



## **ON THE NATURE OF SCIENCE**

**The Sixth European Meeting of the  
Society for Scientific Exploration**

**in Collaboration with the  
Plasticity Science and Arts Research Group**

**Paris, Espace Cléry -August 29 – 31, 2003**

# ON THE NATURE OF SCIENCE PROGRAM

Friday, 29 August

**Conference venue: Espace Cléry – 17, rue de Cléry – 75002 Paris – Métro Sentier or Réaumur**

09:10 Announcements and Welcome : *E. M. Insinna*

## **SESSION 1 – Impacts of Scientific Ideas and Paradigms on Society**

Chair : E.M. Insinna

09:20 John Ziman - Invited Speaker – Why Science Cannot Do Without Discipline

10:05 Rachel Zahn – Contributed Paper - Université de Paris 1, CREA École Polytechnique  
The sensation of scientific discovery

10:30 Coffee break

10:45 Halton Arp – Invited Speaker – *Max Planck Institut für Astrophysik, 85741 Garching, Germany*  
The Impact of Society on Science – Tribal Mores and Evolution for Survival

11:30 Ted Rockwell – Contributed Paper - *Founding Officer, Radiation, Science & Health, Inc." USA*  
Heresy, Excommunication and Other Weeds in the Garden of Science

11:55 Edgar Morin – Invited Speaker – Ecole des Hautes Etudes en Sciences Sociales - France  
Autour de la Spécialisation (en français)

12:40 Lunch

## **SESSION 2 – Science, Psychology and Biomedical Sciences**

Chair : Marc-Williams Debono

14:15 Lili De Vooght - Contributed Paper – University Hospital of Leuven, Belgium  
Psychosis: Challenge, dilemma or paradigm for the essence of the nature of science?

14:40 Walter von Lucadou – Invited Speaker – University of Freiburg – Germany  
Evidence and Human Cognition As Measurement Device

15:25 Eliane – Besson Delmarès – France  
The behavioral biology at the service of human resources -- an unlimited potential!

15:50 Montague Keen – *Contributed paper* – A Scientific View of Survival Evidence

16:15 Coffee Break

16:30 William Bengston – Contributed Paper - Some Methodological Implications of “Resonance Theory” for Control Groups in Healing Research

16:55 Jean Ratte – Contributed Paper – Centre Holoénergétique, Canada  
Fidelity to Science or the Right to dissent in biomedical sciences.

17:20 Stefan Schmidt, Susanne Müller & Harald Walach – Contributed Paper. *Institute of Environmental Medicine and Hospital Epidemiology- University Hospital Freiburg - Germany*  
Do you know who is on the phone? - Replication of an experiment on telephone telepathy

17:45 Lucy Pringle – Invited Speaker – UK - Crop Circles : the Effects of Electromagnetic Fields on Living Systems

18:30 Free evening

**Saturday, 30 August**

**SESSION 1 – Science and the Nature of Scientific Ideas**

Chair : Prof. John Ziman

09:30 Henry H. Bauer – Editor in Chief of “The Journal of Scientific Exploration “ USA  
Science : Past, Present and Future

10:15 Michel Cazenave – *Radio France Culture- France*

Présence du Mythe au Coeur de l’Invention Scientifique : de Platon à l’Electromagnétisme (en français)

11:00 V. P. Kaznacheev, A. Trofimov – Contributed Paper - *International Scientific-Research Institute of Cosmic Anthropolology - Russia*

On the Cosmic Nature of Scientific Ideas and the Role of the Observers in the Universe

11:25 Coffee Break

**SESSION 2 – Science and New Approaches of Scientific Problems**

Chair : Morvan Salez

11:45 Stavros T. Tassos – Contributed Paper – *Institute of Geodynamic s- National Observatory of Athens*

Excess Mass Stress Tectonics-EMST, and Z? Space: New Advances in Geology and Cosmology

12: 15 Lunch

**SESSION 3 - Science and Philosophy**

Chair : Ezio M. Insinna

14:30 Olivier Costa De Beauregard – Invited Speaker – France  
Science and Wisdom : The Incredible Non – Separability

15:15 Philip Franses – *Contributed paper* – Ortec Consultants, Osloweg 131, 9732 BK Groningen, The Netherlands

Finding the World in Light - Quantum Mechanics and Philosophy

15:40 Max Payne – Invited Speaker – Formerly Senior Lecturer in Philosophy, Sheffield Hallam University. Trustee of the Scientific and Medical Network - *UK*  
The bankruptcy of Reductionism and the dimensions of consciousness

16:25 Coffee Break

16:45 Jacques Benveniste – Invited Speaker -DigiBio – France  
The Limits of Science

**SESSION 4 – Science and Arts**

Chair: David Lorimer

17:15 Ariane Maugery, Guy Le Lay – Contributed Paper – UFR Sciences de la Matière, Université de Provence (Aix-Marseille I)  
Dissipative Structures: a Paradigm in Science and Arts

17:40 J-M Philippe – Invited Speaker – KEO Project – France  
KEO the Satellite : At the Crossroads of Arts, Science, Technology and Humanism

18: 25 Leaving for the Banquet

## Sunday, 31 August

### **SESSION 1 – Science and Moral Responsibility – Science and Religion**

Chair : E.M. Insinna

09:30 V. Popova, L. Andrianova, E. Saveleyev – *Contributed Paper* – *Russia*

Scientific Discoveries and Moral Responsibility

09:55 David Lorimer – Invited Speaker - *Programme Director of the “Scientific and Medical Network”* – *UK*

Neuroscience and Moral Responsibility

10:40 Coffee Break

11:00 Dipamrita Chaitanya – Invited speaker – The Dharma of Science

11:45 Evelyn Valarino – Invited Speaker - Switzerland

Dieu se révèle-t-il à travers les NDE? - Les expériences de mort imminente et la religion ( en français)

12:30 Concluding comments and discussion

## **Even though a discipline is a social construct, it may also be a natural category**

**Prof. John Ziman - Invited Speaker - UK**

Science is a complex evolving system driven by its psycho-social dynamics to organise itself spontaneously in terms of 'disciplines'. Researchers need well-defined problem areas in which to develop and display personal originality. Science is minutely differentiated into a nested hierarchy of subject specialties, institutionalised and regulated by distinctive paradigms. Social structures naturally self-assemble around these academic home bases, defining and consolidating them as markets for professional expertise and reputation.

Disciplinary boundaries are continually transgressed by novel concepts, techniques and discoveries. Historically speaking, however, the 'interdisciplinary' areas that often develop around new theoretical and practical problems are usually shortlived. The 'hybrid' disciplines that inevitably emerge in the 'pidgin trading zones' spanned by multidisciplinary teams soon breed their own kind.

Sociologically speaking, academic science cannot do without disciplines. Unable to organize the division of its own labour, it would just be instrumental technoscience. And yet each discipline presents itself as a natural feature of the world. Is this just 'boundary work' rationalizing an academic vested interest? Does Nature actually have 'joints' along which it is easily carved?

Thus, the physical, biological and human sciences correspond to successive stages in the evolutionary history of our planet. At first, everything could have been explained in the language of physics. But the entities that later emerged – living organisms - had properties that could not be described or pre-conceived, in that language. Similarly, the emergence of human consciousness and social action introduced a phenomenology that was not covered by the *themata* of biology. And so on, perhaps on a finer scale of differentiation.

Human behaviour must, of course, conform to biological principles, and these in turn to the laws of chemistry and physics. But these are distinct provinces of meaning with historically contingent features, and are not mutually reducible. This makes the study of boundary objects, such as the mind/brain and gene/DNA complexes, particularly challenging. But the social plurality of 'disciplines' often mirrors a natural feature of the world that cannot be deconstructed sociologically.

