

SOCIETY FOR SCIENTIFIC EXPLORATION

26th Annual SSE Meeting

**May 30 - June 2 2007
East Lansing, Michigan**

**Local Arrangements:
Mark Urban-Lurain**

**Program Committee:
Roger Nelson, Chair, Mark Urban-Lurain,
Carl Medwedeff, Ed Sarath,**

SOCIETY FOR SCIENTIFIC EXPLORATION

26th Annual SSE Meeting

May 30 - June 2 2007

East Lansing, Michigan

PROGRAM

WEDNESDAY EVENING, MAY 30

18:00 OPENING RECEPTION and Registration

THURSDAY MORNING, MAY 31 (Registration, 08:30)

09:00 WELCOME, *Kim Wilcox*, MSU Provost

CONSCIOUSNESS FIELDS

09:20 *Barbara Marx Hubbard*, A New Evolutionary Synthesis to Unlock the Potential of Humanity: A New World View

10:00 *Robert Jahn & Brenda Dunne*, PEAR: Past, Present, and Projected

10:20 *Bryan J. Williams*, The Albuquerque 300 Experiment: Field RNG Analysis of the Albuquerque Tricentennial

10:40 BREAK

11:00 *John Hagelin*, The Non-Local Mind: The Effects of Group Meditation on Crime, Terrorism and International Conflict

11:40 *Richard Shoup*, Consciousness, Physics, and Computer Science

12:00 *Courtney Brown*, Quantum Mechanical Interpretation of Collective Consciousness

12:20 LUNCH BREAK

THURSDAY AFTERNOON

EMPIRICAL CONSCIOUSNESS RESEARCH

14:20 *Peter Bancel & Roger Nelson*, Convergent Empirical Evidence for Global Consciousness

15:00 *Garret Moddel & Kevin Walsh*, A Very Simple Test for Psi

15:20 *York Dobyms*, Distribution of Effects in Operator Populations: How Widespread are Anomalous Abilities?

15:40 BREAK

16:00 POSTER SESSION (poster room)

Tom Dykstra, Can Dielectric Antenna Theory Help Explain Insect Olfaction?

Ion Lisii, Special Abilities "Bottling" Art (a 20-minute film)

John Valentino, Psyleron: Overview of a New Effort in Direct Mind Matter Interaction

Stoyan Sarg, Motion Via a New Propulsion Mechanism (a table top demonstration)

Roger Nelson, Glimpses of Global Mind (a 15-minute auto slide show)

17:20 YOUNG INVESTIGATORS MEETING

THURSDAY EVENING

20:00 Free Discussion: Can we integrate consciousness & physics in scientific models?

Panel: Presenters

21:00 Film by *Barbara Marx Hubbard*, "Humanity Ascending" (40-minutes, poster room)

FRIDAY MORNING, JUNE 1

09:00 ANNOUNCEMENTS

ALTERNATIVE MEDICINE AND BIOLOGY

09:10 *Glen Rein*, A New In-Vitro Bio-Assay for Measuring Quantum Effects of Subtle Energies at the Molecular Level

09:50 *Thomas M. Dykstra*, Insects and Sick Plants

10:10 *Margaret Moga and William F. Bengston*, The possible importance of frequency and duration of treatment in bioenergy healing

10:30 BREAK

PROGRAM, Continued

10:50 *Beverly Rubik*, Polyinterference Photography, Aura Diagnostics

11:30 *Jean Ratte*, Vascular Semantic Resonance and Embryo-logics

11:50 *Maria Sylдона*, A Western Key to Qi: DC Electrodermal Potential Signals As Indicators of the Presence and Movement of Qi

12:10 LUNCH BREAK

FRIDAY AFTERNOON

PHYSICS: PUSHING THE BOUNDARIES

14:10 *Daniel Sheehan*, Experimental Challenges to the Second Law of Thermodynamics

14:50 *James Beichler*, The Paraphysical Consequences of 4-D Space

15:10 *Stoyan Sarg*, Unified Theory Based on an Alternative Space Concept: Prediction for a New Propulsion Mechanism and Experimental Results

15:30 BREAK

15:50 *David Thomson*, Electron Binding Energy Equation In the Aether Physics Model

16:10 *Ian McCausland*, A Logical Study of a Scientific Controversy

16:30 FREE TIME for "hallway conversations" or a walk in the park

FRIDAY EVENING

20:00 Free Discussion: Orthogonal thinking: Creativity in physics, medicine, and biology

Panel: Presenters

SATURDAY MORNING, JUNE 2

08:50 ANNOUNCEMENTS

PROGRESS IN ANOMALIES RESEARCH

09:00 *Simeon Hein*, Anomalous Energies and Balls of Light in Crop Circles: Photonic Refraction, Spontaneous Crystallinity, and Quasi-Particles

09:40 *Mark Rodeghier*, UFO Research: Where are We Now?

10:20 BREAK

10:40 *Dale E. Graff*, Dreaming the Future News: Evidence for an Adaptive Pattern Recognition Process

11:00 *William Roll*, Consciousness, Psi, and the Two Brains

11:20 *Henry H. Bauer*, The Coming End of the HIV/AIDS Paradigm

11:40 LUNCH BREAK

SATURDAY AFTERNOON

PHILOSOPHICAL PERSPECTIVES AND PROSPECTS

13:40 *Shannon Foskett*, Towards A Creative Image of Science: Gilles Deleuze and the Necessity of Nomad Science

14:00 *Mark Urban-Lurain*, An Anthropological Perspective on Skepticism and Anomalous Studies

14:20 *Imants Baruss*, Science as Spiritual Practice

14:40 *Ed Sarath*, Deep Inquiry: Laying conceptual groundwork for paradigmatic change

15:00 BREAK

15:20 BUSINESS MEETING

SATURDAY EVENING

17:00 RIVER CRUISE AND BANQUET

19:10 *Garret Moddel*, Cultivating the SSE for the 21st Century

19:30 Banquet Concert: **Sarath and Friends, Smooth River Jazz**

Convergent Empirical Evidence for Global Consciousness

Peter Bancel & Roger Nelson

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The Global Consciousness Project is a long term collaborative effort whose purpose is to study correlations between collective human conscious activity and the physical environment. The project hypothesis states that the collective attention of many people at the time of important world events will correlate with deviations from expected behavior in random physical processes. The project maintains a world-wide network of true random number generators (RNGs) whose output is recorded continuously in an archival database. Data collected during pre-selected periods defining global events are examined to test the hypothesis. Since 1998, this formal procedure has been applied to 226 world events. The cumulative score of these replications currently attains a significance of over 4.5 standard deviations.

Additional statistical measures have been developed and applied uniformly to the data, and they provide further evidence of departures from expectation. These independent indications of structure are compared with the overall distribution characteristics, which show the unselected data to be fully in conformance with random expectation. The mean effect size of the deviations during pre-specified global events is small, equivalent to 0.3 standard deviations, but the correlation is persistent and cumulative over the replication database.

This highly significant composite result suggests that the random data do indeed contain structure correlated with events of importance to humans. In this paper we present an analysis of the event data and study the structural character of the measured deviations. We ask a number of basic questions: are geographical inter-RNG correlations responsible for the effect? Do the data show other anomalies not probed in the formal experiment? Is there a distance scale to the effect? A time scale? Does the character of the event have an impact on the effect size? We will answer all of these questions in the affirmative and discuss future directions and challenges for this research.

Science as a Spiritual Practice

Imants Baruss

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What happens when scientists are beset with existential questions, such as "What is the meaning of life?" or "How can I transcend the restrictions of ordinary consciousness?" Practical answers to such questions have traditionally primarily been sought within the realm of religion. But religious dogma and practices (such as the necessity of making oneself believe something that is patently false) are so inherently unpalatable to many scientists that they studiously avoid anything having to do with religion. What, then, are they to do?

One possible resolution of existential issues is the recognition that solutions may require psychological self-transformation enabling appropriate latent noetic faculties to become activated. Traditionally such self-transformation has been enabled by various spiritual practices. The hypothesis in this paper is that science itself can function as a spiritual practice. Scientists who become interested in existential issues and self-transformation need not set aside science and become beginners at some other activity, but can reorient their scientific activity in such a way as to have soteriological effects.

