report on general trends as noted by expert and veteran UFO researchers.

There may be little to conclude except our puzzlement, but I will offer some thoughts about what all this means, and even what it might portend for the future of the UFO phenomenon.

# Two Dogmas of Materialism: Toward a Quantum Field theory of the Psychic Field

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Materialism, as a philosophy of mind, is the thesis that consciousness and mind are entirely dependent on the brain, that they could not exist without the brain and, in its strongest form, that consciousness and mind are held to be reducible to the brain and its electro-chemical processes. But even many of its most steadfast proponents acknowledge that materialism cannot account for the fact of consciousness and that it involves extremely unpalatable consequences for our sense of autonomy and moral responsibility. Moreover close analysis shows that the cognitive dissonance inherent in materialism makes it virtually untenable as a coherent theory of mind. How then should we account for its resilience as the default mainstream theory in contemporary neuroscience, cognitive psychology, and the philosophy of mind?

This resilience stems from the seeming plausibility of two central dogmas. First, that impairment to critical brain regions causes a degradation of corresponding cognitive function and that this proves that mind is dependent on the brain. And second, the physical domain is presumed to be causally closed, which is taken to imply that mind is either reducible to the brain or else epiphenomenal and irrelevant. I propose to show that neither of these dogmas stands up to critical scrutiny. And the result of this scrutiny can help delineate the outlines of a transmission model of the mind/brain interaction, in terms of quantum field theory.

René Descartes famously introduced a radical demarcation between mind (incorporating consciousness as well as the religious and moral dimensions of soul) on the one hand and matter on the other. From one perspective, this radical demarcation made sense because the mechanistic physics Descartes was pioneering had dramatically different constraints than the autonomy intrinsic to mind. But from another perspective this radical demarcation appears to be untenable. Even Descartes' contemporaries objected that if mind and matter were such radically different substances, how could they interact? In a charming and famous exchange of letters with Descartes, the Princess Elizabeth of Bohemia made precisely this point. Although Descartes did not have a good answer, we will explore an approach afforded by quantum field theory that answers Princess Elizabeth's challenge.

The interaction between mind and matter calls for an explanation in terms of physics, an explanation which accounts for the interchange of psychic energy and the electro-chemical energy involved in the neural firing mechanisms in brain circuitry. Unfortunately, contemporary philosophy of mind has been mired in the mechanistic assumptions inherent in classical physics and accordingly has seen no viable way for mind, as something distinct and independent, to interact with the brain. Increasingly, however, there is an awareness that advanced physics may provide a basis for investigating more subtle realms of existence, supporting cognition and consciousness.

# Big Data: The Myth of Independent Variables

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The scale of data production, storage, and processing is increasing rapidly. On a global scale, data production rates have been estimated at 5 exabytes every 48 hours. This is equivalent to the amount of data created over the entire course of human history leading up to the 21st century. Big Data is a popular term used to describe the exponential growth, availability, and use of large datasets and sources of streaming information.

It is increasingly recognized that Big Data provides not only quantitative improvements in resolving subtle correlations between variables, but it also challenges fundamental assumptions about the nature of independent variables and the distinction between signal and noise. In the simplest formulation, as the size of datasets increases, increasingly more subtle correlations between variables can be detected, so that in the limit of very large data, it might be expected that all variables are found to have associations. Hence, the concept of independent variables and controlled experiments, which are postulates of the scientific method, are better seen as limiting approximations, holding more or less under a narrow range of conditions.

This perspective permits a simple and general explanation for anomalous observations: variables that have been assumed to be independent are actually not, and subtle correlations exist everywhere and all the time. On occasion, for reasons that are still unknown, subtle correlations can be amplified to macroscopic dimensions where they are detected as anomalous casual events.

Here, I present an overview of several theoretical approaches developed in complex systems theory that demonstrate novel kinds of associations that might be found in Big Data. I also provide examples of Big Data from microarray studies and semantic networks built from text-mining biomedical literature. These insights suggest how experimental systems producing large data outputs (REGs or microarrays) may be used as sensitive detectors for the subtle correlations usually interpreted as psi phenomena.

# Anomalous High-Amplitude Photon Bursts Replicated during Detection Research with Specific Hypothesized Spirits

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Previous research in the Laboratory for Advances in Consciousness and Health at the University of Arizona has observed replicated effects of hypothesized spirit presence on measures of photon activity using a Sensl silicon photomultiplier system (Schwartz, *EXPLORE* 2010) and Princeton low light cooled CCD camera system (Schwartz, *EXPLORE* 2011). In addition to obtaining significant main effects of hypothesized spirit presence versus matched baseline control trials, we have observed replicated individual difference effects between hypothesized spirits (for ease of communication, from herein hypothesized spirits will simply be called spirits).