## **The Sensation of Scientific Discovery**

**Rachel Zahn – Contributed Paper - Université de Paris 1,  
CREA École Polytechnique - France**

Inspiration, rigor, and perseverance are three highly prized qualities cultivated by scientists. The latter two are taught explicitly during the initiation of a young researcher. He learns from his teachers the discipline of generating hypotheses and systematically challenging them to gain a better approximation of the truth.

By contrast, inspiration is rarely taught because scientists have traditionally regarded it as inaccessible to precise analysis and therefore too fuzzy to explain. Another reason may be their reluctance to disrupt its delicate process in themselves. They may conclude that something that is both of central importance to their work and so difficult to analyze rigorously is at risk of disappearing if examined too closely.

The reluctance to resolve this dilemma is not confined to scientific tradition, but was, until the twentieth century, equally taboo in the arts. Since then, artists influenced by scientific rigor have developed fine distinctions for analyzing the creative process (such as Constantin Stanislavski's "An Actor Prepares") that made inspired performance consistent and reproducible.

Until recently, these artistic solutions have remained inaccessible to scientists. There have been some exceptions (e.g. Charles Sherrington, Erwin Schrödinger, Richard P. Feynman, and Nikolaas Tinbergen), but such explorations were usually regarded as a dilution of rigor or as attributable only to unique genius. However, during the last fifteen years, the wide-spread emergence of interdisciplinary research has given scientists permission to look outside their traditional fields.

The author of the present paper was raised in a family of hard scientists (in physics, mathematics, and computer science) but chose a path in the arts and received training in classical theatre and ethical performance. The latter led her to investigate patterns of psychophysical congruence used to access high performance states.

During the last thirty years, she developed an interdisciplinary methodology which she taught to professionals in the performing arts, top athletes, and patients requiring physical rehabilitation. It was the influence of Margaret Mead and R. Buckminster Fuller that showed the author that her investigations should also account for intellectual disciplines. As a result, she became determined to understand the high performance states of scientists and philosophers in the same way she had studied actors and opera singers.

This talk introduces the author's findings. It explains the distinction between skill and talent and discusses the practice of non-intrusive thought experiments that help a scientist discover a psychophysical process by which talent is best expressed.

## **The Impact of Society on Science – Tribal Mores and Evolution for Survival**

**Halton Arp – Invited Speaker –  
Max Planck Institut für Astrophysik, 85741 Garching, Germany**

We are told things about the universe which, if we stop to think about them, are outright ridiculous. And yet most people believe, nay place their faith and whole feeling of security, in their being true. There are many examples of how the structure of our society permits to control scientific beliefs. In Astronomy alone, however, we can show many confirmed, yet suppressed, observations which illustrate the failure of the fundamental assumptions in the field.

But since the same scandals go on in biological sciences, medicine, the media, politics and so on, we might review the tribal customs of our various societal components. Learning and indoctrination in the schools, the control of money in the democratic process and intolerance of dissent are some areas in which we might consider basic reform. But just in the sciences alone we might fight back and insist that all scientific information be universally distributed and open debate about its meaning be encouraged.

# Heresy, Excommunication and Other Weeds in the Garden of Science

Theodore Rockwell – Contributed Paper - USA

Science and the law are two systems developed over the centuries to arrive at a particular kind of truth. Each works only within its own framework. Decisions reached can be properly challenged only by questioning whether the proper procedures have been used, not by charging that the result seems unreasonable. (E.g. a legal appeal can ask only such questions as: Was inadmissible evidence used? Was admissible evidence overlooked or misused? One cannot properly charge that a rape victim had previous affairs and therefore the court need not be so solicitous of protecting her virtue. Similarly, one cannot properly charge that the conclusion of a scientific report seems unreasonable and the work is therefore pseudoscience and should not be published or funded. Quantum mechanics and relativity have already demonstrated some highly counterintuitive conclusions but are not considered unscientific.)

The claim that scientific work that follows proper procedures should be discounted because it deals with unusual subject matter or produces unusual answers is a charge of *heresy*. Punishment of such activity by the scientific community amounts to *excommunication*. Heresy and excommunication violate acceptable scientific procedures and are themselves pseudoscientific behavior.

The scientific process involves more than just the bench scientist. Equally important to making the process work properly—or causing it to malfunction—are corporate officials, project managers, co-authors, editors, reviewers, and others, and each bears serious responsibility for maintaining scientific integrity. Corporate officials may judge that certain areas of study might offend persons or organizations they deal with. Scientists sense that some topics may restrain one's career. Co-authors may just want their names on a paper and then want to control its "tone." Editors pick reviewers in secret with little accountability, and reviewers have agendas of their own and don't have to face their accusers. The pure pursuit of truth may be battered in the process.

Many scientists consider certain fields of inquiry unsuitable for scientists. For example, when a double-blind study of the effectiveness (or ineffectiveness) of third-party prayer on healing was proposed, some prominent scientists protested loudly and publicly. No reason was given why such an experiment would be any more difficult than testing other medical procedures. The objectors stated only that the subject matter was inherently and unavoidably unscientific. Scientists have historically been reluctant to deal with subjects that involve mind, emotions and spirituality. This is understandable but unacceptable nonetheless. In fact, recent innovative work with functional magnetic resonance imagery (fMRI) has shown that it is possible to correlate certain emotions and states of mind with physical activities in the brain—a very productive area of scientific research.

So we may be dismayed but not surprised when scientific work in "disreputable" subjects is disparaged. However, even mainstream science is susceptible to such problems. I will discuss an example where the use of heresy and excommunication are flourishing. The subject is the health effects of ionizing radiation, where the beneficial effects have been demonstrated for over a century, but radiation protection policy doggedly refuses to accept that fact. I will cite reports supporting this fact, but will not try to make the case in this talk, since it is only necessary to show that the scientific process is being distorted by the efforts to suppress this information and to support the false conclusion.

Since it would be a simple matter to correct this situation, I will discuss why it has not been done. The answer is found by following the advice given by Deep Throat to the Watergate investigators: Follow the money. Careers and job security for many thousands of people depend on maintaining the false premise that radiation, even at the lowest doses, is mysterious, little-understood, and potentially lethal. Despite this situation, I will discuss what is being done to bring about the necessary changes. But the corrective process is more like orthodontics than surgery.



**To what extent scientific journals meet scientific criteria ?  
Comparison between a sample of mainstream scientific journals  
and a sample of fringe journals**

**Marie – Catherine Mousseau – Contributed Paper – France**

Do paranormal or parapsychological investigations meet the criteria often said to characterize pseudo-science? Mainstream and non-mainstream research is compared through content analysis of selected samples of mainstream journals from several fields and of non-mainstream (“fringe”) journals. Oral communication processes were studied at an annual meeting of the Parapsychological Association. Though certain quantitative differences were noted, qualitative distinctions were not found that could justify classification of parapsychology as pseudo-science. To warrant that, other criteria to define science would need to be established.

**Psychosis:  
Challenge, dilemma or paradigm for the essence of the nature of science?**

**Lili De Vooght - Contributed Paper – University Hospital of Leuven, Belgium**

In the problematic of psychosis the introduction and the integration of «the world », the universal world as opponent to the psychotic world, is an important element for the basis of treatment. We found in a dictionary a possible instrument to introduce this “universal world aspect”. The importance of this world-aspect as part of the treatment of an psychiatric illness confront us with the fascinating aspect that the body, the mind and the world have to be thought together in integrated concepts. It also interrogates our thinking on the nature of science.

Starting point for the study of the negative symptoms (affective indifference, cognitive poverty, lack of initiative, willpower and endurance, anhedonia, stereotypical acting and speaking, social isolation) in psychotic patients is Blankenburg’s phenomenological study, who describes this problematic as “the loss of natural self-evidence”. From out of a Lacanian and phenomenological (Ricoeur) perspective, the “word story” or the “dictionary story” method is developed. Hereby the patient himself starts from a word in the dictionary that is found on a predetermined spot (for example top left), forms associations with regard to it, and connects the words of a session at the end into a story that he makes up himself. Not only do we note, that a greater mental spontaneity is developed, but also, that affective contents of significance appear randomly in the margin and can be elaborated there. Mentalisation, communication and vital circulation do, however, remain the primary focus of this therapy. Finally, we forward the hypothesis that the dictionary can be conceived of as the representative of the “world”, a concept that had become problematic for psychotic patients. This notion of “world” is then further explored in theory.