Franklin Wolff, arguably America's most accomplished mystic, maintained that the transcendent states of consciousness that he experienced, in which existential issues were resolved, resulted from his practice of mathematical yoga. For Wolff, the type of abstract thinking in which one engages when doing pure mathematics, has some of the properties of transcendent modes of cognition. Thus, the step from thinking about mathematical constructions to activation of transcendent knowledge is not that great. And, indeed, Wolff maintained that, with the notion of mathematical yoga, he was identifying a new type of spiritual practice appropriate for the scientifically-oriented Western mind.

But mathematicians are not, generally, more enlightened than other academics, although no empirical studies have been done to examine how mathematicians think or to look at the extent to which spontaneous transcendent events have occurred for them. Wolff himself has proposed two ingredients of mathematical yoga in addition to mathematical thinking, namely, a philosophical approach, and a self-giving attitude. But there may be others. Wolff himself used a meditation technique whereby he was able to reorient his consciousness from the objects of thought to the subject for whom the thoughts occurred. What does it take for scientific activity to have transformative effects? Some of the possibilities and problems of using science as a spiritual practice for the resolution of existential issues are discussed in this paper.

The Coming End of the HIV/AIDS Paradigm

Henry H. Bauer

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The paradigm that HIV causes AIDS has held official sway for a quarter century; but recent events may presage the demise of that dogma.

- Some who have worked within the mainstream have exposed cracks in the paradigm. A mathematician, Rebecca Culshaw, had modeled immunological aspects of HIV; she came to realize that the official view does not work. In a technical article published late in 2006, she presented a model of immune-system characteristics compatible with the views of the Perth Group of dissidents who assert that “HIV-positive” indicates oxidative physiological stress, not retroviral infection. Her book, *Science Sold Out: Does HIV Really Cause AIDS?*, appeared in 2007.
James Chin had been State Epidemiologist in California when AIDS first appeared; later he tracked HIV and AIDS epidemics for the World Health Organization. In 2007 he published *The AIDS Pandemic: The Collision of Epidemiology with Political Correctness*, which asserts the fallacy of one mainstay of the official dogma, namely, that everyone is at risk of contracting HIV (a point made much earlier by the British epidemiologist Gordon Stewart, who successfully predicted the course of AIDS by recognizing that it would always remain within the original high-risk groups.)
- The mainstream-media boycott against raising questions about the HIV/AIDS paradigm was broken by *Harper's Magazine* in March 2006 with an article by Celia Farber. Later in 2006, a collection of Farber's journalism, covering opposition to the HIV/AIDS paradigm, was published in book form (*Serious Adverse Events*).
- In South Australia, a man appealed his conviction for endangering his female sexual partners because he is HIV positive. The appeal is based on arguments long made by the Perth Group of dissidents. The prosecution questioned whether the Perth Group qualified for expert status. In the Supreme Court in South Australia, leading Australian proponents of the mainstream testified, as also did (by video connection) Robert Gallo, the Grand Old Man of “HIV causes AIDS”. Gallo and the other mainstream exponents did rather badly under cross examination.
- Leading proponents of the official view had steadfastly refused for two decades to address the dissenters' arguments, they had simply ignored them. Now they are finding it impossible to sustain this stance. Responses to Farber's article in *Harper's* were limited by strictures on the length of such letters, so prominent supporters of the official view posted a lengthy reply on the Internet. They also set up a website specifically to press their viewpoints and respond to dissident claims. They wrote to the BBC, demanding removal from its website of any mention of a 2004 program about the use of foster children as guinea pigs in trials of antiretroviral drugs. The heat is beginning to be felt.

It seems likely that people now living will be able to savor the fascinating spectacle of a mainstream floundering to cope with collapse of the HIV/AIDS paradigm, which over the years had enlisted vast vested interests throughout society.

The Paraphysical Consequences of 4-D Space

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The reality of a four-dimensional space is now being established in science, but the consequences of developing a space-time model based upon this reality are still open to question. At the far end of the spectrum of phenomena that can be explained by this new reality, we have a very simple guiding principle: Our five normal senses evolved within the material context of a three-dimensional space. However, space is actually four dimensional, so we should also have evolved or are presently evolving a sixth sense through which our minds interact directly. This sixth sense is, in fact, the same sixth sense that people have claimed to possess for many long years. In other words, what we now consider paranormal phenomena such as ESP and PK are perfectly natural phenomena that can be fully explained given the reality of this new higher dimension of space. The existence of the fourth dimension also opens the possibility of understanding and explaining the survival of consciousness after the material body dies and life ends by providing a model for consciousness and mind as separate but integral parts of the human state of being. The single field that occupies the fourth dimension of space could also be characterized as the universal medium of quantum entanglement. Therefore, entanglement between different minds operates across or through the fourth dimension of space.

Toward A Quantum Mechanical Interpretation of Collective Consciousness

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This essay outlines a quantum mechanical theory and model that explains how collective human thought can influence at a distance both physical systems and human behavior. For many years, physicists have debated the nature of reality given the paradoxes that exist between the quantum and classical realms. Their debates have been driven by the understanding that consciousness — as expressed through the act of observation — can apparently “force” physical objects to manifest into physical reality despite a prior existence as a less-than-physical probability, at least on the quantum level. There is no broadly accepted reason why this process should break down at the macro level experienced by human society.

More recently, certain social scientists have amassed experimental evidence that suggests that some physical and social phenomena may be mediated by quantum-level processes associated with the collective thoughts of large groups. Since these concerns address the meaning of human thought — and thus what it means to be a sentient human race — the debates have relevance to the social sciences. Here, explicit connections between the theory of quantum mechanics and collective consciousness are developed, and a quantum mechanical interpretation of collective consciousness is proposed that bridges the gap between physics and the social sciences. More specifically, the processes of constructive and destructive interference that result from the principle of superposition can lead to process-related wave packets originating with the collective thoughts of groups. The geographical spread of these process-related wave packets depends on Heisenberg’s Uncertainty Principle as expressed in terms of wave numbers and position. The amplitude of these wave packets can be expressed as a function of the number of individuals engaged in parallel collective human thought. These process-related wave packets can combine with process-related wave packets elsewhere through constructive interference, thereby affecting both physical and human behavioral systems.

Following evidence suggested by the experimental literature, examples of systems that are influenced by collective human thought can be physical systems such as random number generators that operate according to truly random and quantum processes as well as human behavioral systems that are defined in terms of specific forms of human activity. The existence of a theory and model based on quantum mechanics that potentially explains the mediating influences of collective human thought on physical and social systems adds an important new element to the extant literature that has already sought to provide statistical evidence of such phenomena. The implications of these debates to the social sciences are profound, since relevant issues expose the core of human psychology and all collective human activity. The existence of quantum processes that extend in influence to the macro level also suggests the possibility of generalizing the theory of quantum mechanics such that the quantum and macro realms are conceptually unified.

Distribution of Effects in Operator Populations: How Widespread are Anomalous Abilities?

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Princeton Engineering Anomalies Research, during its 28-year history, drew upon a pool of self-selected volunteer operators to generate data. No attempt was ever made to select or screen "special" operators for their ability to generate anomalies, nor to recruit operators who claimed exceptional talents. There is a widely held opinion, however, that anomalous abilities are rare in the population as a whole.

A maximum likelihood approach allows direct comparison of different hypotheses for the distribution of operator effect sizes on a given set of data. Five hypotheses are considered: (1) The null hypothesis that there is no effect: this is simply the operator effect distribution in which all operators have effect=0. (2) A uniform effect model in which all operators display the same effect. (3) A normal distribution of operator effect sizes. (4) The "gifted subset" model, in which it is assumed that a certain fraction of operators have a common nonzero effect size and the remainder of the population has zero effect. (5) A general bimodal modal model which extends the gifted operators model by allowing the "remainder" of the population to have a different effect size, other than zero.

