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Living Systems

This Issue Thoughts



Themed, designed and production
by Karen Elkins

Articles and art by inspired authors,
innovative thinkers, scientists, and
artists.

As I assembled this issue and invited innovative thinkers, inquiring minds and mystics you should know that each issue is a dynamic and organic process. I allow it to unfold as it comes.

This issue is on holistic thinking.

We can tend to fixate on a piece that is only a part of the whole and not on how the parts fit together like spokes on a wheel. I believe nature's intelligence from the micro to the macro gives us clues. Every issue teaches me something I thought I knew, but with each issue I FEEL it in a new way--it just sinks in more deeply.

Volume 17

Super Organism

Inspired by the book *InsideOUT the Visual Guide to Understanding the Universe*

Sage to Sage by Karen Elkins

FEATURED WRITERS

Fritjof Capra

- Insight into the inspiration for “The Tao of Physics”

Mae-Wan Ho

- The Organic Revolution
- James L. Oschman

A Personal Perspective on the Living Matrix

- John Stuart Reid

Sound Ideas Bubble Up

- Gerald Pollack

The Dance of Water

- Don Scott

The Electric Sun (rerun)

- Bruce H. Lipton Ph. D

The Biology of Belief

- Rupert Sheldrake

Transcending Genetics

- Dean Radin

Entangled Minds

Freddy Silva

- Bequeathed by Gods

Lynne McTaggart

- The Power of Eight

Jeffrey Armstrong

- The Mother of All

Dr. Konstantin Korotkov

- Project your Present to the Future

Karen Elkins

- Excerpts and ideas from the book “InsideOUT”

Contributing Publishing Houses

- Hay House

Special thanks to Banyen Books & Sound Vancouver, BC.

CONTENT

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The great minds of our time are bringing a new renaissance. The fusion of ideas, disciplines, and cultures has always advanced civilization, be it from the renaissance of the Middle East to Middle Ages of Europe, again, we stand at this crossroad. The new convergence of leading-edge science and ancient wisdom is bridging the heart and mind, science and spirituality, and East and West.

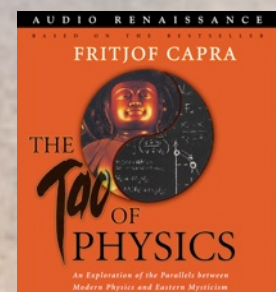
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Fritjof Capra



I was sitting by the ocean one late summer afternoon, watching the waves rolling in and feeling the rhythm of my breathing, when I suddenly became aware of my whole environment as being engaged in a gigantic cosmic dance. Being a physicist, I knew that the sand, rocks, water and air around me were made of vibrating molecules and atoms, and that these consisted of particles which interacted with one another by creating and destroying other particles.

Tao of Physics

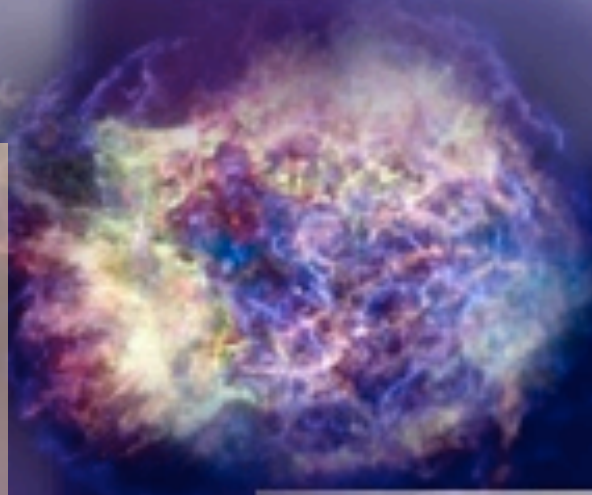


[Click here for a complete list of Fritjof Capra's books](#)

I am the Soul that exists in everything. I am the beginning the middle and the end of all lives...I am mind dwelling in, I am the One who never changes. I am manifest in all things and nothing moves without Me. - The Bhagavad Gita

One intrinsic unity embraces all phenomena. - The Lankavatara Sutra

I Am the one who is with you always. I am the Father, the Mother, the Son. I cannot be defiled or corrupted. I have to teach you those things that are and those things that will be, so that through this revelation you will perceive the perfection of humanity. - The Apocrypha of John

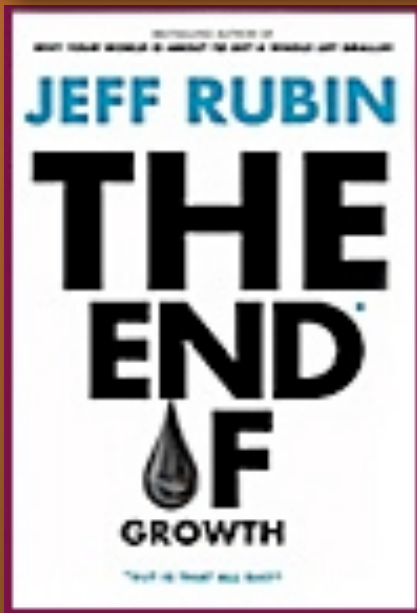


JEFF RUBIN



Jeff Rubin is an award winning international author and economist.

After almost twenty years as Chief Economist and Managing Director of CIBC World Markets, Jeff Rubin resigned at the end of March 2009 to publish his international bestseller, *Why Your World Is About To Get A Whole Lot Smaller: Oil and the End of Globalization*. His path-breaking book has now been published in over 15 countries and in seven different languages.



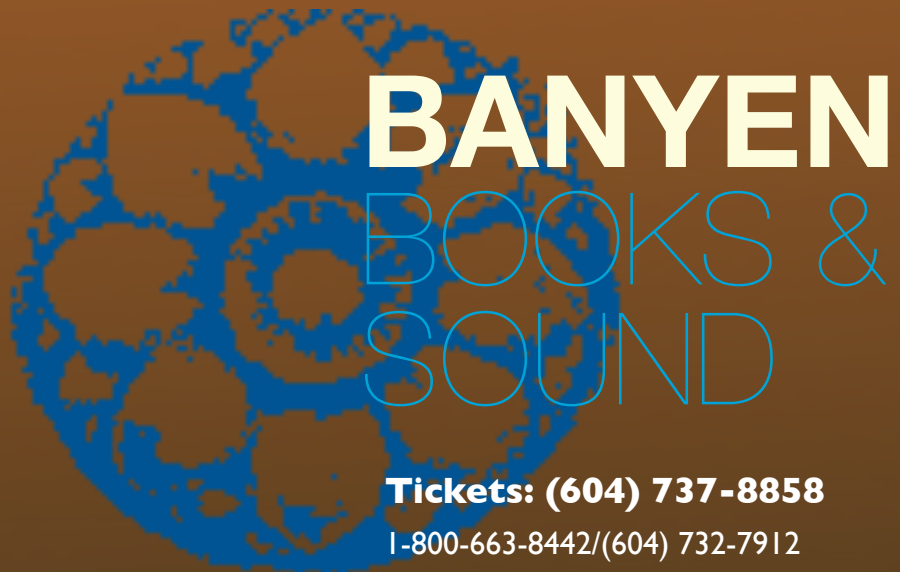
NEWSWEEK wrote, Rubin's argument is powerful, while the Financial Times of London called the book One of the year's best. Last year the number-one non-fiction bestseller in Canada, the book recently won the country's National Business Book Award, and was also a runner-up for the *Financial Times* Business Book of the Year Award.

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—*The Globe and Mail*

Jeff Rubin's [website](#).



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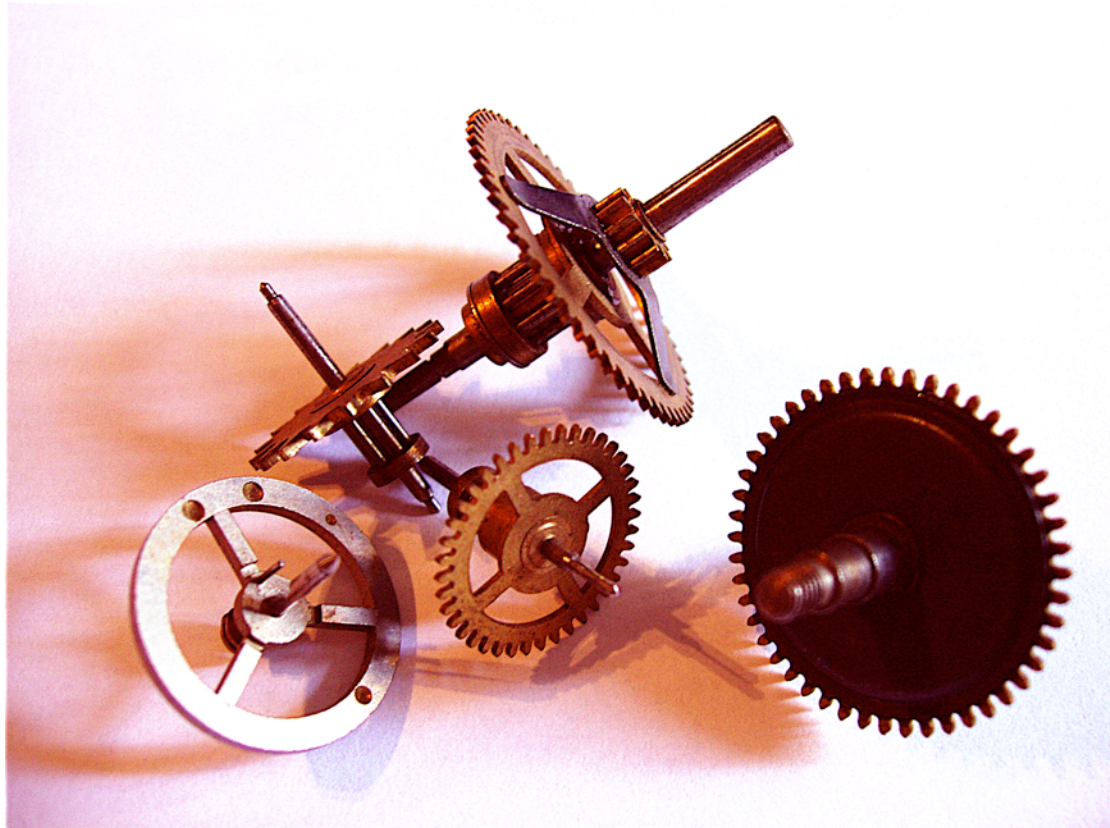
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**The Organic
Revolution**
**in Science and Implications
for Science and Spirituality**



Mae-Wan Ho

The machine metaphor has dominated the west for at least two thousand years before it

was officially toppled by relativity theory and quantum physics at the turn of the 20th century. Einsteins relativity theory shattered the Newtonian universe of absolute space and time into a profusion of space-time frames in which space and time are no longer neatly separable. Furthermore, each space-time is tied to a particular observer, who therefore, not only has a different clock, but also a different map. Stranger still — for western science, that is, as it comes as little surprise to other knowledge systems, or to the artists in all cultures — quantum theory demanded that we stop seeing things as separate solid objects with definite (simple) locations in space and time. Instead, they are delocalised, indefinite, mutually entangled entities that change and evolve like organisms.

Life Unfolds its Cosmic Design

“He is the Creator who creates himself” – The Kybalion

Within a cocoon, within a

womb, within a shell,

life reveals itself in a

perfect harmonic

ratio $1.618033-$

a golden ratio!



Leading thinkers of the age such as Henri Bergson, Alfred North Whitehead, J.S. Haldane and Joseph Needham were inspired to develop a science of the organism appropriate to the new understanding of nature, that would transform the entire knowledge system of the



west. Whitehead, in particular, declared that we cannot understand nature except as an organism that participates fully in knowing. For me, that was perhaps the most significant turning point. It was to re-affirm what we all knew in our heart of hearts: that we are inextricably within nature; and that we participate in shaping and creating nature, for better or for worse.

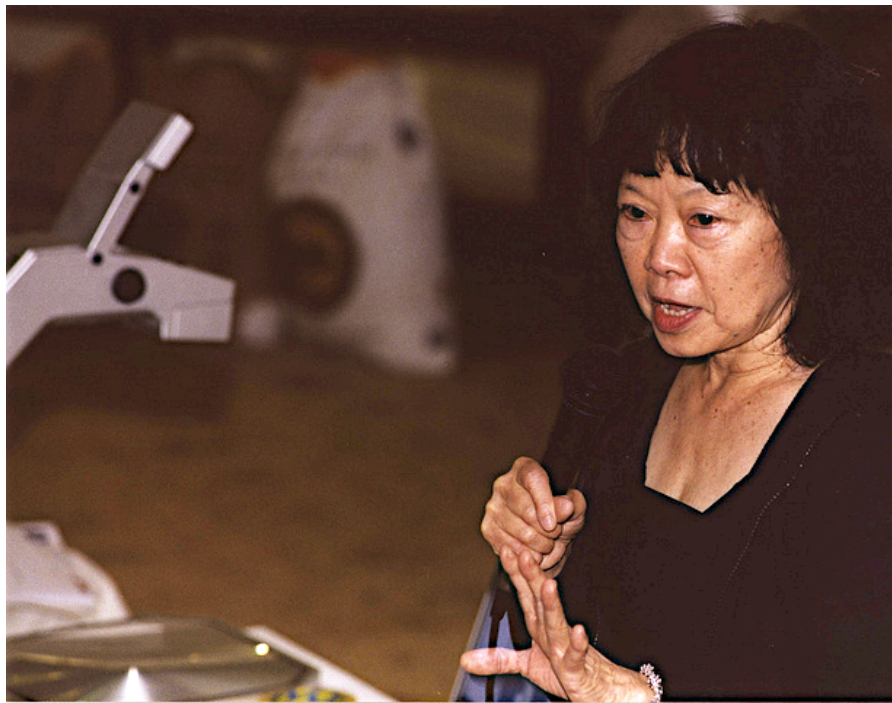
To participate fully is to do so with all of oneself: intellect and feeling, body and spirit.

That is the real meaning of the mutual entanglement of `observer and the `observed in quantum

theory. It matters how we know or `observe, not only because it changes the entire character of our knowledge, but because the act of knowing transforms both the knower and the known. That is why we must never know with violence, but always with sensitivity and compassion..

The project to develop a science of the organism was interrupted and eclipsed, however, by the rise of molecular biology since the 1950s. Biology was taken back down the road of mechanical reductionism, to culminate, today, in a genetic engineering technology that has the potential to destroy all life on earth and to undermine every spiritual and social value that makes us human. We need to reject reductionist biology not just because of its inherent dangers, but because there are positive, rational, life-enhancing, fulfilling and aesthetic reasons for embracing the organic alternative.

Fortunately for us, the **organic revolution has survived**. It has been gathering momentum across the disciplines within the past 20 years, from the study of nonlocal phenomena in quantum physics and nonlinear dynamics in mathematics to complexity in ecosystems, the fluid genome in the new genetics and consciousness in brain science. **The message everywhere is the same: nature is nonlinear, dynamic, interconnected and interdependent.** The linear, static paradigm of mechanistic science based on interactions between separate, independent parts is a travesty of organic reality.



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All the elements for a science of the organism are there between the disciplines, precisely as envisaged by the pioneer thinkers. I have put some of the key elements together in my book, [The Rainbow and The Worm, The Physics of Organisms](#), first published in 1993, 2nd edition in 1998, and 3rd latest edition in 2008, which is patterned after Erwin Schrödingers What is Life? It attempts to explain organic wholeness and complexity based on contemporary quantum physics and non-equilibrium thermodynamics. It gives new insights into physiological regulation, bioenergetics and cell biology, many of which were predicted by the pioneers. Also consistent with their vision, the new science of the organism promises to restore all the qualities that have been exorcised from life and nature, to reaffirm and extend our intuitive, poetic, and even romantic notions of natures unity.

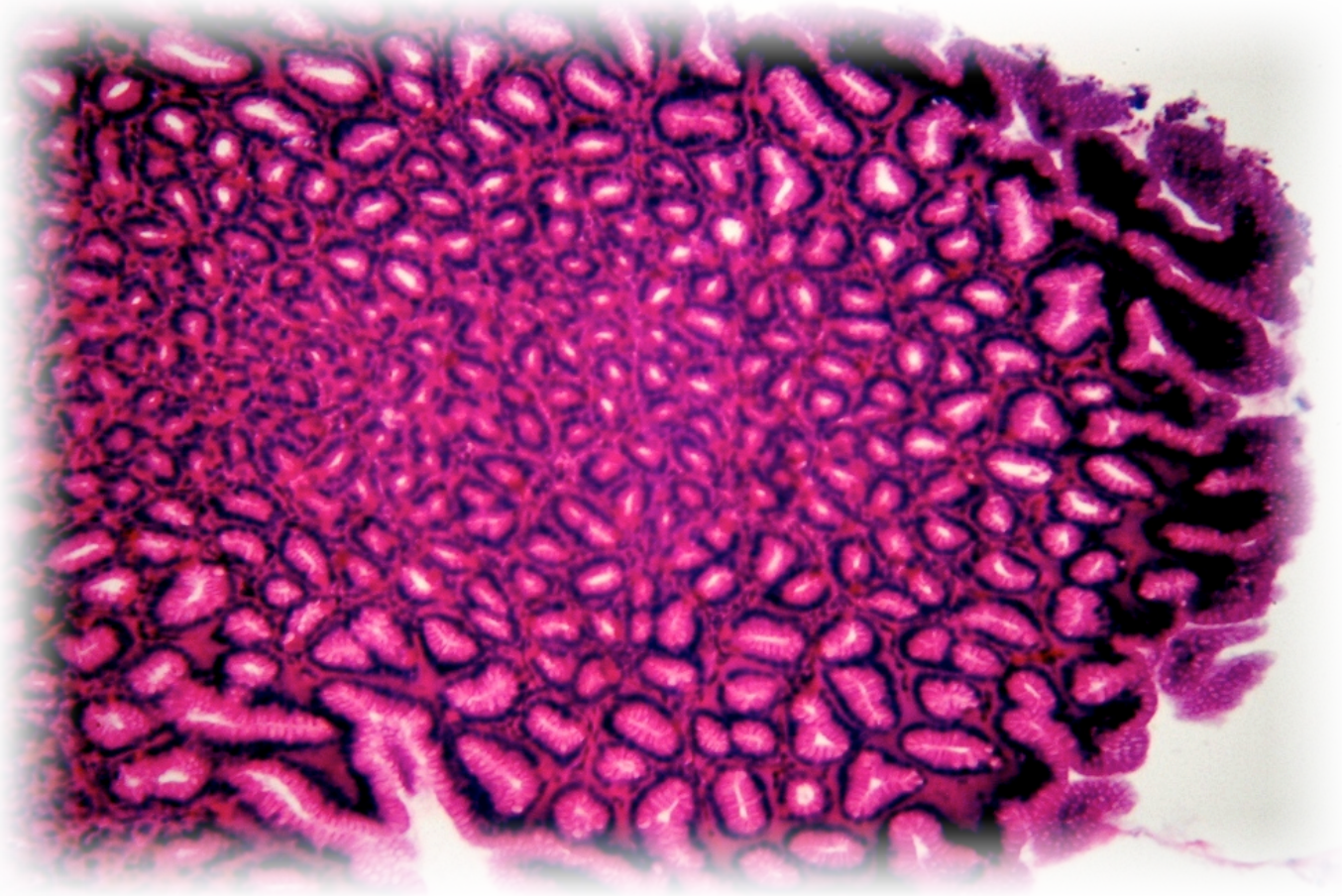


From the organic perspective, there is no separation between science and spirituality. This stems from the participatory knowing that it entails, in which the knower places her undivided being within the known, which is ultimately all of nature. And, like all participatory knowledge common to indigenous

To get a feeling for the organism, imagine an immense super-orchestra, with instruments spanning the widest spectrum of dimensions from molecular piccolos of 10^{-9} meter up to a bassoon or a bass viol of a meter or more, performing over a musical range of seventy-two octaves. Incredible as it may seem, **this super-orchestra never ceases to play out our individual lifelines, with a certain recurring rhythm and beat, but in endless variations that never repeat exactly.** Always, there is something new, something made up as it goes along. It can change key, change tempo, change tune perfectly, as it feels like, or as the situation demands, spontaneously and without hesitation. What this super-orchestra plays is the most exquisite jazz, jazz being to classical music what quantum is to classical physics. One might call it quantum jazz. There is a certain structure, but the real art is in the endless improvisations, where each and every player, however small, enjoys maximum freedom of expression, while maintaining perfectly in step and in tune with the whole. There is no leader or conductor, and the music is written as it is played.