# **Evidence and Human Cognition as a Measurement Device**

**Walter von Lucadou – Invited Speaker – University of Freiburg – Germany**

All scientific knowledge is based on empirical facts as well as on theoretical evidence. Theoretical evidence is mainly based on formal operations in mathematics. Mathematics, however, is mainly a mental or cognitive discipline. Thus, any kind of evidence is fundamentally based on human cognition. We call this the classical use of human cognition.

A closer consideration shows that each "observable" of every subject of natural science is based on generalisations of cognitive processes which are linked with human actions. For example the observable "length" is a generalisation of the human ability to move. This approach was called "proto-physics" by P. Lorenzen and P. Janich. It can be shown that the proto-physical process of the creation of scientific concepts depends on certain psychological mechanisms of the human psyche such as "gestalt-perception", or the so called "binding-problem" and others.

In my paper I will try to argue that this process can be used in an active way to gain scientific knowledge. Whilst the classical use of human cognition in science has a more or less passive character (e.g. to state that a given formal procedure is "right" or "wrong"), the proposed method entails an active use of human cognition during experimentation. This should not be mixed up with the usual "rating-procedures" in psychology, where subjective assessment is used as a psychological measurement method.

The "non-classical use of human cognition" is founded on certain non-classical systems-theoretical assumptions such as the complementary of "structure" and "function" as it has been stressed in the "weak quantum theory"-approach of H. Römer, H. Walach and H. Atmannspacher.

It is assumed that human cognition naturally uses certain complementary representations for the description of experimental situations and results. The method of actively changing those complementary representations within an experimental setting creates a "non-classical proto-physics". If the experimental system entails non-local effects or entangled subsystems the "conservation of entanglement" (R. Gingrich und C. Adami) leads to different results depending on the representation in use. Thus, the comparison of two complementary representations yields more information about the system in question compared with the classical approach.

In my paper I will argue that the proposed method can improve the classical double-blind techniques in psychology and is specially apt for all those fields where up to now only epidemical studies could be used. "Parapsychology" and "homeopathy" may serve as examples. Especially the latter lacks from the fact that the exact replication of double-blind studies in general leads to different or often contradictory results in spite of successful epidemic studies. Parapsychology suffers from the decline of the effect-size in relation with the increasing length of the studies. This so called "decline-effect" (in the funnel-plot) has been shown in most recent meta-analyses. It will be argued that the dichotomy of the cases in the "verum-" and the "control-group" establishes (in most cases) a time-depending "functional representation". If the same procedure is repeated the internal non-local correlations must vanish and therefore the entanglement cannot be measured anymore in this representation. If, however, in the replication study a complementary "structural representation" can be used the entanglement can be conserved. In the paper it will be discussed how this can be performed in a real experimental setting.

**The Behavioral Biology at the Service of Human Resources:  
An Unlimited Potential!**  
“BIO-RESSOURCES” \*

**Eliane Besson-Delmarès – Contributed Paper - Engineer ; consulting in Neuro-Behavioral and Cognitivism Therapy - Contributed Paper - Institute of Environmental Medicine , France**

Over the last few decades, increasing interest has been attracted to the sciences of the nervous system and of human behavior . Despite the extreme complexity of the subject, the results obtained are beginning to throw new light on our “psyche”.

The concept “Bio-Ressources” analyses the relationships between observable behaviour, emotions and the evolution of the thought at that moment.

Neurosciences are sciences of our consciousness, of our acts and of our feelings, because human being is everywhere , because the defect of understanding his functioning is the weak point for himself and for his organisations.

The behaviour is understood through a “new grid”: the instinctive states of urgency, which are flight, fight and inhibition of action. These states underline respectively the classical concepts of anxiety, agressivity and depression.

The quasi-totality of our “jamming” behaviors seems to turn around the fear from the other ones, of the group , of the clan , around the necessity to look like them to be accepted in the “gregarious herd” and traduces itself by the fear of ridiculous, self-shame , the fear to be judged , self depreciation...

We can pass over the causes of these stress states. The “clever” thoughts (neocortex brain and prefrontal areas) are driven back by the automatic thoughts (limbic brain).”Dedramatic art” and “Change of mental modes” allows to develop reflection, decision and motivation abilities. These “inner tools”, when experimented deeply are able to remove psycho-emotional hitches.

The assembly of this work is particularly pertinent so that persons, who do feel ill-at-ease can be conscious of their stress and realize that they own an extraordinary access tool to their intelligence and creativity.

“Extended consciouness” experiences (by giving the hand of the neocortex parameters ) allows to surpass ourselves , and to discover some unusual and surprising potentialities ...

## **A Scientific View of Survival Evidence**

**Montague Keen - Contributed paper - Secretary of the Survival Research Committee of the Society for Bychical Research, and Chairman of the Society's Image Committee - UK**

Perhaps the biggest challenge to scientific integrity, and a test case of the readiness of the scientific establishment to confront uncomfortable evidence, is the resurgence of experiments with mediums the results of which appear to support the hypothesis that human personality survives bodily death and communicates intelligently to those on earth.

The speaker will refer briefly to the significance, and results, of current work in the USA (Schwartz et al) and the UK (Roy and Robertson) experiments testing the hypothesis that the proportion of statements given to intended recipients by mediums, after procedures aimed at excluding all normal means of communication or appraisal, is very significantly greater than those acceptable to non-recipients. None of the current series of experiments, however, can entirely exclude the so-called super-PSI explanation and unambiguously establish the communications to be from a discarnate source. The ideal case would conform to, or improve upon, three criteria spelled out by one of Britain's most experienced psychical researchers, Dr Alan Gauld:

The communicator would have a strong and comprehensible reason for wishing to communicate — stronger than any reason the medium might have to contact him; the information would be such that the medium could not have picked it up from the mind of any living person, obituary notice, etc.; and one can be certain that the medium could not have obtained the information by ordinary means.

The speaker will summarise a recent case he has investigated in which information purporting to derive from a recently murdered woman came through a medium so strongly that she contacted the police, to whom she gave some 125 specific pieces of accurate information relating to the murder scene, the circumstances of the assault, the appearance, age, occupation and nickname of the murderer, the names of friends and relatives and even the likely location of the spot where the murderer, who was not a suspect, hid her stolen jewellery. Some of the information was not validated until, eighteen years later, in August 2001, the criminal she had identified was sentenced to life imprisonment for the murder.

This case could meet William James' requirement of the discovery of a single white crow, whose existence falsifies the theory that all crows are black. Mrs Leonore Piper was James's white crow, but it is contended that the present case is an even more reliable example.

## **Some Methodological Implications of “Resonance Theory” for Control Groups in Healing Research**

**William F. Bengston – Contributed Paper -St. Joseph’s College**

Six separate experiments carried out at Queens College, St. Joseph's College, and the University of Connecticut involving “laying-on of hands” on experimental mice produced anomalous healing patterns in the control groups. In four experiments, mice were injected with lethal dosages of mammary adenocarcinoma (source – The Jackson Laboratories; code – H2712; host strain C3H/HeJ; strain of origin – C3H/HeHu) and randomly separated into experimental and control groups. In two experiments, mice were injected with lethal dosages of methylcholanthrene (source – The Jackson Laboratories; strain – Balb/C; background – H-2d) and randomly separated into experimental and control groups. The experimental mice in the mammary adenocarcinoma experiments treated by “laying-on of hands” exhibited an anomalous pattern of remission, passing through stages of a blackened area appearing on the tumor, then ulceration of the tumor, to closure and full life-span cure. The experimental mice in the methylcholanthrene sarcoma experiments exhibited a different pattern of remission, sometimes exhibiting tumor ulceration and sometimes simple shrinkage of the tumor.