Comparison of model (2) with model (1) on the PEAR "benchmark" REG database replicates the P-value of standard analysis ($1.40e-4$ 2-tailed), showing the statistical validity of the maximum likelihood approach. Of the remaining models, model (4) (gifted subset) proves to be by far the best fit to the data: the hypothesis that it is no better than the uniform-effect model is rejected at $p=1.24e-5$, while the hypothesis that it is no better than the null is rejected at $p=5.04e-8$. The specific maximizing parameters indicate that the overall anomalous effect is produced by approximately 15% of the operator population, while the remainder of the operator population generates no detectable anomalies.

The same analysis method can provide details of operator effect size distributions in other human-machine experiments as well. For two examples, in the MMI Consortium REG replication, the population of operators at all three laboratories shows no evidence for any model better than the uniform effect size model. In the feedback-free Yantra experiment, analysis is complicated by the demonstrated fact that most operators are sensitive to environmental conditions. However, one subpopulation that is not sensitive to environmental factors is modeled almost equally well by a normal distribution with mean=0.0045, sd=0.1070, or by a gifted-subset distribution with 6.6% of operators having an effect size of 0.367; both models refute the uniform effect at $p<0.01$. Evaluations of still other human-machine experiments are ongoing.

Insects and sick plants

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A dominant paradigm in regards to insect-plant interactions is that it is man vs. insects, or us vs. them. This paradigm supposes that insects and man compete for the same foods, and often to the same degree. The insecticide industry and many entomology departments rely upon this assumption for their profit or existence. Evidence to refute this paradigm suggests that insects are nature's garbage collectors and help to remove poor quality food not fit for human consumption. Along this end, they are more indicators for man, rather than competitors against man.

Insects comprise the largest group of animals on the earth today. They cover virtually the entire globe and inhabit almost as many niches as there are number of species. Insects are known to feed on dung, feathers, dried skin, and fallen trees. They also feed on human food such as chocolate, nuts, stored corn, and flour. Other insects feed on various parts of live plants such as the roots, leaves, stems, flowers, and fruits. Without exception, all of these insects feed on dead, dying, or unhealthy food.

Plants photosynthesize. The process of photosynthesis converts water and carbon dioxide into sugar. The healthier a given plant is, the higher its rate of photosynthesis. The more a plant photosynthesizes, the higher its level of intrinsic sugars. Therefore, healthy plants contain more sugar than their unhealthy counterparts.

Insects are attracted to unhealthy plants. Unhealthy plants can be easily differentiated by using a brix refractometer. The refractometer measures the sugar content of plant sap. No matter what the plant, tree or shrub, brix readings above 12, do not exhibit serious insect infestations. The higher the brix levels, the less insect damage one will find.

Insects avoid healthy plants due, in part, to their high sugar content. Insects cannot tolerate too much sugar in their systems. Some insects use a filter chamber, while others hold sugar in their crop and avoid introducing the high sugar concentrations into their midgut. Doing so would cause a quick death as the sugar would overpower their digestive system and further cause desiccation of their tissues.

Insecticides serve to further weaken the plant, the soil fauna and flora, and beneficial insects that help to keep "pest" insects in check. Plants fit for human consumption can be grown that simply do not require any insecticides. Unfortunately, simply not using insecticides does not automatically raise brix levels. Too much of the organic food on the market today is of poor quality. An understanding of what constitutes healthy food will go a long way in educating us to become and remain healthy.

Can Dielectric Antenna Theory Help Explain Insect Olfaction? (Poster)

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The mainstream theory of insect olfaction insists upon the classic lock and key model. This theory presupposes that a chemical, more specifically an odorant, will bind with a protein receptor and instigate a neural response. An alternate theory suggests that the vibrational energies from a given odorant are what the insect actually responds to. The mainstream theory requires the existence of a protein receptor which has not been established. The alternate theory proposes that insect sensillae act as tiny dielectric antennae. These sensillae respond to or amplify the vibrational energies from the odorants thus facilitating detection.

The vibrational theory took a hard blow when the enantiomer debate surfaced. Enantiomers are mirror images of the same molecule. They have identical chemical properties and so cannot be reliably differentiated by chemical means. According to infrared spectrometers, their vibrational frequencies are also identical. Since insects were reported to be able to differentiate between enantiomers, it was concluded that insects could not be "smelling" vibrational frequencies. The vibrational theory faded from scientific discussion after this apparently foolproof argument appeared in the 1970's.

Two serious errors were made when reaching this conclusion. First, insects do not detect vibrational frequencies in exactly the same way that an infrared spectrometer does. Secondly, enantiomers are similar, but not identical. They are chemically the same, but physically different. Enantiomers can be differentiated on physical grounds by their ability to reliably bend polarized light. Enantiomers could then be differentiated if polarization was taken into account.

All antennas exhibit four basic properties. These are gain, radiation pattern, impedance, and polarization. The latter qualifies all antennas as being differentially able to distinguish angled radiation. As stated, the vibrational theory assumes a mechanism involving dielectric antennae. Since all antennae are polarized, they would be able to distinguish between enantiomers. The scientific literature shows that insects are able to differentiate between enantiomers.

Additional support for the vibrational theory came when man-made dielectric antennae were found to be made far more efficient by drilling small holes in the antennae. In fact, this action may result in a perfect, or lossless antenna. Insect olfactory sensillae are already covered with tiny pores. It is entirely possible that the presence of fine pores in a particular sensillum may exist in order to increase the power, or sensitivity of the antenna, more so than their purported function as simple "windows" for allowing the passage of molecules through an otherwise impermeable cuticle.

In light of these two new pieces of information, the vibrational theory has been resurrected from obscurity and should be open to reexamination.

Towards A Creative Image of Science: Gilles Deleuze and the Necessity of Nomad Science

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How might science begin to introduce elements of the subjective into its purview? How can it incorporate the findings and knowledges of other disciplines, cultures and eras? These are some of the questions Dr. Robert Jahn recently posed regarding the future of science, in *The PEAR Proposition*, to the students of his undergraduate course in Human-Machine Interaction. Jahn argued that for science to maintain itself authentically as a realistic (if always incomplete) picture of the natural world, it must do all of these things. The pressing question is how this move forward can take place in the face of steadfast positivist and materialist ideologies concerning the nature of science, reality and the subjective. In other words, how can authentic science, as characterized by Imants Baruss, survive within an ecosophic system dominated by inauthentic science? In Kuhnian terms, how can we foster the growth of revolutionary, paradigm-directing science?

This talk will intervene on the level of theory in order to propose a solution for avoiding dogmatism and stasis in theoretical and experimental scientific practice. This solution, I argue, can be found in the concept of nomad science as developed by French philosophers Félix Guattari and Gilles Deleuze between 1980 and 1992. Nomad science, as I will develop the idea, is a method of scientific practice grounded in speculation or *abduction* as a mode of reasoning. It proceeds by postulating deliberately “crazy” ideas and theories in order to highlight and to avoid resting upon assumptions. As an epistemological mode or attitude, it finds its correlate in the ambulant or wandering scientist – what Henry Bauer has referred to as the “hermit scientist.” The nomadic aspect of science is continually problematic: “throwing up more problems than it can possibly resolve,” it is always endeavouring to “approximate knowledge.” Itinerant, wandering science consists in “*following a flow in a vectorial field across which singularities are scattered like so many “accidents” (problems).*” Rather than extracting reproducible constants, searching for laws, or imposing ready-made forms upon matter, nomad science contributes to a science of the singular: the anecdotal experience and the unrepeatable phenomenon.

French historian of science Michel Serres has said that “the great hope is to import concepts scienceward, for practices yet to come. Where can these concepts be gotten, these concepts that aren’t concepts yet, if not from matrix places, outside of canonized knowledge?” To this I would add: how can the practice of science be expected to develop its intuitive, abductive properties, if not first elsewhere, in the practice of its own idea? In this spirit, I will draw upon a body of thought that lies outside the canons of Anglo-analytic philosophy of science and “science studies” as such in the hopes of providing new ideas and points of view for theorizing the practice of science. This paper will discuss how nomad science, as well as the concept of the “Body without Organs,” provide models of thought that productively respond to problems of anomalous phenomena, experimental replicability, scientific crisis and the thought-experiment.