What I have given is an accurate description of the totality of molecular, cellular and physiological reality of the ideal, healthy organism, which serves to illustrate the radical, paradoxical nature of the organic whole. It is thick with activity over all scales, and both local freedom and global cohesion are maximized, which is generally thought to be impossible within the mechanistic paradigm. In the coherent organism, global and local, part and whole, are mutually implicated and mutually entangled from moment to moment. Each is as much in control as it is sensitive and responsive.

When we extend this notion of mutual entanglement of part and whole, as Whitehead did, to societies, ecosystems and ultimately to all of nature, we begin to recover the profoundly holistic ecological traditions of indigenous cultures worldwide. The coherence of organisms is quintessentially pluralistic and diverse, and at every level. It is so, from the tens of thousands of proteins and other macromolecules that make up a cell to the many kinds of cells that constitute tissues and organs; from the variations that characterize natural populations to the profusion of species that make a thriving ecological community. And most of all, the kaleidoscopic, multicultural earth that makes life enchanting and exciting for us all.



Part and whole, individual and global are mutually entangled and mutually sustaining.

That is the basis of the universal moral imperative that we do unto others what we would have others do unto us. **It marks the beginning of a genuinely new world order that celebrates and nurtures individual diversity and freedom with universal love.**

Mae-Wan Ho

Institute of Science in Society www.i-sis.org.uk

This paper was a talk given to the Bioneers Conference in California

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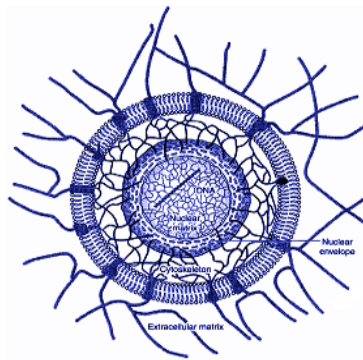
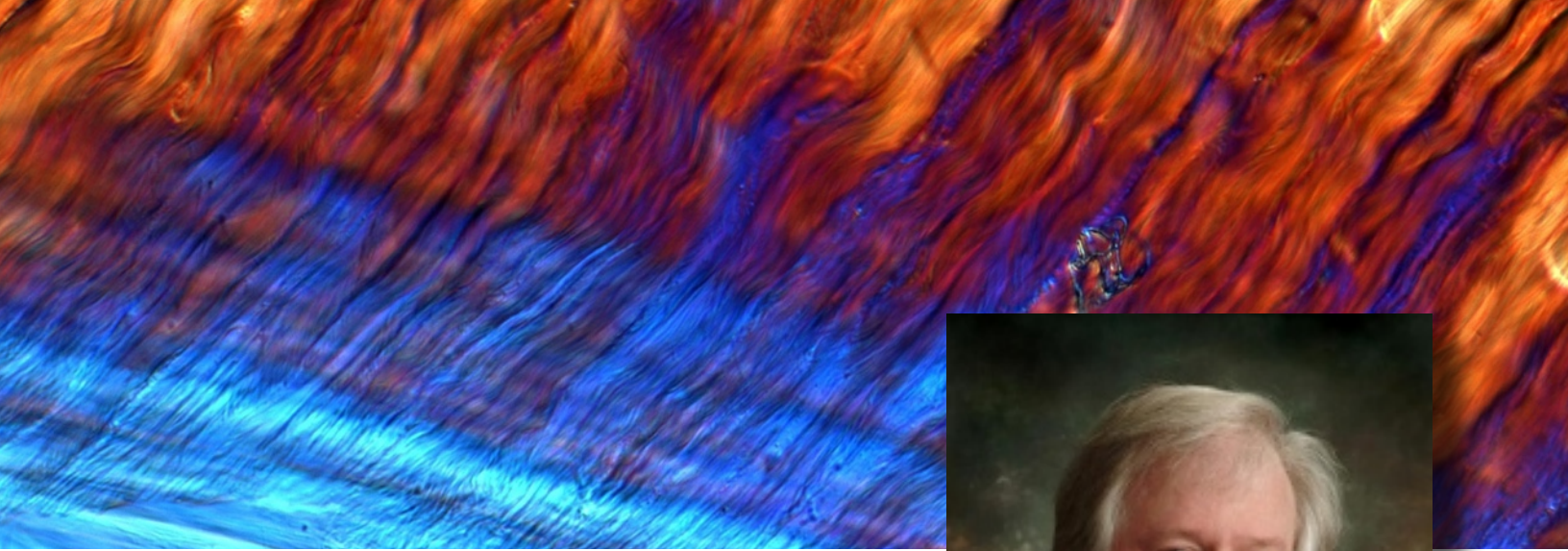
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Susan Alexjander (composer/sound designer), **Lotte Anker** (jazz saxophonist improviser/composer); **Dinabandhu Karmaker** (agriculturalist from Professional Assistance for Development Action); **Martin Chaplin** (water chemist); **Chee Yokeling** (Director of Third World Network); **Edward Cowie** (composer, visual artist, art/science fusion); **Heather Cowie** (artist); **Joe Cummins** (environmental scientist/geneticist); **Emilio del'Giudice** (quantum physicist); **Peter Fisher** (Editor of *Homeopathy* and Physician to Her Majesty the Queen); **Julian Haffegge** (musician/composer/scientist); **Kathy Haffegge** (ISIS artist); **Adrian Ho** (senior partner of innovative advertising agency ZeusJones); **Mae-Wan Ho** (scientist/artist and Director of ISIS); **Tracy Hudson** (designer, artist); **Djuro Koruga** (nanotechnologist/engineer); **Eric Landen** (consultant on corporate ecosystem economics); **Chris Lee** (jazz pianist/composer); **Patrick Lichty** (New media artist/cultural theorist); **Shui Yin Lo** (theoretical physicist, Caltech); **Jim Oschman** (pioneer of energy medicine); **Gerald Pollack** (bioengineer and world's foremost water researcher); **Li Poon** (ISIS artist); **Matt Poon** (ISIS artist)

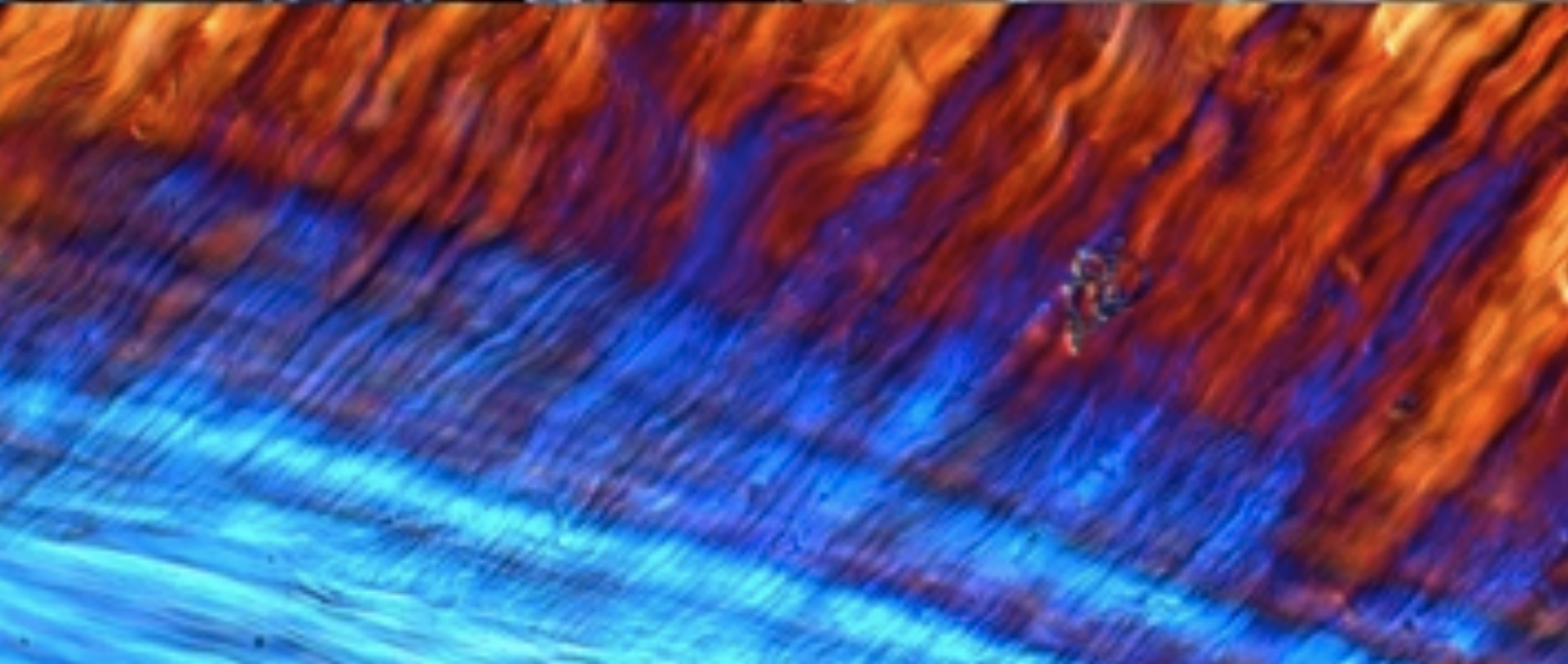


A personal perspective by James L. Oschman

After some 20 years of academic reductionist research, looking at the smallest particles of life with the world's most powerful microscopes, fascination with holistic therapies led me to “up periscope” and peek at the surrounding landscape. **This led to another 20**

years of inquiry into systems thinking. The result was a merging of the extremes of holistic and reductionist science with the concept that the whole arises from and is energized and informed by the behaviors of the smallest parts, the protons and electrons. Crucial to the development of these ideas was a period late 1970's and early 1980's working as a staff scientist at the Marine Biological Laboratory at Woods Hole, Massachusetts in a laboratory across the hall from Albert Szent-Györgyi's Institute of Muscle Research, which later became the center of an international network of scientists known as the National Foundation for Cancer Research. Szent-Györgyi had recognized that something vital was missing from our modern medicine. He concluded that the missing piece was already known in every culture and in every medical tradition before ours, i.e. healing can be accomplished by moving energy. The article is about defining precisely what we mean by moving energy.

The Living Matrix

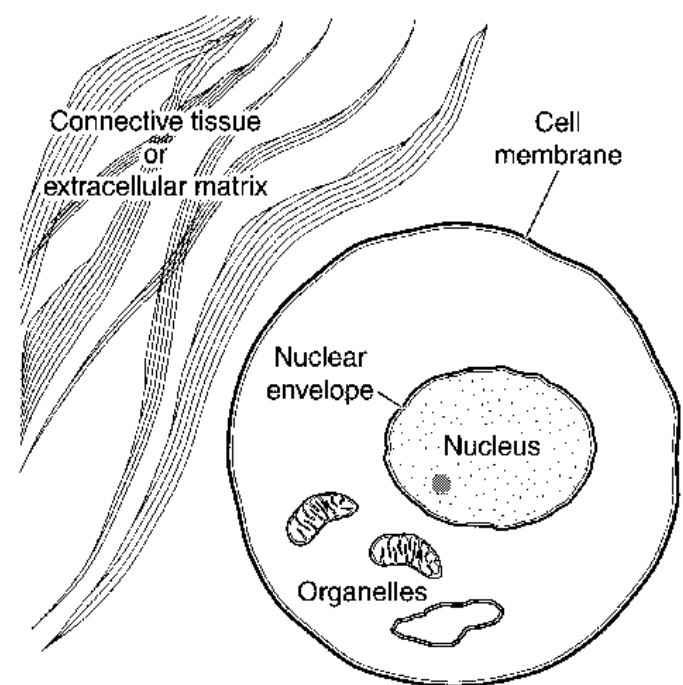


The merging of whole systems and quantum perspectives enables a description of an evolutionarily ancient and noiseless **high-speed energy and information network within the fabric of the human body that operates faster than nerves or biochemical reactions and thereby enables the organism to function as a coherent coordinated whole.** Energy and information are conveyed in the form of energetic electrons and protons and resonant exchanges of quantum coherence.

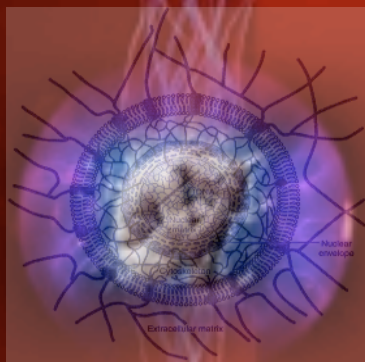
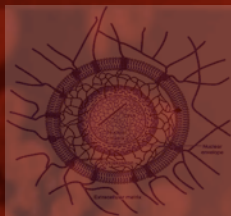
It is suggested that this system is the vital piece that is missing from our modern medicine and that is urgently needed to cope with the challenging diseases of our times, including cancer and the other diseases of aging and the aging process itself. It is also proposed that success with working with this system distinguishes the holistic therapies from conventional medicine.

The drawing shown above depicts the cell as a bag of solution with a few organelles such as the cell nucleus and mitochondria more or less floating about within it. In this image, the cell and its contents form a distinct entity, separate from the surrounding extracellular matrix or connective tissue. This grossly inaccurate image persists in spite of a century of progress in cell and molecular biology that has filled-in the seemingly “empty spaces” both within and around the cell.

Strictly speaking every system is itself a system composed of systems, every system is a member of a system, and the forces between systems are themselves systems. To understand any one system requires understanding the living body as a whole and to understand the body as a whole requires understanding each system....no one part of system is more fundamental than any other. (Maitland, 1981)¹

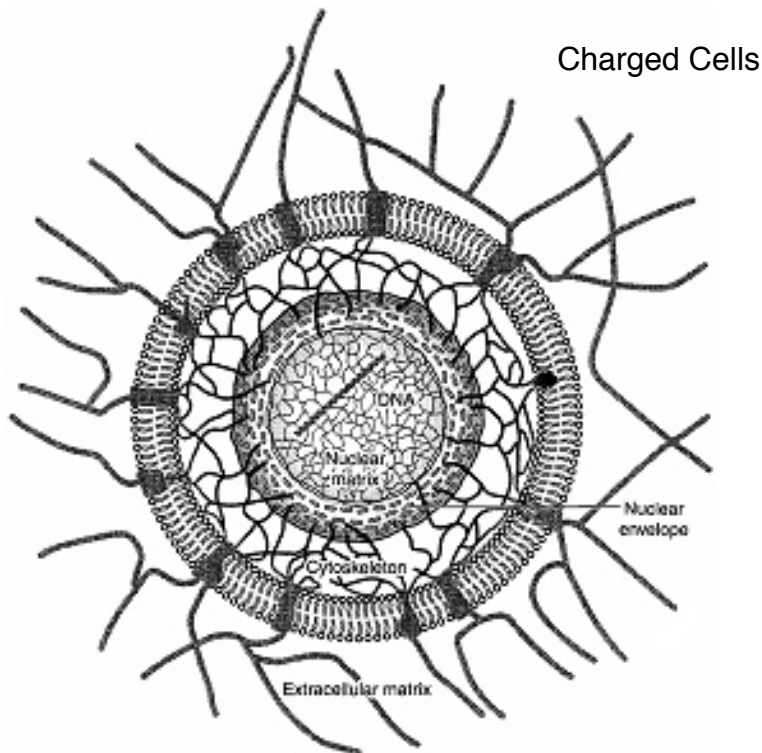


The remarkable insight is that proteins are semiconductors, rather than insulators, as had been thought previously. Semiconductors are intermediate in conductivity between conductors, such as copper wires, and insulators, such as the coverings of electrical cables. In essence, our bodies are composed mainly of materials that are similar in properties to the substances that make possible our modern computers, cell phones, televisions and so on.

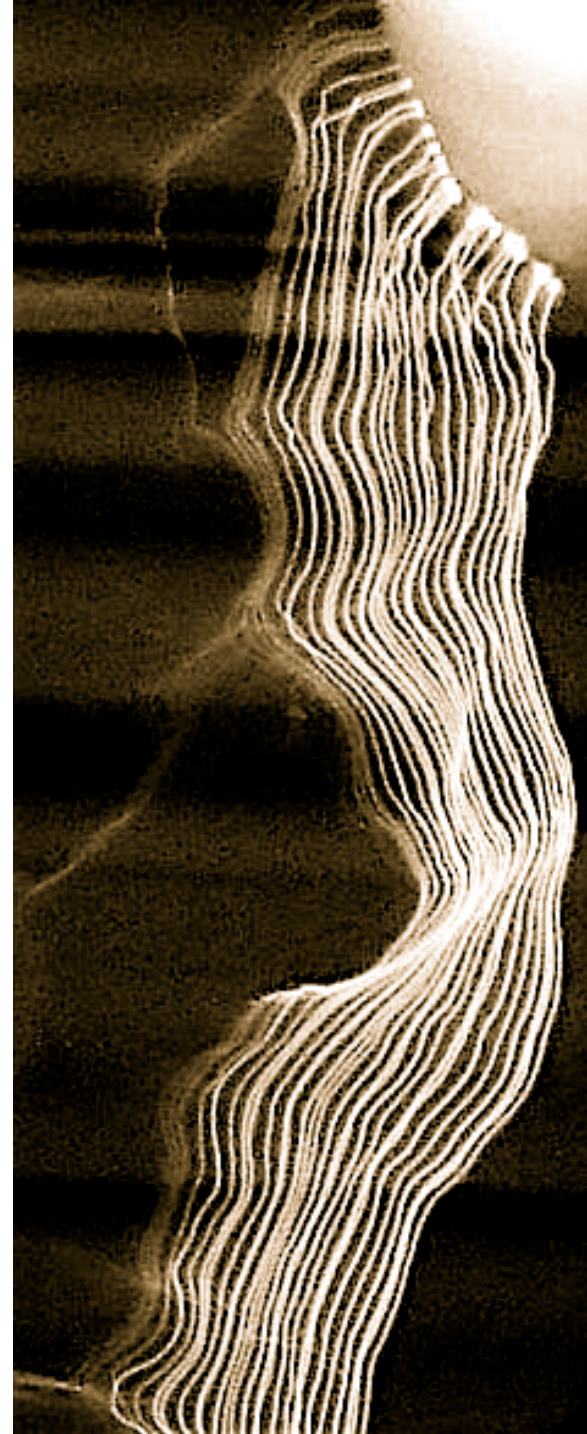


The proteins and the water that adheres to them in life form a two-part semiconducting system. Electrons can move through the proteins and protons can move through the surrounding water layers.