In all six experiments, a significant percentage of control mice exhibited these anomalous remissions of their cancerous tumors, though they were not treated by the “laying-on of hands” technique. Normal (fatal) tumor growth only occurred when the control animals were either sent to another city, or were placed into a geographically separated “clean” laboratory.

A preliminary model suggests that these healing effects are not related to a “field effect” produced by the healer, but rather to a “resonant bond” which is established among all the animals in the experiment. A treatment given to any animal will be “shared” by all animals within the resonant bond. Resonance theory, then, has important implications for the normal methodological assumption of separation into treatment and control groups. Hypotheses to test the conditions under which resonant bonds are formed and broken are suggested.

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## **Fidelity to Science or the Right to Dissent in Biomedical Sciences**

**Jean Ratte – Contributed Paper – Centre Holoénergétique, Canada**

The author, MD and FRCS, was forced in 1992 to quit medical practice by the Québec Medical Association because he refused to stop using Vascular Holoenergetic Resonance (VHR), an alternative approach that is not << scientifically recognized >> but is helping to resolve a lot of functional problems not amenable to academic medicine. He works since then as an autonomous searcher in private practice developing this technique.

There is only science of the parts. There is no science of the whole and Science cannot tell why the whole is more than the sum of its parts.

Medical practice is a good place for testing this fact and observing the usefulness of the different paradigms, their domains of validity and their limits. The mainstream biomedical paradigm is still very mechanistic and is relevant to emergency and organic problems.

The failure of this paradigm in functional diseases prompted the author to study acupuncture that is like electronics with its binary logics. If a mechanistic approach and an electronic-like approach don't help, it means that the basic problem is situated at another level, that of the software which can be mixed up. VHR by working at this level brings back the human being to its essential programs so he doesn't need anymore to put the brakes that are the diseases.

This VHR is based on the fact that the human body is an interferometer and that the arteries as resonators and amplifiers of cellular vibrations can detect not only electromagnetic but also gravitational, strong and weak nuclear interactions. This mesodermic VHR allows the detection of semantic resonance while ectodermic senses are lenses that detect only syntactic resonance.(1)

This is a long road but the Hippocrates' oath was made to the patient and not to a corporation. A paradigm is a map that allows to explore new territories or to get a new look to an old territory. Each paradigm needs fences to name its limits. There are very useful social fence-makers. Science needs also fence-breakers when the map becomes old and prevents the exploration of deeper levels of the human being that is a whole greater than the sum of its parts.

The clash of paradigms can be very painful when one sticks to Hippocrates' pledge and the corporate rulers take the map for the territory and refuse to look at other maps. A scientific mind dedicated to Science has sometimes in his life the duty to pass over the fences. To pass over is very rewarding intellectually even if to be off fences is an offence for the social fence-makers who refuse to upgrade.

1/ parts of this work has been presented at Tucson 2 (1996) and Tucson 3 (1998) conferences; Toward A Science of Consciousness, poster sessions.

# **Do you know who is on the phone?**

## **Replication of an experiment on telephone telepathy**

**Stefan Schmidt, Susanne Müller & Harald Walach**

**Institute of Environmental Medicine and Hospital Epidemiology,  
Samueli Institute, European Office  
University Hospital Freiburg, Freiburg, Germany**

Telepathy is a continuously debated topic within the realm of controversial science. The basic suppositions of our modern scientific system and worldview do not allow for effects that are not transmitted by local and contiguous effects. Since so far all research to find a 'telepathic signal' failed, we are challenged with the situation that we do not know of any telepathic information transmission mechanism while at the same time there is a vast collection of case reports containing personal experiences of telepathy.

One example is that many people report that they know in advance who is on the phone when the telephone is ringing. Such reports may be explained by selective memory or expectancy effects but there are also events that resist such hypotheses as e.g. cases of friends that have not met nor called for twenty years calling each other in the same minute. Thus many people believe in an extrasensory communication transfer that is termed 'telephone telepathy'. Surveys show that this kind of belief is widespread and might be one of the most common beliefs into the paranormal at all.

Rupert Sheldrake conducted several experiments to find out whether this effect is really due to telepathy. Subjects had to determine which one of four possible callers is on the phone while the telephone was still ringing. Sheldrake reports highly significant hit rates that cannot be explained by conventional theories. He claims furthermore that people that are familiar to the person answering the phone are identified at significant better rates than unfamiliar callers.

We attempted to replicate both of these findings by setting up a similar experiment. Twenty-one participants were twice invited for a two hour session into an office like room and were asked to pre-identify the callers of 10 phone calls within each session. The caller could be either one of two persons known to the participant or one of two persons unknown to them resulting in a mean chance expectation of 25% correct guesses. Before the first session, participants were asked to fill in questionnaires on mood, personality and paranormal belief. Then they spent approximately 100 minutes in the room together with an experimenter. The whole session was recorded on videotape. Approximately every ten minutes a telephone without display rang and the participant had to announce his call into the video camera before the experimenter lifted the phone to check who was calling. The sequence of the four possible callers was determined by a random event generator. A second experimenter at a different location arranged the calls by calling the callers telling them their calling time.

Overall we obtained valid responses on 397 calls and the participants identified 106 calls (26.7%) correctly. This result is not significant ( $z = 0.81$ ). However 67 (63.2 %) of the correct calls were by familiar callers showing that this group was identified more often than the unknown callers. But this result can be explained by a response bias in the participants because in all 397 calls they responded 242 times (61.0%) with the name of a familiar person resulting in a non-significant hit rate of 27.7% ( $z = 0.96$ , n.s.) for this group and also in a non-significant hit rate of 25.2 % ( $z = 0.05$ , n.s.) for the unfamiliar callers. The difference between these two hit rates is non-significant. Thus our replication failed to yield any telepathic effect.

## **Crop Circles: the Effects of Electromagnetic Fields on Living Systems**

**Lucy Pringle – Invited Speaker – Author, UK**

The Crop Circle phenomenon, although acknowledged in anecdotal literature for centuries underwent a dramatic period of evolution from the mid 1980s. Little was understood about the causes and mechanisms involved, though links ancient sites were beginning to emerge. The author, working alongside other researchers interested in the phenomenon's basic geo-physics and biophysics of plant changes, has specialized in the effect of subtle earth energies on living matter, particularly humans and animals. She has assembled the most comprehensive database yet available on health effects of circle energies on individuals. Extreme effects ranging from total nausea and disorientation to remarkable healing results in areas as diverse as arthritis and hearing have been recorded. Recent research has focused on hormonal changes in humans observed with only a few minutes exposure to circle energies. In particular, using the latest portable equipment, significant changes in oestrogen and melatonin have been recorded.

This work is generating significant interest in mainstream medical circles. Work also continues in seeking suitable additional testing protocols for recording the effects of circle subtle energies, based on homoeopathic principles.

For the past 14 years Lucy has been investigating the effects of environmental effects on living matter particularly relating to the effects of electromagnetic fields on humans and animals. Also the failure of electronic instruments. In her book "Crop Circles, The Greatest Mystery of Modern Times", Lucy gives examples of her work. She is a Founder member of the Centre for Crop Circle Studies and Founder and Chairman of UNEX (Unexplained Phenomena Research Society). She is an aerial photographer.

The author is well known for her lectures featuring a wide selection of her own aerial photographs of the Wessex region of the UK. She has also published popular books on the phenomenon.

## **Science: Past, Present, and Future**

**Henry H. Bauer**

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When someone says "science," we think "physics." The reason for that resides in the history of science and in the historical development of the philosophy of science. Science-as-physics has countless implications for the public image of science, the conventional wisdom about scientific method, the notion of "hard" versus "soft" sciences, and the belief that science means repeatability, predictability, falsifiability.