Dreaming the Future News: Evidence for an Adaptive Pattern Recognition Process

Dale E. Graff

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During the 25th annual Society for Scientific Exploration (SSE) meeting at Orem, UT in 2006 I presented evidence for the reality of precognition that occurs when asleep and dreaming. The seven dream experiences described in that presentation were for incidents reported in the newspapers 3 – 5 days after the dreams. This presentation for the 26th annual SSE meeting results from continued informal exploratory investigations of precognition primarily with the Dream State Psi (DSP) mode, although some Conscious State Psi (CSP) material is included.

Sixty seven CSP and DSP experiences or projects were completed between January 2006 and February 2007 that had the objective of accurately describing photographs that would appear on the first page of a specific newspaper 3 – 5 days after the dreams (Phase I) and exactly three days after the dreams (Phase II). The sketches made of the DSP and CSP imagery were compared to the future photograph or photographs on the first page of the target newspaper to determine their degree of correlation based on a simplified fuzzy set evaluation approach. A high degree of correlation occurred for 34% of the projects, and a medium degree of correlation occurred for 29% of the projects. The remaining projects had either a very low degree of correlation or none. A cyclic pattern occurred which could indicate some type of biorhythm effect.

The significant finding was that 30% of the projects were for events that had not yet occurred at the time of the DSP/CSP experience. For approximately 30% of these, the sketches had a high nearly exact correlation with a future newspaper photograph published within the operational constraints.

The DSP/CSP sketch and future newspaper photograph comparison process and procedures on how dream crafting can be achieved to enhance results are explained. Specific examples are presented to demonstrate the comparative evaluation process and to present data that suggest how psi data are processed.

An intriguing observation is that details of DSP imagery progression provide hints of an adaptive pattern recognition activity. The DSP and CSP process appears to convert the photograph's content into spatial frequencies that are transmitted sequentially through neurocircuits in the brain that function like band-pass filters or tuned circuits. These frequencies are subsequently reconverted into recognizable imagery based on a memory matching or a bit-by-bit reconstruction process. Another intriguing observation is that the data provided hints of a shift in probabilities and that precognitive phenomenon are not about fixed or absolute future situations. Speculations on potential sources of precognitive information and the nature of time are presented to generate innovative discussions.

Anomalous Energies and Balls of Light in Crop Circles: Photonic Refraction, Spontaneous Crystallinity, and Quasi-Particles

Simeon Hein

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Crop circles have long been noted for strange, local effects on people and equipment. They are associated with balls of light, camera and battery failure, and anomalous optical effects. We propose three distinct physical effects at work in crop formations that may account for some of these effects. First, we propose that the shape and structure of the plant lay-pattern, specifically the sharp angles at the edge create a photonic, crystalline effect that could interact with the light coming into the formation. As this photonically altered light interacts with the plants, it may alter the distribution of their electron orbits such as to localize and slow them down. In this sense, the crop formation acts like a high-quality optical cavity. Secondly, as the electrons' orbital frequency is lowered they become susceptible to spontaneous phase resonance and are able to interact with the shape of circle via microwave energy in the formation. As such the entire circle acts like a quantum radio transmitter creating spontaneous, localized electron activity. Finally, the active control of electrons within the circle cause it to act like a traditional transistor gate with respect to the standing crop and the laid crop. Short circuiting of cameras and batteries may also be evidence of tunneling quasi-particles which are associated with room-temperature superconductivity. In effect, crop formations, by virtue of their interwoven lay patterns and morphological symmetry are a new type of organic, crystalline technology.

The Non-Local Mind

The Effects of Group Meditation on Crime, Terrorism and International Conflict

John Hagelin

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If violence begets violence, can calm beget calm—reducing inner-city violence, terrorism and international conflict?

More than 50 controlled experiments have shown that the peace-promoting effects of group meditation extend beyond the individual to society at large. Published research in leading, peer-reviewed scientific journals has shown that collective meditation reduces violent crime, social conflict, and other manifestations of acute social stress.

In this presentation, we present compelling research on the societal effects of group meditation. These experiments include a \$6 million *National Demonstration Project*, in which 4,000 advanced meditators markedly reduced violent crime in Washington, D.C., plus a series of high-profile experiments showing reduced war intensity in the Middle East.

We examine fundamental physical mechanisms that may account for these long-range “field effects” of consciousness, drawing from recent discoveries in neuroscience and quantum mechanics—including “quantum teleportation,” “hidden-sector matter” and “space-time wormholes.”

Specifically, many have argued that certain phenomena of consciousness—including field-effects of consciousness—have their physical origin in quantum-mechanical processes. The most challenging associated question has been, “How does the brain—a predominantly macroscopic organ immersed in a high-temperature, high-entropy environment—support quantum-mechanical processes?” Whereas *intra-cellular* quantum neuronal mechanisms have been hypothesized, it is probably essential that a complete quantum-mechanical understanding of consciousness must incorporate quantum neuronal mechanisms that are *inter-cellular*—allowing correlations among multiple neurons separated by macroscopic distances. Until now, viable inter-cellular quantum neuronal mechanisms have been elusive.

We show that hidden sector matter, predicted by superstring theory, provides a natural mechanism for macroscopic quantum coherent phenomena in biological systems—and for the quantum-mechanical processes associated with consciousness, including field effects of consciousness.

We discuss the potential implications of these findings for reducing terrorism and social conflict, and for promoting national security and permanent world peace.

A New Evolutionary Synthesis to Unlock the Potential of Humanity: A New World View

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The Evolutionary SYNTHESIS is a new world view that reveals a set of new possibilities for our generation which if communicated and acted upon leads not only to fixing current problems but opening up an ever-evolving future of magnificent opportunities. In this SYNTHESIS we recognize ourselves as a young species born into a universe that appears to be coming to life and designed for ever more conscious life. The SYNTHESIS is composed of a “memetic architecture,” or memetic environment -- an interlocking set of ideas on the Macrocosmic (universal) through the Mesocosmic (Social/technological) to the Microcosmic (Individual/ spiritual/creative).

The SYNTHESIS integrates the Evolution of the Universe, the Evolution of Evolution, the Evolution of Humanity as a Society, the Evolution of the Person into one great and glorious Evolutionary Breakout or Phase Change now happening in our midst on planet Earth.

The EVOLUTIONARY SYNTHESIS has continuity with the powerful revelations of the Judeo-Christian tradition, as well as Eastern revelations. In fact it affirms and fulfills our species’ most profound aspirations through a positive integration of our spiritual, social and scientific/technological capacities.

The SYNTHESIS is composed of a “memetic code,” a set of ideas that create. They become evolutionary agencies that provide an optimal path for the fulfillment of life’s potential.

The SYNTHESIS is not to be pinned on the wall of the church, as Martin Luther once did with his famous 95 Theses, but is to be communicated through all media and means to as many people as possible. It is “pinned on the wall” of the current worldview that sees our crises as overwhelming, our solutions as inadequate, and our nature as unchanging.

This Evolutionary SYNTHESIS, this new world view has never been integrated before because 1) our crises are new, 2) our capacities are new, and 3) no one on Earth is an expert on how a planet matures from its high tech, overpopulating, polluting, warring phase to the next stage of our evolution.

There is an Evolutionary Gap from “here,” our current crises and opportunities to “there”, ourselves growing into our spiritual, social, scientific/technological potential as a universal species.

The SYNTHESIS helps us cross that Evolutionary Gap to the “other side” of the transition from one phase of our evolution to the next. It forms a bridge for us to transition through to the next phase of life.

The Evolutionary SYNTHESIS is neither provable nor falsifiable. It is based on current scientific/philosophical/spiritual investigations, combined with personal experiences that are shared and verified subjectively among a growing group of individuals.

(Each of these elements of the New World View has beautiful quotes to be added that come from major visionaries, scientists and activists of our generation. They represent voices of evolutionary insight and leadership that when combined offer us a path toward the “ascension” or evolution of humanity as a new way through together).