A more holistic and scientifically accurate picture (Figure 2) reveals that the DNA, nucleus, cytoplasm, and extracellular matrix and connective tissue form a continuously interconnected network. Many confusions and controversies are resolved by the more accurate picture of the cell and its environment conceptualized as the living matrix.



The living matrix concept reveals the cell and its environment as composed of a continuously interconnected system.

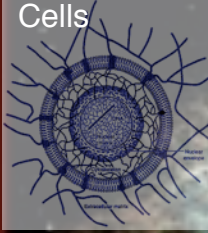


Electrical Discharge from Tesla Coils

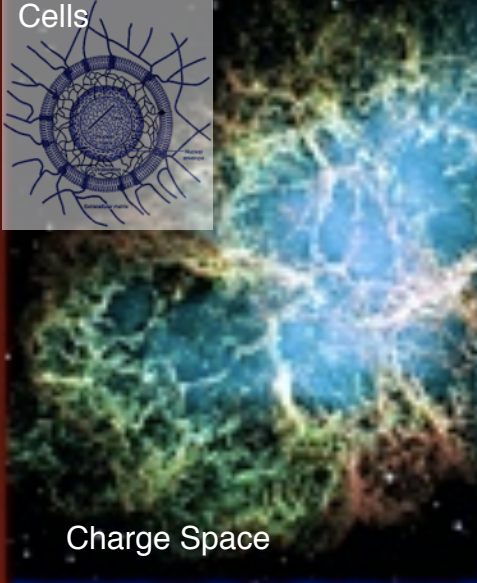
The discovery that quantum effects become apparent on a macroscopic scale at body temperature in biological systems is extremely important as it allows theory and research on the movement of electrons in cloud-like or gas-like form through the tissues of the body. The crucial distinguishing feature of Bose-Einstein condensates is that the many parts that go to make up an ordered system not only behave as a whole, they become whole: their identities merge or overlap in such a way that they lose their individuality entirely. This concept was first articulated by Albert Szent-Györgyi at the Koranyi .



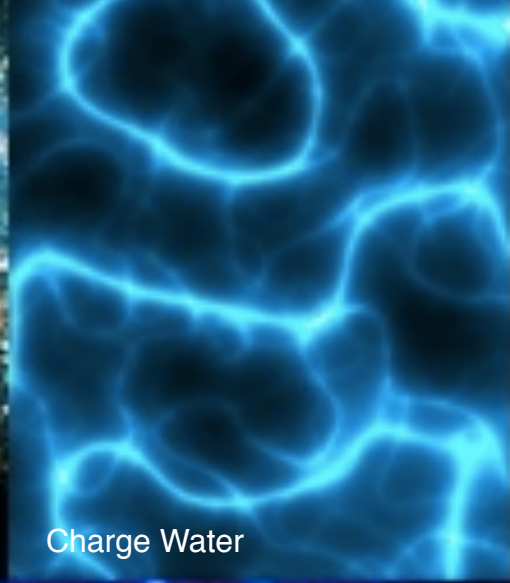
Charge System



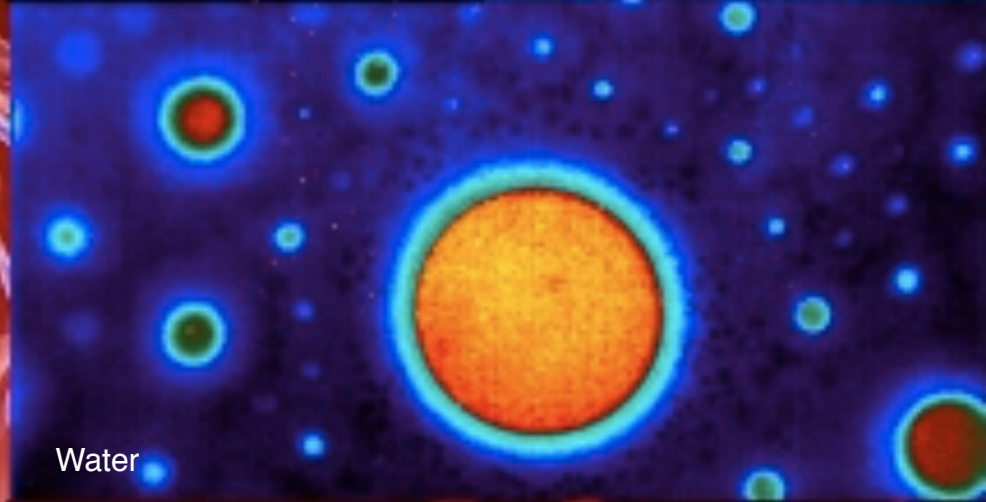
Cells



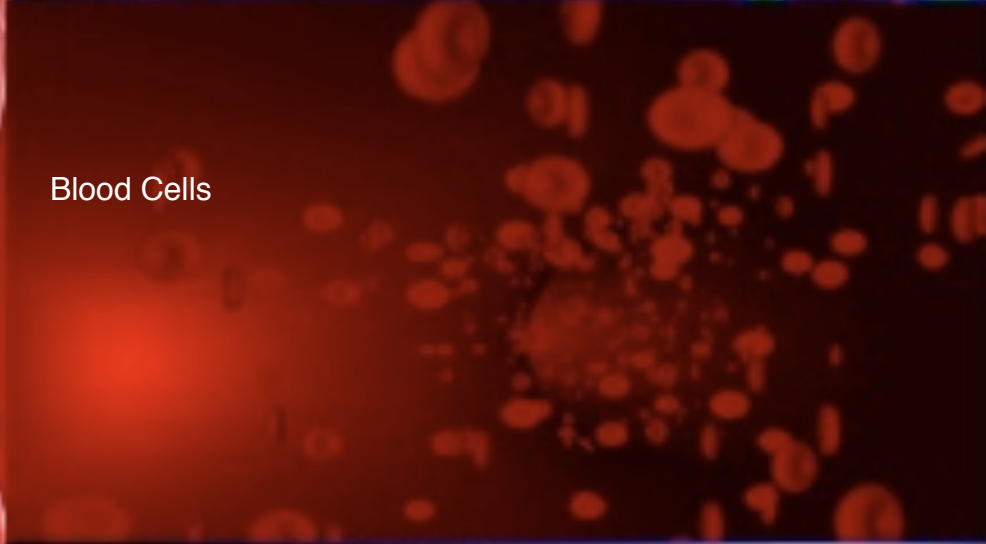
Charge Space



Charge Water

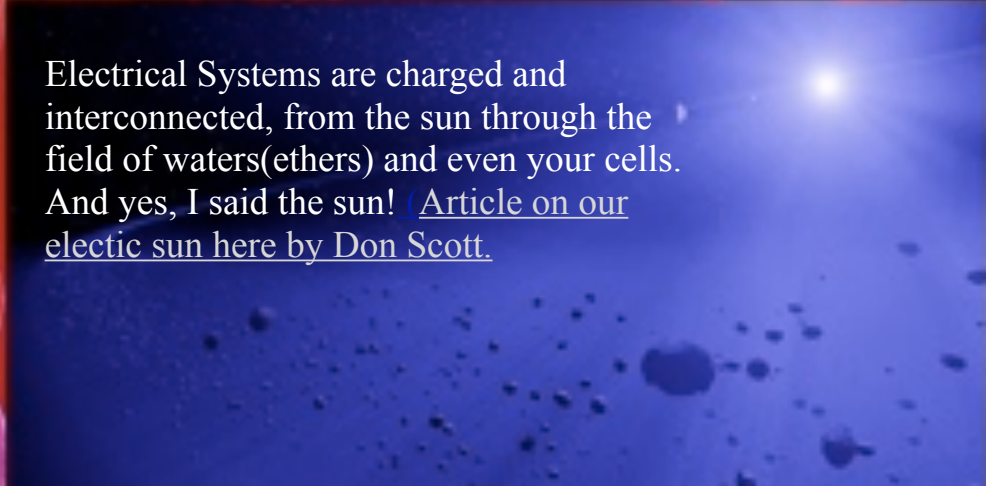


Water

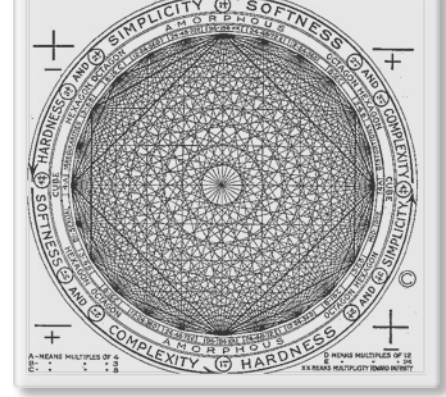


Blood Cells

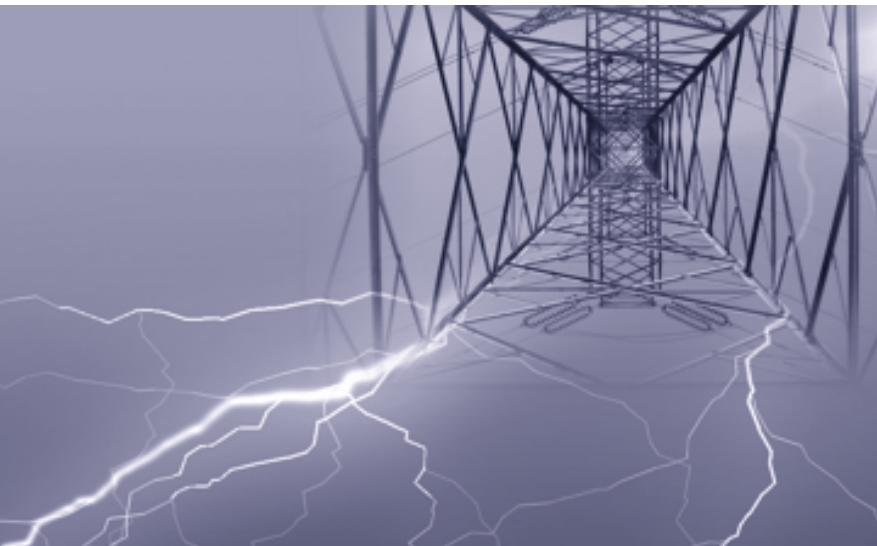
Electrical Systems are charged and interconnected, from the sun through the field of waters(ethers) and even your cells. And yes, I said the sun! [Article on our electric sun here by Don Scott.](#)



The human body is a sophisticated, multi faceted antenna system comprised of a crystalline matrix that is constantly transmitting and receiving (transcieving) all manners of informed energy”.

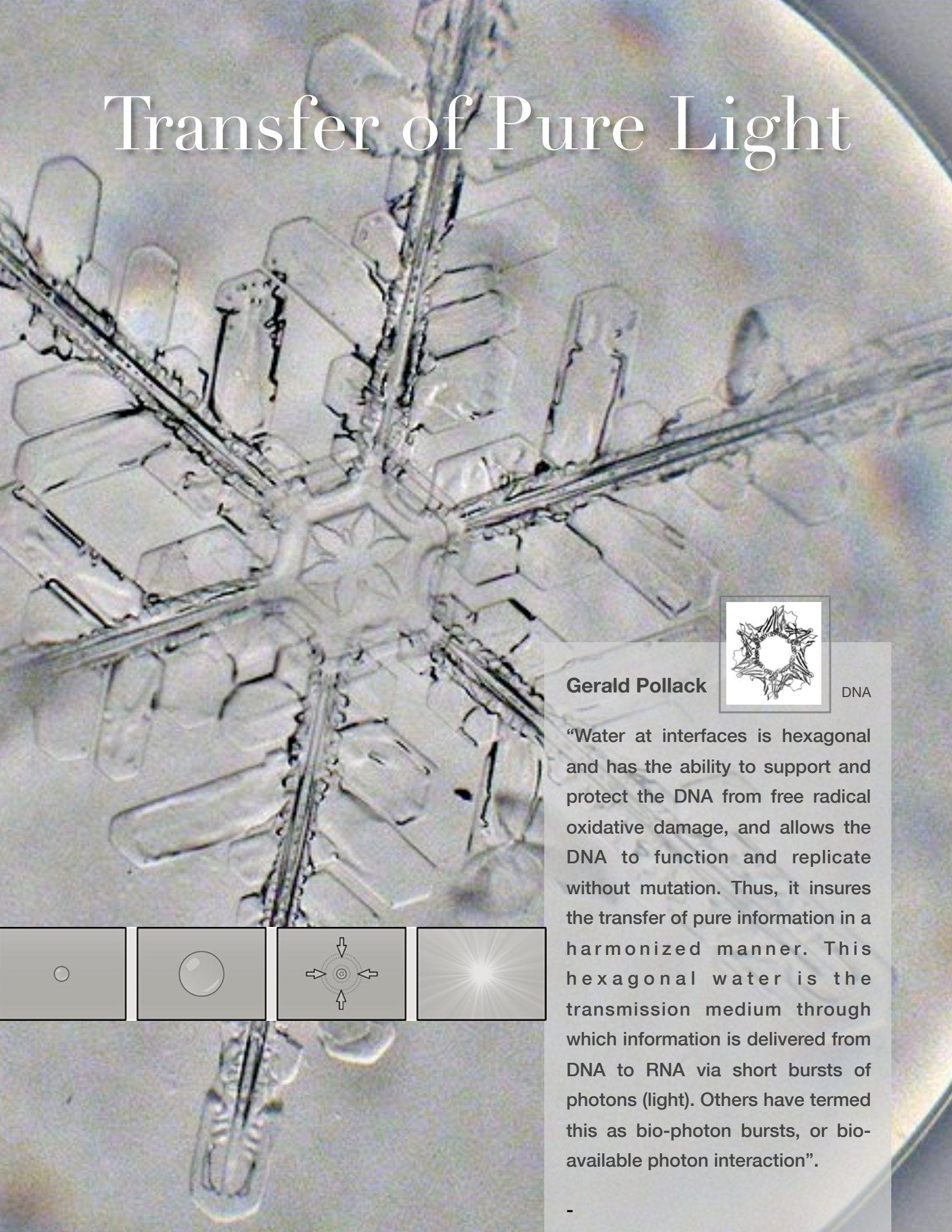


Crystals grid by Walter Russell



Because of barriers to communication between scientists working in different disciplines, the biological and biomedical significance of the discoveries of Bose, Einstein, Szent-Györgyi, Fröhlich, Ho and others are not as well appreciated as they might be. In terms of biology, the significance is that much of the living organism is composed of highly ordered molecular arrays or crystalline-like materials (connective tissues, cell membranes, muscles, rods and cones, microtubules and neurotubules, and so on), all of which have arrays of water molecules associated with them; all of which have substantial voltages maintained across them; all of which can be described as being coupled oscillators; and all of which will support the ordered or coherent oscillation of electron clouds or gasses as described by Fröhlich, Ho and others. In other words, it is important to appreciate the extent to which crystalline arrays are found throughout living systems, and how all of them can be coupled together to form an extended quantum coherent system capable of absorbing and conducting and radiating diverse forms of delocalized energy.

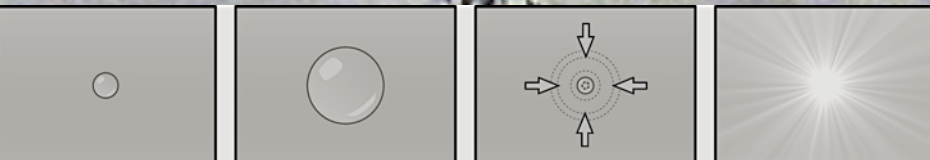
Transfer of Pure Light



Gerald Pollack

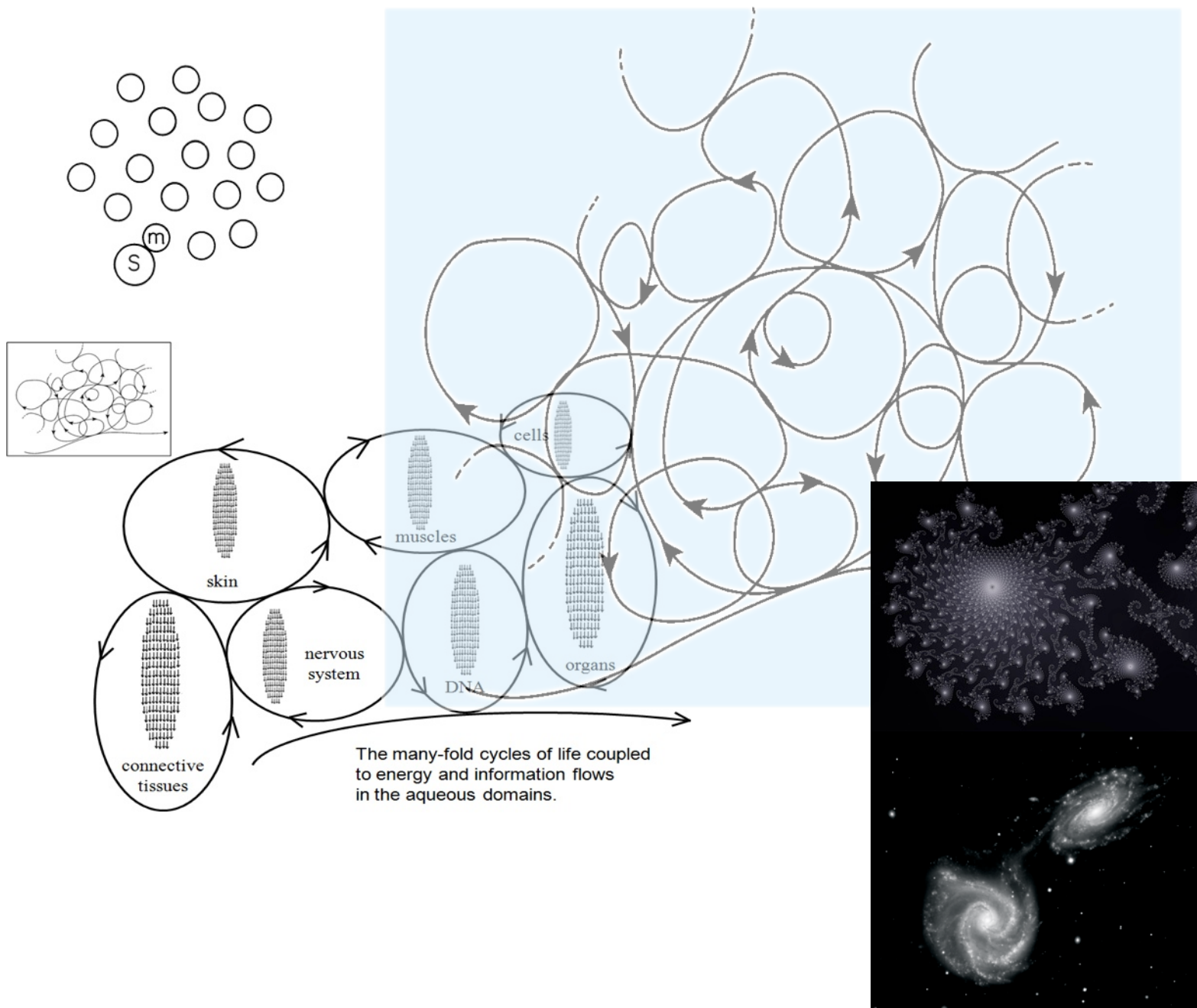
DNA

“Water at interfaces is hexagonal and has the ability to support and protect the DNA from free radical oxidative damage, and allows the DNA to function and replicate without mutation. Thus, it insures the transfer of pure information in a harmonized manner. This hexagonal water is the transmission medium through which information is delivered from DNA to RNA via short bursts of photons (light). Others have termed this as bio-photon bursts, or bio-available photon interaction”.