But the age of physics is at an end, and the age of biology has begun. As biology becomes the most prominent among the sciences, the general notion of "science" will also change, with profound consequences for the interpretation of concepts like repeatability, predictability, falsifiability. Parapsychology may become a mainstream science.



## **Présence du Mythe au Coeur de l'Invention Scientifique : de Platon à l'Electromagnetisme (en français)**

**Michel Cazenave – Invited Speaker – Ecrivain, France**

L' "histoire sainte" de la science prétend que celle-ci s'est toujours construite rationnellement. L'histoire réelle des sciences nous montre le contraire. Comme le dit Paul Feyerabend: "Anything goes". En particulier - et Karl Popper l'avait déjà constaté avec tristesse-, la science a souvent été produite par rationalisation et mise à l'épreuve des faits de vieux scénarios mythiques de l'humanité. D'où se pose la question du statut d'une imagination créatrice, différente par nature de ce qu'il est convenu d'appeler l'imaginaire.

# **On the Cosmic Nature of the Scientific Ideas and the Role of the Observers in the Universe**

**? . Kaznacheev, A. Trofimov**

**International Scientific-Research Institute of Cosmic Anthropeology – Contributed Paper - Russia**

Modern cosmology, leading more and more into the open spaces of our galaxy and the Universe, possesses the features of human measurement. The deepening of the anthropic view since the middle of the last century includes both the strong and the weak principles, as they were formulated by Carter as well as the finalistic postulates of subjective-objective development.

Undoubtedly, the strong principle, proposed by Carter "the Universe should be such that the existence of observers at some evolutionary stages is supposed" requires further development.

The anthropic vision of K.E. Tsiolkovsky, the well-known Russian cosmologist, can be formulated as follows: "Being an object, the Universe reproduces a subject (the multitude of Observers), as a necessity of self-reflection of the Universe and its evolution and keeps the conditions for a continuous existence of the Observers. This principle is a foundation of philosophy and cosmology, and probably represents the essence of the evolution of the Universe. The multitude of subjects at different levels and spaces of the Universe can perceive each other as objects followed by an unification in the Universe's subjective world.

The observer's origins can be related to evolutionary fundamental properties of the Universe, which, as K.E. Tsiolkovsky and his followers considered, is a process of "self-reflection" of all evolutionary stages both at the microcosmic level, in vacuum and radiations as well as in all elements of body thermodynamics.

It is possible to assume that the Universe and human mind provide in themselves some latent, outstripping projects (scripts), variants of different events, inducing the conditions for the occurrence of the next generations of Observers. Activity of these Observers, "self-reflecting" the Universe, implies the use of energy flows and new forms of sources of energy. Of great importance are the next three principles:

1. The hypothesis of a self-development of the Universe comprises outstripping axiologic scripts, programs of the emergence of different Observers in a combined "Minkosky-Kozyrev spaces».

2. The role of the Observers is a development of the little-known information universe flows and their realization in society, science, history, culture, religion, the recent geopolitical reality of the planet Earth and its practice of planetary evolution.

3. A man of this planet, using various forms of energy, leads a part of the Universe to explosive instability, excitation, transition to the following phase of its progressive or, on the contrary, regressive development. The mankind searches painfully for ways of its survival, and cosmic anthropeology becomes a science connected directly with cosmoplanetary evolution.

Cosmic anthropeology involves all known regularities of the evolution of the Universe, modern philosophy, natural cosmology, astrophysics and planetary science. It is an attempt to understand the essence of human measure, the mind and mankind's role on our planet as well as its interactions with a cosmic space mind.

Cosmic anthropeology allows to understand more exactly the anthropic principles and new scripts of evolution. Modern physicalism (the dogma of physics), which is prevailing today, has already been changing its paradigm and shows a physico-humanitarian expansion of scientific horizons. The new vision will conclude that there is a real cosmologic representation of an entity, as well as more deeper and faster development of some inert world nature in living substances, in processes of "alive cosmos", our intellect. As this takes place the essence of ideality and the essence of materiality are united and we come back to "omega", i.e. understanding the role of our life on the planet Earth and in the Universe.

# Excess Mass Stress Tectonics-EMST, and Z? Space: New Advances in Geology and Cosmology

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The concepts of Plate Tectonics and Thermally Driven Earth in Geology, and Big-Bang and Doppler Redshift in Cosmology are considered not only inadequate, but contrary to logic and observation. Excess Mass Stress Tectonics-EMST and Z ? Space are proposed, as realistic, logically consistent, and mutually complimentary alternatives.

In the context of Excess Mass Stress Tectonics (EMST), the Earth is treated as a randomized solid body, the size of which, due to cosmic expansion and internal processes, increases with time. The core is a low temperature, high energy and high frequency plasma state material, wherein new elements form, constituting the Excess Mass (EM), then are added to the overlying mantle. Iron, with the highest nuclear binding energy of 8.8 MeV, is the last element to form. Due to cosmic expansion, the internal pressure gradient is from the center towards the surface, so EM ascends as solid state 'wedges'. Ascending iron, which characterizes the present stage of Earth's enlargement, ascends in the form of reduced high pressure  $Fe^2$ , to a depth of about 700 km. At shallower depths it releases its 4-5 electrons, when oxidizing at lower pressures; and thereby causes microcracks to form, initially of near atomic size ( $10^{-10}$  m), and finally of crystal size ( $10^6$  m), wherein a necessary longer wavelength of resonance of the 'old' metallic bond electrons from  $Fe^{2,3+}$ , and 'new' electrons from  $Fe^{2-}$  is reached; the type of subsequent resonance is named Electron Resonance Stimulated by Excess Mass Electrons (ERSEME). The combined sympathetic oscillations at the thermal-infrared frequency of  $\sim 10^{14}$  Hz within such microcrack cavities ( $\sim 10^{17}$  units, for an 8.8 earthquake), generates a near instantaneous adiabatic shock stress rate, which coerces a plastic solid material, as rocks are, to instantaneously respond elastically, and is necessary for seismic wave generation. Rigidity/viscosity and net electronic state remains the major physical difference between the resonating electrons within the in parallel-connected microcracks, and the surrounding rocks. What determines an earthquake's magnitude is the density of microcracks/resonant cavities for a given volume, or else, a greater volume for a constant density of microcracks. Volcanism, heat flow, gravity anomalies, and other solid Earth phenomena are explained in the context of EMST.

The essence of Z? space proposition is that space randomness logically implies that finite itself does not exist in any physically expressed sense; infinity is the only possible logical physical state within a randomised existence. Unification of observations is found in the removal of the false premise that 'finite' physically exists; in any form. Space is considered expanding, randomised, finiteless, continuous, elastic, lossless, and the logically necessary source of all mass, which measurably emerges due to anisotropic distribution of space itself, via 'particle' standing-waves. Space is thought of as the primary and only ingredient of physical existence, and matter and light are simply sine waveforms of ? anisotropy, of a perfect-elastic space isotropic continuum. The elastic continuum is lossless, has infinite elasticity, and possesses all cosmic mass. Gravity is the anisotropic directed tension, within this elastic of space, and its inverse quantity is 'mass', i.e., the elastic's own inversely equivalent density. As linear expansion occurs, elastic tensional energy of space itself rises, counter-acting entropic dissipation, so recharging a lossless elastic cosmos. As tension rises, elastic density falls inversely proportionally, and the frequency of matter and light linearly rises, as one, due to linear endless space expansion. Astronomical redshifts ?z=1 are considered non-Doppler in origins. Relativistic redshift equations, which project z values where  $z \neq 1$ , are rejected, and the linear relationship is considered valid. This non-Doppler effect is logically considered as a natural continuous rise in the emitted frequency of photons, from all matter, over time; and is attributed to a linear reduction in the size of all standing-wave 'particles', due directly to the linear rise in space's elastic tension G. The observable volume of space is the 'optical bubble'. 'Z?' means infinite impedance, i.e. perfect reflectivity of all energy; and occurs due to the inability of space to deform elastically at any rate ? c. Z<sub>l</sub> is the inevitable cause of 'solidity', which results from the perfect reflection of all acceleration energy imparted to standing-wave particles, which are continually oscillating space itself, at the maximum deformation rate possible. Many major outstanding physical issues, such as how gravity is quantised, find their natural unforced quantitative solutions, via logical reappraisal within a finiteless Z? space context.