PEAR: Past, Present, and Projected

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Over the past three decades, the Princeton Engineering Anomalies Research laboratory has conducted extensive empirical studies of anomalous human/machine interactions and remote perception, which have fostered development of several conceptual models of such phenomena. All of this work has been summarized on our website, <http://www.princeton.edu/~pear/>, from which some fifty articles can be downloaded, and a companion DVD/CD set may be ordered. Three years ago the program undertook a deliberate reduction of its experimental agenda and staff, culminating in closure of its laboratory facilities a few months ago. During that period an ambitious forward-reaching program of activity was undertaken, comprising comprehensive archiving of all past results, models, and insights; intellectual support of a new generation of scholars; and stimulation of marketable products promising beneficial public applications. From this point on, the primary platform for these enterprises will be the International Consciousness Research Laboratories, <http://www.icrl.org>, a 501(c)(3) non-profit organization with a distinguished international, interdisciplinary membership, several of them from this Society. In this new era, we also plan to continue our service to SSE, which, over the same span, has provided a precious forum for propagation of our results and ideas to an open-minded and convivial assembly of colleagues and friends. It is our conviction that SSE, like ICRL and PEAR, is itself on the threshold of a new era of operations wherein a fresh generation of creative scholars will infuse its research, reportage, and management, with far less deference paid to uninformed public and professional skepticism; and the methodology, insights, and understandings it develops will lead, rather than emulate conventional scientific practice. We look forward to sharing all of this with you well into the future.

Special Abilities “Bottling” Art

(Poster, Presented as a 20-Minute Film)

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The work tends to give an answer to the fact that science, technology, sport, etc. taking into account their accelerated rhythms, there isn't time to wait for the spontaneous appearance of persons with special abilities, capable to find solutions to the nowadays bottleneck situations. In addition, existing high skilled technical specialists may have often the disability of a disharmony between the levels of consciousness toward the levels of sub- and supra consciousness in the creation processes.

In such a situation, triggering of necessary abilities becomes an imperative. In this context, the author advances a technology inspired by putting into practice of those processes scientifically sustained by the formulae:

$E/m = c^2$ (energy volatilization, destructurezation);

$E/ c^2 = m$ (energy structurization, condensation);

$mc^2 = E$ (energy transmutation, tincturation).

The given technology emulates methods used in the folk traditions that come from villages with a low “level of civilization”. Such methods are characterized by their simplicity, confidentiality and spontaneous provenience (initiation, revelation). In this sense, the paper is oriented to the general vision of used methods and achieved results.

As a modality to potentiate certain special ability to a person, a readaptation trigger should be invoked. As such a trigger may serve for example, a glass of tincturated liquid. In the proposed tincturation technology, besides the support material equipment, force fields are also used to handle energies, as well as material and psychical catalysts. Selection of the proper liquid is also important.

The tincturation technology may be based not only on the liquids, but on the images or other material supports as well. The adequate tincturation of images at their creation is made similarly to the liquid tincturation.

The effects are confirmed through computer diagnosis.

This method can have multiple uses, but its most welcome usage would be to multiply the special ability to be healthy.

A Logical Study of a Scientific Controversy

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Some scientific controversies continue for long periods of time without ever reaching agreement. An interesting example involves the special theory of relativity, where disputes, especially concerning what the theory predicts about the behavior of clocks, have continued for nearly a century without satisfactory resolution. Although most scientists believe that the controversy was resolved long ago, the present situation is unsatisfactory because many of the published arguments that support the supposed resolution are unsound.

There are two main kinds of criticism made against special relativity: claims that the theory has been refuted by experiment, and claims that the theory is logically inconsistent. This paper is concerned only with the claims of inconsistency.

The motto of this paper is T.H. Huxley's statement that "the scientific spirit is of more value than its products, and irrationally held truths may be more harmful than reasoned errors." If the special theory is correct, it should be possible to use rational arguments to defend it, and to expect that rational discussion would lead to agreement. Many scientists believe that those who criticize relativity are lacking in mathematical ability, although in fact the mathematics is very simple; it is the application of the mathematics that presents the problem, and that requires logical reasoning.

The paper will illustrate the problem by examining some defensive writings that show a serious lack of understanding of logical reasoning on the part of highly influential scientists. Although it is vitally important that a scientific theory be free of inconsistency, some eminent scientists have committed serious logical fallacies in defending the special theory, showing that they are unaware of the logical properties of inconsistent theories. These logical errors show that, even if the special theory is true, some of those who believe in it do so for irrational reasons.

A Very Simple Test for Psi

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Although many laboratories have published results showing an effect of intention on random physical systems, most mainstream researchers remain skeptical about the existence of such phenomena. Given that this psychokinesis (PK) effect is contrary to the worldview with which many scientists have been inculcated and that it is difficult to know if an experiment carried out by others is shoddy, such skepticism is understandable. Accepting the existence of a phenomenon that is outside of what one is comfortable with can be made easier if one can demonstrate it for oneself. Therefore there is need for an extremely simple PK experiment that uses little specialized equipment, so that any interested researcher, even at the high-school level, can carry out the experiment to test for PK. We present such an experiment and initial results.

The experiment involves using intention to modulate the reflection of light from a glass slide. Transparent glass transmits approximately 92% of the incident light and reflects approximately 8%, 4% from each surface. Considering the light as photons to be detected, one cannot know in advance whether any given photon will be among the 92% transmitted or among the 8% that are reflected. The reflection process is therefore a fundamentally random binary process, akin to a random stream of bits passing at a rate of roughly 10^{16} per second. Just as the output of electronic random number generators have been shown to be subject to intention, so too should be this bit stream.

We mounted the reflection apparatus in the center of an optical table, surrounded by a box that was open at the top. Detectors converted the reflected and transmitted intensities into photocurrents that were digitized, and the ratio was tabulated by computer. We recruited 26 college students having no special training in directing their intention to perform the PK. Standing at the side of the table and looking at the glass slide, each subject was asked to use his or her intention successively to raise, leave unchanged, lower, and leave unchanged the reflected intensity through three cycles, with each period lasting for 30 seconds.

In our initial test we obtained an increase in the average ratio of reflected-to-transmitted intensity of 6 parts per thousand from the low-intention condition to the high-intention condition. The neutral-intention condition result was very close to that of the high-intention condition. Using an SAS analysis that takes into account variations within a person, across trials, and between persons, the p-value for the difference between the low-intention and high-intention results was 0.052. We report on this experiment and additional work.

The Possible Importance of Frequency and Duration of Treatment in Bioenergy Healing

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In previous experiments, Bengston and colleagues demonstrated a high rate of tumor regression (87.9%) in experimental mice with hands-on healing as the sole method of treatment. In these experiments, animals were treated daily with 1 hr of hands-on healing for the duration of the experiment. In each case, the animals developed tumors which grew in size until a blackened area appeared on the surface of the tumor, at which time the tumor regressed, and the mice were immune to further inoculations of tumor cells. In the present series of experiments, we examined the effects of distant healing using the same tumor model with Bengston as healer. Tumor-injected mice initially received three hands-on healing sessions (1-hr each), followed by weekly 1-hr distant healing sessions for 12 weeks. In one experimental group of mice (n=9) where tumor size was closely monitored during weeks 5-12, we observed 4 animals with tumors that regressed completely; 4 animals with tumors that increased in size, resulting in death, and one animal with a tumor at the completion of the study – for an overall tumor regression rate of 44.4%.

Our results suggest that 1) weekly distant healing is not as effective as daily hands-on healing, and 2) there may be an optimal dose of bioenergy healing required for tumor regression. Concurrently in these experiments, we examined blood parameters of both control and experimental mice. We observed no significant differences in the blood parameters (e.g., hemoglobin, white blood cell count) of experimental mice treated by Bengston as compared to untreated mice, suggesting a trend towards the “resonance effect” previously proposed by Bengston. Further experiments are necessary to establish an optimal dose regimen for distant healing of tumors in mice.

Vascular Semantic Resonance and Embryo-logics

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Clinical Research for the last 20 years suggests that the cardiovascular system works as a multiplexing waveguide carrying many signals, a resonant cavity amplifying the cellular microtubular vibrations, an interferometer detecting not only the EM waves but also the gravitational field, the strong and weak nuclear interactions, a manifold linking matter and mind..

The vascular system conveys transversal blood waves or pulse, waves of the content, known in medicine for ages. Less well known are the longitudinal and spiral waves of the vascular walls, waves of the container. These ones are the support of harmonic oscillation between cellular pigments and environmental pigments. The vascular network acts as a resonant cavity amplifying the cellular microtubular vibrations. This clinical vascular spectrogram shows the vibratory or operative identity of specific pigments and specific ideograms. However vibratory identity is not ontological identity. This clinical phenomenon gave rise to Vascular Semantic Resonance (VSR). This resonance or symmetry between syntax and semantics measures the effect of thoughts, spoken or written language, on the human body.