Ho used the diagram shown in Figure 5 to show the way energy and information can cycle through living systems. She explained how organisms can take advantage of a complete spectrum of coupled cycles, storing and mobilizing energy and information using many different kinds of efficient transfers. Energy and information input into any of the body's systems can be readily delocalized over all systems; conversely energy and information from all systems can become concentrated into any single system. Energy coupling in living systems is symmetrical, which is why we can have energy at will, whenever and wherever required.²⁸ The mechanisms involved in such efficient coupling have now been documented by the Fleming group at the University of California, Berkeley:

This wavelike characteristic of the energy transfer within the photosynthetic complex can explain its extreme efficiency, in that it allows the complexes to sample vast areas of phase space to find the most efficient path.

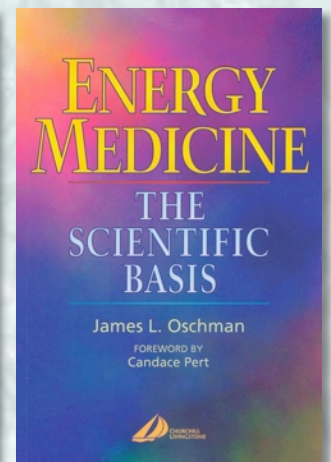
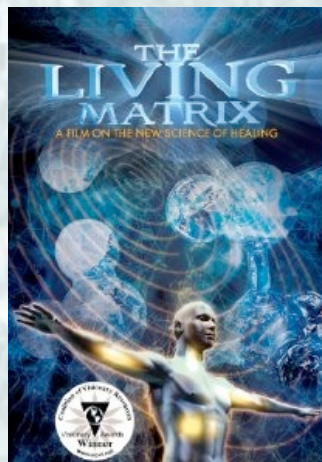


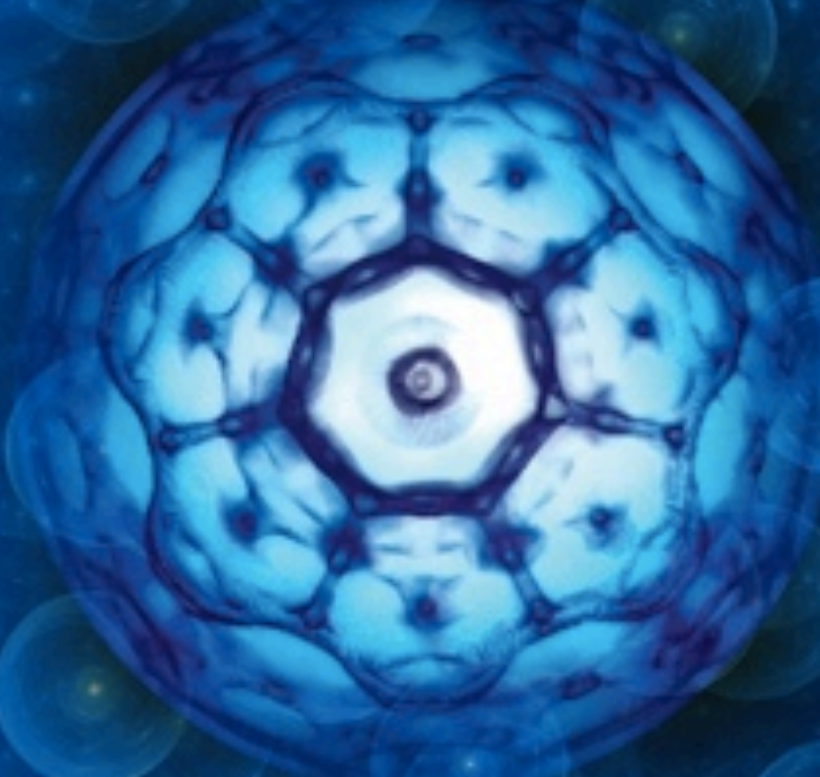
About Jim Oschman

Jim Oschman has degrees in biophysics and biology from the University of Pittsburgh, and has conducted research in Cambridge, England, Case Western Reserve University in Cleveland, the University of Copenhagen, the Marine Biological Laboratory in Woods Hole, Massachusetts, and Northwestern University in Evanston, Illinois, where he served as a Professor of Biological Sciences. In the early 1980's he became interested in holistic medicine, and began teaching and lecturing on this subject from his scientific perspective. In 1996 he began a series of 6 articles on the subject, What is Healing Energy? for the Journal of Bodywork and Movement Therapies at the request of the Editor, Dr. Leon Chaitow. Because of the way these and subsequent articles were received by the holistic community, Churchill Livingstone invited Jim to write a book on energy medicine, and Energy Medicine: the scientific basis was published in 2000 by Churchill Livingstone/Harcourt Brace. A second book entitled Energy Medicine in Therapeutics and Human Performance was published by Butterworth Heinemann/Elsevier in 2003. Lectures and workshops on energy medicine have taken Jim to cities throughout the USA and to dozens of countries throughout Europe, Asia and South America.

www.energyresearch.us

The living matrix is a conceptual substrate in that it provides a holistic or systemic framework for organizing a vast number of discoveries in the fields of cell and molecular biology as well as genetics, epigenetics and, now, quantum biology.





There can be no light (or heat) in the Universe without sound because light and heat are created by interactions between atoms, and such interactions may be defined as sound.

There can be no matter in the Universe without sound because matter consists of clusters of atoms that interact with each other and such interactions may be defined as sound.

There can be no life in the Universe without sound because life was also created by interactions between atoms, and such interactions may be defined as sound.

And since all energy radiates spherically, including gravity, electric fields, light and sound, bubbles of sound and light can be thought of as the Father and Mother of creation and Life as their Child.

Sound Ideas Bubble Up

By John Stuart Reid



How songs, words and vocalized prayers reach the stars

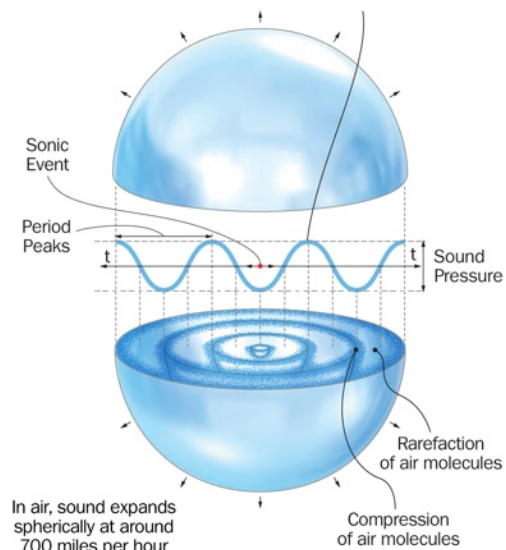
Thoughts become hugely amplified and transcribed into sound every time we speak, pray out-loud or sing. In this way our thoughts can be shared with the world. But what if the sounds we make were converted to light? The light would zip through the atmosphere and carry our thoughts and words to the stars. Actually this is exactly what does happen and you don't need high-technology to make it happen, your voice is all you need. All audible sounds propagate spherically. Such sonic bubbles expand at approximately 740 miles an hour. Each collision between air particles within the sound bubble creates friction between the magnetic shells surrounding the atomic particles, which create heat; which is another name for infra red electromagnetism, otherwise known as light. In fact, every time you speak, trillions of atomic collisions not only carry your words

away through the air, they also create a tiny amount of heat, heat that fluctuates in sympathy with your words. This simple mechanism transcribes your voice sounds into a bubble of modulated infra red light that expands at 186,000 miles per second. The infra red energy propagates independently of colliding atoms so it is not significantly attenuated by air particles. Thus, the infra red bubble travels relatively unimpeded through clear skies to space, where, theory tells us, it will travel forever, unless it encounters some dense matter. Your songs, words and vocalized prayers will, one day, reach the stars.

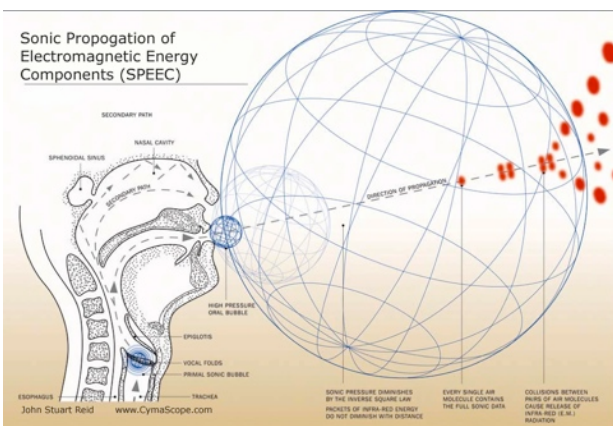
[Full Article Here](#)

Audible sounds are bubbles, not waves

The graphical representation of sound 'waves' is why the term 'sound waves' is used, causing the false impression that sound travels as a wave.



MATHEMATICAL LAW OF GRAPH
 $x(t) = A \sin (2 \pi t / T + \phi)$



CYMASCOPE®

S O U N D M A D E V I S I B L E

<http://www.cymascope.com/> Images Courtesy of John Stuart Reid

The only way of making sense of inherited patterns of organization is in terms of top-down causation by higher-level patterns, or “systems properties”, or fields.

Morphic Resonance and Morphogenetic Fields



Genes are overrated in the sense that they do not “code for” or “program” the form and behaviour of organisms. They specify the sequence of amino acids in protein molecules and some are involved in the control or protein synthesis. The human genome project and other genome projects have been disappointing, both scientifically and financially, because they were based on a false conception of what genes do. The inheritance of development and behaviour may depend on organizing fields that have an inherent memory. In addition, characteristics acquired by plants and animals can be passed on to their descendents epigenetically, through modifications of gene expression rather than mutation. Habits of growth and behaviour can be inherited through a collective memory of the species, on which each individual draws, and to which it contributes: organisms inherit habits of form and behaviour that are not coded in the genes by the process of morphic resonance.

This lattice reveals the geometry and nature of our harmonic universe and how you would see it in an astrological chart. What is your geometry in this space time?

–1533 Hervagius edition of Ptolemy's Tetrabiblos, published in Basel.

Latin text by Plato of Tivoli.



by Rupert Sheldrake

*...mechanistic revolution in the
seventeenth century was the
abolition of souls...*

**along with formal and final causes.
Everything was to be explained
mechanistically in terms of material
and moving causes. This meant that
the source of an organism's form
must already be present inside the
fertilized egg as a material structure.**



By the mid-nineteenth century the evidence was overwhelming: development involved the formation of new structures that were not already present. **Development was epigenetic, from the Greek *epi* = over and above, and *genesis* = origination.** New structures appeared that were not already present in the egg. Epigenesis supported both Platonic and Aristotelian schools of thought. Neither supposed that all an organism's form was contained in the matter of the fertilized egg. **Its form was derived from a Platonic Idea or a soul.**

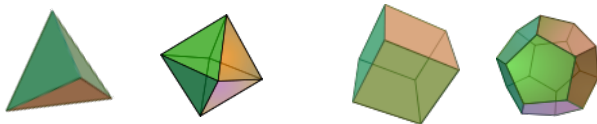


The Cosmographic Mystery, alternately translated *Cosmic Mystery*, *The Secret of the World* or some variation) is an astronomy book by the German astronomer Johannes Kepler, published at Tübingen in 1596 and in a second edition in 1621.

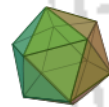
Model Exhibited in The Technisches Museum, Vienna, Austria

Immaterial forms

In the ancient world, almost no one believed that the form of an acanthus plant or a hawk was inherited through seeds or eggs alone. Platonists thought plants and animals were somehow shaped by the transcendent Idea or Form of their species. Modern Platonists like René Thom agree. They see the ideal Form of a species as a mathematical structure or model that is “reified” in physical plants or animals. The mathematical model for an acanthus plant is not embedded in the genes; it exists in a mathematical realm that transcends space and time. Human mathematical models are mere approximations to these ultimate mathematical archetypes.

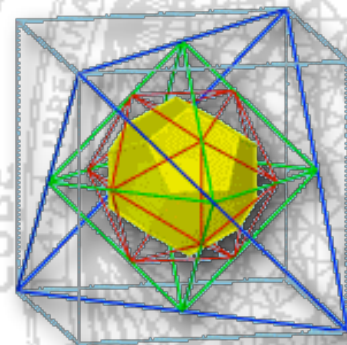


Aristotle, Plato’s student, disagreed. The forms of the species were not outside space and time, but inside space and time. They were *immanent* – meaning “dwelling in” - not *transcendent* – meaning “climbing beyond”. Instead of an archetype in a transcendent mind-like realm, the form of the body was in the soul, which attracted the developing animal or plant towards its final form. The soul served both as its formal cause, the cause of the body’s form, and its final cause, the end or goal towards which the organism was attracted.



The core building blocks of life are the five platonic solids. From the simple to the complex, geometry is the blueprint for life– micro to the macro.

I believe geometric proportions served the Creator as an idea when He introduced the continuous generation of similar objects. - Johannes Kepler



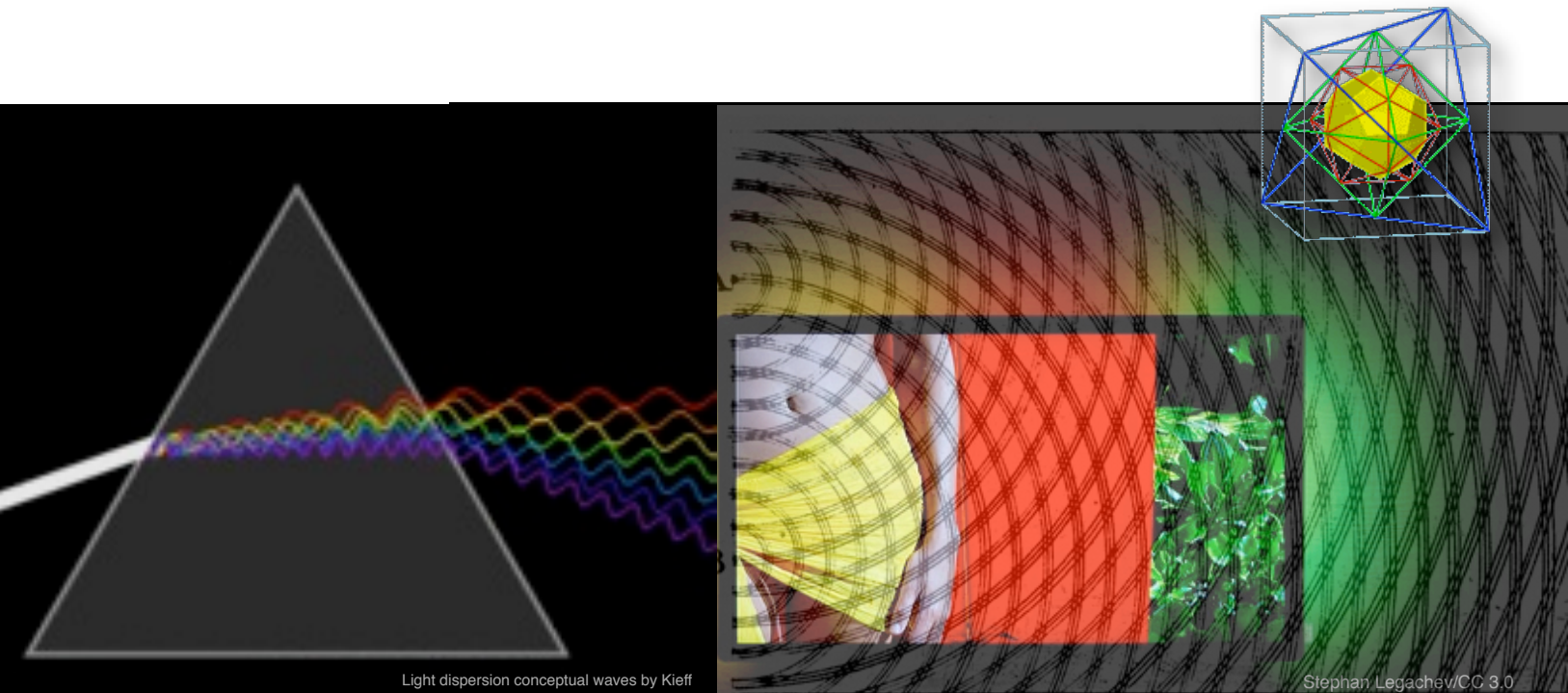
A - MEANS MULTIPLES OF 4
CUB - : : : : 3
: : : : 8

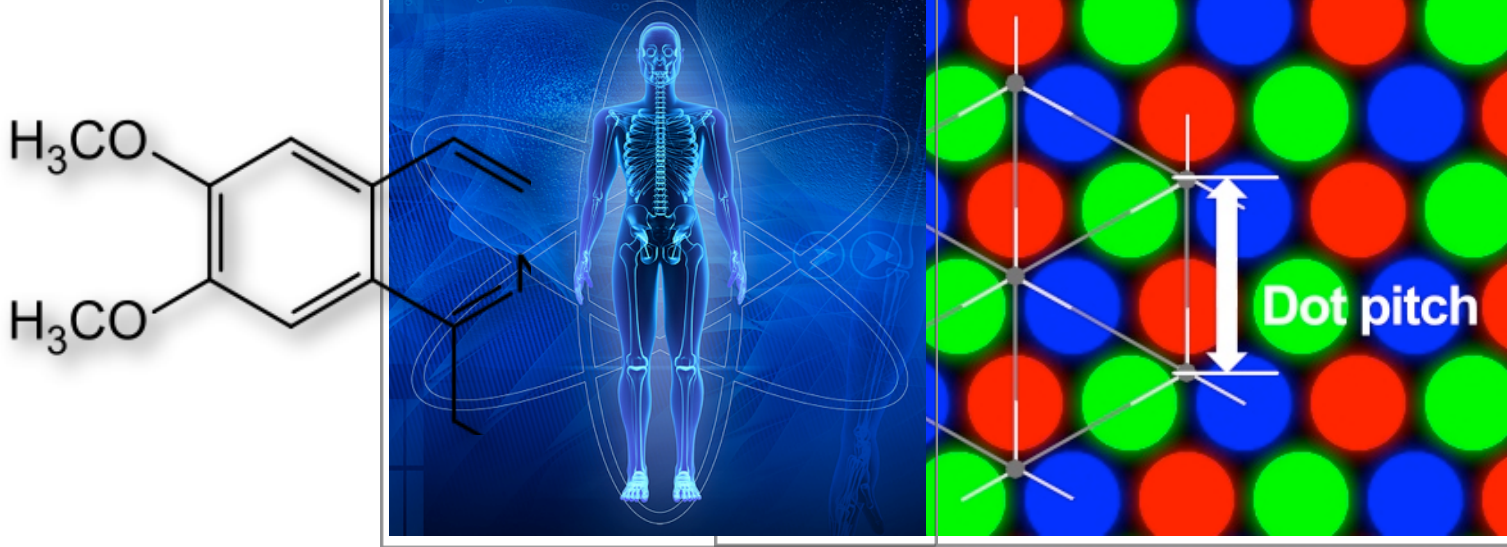
Throughout the European Middle Ages, Aristotle's theory, as modified and interpreted by Thomas Aquinas, was the basis of the orthodox understanding of causation. A process of change, like the growth of a walnut tree from a nut, involved four kinds of cause. The material cause was the matter out of which the plant was made, the nut and the matter it took up from its surroundings as it grew, *like water and minerals from the soil.*

The moving cause was the energy that powered it, from sunlight. The formal cause was the cause of the form or structure, the walnut-tree form in

the plant's soul. The final cause was the goal or purpose of the plant's growth, namely the mature tree producing nuts to reproduce itself.