## **Science and Wisdom “The Incredible Nonseparability”**

### **0. COSTA DE BEAUREGARD – Invited Speaker - France**

Wisdom is called upon at times of "scientific révolutions", *paradigmatic shifts* in Kuhn's wording. Sorting grain from chaff is not easy when, as dictionaries put it, a *paradox* shows up as "a surprising but perhaps true statement" -like in the days of The Copernican Revolution. Further révolutions occurred in physics, but none of a similar magnitude before the quantum one in 1900 and the relativistic one in 1905. We are interested here in the *révolution of quantum non-separability*, especially in *its quantum-and-relativistic* form. It is Einstein who, at the 1927 Solvay Council, pinpointed the problem, one that has kept burning up to this very day - the 2002 April issue of *Physical Review Letters* contains the account of an experiment performed at the Geneva University, testing the time aspect of non-separability. In the co-signer's wording "the oddness of quantum mechanics" is thus evidenced once more. The *paradox* stems from the *probabilistic interprétation of wave-particie dualism*.

Discarding technicalities, *what has wisdom to say concerning non-separability? Bom's wavelike probability calculus defines the code of an information transmitting telegraph where coding and decoding are reciprocal. The twin faces of Aristotle's information, namely knowledge and organization, are thus exchangeable, together with those of efficient and final cause. Inverse optical return, tied with predictionretrodiction symmetry, shows up as interfering non-separability. Phase coherence, the master word in ail this, implies a sui generis corrélation between physical préparations and measurements quite arien to accepted préjudice. The concept of a self-supporting reality is rejected, and replaced by one of an agreed upon realization. Jung's collective unconscious concept fits well with this.*

So, far from being "irrational", the so called "paranormal" phenomena of telepathy, pre or retro-cognition, psycho-kinesis, are naturally formalized.

## Finding the World in Light

**Philip Franses, – Contributed paper - Ortec Consultants, Osloweg 131, 9732 BK Groningen, The Netherlands - [pfranses@cs.com](mailto:pfranses@cs.com)**

The nature of science is founded on the act of affirmation required of the individual to make the world intelligible. In relativity the act of affirmation is individual measurement of events, the universality of light providing the observed events with collective order. In quantum theory, there is a choice whether we come to terms with an infinite darkness for the few moments of light in which the atom is engaged or settle on isolated islands of light.

In relativity it is light, that establishes a common connection beyond the relative nature of individuals. The transmission of light communicates a universal relation between events. It is light that is the basis of the inner experience of connection between the events I experience and the experience of another.

Within physics, the mathematics of a black hole describes a world in the absence of light. The continuity of the individual no longer resides in its ability to communicate with other individuals through light in the flow of events. The universe is a discontinuity of images that follow apparently nowhere. The individual's ability to communicate through light seems closed upon itself.

Starting out from the assumption of the universality of light as the basis for individual participation, the relativity of physical phenomena leads into a darkness, in which light is no longer there to help.

Quantum theory on the hand makes the events of its reality part of all the participants, so that it is not dependent on light for its communication. Further light that should be emitted by the electron continually during its orbits is only evident in transitions between orbits, when the light has the requisite energy to bring about the transition. In these transitions light takes on an existential form, behaving as a particle with position and direction, while between these transitions light is nothing more than the potential of its actualisation.

The potential of light giving of the individual crosses the terrain of encounter in open question to the world; the participation of the individual in the negation or affirmation of this potential are the two poles between which the potential for light giving is realised. The individual is moved to effect his light giving in the darkness of the world and to open up his darkness to engage with the light of the world. Between these two possibilities the potential of light giving draws a conditional line around which the relationship of being may unfold.

Darkness may be overcome because light is focussed into an existential realisation. There is a paradox between worlds of darkness and light, that has a logic of resolution, in a step wise engagement with the world. Science helps us to formulate the essential question containing the paradox and shows its resolution through the moral imperative, the choice for an existential light.

# **The Bankruptcy of Reductionism and the Dimensions of Consciousness**

**Max Payne – Invited Speaker - Formerly Senior Lecturer in Philosophy, Sheffield Hallam University. Trustee of the Scientific and Medical Network -UK**

Mind cannot be reduced to matter. Reductionism is scientifically invalid and philosophically inadequate. A scientific theory that replaces commonsense must be demonstrably better than the opinions it replaces. Rainbows are better explained by refraction and reflection than by fairies. No brain scan gives us as much information about a person's intentions than do introspection or verbal interrogation. At the moment Reductionism is an act of dogmatic faith. It can be argued in reply that in principle a full description of brain structure is possible through further advances in neurophysiology.

In terms of present knowledge such a fuller material description will have to be in terms of the deepest understanding of matter we have, that is quantum physics. However Heisenberg and Non-Locality forbid the possibility of the precise description needed to prove Reductionism, and it now seems that 94% of the matter in the universe is "dark" and unaccounted for in our present theories. Thus quantum physics is a grid of mathematics we impose upon reality, and the conscious mind of the scientist that imposes the grid must remain forever outside it.

This recognition makes a strong case for a form of Pan-Experientialism in which mind and matter are inner and outer aspects of a reality that includes both. Nothing in this contradicts any advance in neurophysiology. It does, however, raise the question of the dimensions of consciousness. Are we correct in the rationally centred assumption that there is nothing higher in the scale of consciousness than the mind of a professor of psychology ready for work on Monday morning? We know that there are levels that are different or lower. We have to attribute consciousness to at least the higher animals, but what is the mind behind a cat, a bat, or a flock of migrating birds? Drunkenness, brain injury, and sleep all show that there are levels below recollected rationality. But do not genius and mystical experience suggest that there may be levels above?

Just as telescopes, microscopes, and cyclotrons are needed to extend the five senses in the exploration of the outer aspect of matter, may not severe disciplines be necessary in the inward exploration of mind? Scientific knowledge extends into the ever widening exploration of the outer dimension of matter, but the self-critical open process of scientific inquiry extends in both directions. The scientific investigation into the inner dimension of mind touches fingers with the techniques yoga and religious meditation, but in the spirit of an open, and self critical inquiry in which all conclusions are relative and provisional.

## The Limits of Science

**Jacques Benveniste – Invited Speaker - Directeur de Recherche Emérite at Inserm - France**

Fibrinogen coagulation by thrombin is severely blunted by a virtual anti-thrombin, i.e. the EM signal, first computer-recorded from molecular anti-thrombin then “replayed” to water ([www.digibio.com/video](http://www.digibio.com/video), [US patent 6541978 B1,18/07/2001](#)). How this result is received by the scientific “community” reveals several anomalies of contemporary science.

This advance is linked to the physical nature of the molecular signal and its mode of action, by co-resonance, which does not violate any physical law. Many aspects of biology, now purely phenomenological, become operational. An example out of many possibilities is the detection of a microbe anywhere from anywhere. Nevertheless, the “peers” burst with indignation. Fraud was evoked and pre-scientific words flourished, such as “*heresy*”, indicating the startling existence of dogmas in science.

This story reveals other breaches on what are (or should be) cast-iron scientific principles, not mentioning (not being the subject of this presentation) outdated sheer honesty:

1) Acceptance of a result only depends on its statistical significance. An impaired coagulation indicates an anticoagulant effect, which cannot be dismissed because the reason for inhibition is unusual. Research relies precisely on paying attention to “anomalous” phenomena.