VSR shows that the 4 fundamental interactions share a vibratory identity with the developmental stages of the embryo or ontogenesis.

The undifferentiated stage or Morula resonates to Gravitation. The second stage or Blastula, inside/outside polarization of space, gives rise to Ectoderm resonating like EM, linear extension, and to Endoderm resonating like weak nuclear Field. Endoderm is also polarization in anterior/ posterior. The third stage or Gastrula gives rise to the implicate mesoderm, chirality and helicity, polarization of time and top/bottom gradient. These are not analogies but reproducible clinical results.

Each stage corresponds to a specific logic. The undifferentiated Morula is Prelogic. The Ectoderm is logic of non contradiction, of middle excluded, sensory « scientific objectivity »; wave or particle in physics. The Endoderm is logic of antagonism or contradiction; middle included, wave and particle. The Mesoderm is logic of the complex manifold, crossed double contradiction, hypersymmetry matter-antimatter.

What is anomalous for the ectodermic logic, Euclidean or linear « scientific » logic, is not anomalous for the second or endodermic logic. The third or mesodermic Riemann logic gives a view from the « center of the top » where dichotomies are replaced by poles of complex dynamic systems or holons integrating Matter and Mind in one living whole process.

A New In-Vitro Bio-Assay for Measuring Quantum Effects of Subtle Energies at the Molecular Level

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Macroscopic quantum effects were studied at the molecular level using a new *in-vitro* bio-system involving hydrogen bonds. The sensitivity of this system to exogenous subtle energy fields indicates the application of this bio-assay for the measurement of non-classical forms of energy. The making and breaking of hydrogen bonds, which hold together the DNA helix, was studied by measuring conformational changes in human DNA winding and unwinding. Both properties of DNA were measured using a laboratory grade spectrophotometer. Static measurements of DNA unwinding were taken before and after energetic treatment. The dynamics of rewinding (after thermal denaturation) was measured in real time during energetic treatments.

Since quantum tunneling of protons occurs within hydrogen bonds, winding and unwinding of DNA can be considered a macroscopic quantum measurement.

Conformational changes in DNA were shown to be highly sensitive to various forms of subtle energy. In the case of biofield energy, as directed by conscious intention, the results indicate that different intentions could either promote winding or unwinding of DNA *in-vitro*. Surprisingly, the results also indicate that of the various healing arts practitioners tested, some slow down the rate of rewinding whereas others speed it up. This suggests that healing arts practitioners utilize two distinct types of energies with opposite biological actions (at least on DNA). Furthermore, non local effects were also observed where the healer was approximately 1 mile away from the DNA samples.

UFO Research: Where are We Now?

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The UFO phenomenon remains an enigma sixty years after it burst into public view in 1947. UFO sightings have waxed and waned over this period, and so too has the serious study of the subject. Although government interest and involvement in UFO investigation has received great attention, and set the early tone for much of the treatment of UFOs, very little serious work was done by those with official projects to increase our knowledge. Instead, civilian researchers, both amateur and professional, have worked under the handicap of essentially zero funding and lack of institutional support, but with much public interest.

We are certainly more in the dark about UFOs—though not about the fact that the phenomenon is a true scientific puzzle—than most serious researchers would have suggested thirty years ago. Individual well-investigated sightings continue to be the bedrock of the phenomenon. Still, science has been done on UFOs, and this talk will review a few selected areas to outline some of that work and what it tells us about UFOs, the possibility of their study, and the potential direction of future work. Some consideration will be given to the institutional, sociological, and phenomenological barriers that hamper scientific study.

Everything we have learned about UFOs continues to argue that: 1) the unexplained UFO phenomenon is multi-causal, and that several anomalies have been lumped under the label “UFO.” but 2) that a non-terrestrial intelligence is the cause of some of the most mysterious sightings continues to be a viable hypothesis. What this implies about the subject and its link to the larger scientific community will be reviewed, especially in light of recent advances in science about the likelihood of extraterrestrial life and the evolution of life on earth.

Consciousness, Psi, and the Two Brains

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The brain is divided into a left and a right hemisphere that are bridged by the corpus callosum. When this is severed to relieve epilepsy, two distinct brains are revealed. The left brain works in terms of cognitive categories, measurement and serial learning, of which language is a prime example. Language supplies logic, including the law of the excluded middle, according to which an object cannot be composed of two different things. The right brain works by affective categories, multitasking, and allows for objects to merge, as in dreams. The left brain is focused on objects within reach of the sense organs and skeletal muscles, objects known as local. The right brain responds to nonlocal or distant objects as well. Myers (1903) identified psychic abilities with the subliminal mind. In contrast, the supraliminal mind guides familiar perception and behavior. He spoke of a "subliminal uprush" (p. 20) as an emergence into waking consciousness of creativity, telepathy, clairvoyance and PK. We can now see that the subliminal mind is the mind of the right brain and that the supraliminal mind is the mind of the left brain. Later work supports Myers' position. White (1964) found that psychics largely rely on visual images. In tests with the psychic, Bill Delmore, Kelly et al. (1975) note that his ESP is "encoded in the form of fleeting visual images." Braud and Braud (1975) finds an advantage of borderline significance in free response ESP trials after the subjects had listened to a tape intended to elicit right brain mentation as compared to trials following a left mentation tape. To determine if the left brain interferes with ESP, Broughton (1976) compared conditions where the subjects were occupied with reading (which may distract the left brain from blocking ESP) with trials without reading. He also addressed the laterality issue by having his subjects record their responses with either the left or right hand. There were tendencies for higher scores when the left brain was occupied with reading and for greater divergences from chance when the left hand was used. After the experiment, he learnt that hemispheric differences are less pronounced for females than for males (the corpus callosum has more connections in the female brain). A reexamination of his data showed that the interference effect was in fact only effective for male subjects. But this and the sex difference did not show up in two later studies (Broughton, 1978). Counting the failures with the successes, Broughton finds a relationship between ESP and the right brain. The two brain, he suggests, have complementary functions, the right brain taking a wide-angled view of the perceptual field while the left brain has a narrow focus. The most conspicuous period of right brain dominance is REM dreams. Spontaneous ESP is found most often in dreams. The themes of dreams, which emphasize displacement of the dreamer in space and time, sensing unknown presences, and feelings of anxiety, as in crisis ESP, reflect the functional characteristics of the right brain.. Ehrenwald (1979) notes that drawings of patients with injuries to their left parieto-occipital region are strikingly similar to drawings from telepathy experiments. He writes, "The world of the patient suffering from optical agnosia...closely resembles the telepathic or clairvoyant percipient's impression of his target...psi phenomena, lacking as they do, the precise spatio-temporal ordering and organizing qualities of the dominant hemisphere, are processed in the right side of the brain" (p. 221).

Polycontrast Interference Photography (PIP) of the Human Energy Field in Health and Disease: A Pilot Study

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The concept of a vital force or subtle energy, which is central to virtually all indigenous medical systems, presupposes that there is a subtle organizing biofield that is the quintessence of life, extending from within the human body into the surrounding space and entangling each person with one another, the biosphere, and even the cosmos. Although the vital force was banned from conventional biology long ago, it is being revisited by frontier scientists who are building a scientific foundation for energy medicine. This growing area of complementary medicine includes novel diagnostics that hypothetically analyze the human biofield, as well as a vast range of therapies that apply extremely low level energy signals to the body to treat disease.

Polycontrast Interference Photography (PIP) is one such method used to visualize the human energy field—including postulated dynamical structures such as the chakras, dantians, and acupuncture meridians—via photon interaction with the human body. It was developed by Harry Oldfield, British scientist and inventor. The PIP method claims to involve digital processing of light interference patterns on and around a human subject standing naked or in minimal attire while being illuminated by uniform, full-spectrum white light. The light interference patterns are interpreted by the PIP software and displayed in artificially colored patterns, which reveal information to the trained eye about areas of energetic imbalance and blockages within and around the body. Just as x-rays are used to show internal body structures, PIP is considered by some as an “e-ray” that shows the energy anatomy of the biofield. It is used as a diagnostic tool by a growing number of holistic health practitioners worldwide.