In Schwartz (2010) using the silicon photomultiplier, two spirits (called Sophia and Harry) produced reliably larger magnitude effects on photon bursts compared to matched baseline control trials than two other spirits (called Susy and Marcia). In a follow-up series of experiments using the silicon photomultiplier focusing on Harry (Schwartz, submitted for publication), replicable large magnitude effects on photon bursts were again observed. In Schwartz (2011) using the low light CCD camera, Sophia and Susy were re-tested using a completely computer automated system (*i.e.* no experimenters were present when the data were collected). In two separate experiments, Sophia produced significantly and substantially larger magnitude photon effects than Susy.

In the present experiment, eight different spirits were given the opportunity to be individually tested using a Hamamatsu photomultiplier tube with a Fluke frequency counter and Timeview 2.1 software running on a PC. The photomultiplier tube was housed in a completely dark Faraday-shielded subject room; the frequency counter and PC were in a separate room. The experiment was conducted at the California Institute of Human Sciences; the data were collected by Dr. Gaetan Chevalier and witnessed by Schwartz. Included in the sample were Sophia, Harry, Susy, and Marcia; baseline control trials were collected as well. Once again, Sophia and Harry produced larger magnitude photon bursts than Susy and Marcia. Also, Sophia showed a particularly high anomalous value (larger than any that Chevalier had seen in two years using the equipment).

Based on certain characteristics observed in Sophia, we predicted that a spirit called Gabriel might produce similar high values; this prediction was confirmed. In a final set of observations involving the measurement of high frequency photon activity at the University of Arizona using a Vernier radiation detector, Sophia again produced particularly high anomalous values. The importance of carefully considering individual differences in hypothesized spirit presence research is discussed.

Schwartz, Gary E. (2010). "Possible application of silicon photomultiplier technology to detect the presence of spirit and intention: Three proof-of-concept experiments." *EXPLORE: The Journal of Science and Healing* 6.3 166–171.

Schwartz, Gary E. (2011). "Photonic measurements of apparent presence of spirit using a computer automated system." *EXPLORE: The Journal of Science and Healing*, 7.2 100–109.

# Military and Intelligence-Sponsored UFO Research: Was Science on the Agenda?

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To understand the behavior of the Intelligence Community towards the UFO Mystery, one needs to begin by casting off “civilian naiveté” and recognizing that the job of that community is not “science” but the maintenance of “national security” in all of its dimensions. If “science” becomes a useful tool in achieving that outcome, then it is welcome. If not, it is not. If Truth becomes a useful tool in achieving that outcome, it is welcome. If not, it is not.

This presentation will skim across the uneasy “dance” that took place between the military and science as the Air Force attempted to cope with a variety of problems being caused both within the services and the civilian arena. The Fear that Soviet activity might somehow be involved colored every early decision.

The presentation will touch on the 1947–48 activities at Wright-Patterson AFB, Project Twinkle’s “year,” the General Samford/Edward Ruppelt era of late 1951 through early 1953, the CIA fiasco and the Beacon Hill concern, the long incompetent and uncoordinated interlude from the mid-1950s to the mid-1960s, and will complete with a few remarks about the Colorado Project.

“Science” was not absent from these investigations, but it may as well have been.

# Holography and Universal Manifestation: Quantum Physics and the Yogic Science of Kashmir Shaivism

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The concept of a “holographic” universe as described by contemporary physicists such as Beckenstein, Susskind, and Maldacena is mirrored in the science of an Eastern yoga tradition, Kashmir Shaivism. There exist a number of striking similarities inherent in both formulations of the process of the manifestation of the universe in which we live. Among these are the notions of dimensionality, perspective, and information processing. This area of physics posits that two versions of reality exist. One is a two-dimensional version on a mirror-like surface at the edge of the universe that “contains” everything in our universe. The other is the three-dimensional version of the “normal world,” and discernable universe, here on earth.

Which is the real one? It depends upon ones perspective. From that “edge of the universe” perspective, the universe is indeed “2D.” But from our perspective, the earth and universe have a “3D” reality. The information depicted on that “2D” version “out there” contains all that is necessary to create the “3D” version “down here.” How that might be possible is an area of inquiry upon which Kashmir Shaivism sheds some light.

Kashmir Shaivism describes universal manifestation in similar ways. The level of manifestation wherein everything is held in a potential state is often described with mirror analogies. Whereas manifestation from the perspective of a human being is different from the nature of manifestation from the potential or “higher perspective.” And the nature of manifested reality is described in its essence as an incredibly complete and elegant information system. It is so impressive that studying it prompted a contemporary artificial intelligence (AI) researcher to describe AI as “reinventing a wheel millennia old.”

Such similarities and parallels indicate the possibility that a knowledge of the yoga traditions, and in this case, Kashmir Shaivism, could play an important role in promoting the advancement of scientific knowledge. Perhaps a focus on “translating” between the seemingly disparate entities could show us that there is all too often the “reinvention” of wheels that are millennia old. An acceleration of the acquisition of critically important knowledge, through the bridging of the ancient and modern, the scientific and the spiritual, in essence, the East and the West, could result in more and faster progress for humankind than might ever have been imagined.