An architectural analogy provides another way of thinking about the four causes. In order to build a house, there must be building materials, like bricks and cement. These are the material causes. Putting them in the right places requires the energy of the builders and their machinery: these are the moving causes. The places in which they put the materials are specified by the architect's plan: this is the formal cause. All this activity is happening because the person paying for the house wants to live in it: this is the purpose or final cause. All four causes are necessary: the house would not exist without the materials of which it is made, or the energy of the builders, or a plan, or a motivation for building it. In living organisms, immaterial souls provide both plans and purposes.





The discovery of the structure of the genetic material, DNA, and the cracking of the genetic code in the 1950s showed how the Weismann doctrine could be reduced to the molecular level.

Meanwhile, the neo-Darwinian theory explained evolution in terms of random mutations in genes and changes in gene frequencies in populations as a result of natural selection. The triumphs of molecular genetics combined with the neo-Darwinian theory of evolution seemed to provide overwhelming evidence for the material theory of inheritance. But this triumph was more a matter of rhetoric than reality.

Why genes are overrated

Genetic programs and selfish genes, are similarly endowed with vital powers, including the ability to “mould matter” and “create form”.

Thanks to the discoveries of molecular biology, we know what genes actually do. They code for the sequences of amino acids that are strung together in polypeptide chains, which then fold up into protein molecules. Also, some genes are involved in the control of protein synthesis.

DNA molecules are molecules. They are not “determinants” of particular structures, even though biologists often speak of genes “for” structures or activities, such as genes “for” curly hair or “for” nest-building behaviour in sparrows. Genes are not selfish and ruthless, as if they contained gangster homunculi. Nor are they plans or instructions for organisms. **They merely code for the sequences of amino acids in protein molecules.**

Darwin tried to explain it with his hypothesis of “pangenesis”. He proposed that all the units of the body threw off tiny “gemmules” of “formative matter”, which were dispersed throughout the body and aggregated in the buds of plants and in the germ cells of animals, through which they were transmitted to the offspring.

The metaphor of the genetic program inevitably suggests that development is organized by a pre-existing purposive principle that is either mind-like or designed by a mind. Computer programs are intelligently designed by human minds for particular purposes, and act upon and through the electronic machinery of a computer. The computer is a machine, but the program is not.

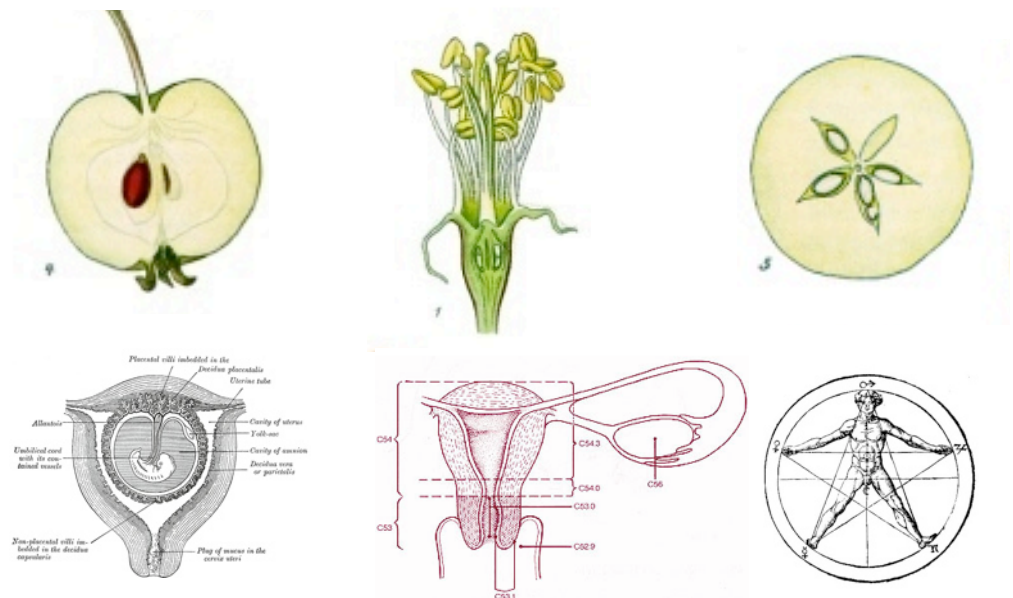
If genetic programs were carried in the genes, then all the cells of the body would be programmed identically, because in general they contain exactly the same genes. The cells of your arms and your legs, for example, are genetically identical. They contain exactly the same kinds of protein molecules, as well as chemically identical bone, cartilage and nerves. Yet arms and legs have different shapes.

Mechanistic biology grew up in opposition to vitalism. It defined itself by denying that living organisms are organized by purposive, mind-like principles,⁹ but then reinvented them in the guise of genetic programs and selfish genes. The dominant paradigm of modern biology, although nominally mechanistic, is remarkably similar to vitalism, with “programs” or “information” or “instructions” or “messages” playing the role formerly attributed to souls.

Mechanists have always accused vitalists of trying to explain the mysteries of life in terms of empty words, such as vital factors and souls, that “explain everything and therefore nothing.” But the vital factors in their mechanistic guises have exactly this characteristic. How does a marigold grow from a seed? Because it is genetically programmed to do so. How does a spider instinctively spin its web? Because of the information coded in its genes. And so on.

Genes can be “switched off” by the methylation of the DNA itself or of the proteins that bind to it.

Morphic resonance may underlie the inheritance of form, and behaviour. This resonance is physical, but not material. Similarly, morphic resonance may play a major role in cultural inheritance.

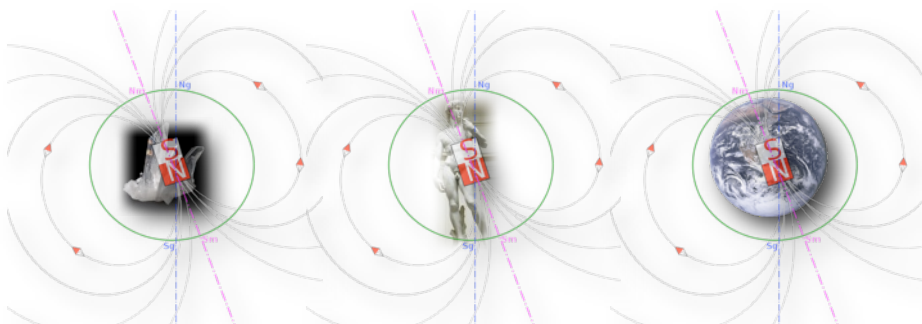


Morphic resonance and morphogenetic fields

The only way of making sense of inherited patterns of organization is in terms of top-down causation by higher-level patterns, or “systems properties”, or fields.

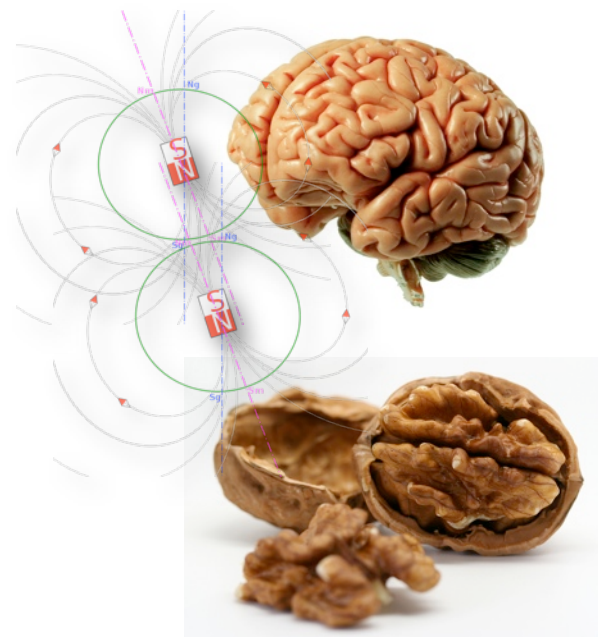
One way of grasping how top-down causation works through fields is to think of the field of a magnet. Influences flow “up” and “down”, to and from the overall field. The field of the magnet as a whole emerges from the lining up of the small magnetic domains within it. The field in turn works back on these constituent domains and keeps them lined up. If a magnet is heated above a critical temperature, it loses its magnetism; the order breaks down, and the microscopic magnetic domains are oriented randomly. The overall field is lost. This is like an organism dying.

Morphogenetic fields contain a nested hierarchy of morphogenetic units or holons. The morphogenetic field of a lemur coordinates the fields of its limbs, muscles and organs, the fields of organs those of tissues; those of the tissues coordinate the fields of the cells, and so on.



Francis Huxley summarized Darwin's attitude as follows:

A structure to him meant a habit, and a habit implied not only an internal need but outer forces to which, for good or evil, the organism had to become habituated.... In one sense, therefore, he might well have called his book *The Origin of Habits* rather than *The Origin of Species*.



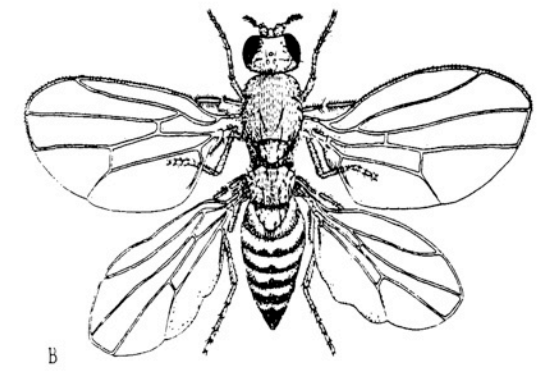
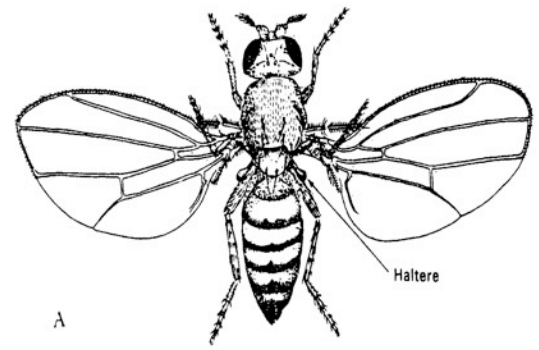
Sympathetic vibrations arrange themselves in the same shape. Walnuts enhance brain function. Like likes like, just like water!

There are two main way of thinking about morphogenetic fields. The first is to treat them as essentially mathematical structures, in which case we arrive again at a Platonic theory of form, as René Thom made explicit. The inheritance of form then becomes a matter of chemical genes and proteins interacting with timeless mathematics. The genes and proteins do not provide the form; the maths does.

Alternatively, morphogenetic fields may have history within them. They inherit their forms by morphic resonance from previous similar organisms. They can still be modelled mathematically, but these models do not explain the fields, they just model them. Inheritance depends on genes and on morphic resonance.

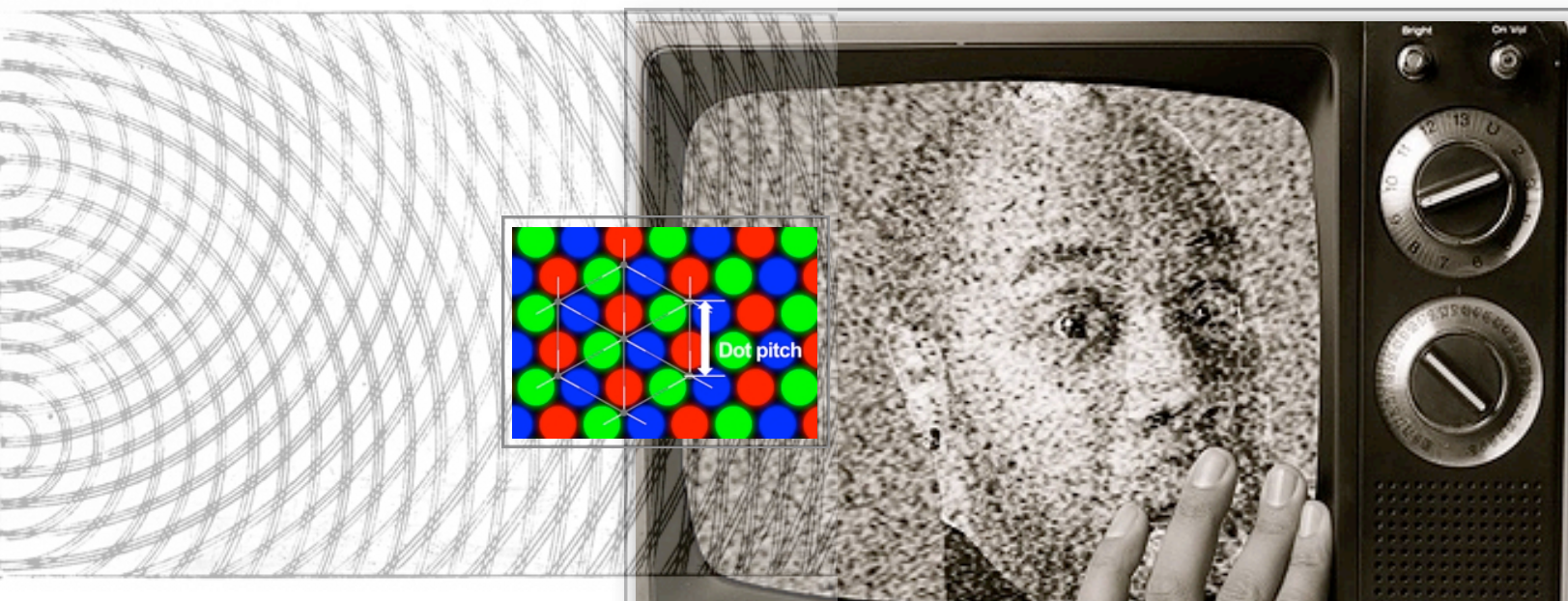
The difference between the Platonic theory and the morphic resonance hypothesis can be illustrated by analogy with a television set. The pictures on the screen depend on the material components of the set and the energy that powers it, and also on the invisible transmissions it receives through the electromagnetic field.

Some mutations in the components – for example by a defect in some of the transistors - affect the pictures by changing their colours or distorting their shapes; while mutations of components in the tuning circuit cause the set to jump from one channel to another, leading to a completely different set of sounds and pictures.



Some genetic mutations affect the tuning, with the result that a part of the embryo resonates with one morphogenetic field rather than another, resulting in a different structure, like a TV set tuned to a different channel.

There is already experimental evidence that these effects occur, discussed in detail in my books *A New Science of Life* and *The Presence of the Past*.



Rupert Sheldrake

Biologist & Author

Rupert Sheldrake, one of the world's most innovative biologists and writers, is best known for his theory of morphic fields and morphic resonance, which leads to a vision of a living, developing universe with its own inherent memory.

He worked in developmental biology at Cambridge University, where he was a Fellow of Clare College. He was then Principal Plant Physiologist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), in Hyderabad, India. From 2005 to 2010 he was Director of the [Perrott-Warrick project.](#), funded from Trinity College, Cambridge.

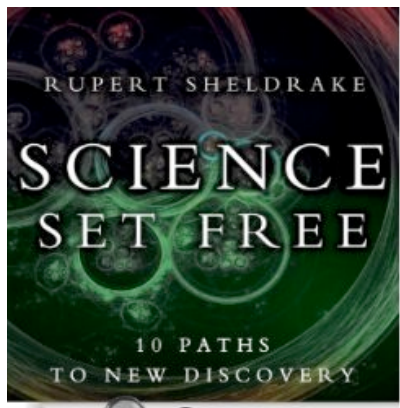
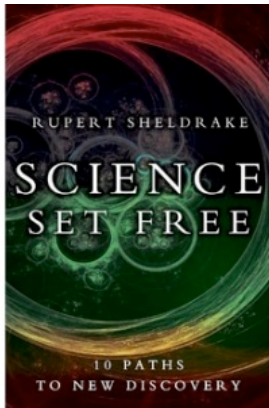


Science Set Free -- Rupert Sheldrake

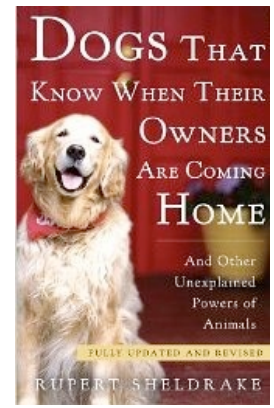
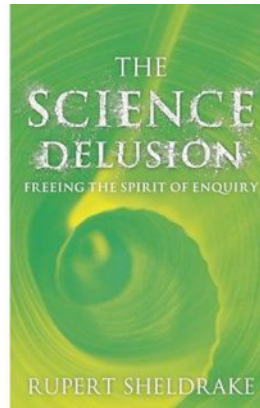
Rupert Sheldrake... [Biography](#)

A Guide to the Website
[Rupert's Science and Philosophy](#)

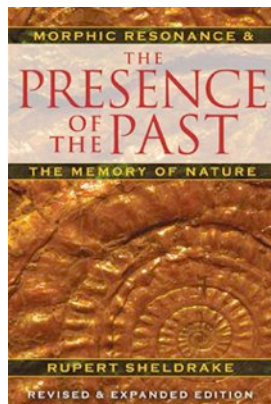
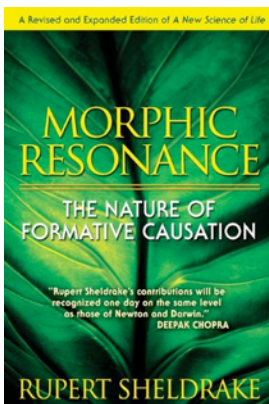
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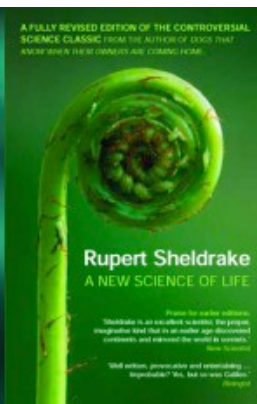
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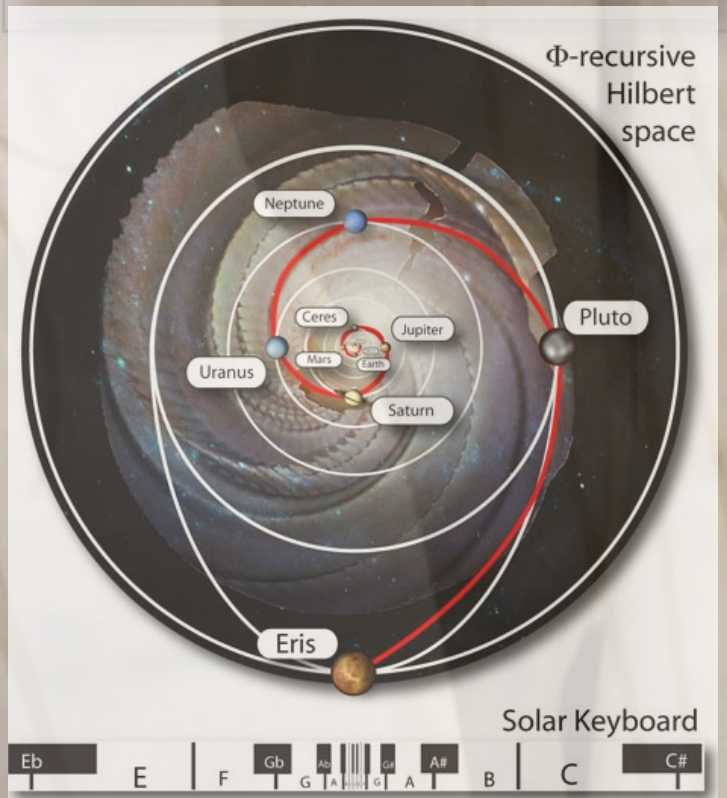


UK



Cosmic Bodies

Morphogenetic fields contain a nested hierarchy of morphogenetic units or holons. The morphogenetic field of a lemur coordinates the fields of its limbs, muscles and organs, the fields of organs those of tissues; those of the tissues coordinate the fields of the cells, and so on. - Rupert Sheldrake PhD



From NASA's Web site:

Jupiter - You have discovered the place in the universe for those who love Gregorian, or Tibetan chants or choirs singing in the harmony of happiness. JUPITER sounds are the ultimate "tuning fork" frequencies for meditation. A.