Several PIP photos from the clinic and research laboratory will be shown which are suggestive about the possible diagnostic power of PIP scans. For example, a scan of a woman with a fractured neck vertebra shows a distinct focal point in the pattern observed at the fracture site. The symmetry, appearance of chakras and other foci, and the general distribution and patterns of color must all be subjectively evaluated by PIP operators in their analysis of the clients’ biofield status.

At this time, a pilot study is still underway to investigate the diagnostic value of PIP. At least twenty subjects are enrolled in the trial. All subjects have had a recent medical evaluation by a licensed health care practitioner; some have had a diagnosis of a localized disease or condition, and others are normal and healthy. The operator is blinded as to the known medical diagnoses of the subjects. The blinded condition will not be broken until the scans are completed and fully analyzed. The diagnostic value of PIP photos in identifying and localizing existing disease states will be evaluated. Finally, the pros and cons of using PIP in subtle energy research and in various health care practices will be explored.

Deep Inquiry: Laying Conceptual Groundwork for Paradigmatic Change

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Colleagues in the academic sciences who delve into conceptions of the human being that deviate from the reigning materialist paradigm commonly report resistance at their respective institutions. Might overall educational practice, the kinds of learning and research methodologies that prevail outside of the sciences, be also shaped by this same materialist paradigm? My experiences with reform efforts in musical academe and as an advocate for consciousness studies in education at large lead to me to think that this is so. Colleagues are often surprised to learn that most music majors graduate with little or no experience in improvisation and composition, arguably the two core creative processes in music. The focus instead tends to be on interpretive performance, which may be thought of as a kind of aesthetic materialism, where the art object, not the process of invention, serves as the pedagogical and creative locus. And in overall education, efforts to introduce meditation and interior methodologies similarly run up against obstacles due to departures from overarching tendency to view the quest for knowledge as an exclusively exterior affair. This is another example of an aversion of the subjective in favor of a materialist bent toward the objective.

I have devised a framework for dialogue called Deep Inquiry that seeks to illuminate these kinds of patterns and relationships in hopes of cultivating receptivity to paradigmatic change. The Deep Inquiry process consists of three tiers: discipline-specific, cross-disciplinary, and trans-disciplinary. Discipline-specific inquiry, which generally prevails, is concerned with the content involved in particular fields. Cross-disciplinary inquiry, which is far less common, is concerned with questions about the overall educational enterprise: What is knowledge? What does it mean to be educated in today's world? What is the role of the modern university in preparing students to not only enter the workforce, but also to thrive within and contribute to a world increasingly characterized by change, uncertainty, and a complex network of environmental, political, economic, and social challenges? Trans-disciplinary inquiry, which is virtually non-existent, involves consideration of foundational questions about the human being, consciousness, and ultimate reality and meaning and how prevailing assumptions about these issues may impact educational policy: What is consciousness? Is human experience reducible, as some would argue, to electro-chemical processes, or do dimensions of experience exist that transcend the physical? What is/are the purpose/s, if any, of life, or human existence? What are the educational ramifications that extend from these and other worldviews?

The aim is to extend academic discourse beyond its usual boundaries in order to create an environment where reigning and often-unexamined assumptions are illuminated and where greater receptivity to new pedagogical and research ideas is cultivated.

Unified Theory Based on an Alternative Space Concept: Prediction for a New Propulsion Mechanism and Experimental Results

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The Basic Structures of Matter – Supergravitation Unified Theory (BSM-SG) is based on a model involving two superdense indestructible particles associated with the Planck's scale and a Supergravitational (SG) law. The SG field is distinguished from the Newton's gravity by an inverse cubic dependence on distance in pure empty space. An enormous abundance of these two fundamental particles with vibrational energy beyond some critical level is able to congregate into self-organized hierarchical levels of geometrical formations, driven by the fundamental SG law. A logically deterministic process leads to creation of space possessing underlying structure exhibiting quantum properties, called a Cosmic Lattice (CL), and a galaxy as observable matter. All known laws of Physics are embedded in the CL structure of the physical vacuum and the structure of the elementary particles. The fundamental SG law is behind the gravitational, electric and magnetic fields and governs all kinds of interactions of the elementary particles in the space of physical vacuum.

The new approach puts a new light on the quantum and space-time properties of the physical vacuum. While supported by the results of the modern ether drift experiments, it is also in excellent agreement with the observations and experiments in Particle Physics, Quantum Mechanics, Special and General Relativity and Cosmology. The gravitational, electrical and magnetic fields are associated with the specific dynamics of the elementary CL node with two characteristic frequencies, one of which is the Compton one. The Newtonian gravitation appears as a propagation of the SG field through CL space, in which a self-synchronization effect between the CL nodes also plays a role. The same effect is responsible for the constant light velocity. The identified structure of the electron also exhibits Compton frequency oscillations that are behind its quantum mechanical properties. BSM-SG predicts that the gravitational and inertial mass of a material object could be changed if the self-synchronization property of the surrounding CL space is asymmetrically disturbed. This suggests a completely new propulsion mechanism using oscillating plasma that may work in atmospheric and space environments. Laboratory experiments in atmospheric environments confirm this prediction.

Experimental Challenges to the Second Law of Thermodynamics

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The second law of thermodynamics – the principle that states the entropy (disorder) of the universe tends to increase for any spontaneous natural process – has been called "the supreme law of nature," and for good reasons. It applies to most any system composed of more than a few particles and no experimental violation of it has ever been confirmed by the scientific community. In the last two decades, however, its universal status has come under increased scrutiny, more so than during any period in its 150-year history. Since the early 1980's roughly 50 papers representing more than 20 theoretical challenges have appeared in refereed scientific literature; multiple international meetings and symposia have been convened to assess its status; monographs and special editions of mainstream journals have begun to appear [1-3]. These are classic early signs of a paradigm shift. In this talk, a brief survey of second law challenges will be given, followed by a status report on one promising experimental test of its universality involving micron-sized electromechanical resonators [4]. The talk will conclude with a discussion of possible scientific, technological, and societal ramifications of second law subversion, in particular, the replacement of fossil and nuclear fuels by reusable thermal energy.

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Consciousness, Physics, and Computer Science

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Consciousness is a loosely-defined concept that has sometimes been useful, but more often a distraction, in one of science's most important endeavors: understanding how the brain works. In this paper, we argue that misunderstandings in quantum physics and in mathematics have led to several common incorrect conclusions and speculations about the nature of conscious phenomena. The so-called "hard" problems of "experience" and "qualia" are subsumed in the more central and better-defined question of *Self* – why there seems to be an *identity*, an individual who says "I", "me", "my experience", etc. From computer science and neurophysiology, we argue that the brain is a highly evolved mechanism that is *self-referring* in complex ways, and thus it develops persistent and self-consistent structures that use these concepts and words as shorthand for their own functioning. We further discuss how consciousness is not central to quantum measurement, and how quantum entanglement is not a necessary or appropriate component of consciousness itself, but *is* essential to understanding certain phenomena such as psi. We also show how Godel's incompleteness theorems have lead some to incorrectly conclude that humans can represent mathematical and other knowledge that machines cannot. Finally, we (the author's brain structures, actually) present several largely unappreciated consciousness-related physical phenomena that *are* genuinely interesting, that may require new physics to fully understand, and that thus deserve more attention and exploration.

A Western Key to Qi: DC Electrodermal Potential Signals As Indicators of the Presence and Movement of Qi

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Endogenous electromagnetic (EM) and electrophysiological signals detected at the skin surface during electrodermal feedback are almost solely seen in the West as byproducts of physiological processes such as perspiration. Western science (except perhaps quantum physics) ignores the possibility that EM, magnetic, electrical and other energies associated with a human being could be essentially fundamental and causative energies as described in the ancient Eastern traditions. These traditions include Oriental Medicine, Ayurveda, Vedanta, Kashmir Shaivism and others. Furthermore, Western science lacks the elegantly detailed descriptions of human developmental processes described in the Eastern traditions that include both the tangible physical and the more subtle, fundamental “energy” or “vibrational” phenomena. These traditions are sometimes described as the ‘sciences of life’ and offer great insight into understanding bioenergies.