2) Science (and art, and industry, and...) progress through trials and errors. If error becomes a crime, science will idle and stop. It has idled and stopped, in fact, since the mid-twentieth century, under the cover of technological hops.

3) Another principle appears sound... in principle: results must be replicable in other labs. If stringently applied to “nascent” results that appear one day to escape the next one, it will forbid any really new advance. Our original work, the effect of highly dilute biological substances, dubbed “the memory of water”, has been independently replicated in six laboratories, one of them twice, <http://www.digibio.com/credentials>. This didn’t deter the spread of the rumor (*not replicated*) and the ensuing excommunication. What kind of totalitarian ideology is there behind this nonsense, or should I say this non-science?

4) I propose a dogma: science is foreign to dogmas, which are antithetical to research. Yet, such practices have nowadays overwhelmed the system – the word “heretics” indicates a fixed set of rules - which itself evolved from individualistic activity to a bureaucratic Leviathan.

The controlling bodies are main institutions, national academies, inefficient centrally run organisms (CNRS in France, NIH in the USA...) and major science journals which now tell what to investigate on, or else “*you will not be published*”. This oligarchic bureaucracy, with no democratic and legal framework, offers easy stifling levers to the happy few in control. In the name of excellence, the peer-review system allows self-appointed representatives of the existing science to reject upsetting ideas.

Is there an antidote to these menaces to scientific progress, that is to our civilization? Probably not. Perhaps a simple measure: allocate 5% of research budgets to projects turned down by the passés “experts”, possibly the only way to let fresh air flow into the system? Provisionally endorsing a false idea or fact is much less harmful to science than rejecting a real one, declared “*unbelievable*” by some close-minded autocrats. Anyhow, we do not built nature but unveil it, and the only competent judge is time.

## Dissipative Structures: A Paradigm in Science and Arts

Ariane Maugery \* and Guy Le Lay<sup>†</sup> - Contributed Paper - France

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Our work reflects the conjunction of an artist's point of view, who is also a PhD student in Aesthetics (A. M.), and the practice of a Physicist, in Solid State and Nano-Science (G. L. L.) who question fundamental scientific ideas and concepts like self-organization, deterministic chaos, strange attractors, complexity, pervasive in modern science ?1?.

Here we will relate such concepts in a kind of diptick. One aspect is a synthetic presentation of the non-linear historicity of our basic understanding of matter, inspired by the plurality of the times, inherently involved. Henri Bergson revealed it as a "true duration" which is self-generated and deals with this concept ???. It highlights the constructive role of entropy, based on Prigogine's work - the origin of A.M.'s sensitivity for sciences- that of dissipative structures, which unceasingly exchange energy with their local environment ?3?.

The second aspect, is a real artistic creation which explores some phenomena of spontaneous organization, as a genuine entity. We will show an audiovisual composition (5 minutes) created by A. M. with spasmodic fragments of the meandering motion of a dancing body. It crosses various media in a kind of erratic movement, paradoxically, simultaneously with several contradictory prospects, implying a kind of stratigraphic internal vision. For this, we will reshape a video which was realized in this state of mind as a complex architecture where several levels of organization are entangled ?4?.

?1? J-P. Luminet, *L'Univers chiffonné*, Fayard, 2001; F. Varela and J. Shear (Eds.), *The View from Within: First-Person Methodologies*, Imprint Academic, London, 1999; Edgard Gunzig and Simon Diner, *Le Vide, Univers du Tout et du Rien*, Editions Complexe, 1997.

?2? H. Bergson, *Essai sur les données immédiates de la conscience*, Quadrige, Presses Universitaires de France, Paris, 1927; *Matière et Mémoire*, Quadrige, Presses Universitaires de France, Paris, 1939.

?3? I. Prigogine, *La nouvelle alliance, Métamorphoses de la science*, Folio Essais, Editions Gallimard 1979 ; I. Prigogine, I. Stengers, *Entre le Temps et l'Eternité*, Champs Flammarion, 1992.

?4? **Dissipative Metamorphosis was an invited presentation during the Art and Science session: Surface-Time of the 11<sup>th</sup> International Conference on Solid Films and Surfaces held in Marseille, France (8-12 July 2002).**

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# **KEO the Satellite : at the Crossroads of Arts, Science, Technology and Humanism**

**Jean – Marc Philippe – Invited Speaker – France - [www.keo.org](http://www.keo.org)**

## **KEO ELU «PROJET DU XXI<sup>ème</sup> SIÈCLE» PAR L'UNESCO**

A l'intersection de l'art (pensée intuitive) de la science (expression d'une forme de savoir issue de sa méthode propre), des technologies (expression du degré des savoir-faire humains à un moment donné) et de l'humanisme (intérêt majeur rapporté à l'espèce et à ses valeurs morales) KEO est un projet qui fait sens. Ce sens qui lui est précisément conféré par l'intersection même d'où il procède, et que l'invention artistique dans son alchimie peut rendre sensible.

### **KEO, une liberté d'expression pour tous**

Jusqu'à fin décembre 2004, chaque personne sur Terre est invitée à adresser gracieusement un message d'un maximum de 4 pages destiné à ses très lointains descendants pour témoigner de sa vie, confier ses rêves, ses craintes, ses espoirs, exprimer ses interrogations ou ses croyances, transmettre une parole ou une simple pensée en écrivant un message dans la langue qu'il souhaite.

### **KEO, un don des Hommes d'aujourd'hui aux Hommes de demain**

Tous les messages reçus, sans censure, s'envoleront à bord du satellite, ailé, KEO conçu pour revenir intact sur Terre dans un temps très lointain. Aussi lointain que les premières peintures et premiers signes abstraits apparus sur les parois des grottes australiennes ... il y a quelque 50 000 ans.

Outre nos messages, KEO sera aussi porteur de cadeaux archéologiques chargés de symboles et d'informations. Nos descendants prendront ainsi connaissance de la somme des savoirs des Hommes du XXI<sup>ème</sup> siècle, de leur diversité culturelle et individuelle.

### **KEO, un espoir au présent pour nous tous**

A l'horizon 2006, une fois KEO dans l'espace, nous pourrons, nous aussi, hommes, femmes et enfants du XXI<sup>ème</sup> siècle partager tous nos messages entre nous, après les avoir rendus anonymes dans leur copie conservée sur Terre : « Qu'as-tu dit ?... toi le chef du village africain, toi l'enfant des favelas, toi le vieux sage japonais, toi la mère de famille, toi la jeune fille amoureuse, toi le chômeur, toi le prix Nobel, toi l'handicapé, toi le prisonnier, toi le poète, ... ».

Par le partage de nos expériences (les messages, rendus anonymes, seront mis en libre accès sur Internet), par cette meilleure connaissance des aspirations des Uns et des Autres, tous nous pourrons contribuer à mieux nous comprendre pour mieux vivre ensemble et réaliser un monde plus humain entre nous.

De plus, alors qu'il faudrait 10 années sans interruption pour lire ne serait-ce qu'un million de messages, les formidables outils de l'ingénierie linguistique informatique nous délivreront, dès la mise en orbite de KEO des cartographies de contenu comme autant de « radioscopies » de notre communauté humaine, continent par continent, culture par culture, âge pas âge... Alors, KEO, cette œuvre collective initialement destinée à nos lointains descendants, nourrira le débat public pour réaliser un monde plus digne et nous interroger sur nos comportements actuels. A la lumière d'un idéal collectif entr'aperçu, sans doute nous incitera-t-il à revisiter nos compétences et l'usage que nous en faisons.

### **KEO, un projet humaniste, altruiste, mené en dehors de toute influence politique, commerciale ou confessionnelle : chacun sur Terre est invité à y participer gratuitement**

Depuis plusieurs années, le projet KEO bénéficie du concours gracieux d'institutions (UNESCO, Ministère des Affaires étrangères...), d'entreprises (Arianespace, Agence Spatiale Européenne...), de réseaux (Fédération Internationale des Droits de l'Homme...) et de personnes dans le monde qui veulent croire en l'avenir.