528 Hz & Jupiter's Electromagnetic voices & Alpha brainwaves.

Music of the Spheres



Fig. 4.3 The Planetary Vortex.

The movements of the inner planets viewed over a period of one full Saturn cycle of 29.46 years.

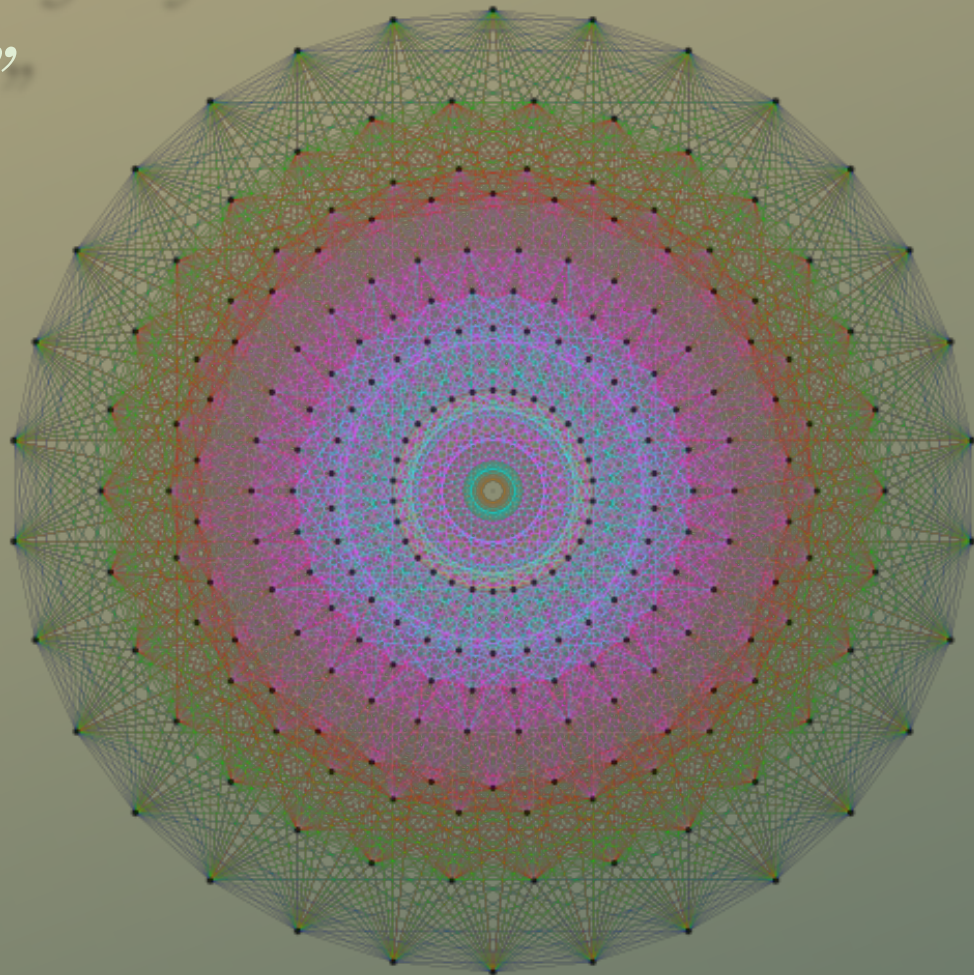
I grant you that no sounds are given forth, but I affirm . . . that the movements of the planets are modulated according to harmonic proportions.-Johannes Kepler

“The Theory of Everything”

"An Exceptionally Simple Theory of Everything" by Anthony Garrett Lisi is also known as the E8 Theory. This theory shows the geometry of space and how things unfold via gravity, particles and spin within the coordinates of this grid.

Is this a timeless geometry code demonstrated in numbers, angles, shapes, forms and ratios; and they ALL relate.

Geometric symmetries are the foundation of whole cosmos as in atoms, snow flakes, pine cones, flower petals, diamond crystals, tree branching and nautilus shells.



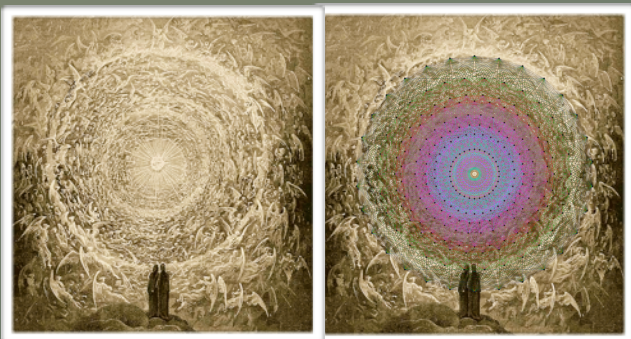
All Matter is Crystalline

Crystals are the record in form of the state of motion of the potential which produced that form.

Crystals are the frozen records in form of the generative/active effort of accumulating potential.

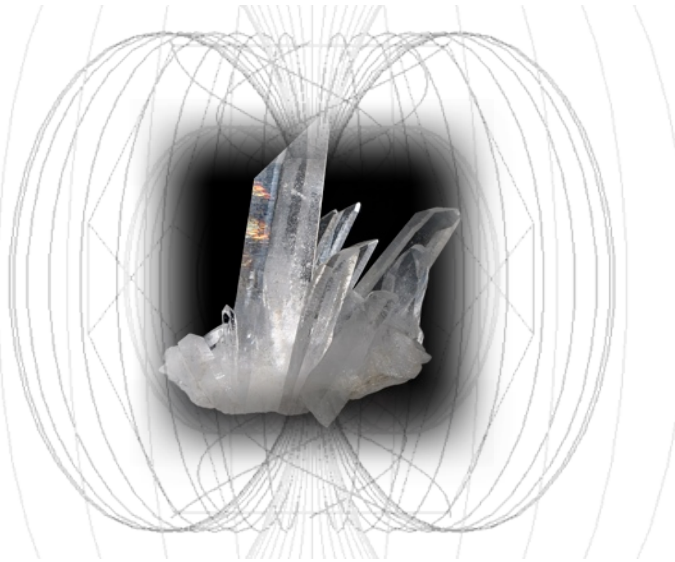
All crystalline forms are records of tonal period-ics.

Walter Russell, “The Universal One”



Rosa Celeste: Dante and Beatrice gaze upon the highest Heaven, The Empyrean by Gustave Dore

We and Mother Earth are Both Matter, Charged and Alive.



Earth and humans have a sympathetic frequency

...it is called the Schumann Resonance. This frequency operates at a range of approximately 8-Hertz, which is the same frequency at which the brain operates and is very close to the ALPHA rhythm. This frequency also acts like a tuning fork for the brain.

**It is our Mother Gia's
heartbeat as well.**

We and Mother Earth are both formed from the one Light Source and crystalized into form. Crystals are used as transmitters and they keep time and store information. Mother Earth is 90% crystal at its crust. As we come together as one song we can resonate a common electromagnetic field. This field acts like one big wave and one massive subatomic particle.

Mother Earth feels our every vibration.



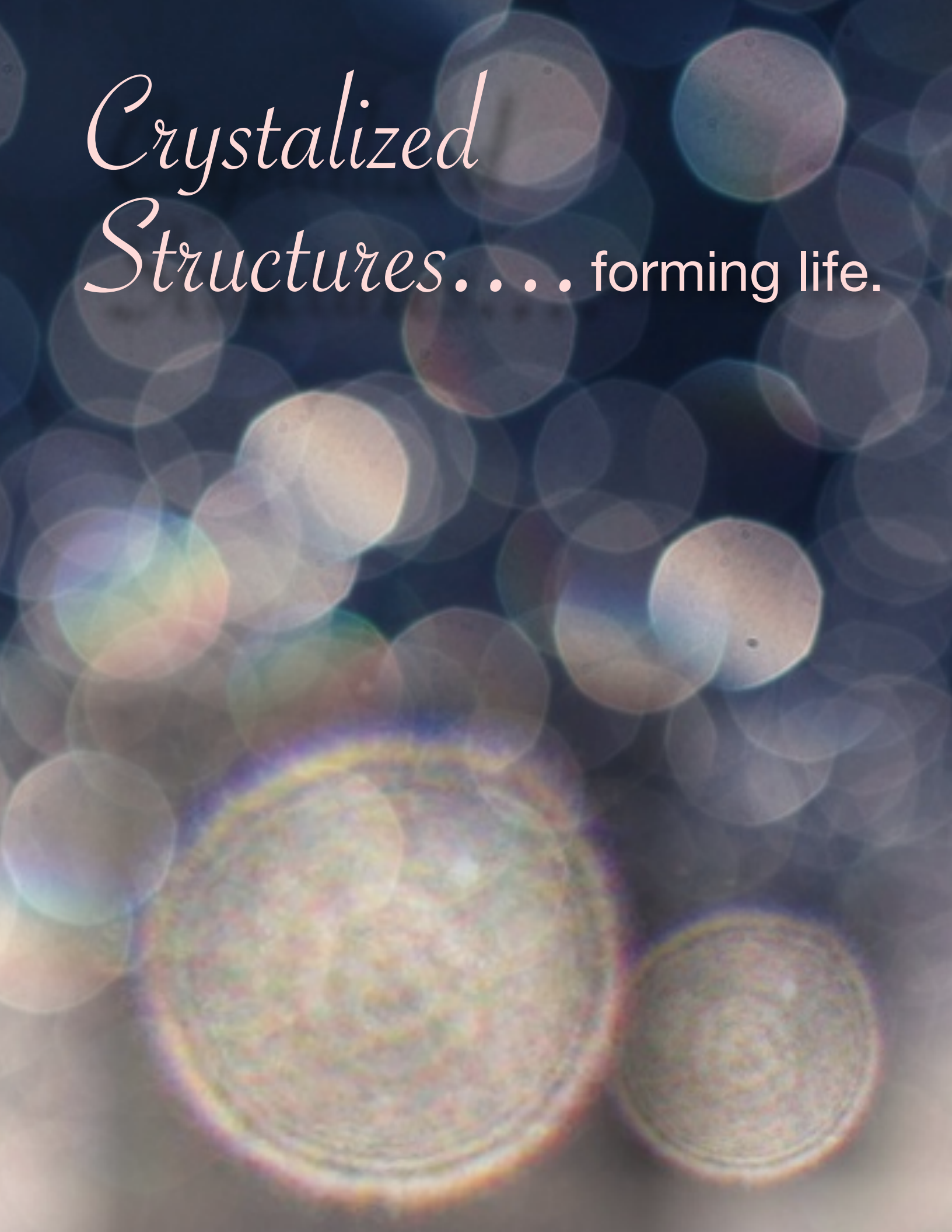
Water Captured by the Lens

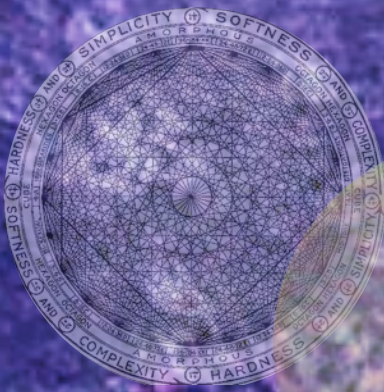
...the essence of life.



Frozen Water captured by a lens, this kind of miracle was only seen by the mystics and seers of higher frequencies and dimensions of light. We are made of water and oxygen crystalized and formed by light. We are a holographic projection and part of the kaleidoscope of life.

*Crystallized
Structures . . . forming life.*





Moving Between

Space is the medium of ethers/waters. Earth and humans are approximately 70% water. The properties and qualities of water must be inherent in our character, because this is what we are made of. In the East you would be known by your dosha, your elemental composition, as in the periodic table of elements.

What beauty and mystery does water hold?

It acts as a liquid tape recorder, it holds the shape of your sound vibration--your body shape/type, your chamber of resonance, enhances your word. Its crystallized properties act as a transducer and receiver. So the 70% water in you transports, sends and receives your vibrational imprint. It also dials you into your channel for life!


And since energy never dies, then the life and soul of you just morphs like a drop in the sea --be it liquid, solid, or gas.

You are nurtured in the womb, birthed from the waters, you come from the void, through narrow channels, and in this space, earth, you take a breath and you come to life.

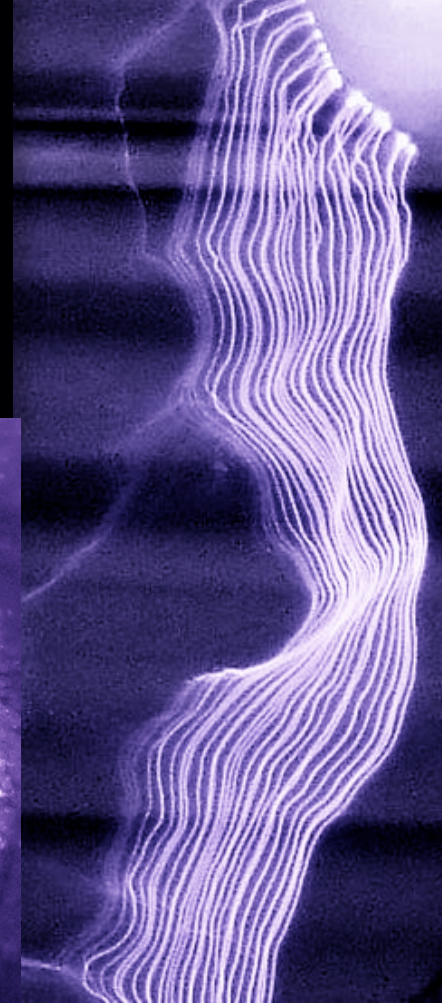
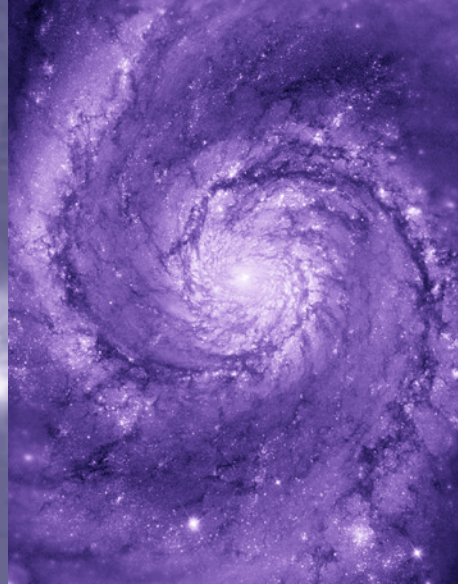
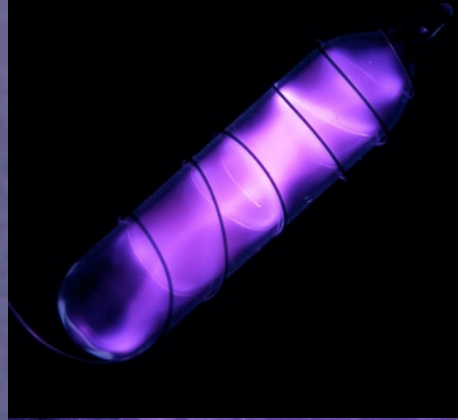