Examination of translations of Eastern science texts indeed indicates that Qi (or prana) is described as having optical or electric-like properties and is an essential aspect of good physical and mental health and optimal human development. This implies that an East-West translation issue may exist. Descriptions of bioenergy in Eastern traditions preceded Western definitions of electricity and light by thousands of years. When the prescribed areas for placement of electrodermal biofeedback electrodes are compared with the locations of major acupuncture points (acupoints), they correspond very well with each other. It is possible that in the West, the Qi in the meridian system has been employed in biofeedback since its inception, and is that which is fundamentally responsible for the beneficial effects of biofeedback. It may be then, that what is known in the West as “endogenous DC current” is the same as, or very closely related to, “Qi”.

It is hypothesized that Qi is identical with, or closely related to, the endogenous DC current of the body. DC potential measurements taken from skin loci corresponding to acupoints differ in nature from those taken from non-acupoints. Since the meridian system is involved in altered states of consciousness, it is further hypothesized that real-time fluctuations in DC potentials on acupoints (but not on non-acupoints) are affected by changes in states of consciousness which occur during healing/meditation.

The hypotheses were tested by taking simultaneous real-time measurements of DC potential fluctuations from both on and off the Hoku acupoint. These measurements were taken during alternating five-minute periods of healing/meditation states and external focus (talking-control) states, using two Autogen 3400 Biofeedback Dermographs (Autogenics-Cyborg, Chicago) as recording devices. Additionally, after each five-minute period, subjects indicated graphically their *felt sense* of a subtle flow in themselves.

Results indicated that DC potential patterns changed differentially depending upon the on or off-acupoint electrode placement and upon the experimental or control state of consciousness. Further, there was a correlation between self-report of *felt sense* of internal flow (of energy) and DC potential patterns. This correlation occurred for the on-acupoint, but not for the off-acupoint, electrode placement. The results of this study support the hypothesis that endogenous DC current and Qi are the same or closely related.

Electron Binding Energy Equation In the Aether Physics Model

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In this paper, we show the Aether Physics Model's structure and logic for deriving a periodic-table ground state electron binding energy equation. There remains a very small unquantified Pythagorean comma like quantity, which we arbitrarily force in the present formulation. We demonstrate practical applications and significant progress in understanding quantum structure and quantum mechanics using an Aether Physics Model.

The Aether Physics Model entirely induces from known physical constants and data and reveals a geometrical structure for all subatomic existence. As such, a mathematically correct Unified Force Theory, based upon simple Newtonian type laws, also results. The unified forces base upon a more precise and corrected view of the charge dimension, and two distinctly different types of charges quantify in this hypothesis.

The Aether quantifies from empirical constants as a quantum rotating magnetic field. The Aether manifests as non-material reality, which when encapsulating dark matter produces visible matter. Just as an incompressible water molecule produces a fluid "fabric" when accompanied by other incompressible water molecules, the incompressible Aether unit produces the fabric of fluid space-time when accompanied by other incompressible Aether units. Since each subatomic particle resides within an Aether unit, all matter is completely fixed with regard to its particular unit of space-time. However, since Aether units are fluid relative to each other, so are all subatomic particles relative to each other in movement.

The fine structure constant reveals as a proportion of two types of charges with respect to their different geometries. The subatomic particle g-factors reveal as twisted paths of four-dimensional matter within a five-dimensional Aether. Einstein's General Relativity theory is quantified in terms of charges, rather than mass.

In short, the Aether Physics Model is a new branch of physics called Quantum Structure, which complements Quantum Mechanics and Classical Physics. The APM also incorporates the key elements of Special Relativity (time dilation per Lorentz) and all predictions of General Relativity. However, the so-called equivalence of mass and energy is an illusion and its related physics is better explained in terms of a previously unquantified type of charge.

An Anthropological Perspective on Skepticism and Anomalous Studies

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A recurring theme in SSE discussions is that of scientific and skeptical resistance to anomalous phenomena. Sometimes, these conversations are framed from Kuhn's (1970) perspective of the clash of worldviews and paradigm shifts. Anthropologist David Hess (1993) offers a cultural framework for interpreting this interaction as a dialogue between different cultures.

In this talk, I present an overview of the three cultures in Hess' framework: New Age, Parapsychology and Skepticism. I use this framework to analyze the interactions in three contexts: 1) between organized skeptics and proponents of the Gauquelins' "Mars Effect" findings; 2) internal dissent among organized skeptics around the "Mars Effect" controversy; and 3) controversy within the astrological community around interactions with skeptics and scientists.

This framework can be used to better understand some of the dynamics surrounding most areas of interest to SSE members.

References:

- 1) Kuhn, T. S. (1970). *The Structure of Scientific Revolutions* (2 ed. Vol. 2). Chicago, IL: University of Chicago Press.
- 2) Hess, D. J. (1993). *Science in the new age: The paranormal, its defenders and debunkers, and American culture*. Madison, Wisconsin: University of Wisconsin Press.

Psyleron

Overview of a New Effort in Direct Mind Matter Interaction

(Poster, Including Demonstration)

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Psyleron is an organization that was formed in 2005 by friends and former interns of the PEAR lab with the goal of making REG equipment, information, and research tools available to the general public. The company produces Random Event Generator devices and experimental software, and has recently begun collecting data from operators in its Bethlehem, PA office.

Representatives of the organization will be available to provide more information about its devices, future plans, and experimental findings to date. Some areas of research for the organization include learning effects, the progression of individual operator data segments over time, and the scaling of anomalous results under different experimental conditions. Preliminary findings include evidence of self-regulating behavior within individual operator sessions, and short-term effect sizes larger than those generally reported in controlled laboratory conditions.

Aside from conducting experiments and providing REG devices to the public, the company is in the process of creating online venues for the open-minded discussion and exploration of consciousness related physical phenomena. Its data sharing community will allow researchers to exchange results with friends and colleagues, and the company plans to make its experimental databases public on a regular basis. Questions, comments, and suggestions from SSE members are welcomed.

The Albuquerque 300 Experiment: Field RNG Analysis of the Albuquerque Tricentennial

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As part of the effort to further explore the possible correlation between instances of focused group attention during mass spectator events and the occurrence of transient non-random structural patterns in the output of random physical systems, a field random number generator (RNG) experiment was conducted during the events of the Albuquerque Tricentennial celebration, held between December 2005 and October 2006. Sample data were collected from a truly random RNG running unobserved in the author's home during the course of eleven individual, highly publicized celebration events held for the general public at various locations in the northeast and downtown sections of Albuquerque, New Mexico. The general prediction was for the RNG data collected during the events to show a deviation away from standard randomness in the positive direction, both collectively and individually.

Analysis revealed that although the collective data were in the predicted direction, they were not significantly different from chance. On the individual level, six of the eleven events were found to have shown nonsignificant deviations in the negative direction, opposite to prediction. A post hoc examination of graphical representations of data from each of the events revealed suggestive transient, non-random structural patterns in the data for three of the events (a royal banquet and ball honoring the Duke and Duchess of Albuquerque from Spain, one of a series of entertainment performances and market activities held in a downtown park that was known as the "Fiestas de Albuquerque," and a 300th birthday candle and cake celebration).

Although they cannot be taken as direct evidence for an effect, the non-random patterns observed in the data for all three events were notably in the positive direction, in line with the general prediction. Three possible ways to account for the null results of the experiment (the inherent weakness of mind-matter interaction effects, a distance effect, and the effect of the psychological atmosphere of the crowd gathered for the celebrations) are considered. It is argued that of these three, psychological atmosphere could be a rather strong factor based on the author's impressions of the events (e.g., the attention of individuals in the crowd was more wandering than focused at times), further hinting that psychological atmosphere could be a possible factor in developing conditions that may be conducive to "field consciousness" or "group consciousness" effects. It is also argued that two of the three non-random structural patterns observed in the post hoc event analysis could be accounted for by a "statistical equilibrium" or "statistical balancing" effect observed previously in other mind-matter interaction studies.