*A l'image des grandes réalisations qui marquent et qui jalonnent l'histoire de l'Humanité, KEO s'inscrit dans la lignée des Pyramides et de la Grande Muraille de Chine, sous la forme d'une œuvre collective universelle, porteuse de la mémoire que les hommes du XXI<sup>ème</sup> dans leur ensemble entreprennent d'adresser à leurs lointains descendants, pour, les prenant à témoin, s'interroger sur eux-même et leur destin d'espèce et peut-être ré-inventer le monde d'aujourd'hui.*

## Scientific Discoveries and Moral Responsibility

Victoria Popova, Lidia Andrianova, Elena Savelyev – Contributed Paper - Russia

Today consciousness has reached such high levels that the technologies we developed can lead to self-destruction of humanity. Scientific discoveries require a new level of moral responsibility and understanding.

The most recent scientific discovery is the theory of physical vacuum. The development of new revolutionary technologies on the base of this theory is connected with the notion of “torsion fields”. In fact, the energy of vacuum fluctuations is  $10^{81}$  times higher than thermonuclear energy. That is why on one hand utilization of vacuum energy means a huge danger for humanity and can lead not only to destruction of our Earth, but also of the whole universe.

On another hand the discovery of physical vacuum allows creation of the revolutionary technologies of the future. From this point of view the authors suggested such technologies as:

- ? Artificial smell on the Internet, TV, in movies. Smell will be included into our life as presently shape, color and sound.
- ? Biological computers, based on DNA, that combine the properties of organic and inorganic matter. The Spectral Code method suggested by the authors allows transforming the different parameters of DNA into the work parameters of the biological computer independently from the natural features.
- ? The Unified Identification Code of humans, which is based on the holographic property of the Unified Law Process leading to the formation of the material world. This method allows to create the whole portrait of humans according to just one characteristic data.
- ? The new method of earth’s rebirth and purification of water.
- ? Methods of health rehabilitation according to the individual spectral code.
- ? The Spectral Code Method allows to compose the algorithm of operation of the material objects and of their properties independently of their basic nature.

Therefore, realization of scientific advances based on the theory of physical vacuum means real progress and a new step of human society towards either development or self-destruction.

One of the major problems of humanity today is global warming which can lead to a global catastrophe. In order to solve this problem some American scientists have suggested to move the Earth further from the Sun. For this purpose it is necessary to change the Earth’s orbit. In this case, scientists have suggested to produce a series of asteroid explosions. However, many scientists have another point of view and consider that such solution is connected with a great danger for the existence of our Earth.

That is why today as never before it is necessary to increase the moral responsibility not only for scientists, but also for the governments of all countries.

## **Neuroscience and Moral Responsibility**

**David Lorimer**

**Programme Director of the Scientific and Medical Network - UK**

The central question addressed by this paper will be the implications of various models of the brain-mind relationship for our concepts of free will and therefore moral responsibility in relation to the way in which our legal systems operate. To the extent that brain-mind theories are deterministic, moral responsibility is correspondingly diminished. Holistic theories of creative self-organising systems may offer a more promising biological standpoint than the epiphenomenal approach of mechanistic materialism. Moreover, patterns within near-death experiences point to an ethic of interconnectedness underpinned by a unity of consciousness that implies mutual responsibility. Such responsibility is also consistent with the positions of by Continental existentialists, who tend to be neglected by British empiricism.

## **The Dharma of Science**

**Dipamrita Shaitaniya – Invited Speaker - France**

Through this presentation, I would like to give food for thought as regards to the comprehension of the role of science, its sphere of competence and its limits, by drawing inspiration from the teachings of Eastern tradition at times.

More than 3000 years ago, in India, seekers who are called the Rishis investigated the nature of reality from two levels of experience, one of which may be called the absolute, or transcendental level and the other relative, or phenomenal level.

At the phenomenal level one perceives the universe of diversity and is aware of one's own individual ego, whereas at the transcendental level, the differences merge into an inexplicable non-dual consciousness.

The second level is actually the one which concerns the largest part of humanity. The ordinary field of science is found within this second level. Yet, science can be an open window on the first level as it has often been in the past.

Science has been for some of the greatest scientists a spiritual path, a way to connect with and serve the Sacred. How is it then that science is also viewed by many people these days as a force opposed to spirituality and as chiefly responsible for the widely sensed impoverishment and desacralization of Nature?

The search for Truth – when it becomes more and more mental and divorced from deeper and higher feelings such as compassion, a sense of the oneness with and of the all – leads to feelings of isolation and accompanying anxiety, and fear and self-importance enter. Then one wants to control others and conquer nature.

Much of our modern predicament arises from this very dedication to Truth in an exclusively mental manner, within the limitations of the ego. Externally measurable and quantifiable aspects of Nature are not all there is to Nature -not to speak about the rest of Reality. A direct knowledge, which transcends the discursive thought, can apprehend the nature of the world of phenomenon in a non-dual mode.

Amma: Son, when we enter the higher planes we can hear all these stones and wooden pieces talking to us. They are not inert but conscious. Then it will become clear that they are also talking. What is known as matter is only at the empirical level. In reality, it is not there. Everything is one and the same Consciousness.

Can science help to reach or to understand that level?

## **Dieu se révèle-t-il à travers les NDE ? Les expériences de mort imminente et la religion**

**Evelyn Elsaesser-Valarino – Invited Speaker - coordinatrice des bibliothèques de l'Université de Genève -Suisse**

Sous ce titre un peu provocateur, j'incite l'audience à réfléchir avec moi s'il y a lieu d'établir un lien entre l'enseignement des NDE/EMI<sup>1</sup> et la religion. La première partie est consacrée à une description sommaire de cette expérience passionnante qui a gardé une grande part de mystère malgré les efforts d'innombrables chercheurs à travers le monde. L'expérience de mort imminente comprend les étapes principales suivantes : la décorporation; la traversée d'un tunnel; l'entrée dans une lumière éclatante et attirante au bout du tunnel; la rencontre avec un être de lumière personnifiant l'amour absolu; l'accès à la connaissance universelle; la rencontre avec des proches décédés ou des guides; la revue de vie, élément essentiel de la NDE ; et finalement le retour vers le corps physique. Je postule que l'expérience de mort imminente est un sujet explosif et j'illustre mon propos en parlant de son côté révolutionnaire, presque subversif, tout en soulignant qu'il s'agit d'une expérience symbolique, de nature complexe.

Dans la deuxième partie, je situe la NDE par rapport aux définitions classiques de la religion, notamment le sens de la vie, notre rôle dans ce monde, l'expérience du divin et le salut éternel. Ensuite, j'aborde les notions fondamentales des grandes religions et je les mets en relation avec les NDE en commentant les concepts de l'amour et de Dieu ou de l'être de lumière. Je demande ensuite malicieusement si les expérimentateurs<sup>2</sup> sont les messagers de Dieu et je deviens plus raisonnable en analysant les récits de NDE sous l'angle de la remémoration et du filtre linguistique ; je stipule finalement qu'une intime conviction ne correspond pas forcément à une vérité universelle. A propos de vérité universelle, justement, j'énonce que chaque civilisation a créé sa propre religion en accord avec son ethnie et ses croyances et j'analyse l'apport de la NDE dans ce domaine. Je pose ensuite la question si la foi influence les expériences de mort imminente en examinant notamment si les NDE des croyants sont différentes de celles des non-croyants et si le fait de croire augmente la probabilité de vivre cette expérience. Je termine mon exposé en réitérant ma question si Dieu se révèle à travers les NDE et, tout en proposant quelques éléments de réflexion, j'invite chacun à trouver sa propre réponse à cette question qui est à la fois essentielle et intrinsèquement intime.

1. NDE = near-death experience / EMI = expérience de mort imminente
2. Personnes qui ont vécu une NDE

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