The Portal for Life

... **space-time**



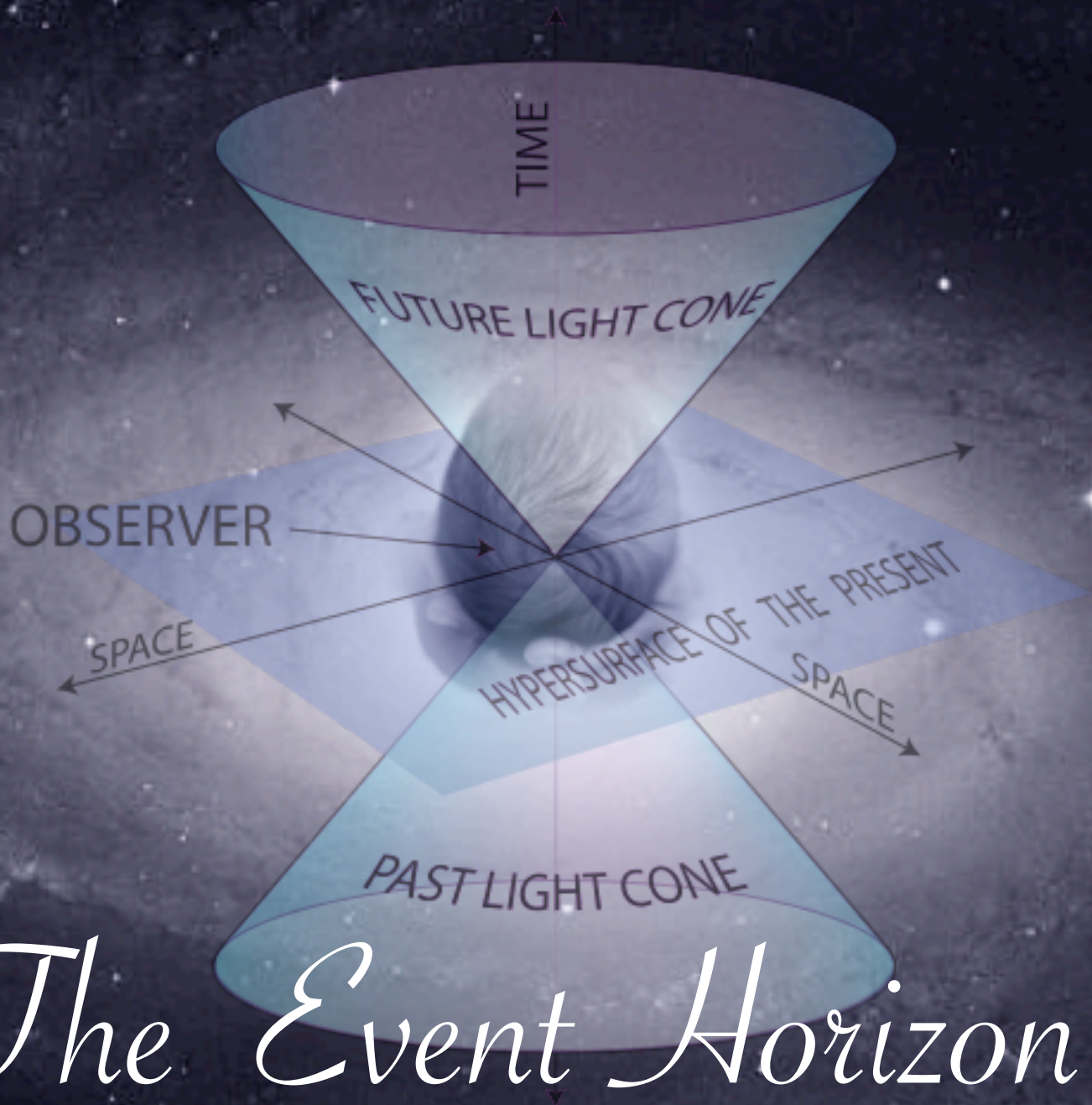
Water streams from a tap (US faucet), and "pinches" into droplets, in an analogy to the [Pinch (plasma physics) electromagnetic pinch].
Photo by Ian Tresman



The electromagnetic waves that compose electromagnetic radiation can be imagined as a self-propagating transverse oscillating wave of electric and magnetic fields. - self, GFDL, CC-BY-SA

Pinched

**...compressed
into "matter"**

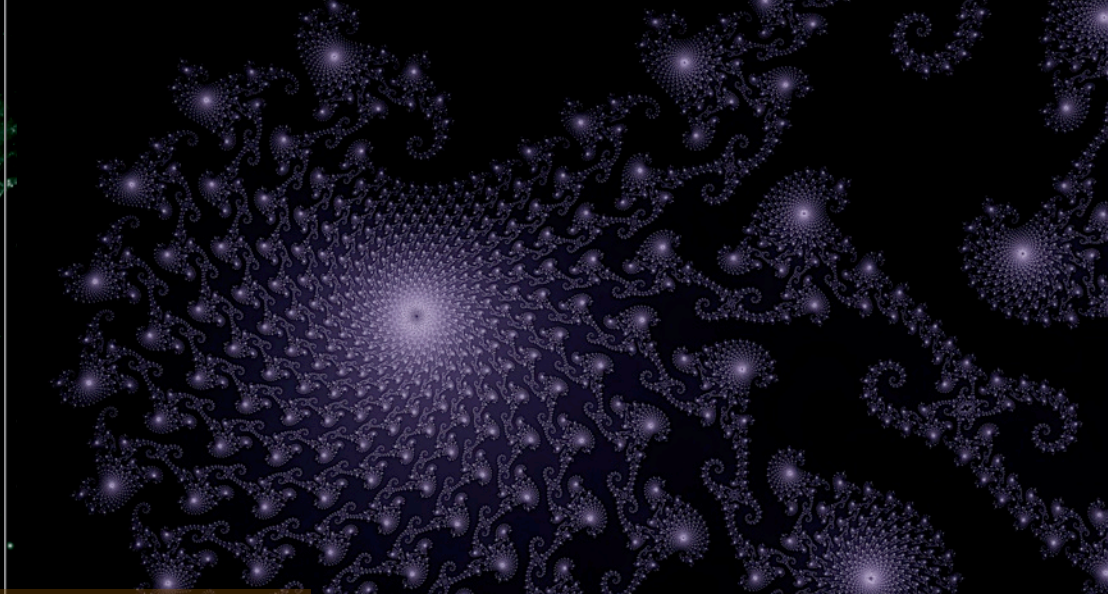


The Event Horizon

There manifests itself in the fully developed being, Man, a desire mysterious, inscrutable and irresistible: to imitate nature, to create, to work himself the wonders he perceives. Long ago he recognized that all perceptible matter comes from a primary substance, or tenuity beyond conception, filling all space, the Akasha or luminiferous ether, which is acted upon by the life giving

Prana or creative force, calling into existence, in never ending cycles all things and phenomena. The primary substance, thrown into infinitesimal whirls of prodigious velocity, becomes gross matter; the force subsiding, the motion ceases and matter disappears, reverting to the primary substance.

Man's Greatest Achievement, 1907 - Nikola Tesla



Because You are unlimited, neither the lords of heaven nor even You Yourself can ever reach the end of Your glories. The countless universes, each enveloped in its shell, are compelled by the wheel of time to wander within You, like particles of dust blowing about in the sky. The srutis, following their method of eliminating everything separate from the Supreme, become successful by revealing You as their final conclusion. - Bhagavata Puran

Interconnected Systems

The Mandelbrot Set reveals the nature of our fractal and holographic universe. Within these visuals you can see an ever-expanding universe of interlocking, yet individual expressions of the One Mind. Other names given are alternative universes, quantum universes, parallel dimensions, alternative realities and alternative timeline.





Lord Vishnu,

Dreaming The Universe Into Being



<http://consciousnessofone.blogspot.com/>

The Dance

Excerpts from **Gerald Pollack's** upcoming new book.

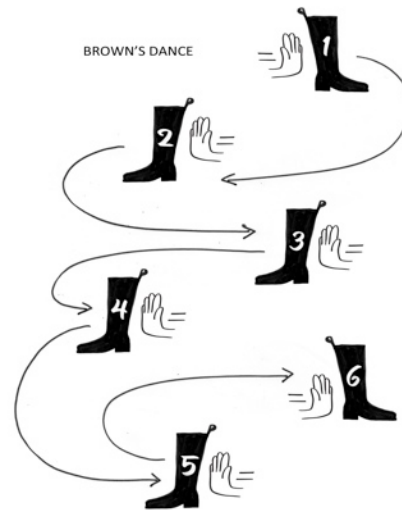
<http://2009rt8sciashmita.wordpress.com/category/uncategorized/page/3/>

Fred Astaire and Rita Hayworth for film *You Were Never Lovelier*





The Dance of Water Bodies



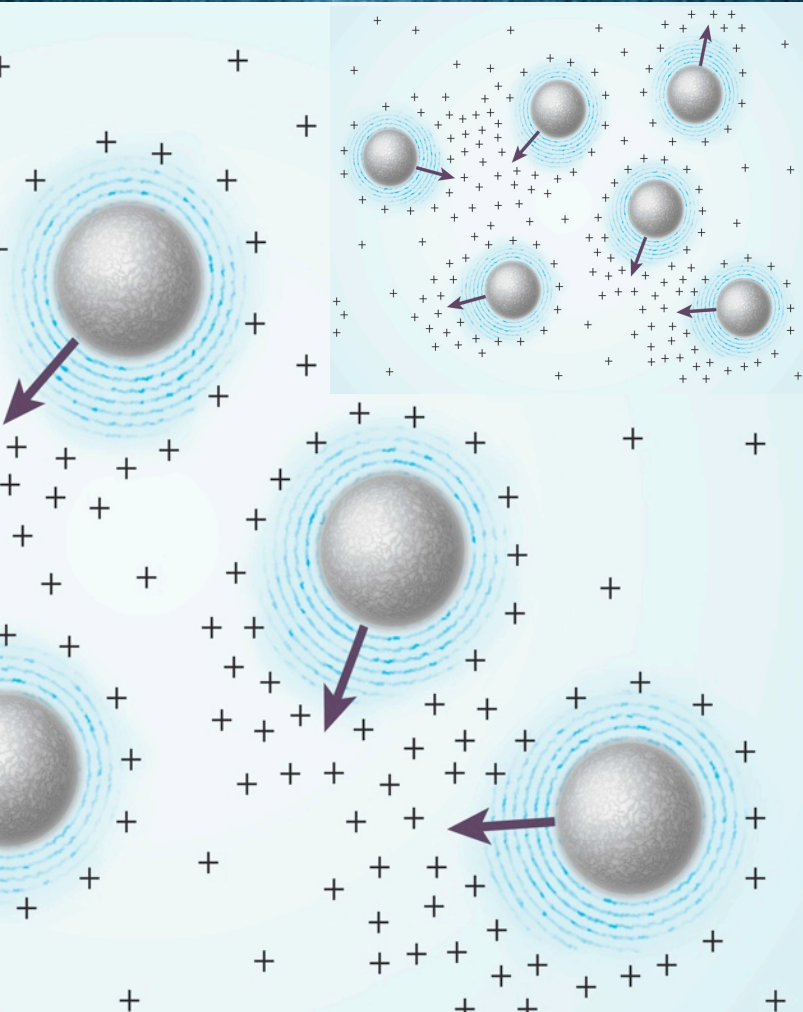
Charge distributions surrounding microspheres in suspension. Arrows denote anticipated directions of movement of negative particles toward positive-charge maxima. Directions will continually change as particles move.

According to **conventional** views...

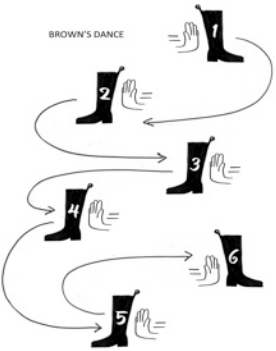
Brownian (thermal) motion is a reflection of the kinetic energy caused by temperature. This energy is thought to drive particles endlessly to and fro in a random (Brownian) fashion. Although that theory of Brownian motion has become universally taught, a surprising number of experimental observations do not fit, raising doubts as to its adequacy.

The alternative hypothesis put forth here suggests that incident radiant energy drives Brownian motions. The absorbed energy builds exclusion zones around the particles and thereby separates charge. **The**

separated charges generate forces that drive particle movements.



Early in the nineteenth century, the Scottish botanist Robert Brown noticed something odd. After dropping some grains of pollen into a container of water, Brown observed a kind of jittery motion: instead of sitting lifelessly in the water, the grains danced around endlessly. He soon found that this motion characterized not only pollen, but also spores, dust, and even tiny window-glass fragments.



This jittery dance became known as Brownian motion, even though reports of similar motion had come half a century prior. Brown's main contribution was to demonstrate that not just biological entities exhibited this seemingly self-animated motion but also nonbiological entities. In other words, Brownian motion was a universal feature of nature.



What fuels these Brownian “dancers”?

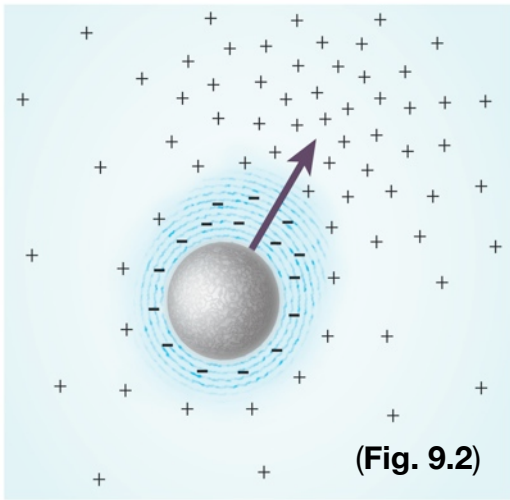
Why should inert particles move endlessly to and fro when “perpetual motion” is supposedly impossible? A common understanding of this peculiar motion has long prevailed, but that understanding has not considered the pool of radiant energy absorbed from the environment. We whether that absorbed energy may bring a new (and perhaps simpler) understanding of this motion's origin.

Brownian Motion According to Einstein

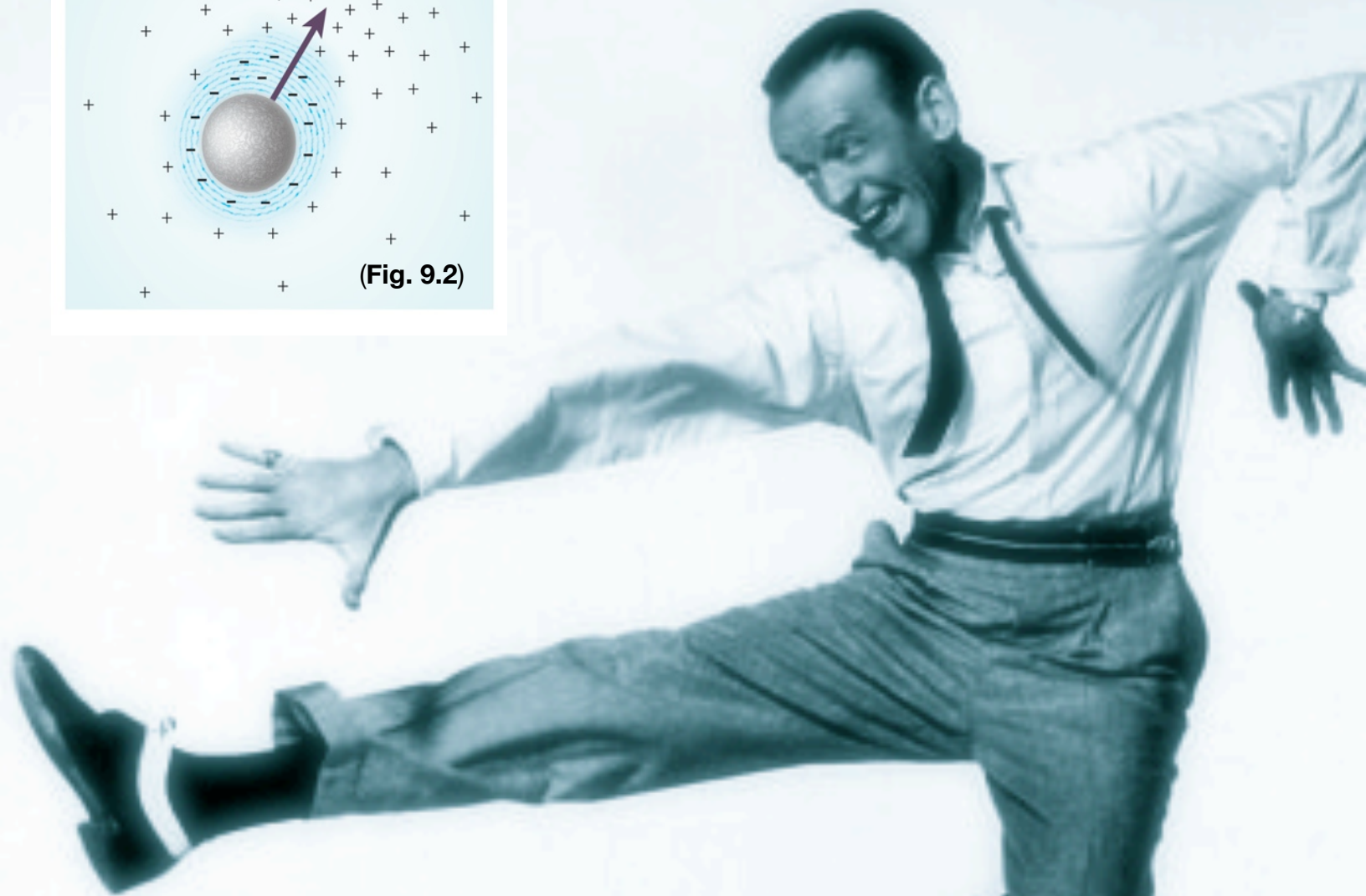
Brown's observations initially confounded physicists. Generating motion requires energy, but the source of that driving energy had remained unclear. The energy coming from the surroundings seemed an unlikely culprit, because scientists presumed that a beaker of water sitting on a table for some time was in equilibrium with the environment; the water did not appear to gain any net energy. For years, physicists scratched their collective heads, but no satisfying answer emerged.

Then came Einstein. In the seminal year of 1905, Einstein produced groundbreaking works on three fronts: special relativity, the photoelectric effect, and Brownian motion. He was having a good year. Einstein's explanation for Brownian motion did not require a constant input of driving energy. It rested instead on an ever-present internal energy that existed as a consequence of temperature.

Einstein considered Brownian motion as arising largely from two phenomena: osmosis and friction. Osmosis is the phenomenon in which water moves toward solutes or particles; the concentration of water always wants to even out. Einstein took this inherent drive of water molecules to move as the motion's generator.



(Fig. 9.2)



To appreciate how this might happen, imagine some particles suspended in water. An individual particle represents a location with no water. Because of the osmotic drive, water molecules always want to move toward that space. Occasionally, those water molecules will bump into the particle, provoking some movement.

Any such particle movement needs to overcome friction. Einstein recognized that. To deal with this viscous resistance, he applied the standard friction equation, known as Stokes' law of friction. He set the driving force of osmosis equal to the resistive force of friction and thereby articulated what has become the modern understanding of Brownian motion.

This simple sketch understates the sophistication of Einstein's analysis. Einstein dealt not only with the origin of the movement but also with its nature. He likened the movements of water molecules to the movements of gas molecules. Gas molecules, according to a kinetic theory well articulated by that time, bounce around randomly; they do so as a consequence of their temperature. Temperature was considered the source of energy for their movement.

Thus, Einstein sought to extend that gas theory to liquids. By considering liquid molecules analogous to gas molecules, he could envision the water molecules jittering about randomly, occasionally striking suspended particles and pushing those particles to and fro .

Of course, single hits will not produce very much motion. The mass



of a water molecule is roughly 10,000,000,000 times smaller than that of the micron-sized particle to be moved. So its punch will be feeble. My friend Emilio Del Giudice likens it to the crash of a mosquito onto the

windshield of a trailer truck — **the truck will not seriously deviate from its course. To move the truck, you'd need a lot of crashing mosquitoes.**

At any rate, by using the kinetic theory of gases, Einstein arrived at an equation describing Brownian dynamics (see box, later in chapter). That equation predicts the magnitude of particle displacement (actually, the mean square particle displacement) over time.

With this formal theory, Einstein described what might happen to a particle suspended in a bath of water molecules. The water molecules, he opined, should undergo random gas-like motions. Sometimes those molecules would hit the particle. Because the hits would come at random instants, the

particle should suffer random displacements, which might resemble the walk of a drunken sailor (**Fig. 9.3**).



Einstein's theory led to the concept of "thermal" motion. According to his formulation (see box), a particle's Brownian excursions in a liquid should depend on temperature. As the temperature increases, the excursions should increase concomitantly. On the basis of this temperature dependence, Einstein could refer to this motion as "heat motion" or "thermal motion." Physicists have come to take this motion as temperature's inevitable manifestation: atoms and molecules dancing as a *consequence* of their temperature.

While scientists broadly accept Einstein's analysis, acceptance was by no means the case initially. In his historical review, Brush¹ provides a readable account of the early resistance to Einstein's theory. Physicists expressed skepticism over what they considered questionable theoretical leaps. Stokes' law, for example, had been advanced for describing friction in macroscopic systems, such as swinging pendulums, but Einstein assumed that the law could also apply to the microscopic entities involved in Brownian motion. In addition, some physicists thought that the effects of bumping water molecules (like crashing mosquitoes) would lack enough power to explain the observed particle movements unless the water motions were coordinated.

Other physicists raised concerns about mutually exclusive assumptions: osmotic theory implied that the water molecules should smash into the surface of the particle and then bounce off, but Stokes' law implied that those molecules had to remain adjacent to the particle in order to create friction. Those issues troubled physicists of the time.

Brush goes on to describe another troublesome issue: Einstein's general approach. That approach rested on an abstract form of the statistical mechanics of gases, whose basis some physicists found difficult to follow.

To compound these theoretical difficulties, certain experimental observations contradicted Einstein's predictions. Contemporaries such as Svedberg and Henri found displacements four to seven times those predicted from Einstein's formulation. These scientists were not shy about trumpeting those disagreements.

Nevertheless, as Einstein's stature grew, resistance to his theory gradually melted away; within several decades, Einstein's theoretical formulation became universally accepted. By now, thermal motion has come to be considered one of the most fundamental laws of nature. Every atom, molecule, and particle is thought to undergo this perpetual thermal dance; and out of such dance steps has come our contemporary understanding of condensed matter physics. It would not be an overstatement to suggest that the concept of thermal motion has come to seem practically as fundamental as Newton's laws of motion or the atomic theory of matter.

Concerning Issues

With the early reservations of Einstein's contemporaries now long forgotten, you might naturally have thought that all issues Brownian are well settled. However, that is not so. The theory fails to match modern experimental observations in at least three scenarios: (i) when salt is added to the water; (ii) when

particle concentrations are relatively high; and (iii) when a light is turned on. Let me briefly elaborate.

In photosynthesis, incident photons split water, the products of which go on to drive metabolism, growth, flows, etc. Absorbed light energy continually drives work output — which means that the system lies out of equilibrium.

Hence, the presumption of equilibrium in classical theory conflicts with the evidence that water is out of equilibrium. Both water and plants (the latter consisting mainly of water) operate out of equilibrium: input energy continuously powers work in much the same way as fuel continuously powers your car. If water lies out of equilibrium, then any understanding of Brownian motion built on the presumption of equilibrium must be considered suspect.

The issue is serious. Particles continuously move and do work, but in the classical equilibrium view, no outside energy is needed to drive that work. Internal energy suffices — indefinitely. **How the work of movement could persist without any external assistance presents a challenge to the classical understanding of Brownian motion.**

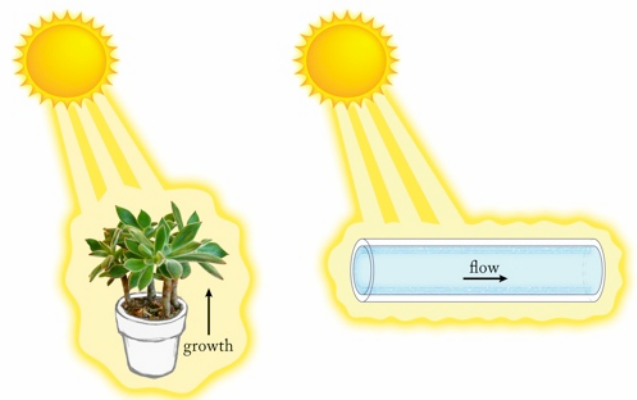


Figure 9.5. Radiant energy produces work in plants and in water; the two processes are conceptually similar. By processing input energy, both operate out of equilibrium.

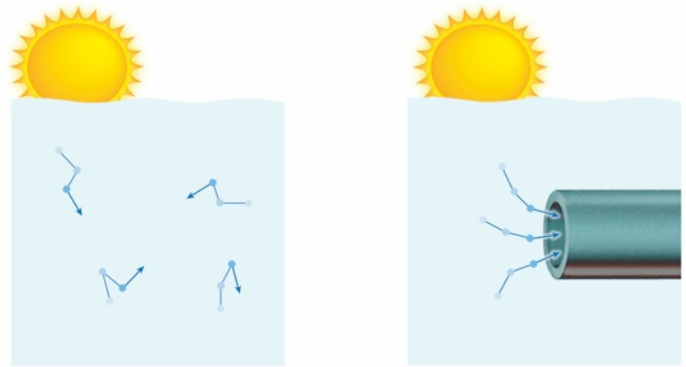
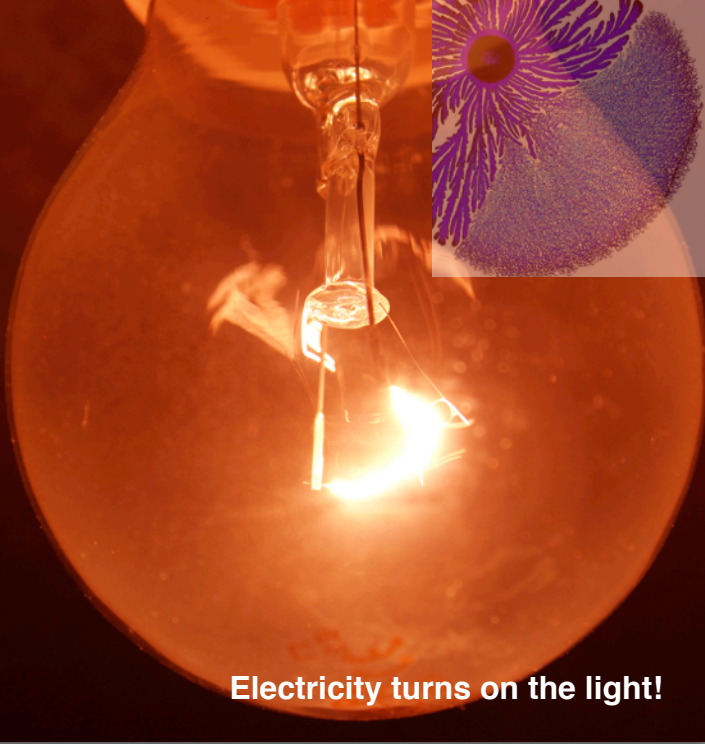


Figure 9.6. Incident energy generates motions, which can be random or coordinated, in the absence (left), or the presence (right) of a director.

Let me propose an alternative Brownian motion driver: incident electromagnetic energy. If absorbed electromagnetic energy drives other water-based transduction processes, then might that energy also drive Brownian motion?

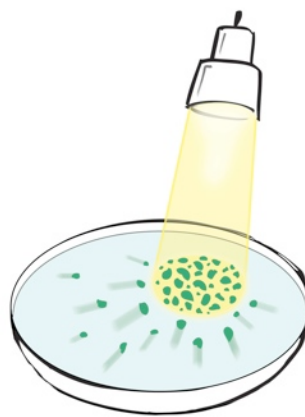
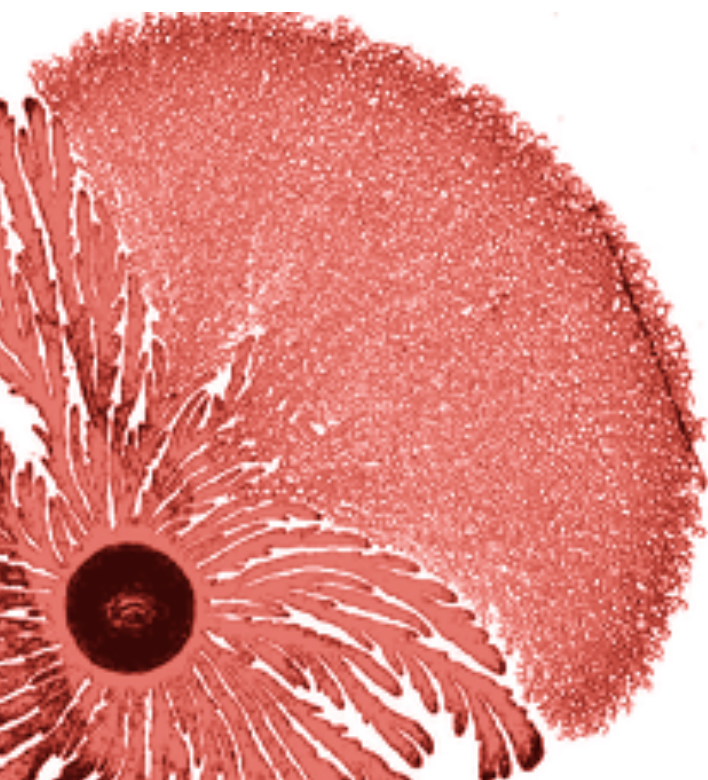
A hint that this hypothesis may hold promise can be glimpsed by recalling water flowing through hydrophilic tubes. Think of that flow as the sum of many directed Brownian motions. From that perspective, the tube merely organizes those motions into a collective flow. Since electromagnetic energy drives the tubular flow, electromagnetic energy logically drives the individual motions that collectively make up the flow (**Fig. 9.6**).



An external Brownian driver also makes sense from an energy-flow perspective. Water continuously absorbs electromagnetic energy — which needs to be expended. We might therefore view Brownian work as a kind of relief valve, a way to expend all of that absorbed energy. Put another way, Brownian motion may be a natural reflection of water's continuous absorption of electromagnetic energy.

The idea of an electromagnetic driver of Brownian motion may seem radical, but it has precedent. Several 19th century physicists thought that electromagnetic energy might drive the motion indirectly by inducing heat. Later, Max Planck, the father of quantum mechanics, thought along similar lines: he entertained the notion that electromagnetic interactions could drive random molecular motions. Planck finally moved in other directions when that line of reasoning failed to yield the rich dividends he had envisioned. Nonetheless, the idea of an electromagnetic driver had remained high on Planck's agenda for two decades. The notion is not so radical and is not without rationale.

[YOU-Tube - The Role of Water in the Electric Body / Gerald Pollack](#)



A typical bacteria colonial pattern generated by *P. vortex*

I'll show you a few examples that confirm this behavior.

- Attraction to light was evident, as extra light draws colloidal particles closer together. It does so by separating the charges that mediate the attraction. Thus, regions receiving more light will experience more attraction and more condensation.



- A second piece of evidence for attraction to light comes from experiments that restricted the beam of incident light. We passed a beam of light through a hole and into a uniform suspension of microspheres. The microspheres moved toward the region receiving the light, eventually concentrating in the narrowly illuminated zone

Bacteria do much the same (**Fig. 9.11**). They move toward near-infrared light in the same way that the microspheres above moved toward the restricted light beam. The bacterial movement is hypothesized to arise from an infrared sensor lodged inside the cell.¹⁰ While that might be the case, the movement toward light so closely resembles that of the microspheres that one may rightly ask whether the mechanisms might be the same.

Excerpts from **Gerald Pollack's** upcoming new book.

<http://faculty.washington.edu/ghp/>



Research Description

Water has three phases – gas, liquid and solid; but recent findings from our laboratory imply the presence of a fourth phase that occurs at interfaces. This phase is surprisingly extensive. Its presence may have profound implication for chemistry, physics and biology and we are actively considering all of these. Cell biology in particular considers water as a mere background carrier of the more important molecules of life. However, it appears that water is a central player and we are investigating just how.

The presence of an extensive interfacial water phase lends itself to the development of transformative new technologies involving water filtration, desalination and water-based solar energy. We are working on these as well.

Honors & Awards

- Honorary Professor, Russian Academy of Sciences 2005
- Fellow, Biomedical Engineering Society, 2005
- National Science Board Task Force for Transformative Research, Advisor, 2005-2006
- Inaugural Chair, Annual Conference on the Physics, Chemistry and Biology of Water, 2006, continuing
- Annual Faculty Lecture Award, 2008 [See archived video of the lecture](#)
- Founding Editor-in-Chief, WATER :A Multidisciplinary Research Journal www.waterjournal.org 2009
- NIH Transformative R01 Award, 2009.

Selected Publications

- **Cells, Gels and the Engines of Life**, Ebner and Sons, Seattle, 2001 Zheng, J.-M., Chin, W. -C, Khijniak, E., Khijniak, E., Jr., Pollack, G. H. Surfaces and Interfacial Water: Evidence that hydrophilic surfaces have long-range impact. *Adv. Colloid Interface Sci.* 127: 19-27, 2006.
- Klyuzhin, I, Symonds, A, Magula, J and Pollack, GH: A new method of water purification based on the particle-exclusion phenomenon. *Environ. Sci and Techn*, 42(16) 6160-6166,
- Ovchinnikova, K and Pollack, GH: Can water store charge? *Langmuir*, 25: 542-547, 2009.
- Zhao, Q, Ovchinnikova, K, Chai, B., Yoo, H, Magula, J and Pollack, GH. Role of proton gradients in the mechanism of osmosis. *J. Phys Chem B* 113: 10708-10714, 2009.
- Nagornyak, E, Yoo, H and Pollack, GH: Mechanism of attraction between like-charged particles in aqueous solution. *Soft Matter*, 5, 3850 – 3857, 2009.
- Chai, B, Yoo, H. and Pollack, GH: Effect of Radiant Energy on Near- Surface Water. *J. Phys. Chem B* 113: 13953-13958, 2009.

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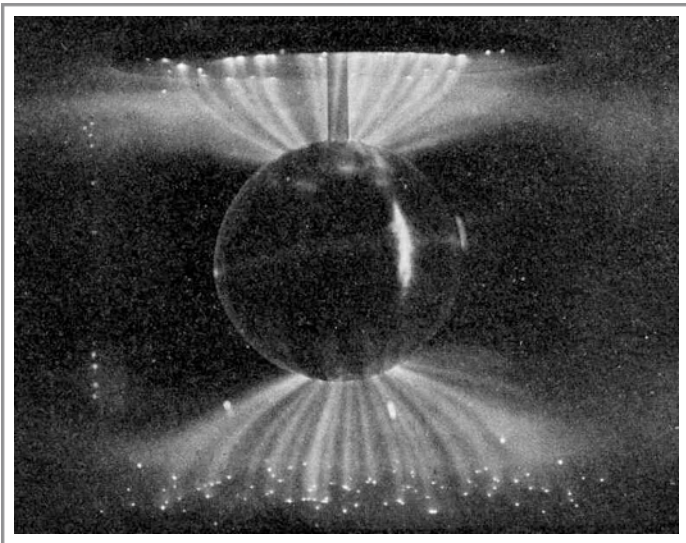
Concurrent with the event, Earth's magnetosphere swelled to five to six times its normal size. NASA's Wind, IMP-8, and Lunar Prospector spacecraft, the Russian INTERBALL satellite, and the Japanese Geotail satellite observed the most distant 'bow shock' ever recorded by satellites.

Reporting on five month old news makes newspapers appear rather slow. Even more startling is NASA's present complete lack of a theory or explanation for this solar wind disruption.



'bow shock'/NASA

An explanation now exists. It is a direct result of the Electric Universe hypothesis. It will be presented at this conference. It is called the **ELECTRONIC**



SUN MODEL will be described for the first time by Dr. Donald E. Scott.

The Electronic Sun Model Explains

- Why coronal hotspots appear in the lower corona above sunspots.
- Why the corona changes shape from times of 'active' to 'quiet' Sun.
- How the solar wind's flow rate depends on the voltage (energy) rise from the Sun's interior up to the photospheric tufts.
- How the solar wind's velocity depends on the voltage drop between the photospheric tufts and the plasma in the lower corona.
- That a transistor-like action is capable of cutting off the solar wind flow.
- No other mechanism that can control, vary, or cut off the solar wind has yet been proposed.
- This announcement is quite possibly a significant breakthrough in solar research.

By Don Scott, Ph.D.



Check
out last years
amazing
conference...
with Science to
Sage E-Zine

ELECTRONIC SUN MODEL

Starting on May 10, 1999, the solar wind stopped for two days. More accurately, it dropped to 2% of its normal density and to half its normal speed. Although the solar wind varies a bit, this was the most drastic and longest-lasting decrease ever observed. NASA sat on the story for five months. When NASA finally released that information on Dec. 13 of that year, it was too old for newspapers to carry. See:

http://science.nasa.gov/science-news/science-at-nasa/1999/ast13dec99_1/



Electric Universe

2013 CONFERENCE **THE TIPPING POINT**

Albuquerque 3-6 January

The phrase has never been more fitting: *The Tipping Point*. In matters of human thought and perception, the words describe the critical moment when the growing momentum of a new idea overrides the inertia of prior beliefs. A movement exhibiting this power cannot be turned back.

For the Electric Universe community, *The Tipping Point* means evidence converging from every scientific discipline. Unique predictions of an electrical paradigm fulfilled. Charged bodies in space powered by electric currents across interstellar and intergalactic distances. A model of electric star-formation bolstered by an explosion of new evidence for our electric Sun. Planets sculpted by electric arcs in an age of solar system violence. Comets discharging electrically as they plunge through the Sun's electric field.

Now new dimensions of the Electric Universe are attracting visionary scientists, artists and students of the human story. An ancient sky animated by electrical dramas affecting every level of

human culture. The electricity of life—layers of subtle energy that theorists simply overlooked in their rush to formulate mechanical models of life. Studies of human consciousness and connection that shattered the scientific paradigms of the 20th-century.

The Tipping Point is indeed at hand. In the scientific quest to understand our natural world, the 21st-century will look nothing like the last.

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of Belief

I had been fascinated by the idea that considering cells as “miniature humans” would make it easier to understand their physiology and behavior. As I contemplated a new structure for the course, I got excited. The idea of overlapping cell and human biology rekindled the inspiration for science I had felt as a child. I still experienced that enthusiasm in my research laboratory, though not when I was mired in the administrative details of being a tenured faculty member, including endless meetings and what, for me, were tortuous faculty parties.

Biology



The

Bruce H Lipton Ph. D

I was prone to thinking of cells as human-like because, after years behind a microscope, I had become humbled by the complexity and power of what at first appear to be anatomically simple, moving blobs in a Petri dish. In school you may have learned the basic components of a cell: the nucleus that contains genetic material, the energy-producing mitochondria, the protective membrane at the outside rim, and the cytoplasm in between. But within these anatomically simple-looking cells is a complex world; these smart cells employ technologies that scientists have yet to fully fathom.



The notion of cells as miniature humans... *heresy*

that I was mulling over would be considered heresy by most biologists. Trying to explain the nature of anything not human by relating it to human behavior is called anthropomorphism. “True” scientists consider anthropomorphism to be something of a mortal sin and ostracize scientists who knowingly employ it in their work.

However, I believed that I was breaking out of orthodoxy for a good reason. Biologists try to gain scientific understanding by

observing nature and conjuring up a hypothesis of how things work. Then they design experiments to test their ideas. By necessity, deriving the hypothesis and designing the experiments require the scientist to “think” how a cell or another living organism carries out its life. Applying these “human” solutions, i.e. a human view of resolving biology’s mysteries, automatically makes these scientists guilty of anthropomorphizing. No matter how you cut it, biological science is based to some degree on humanizing the subject matter.

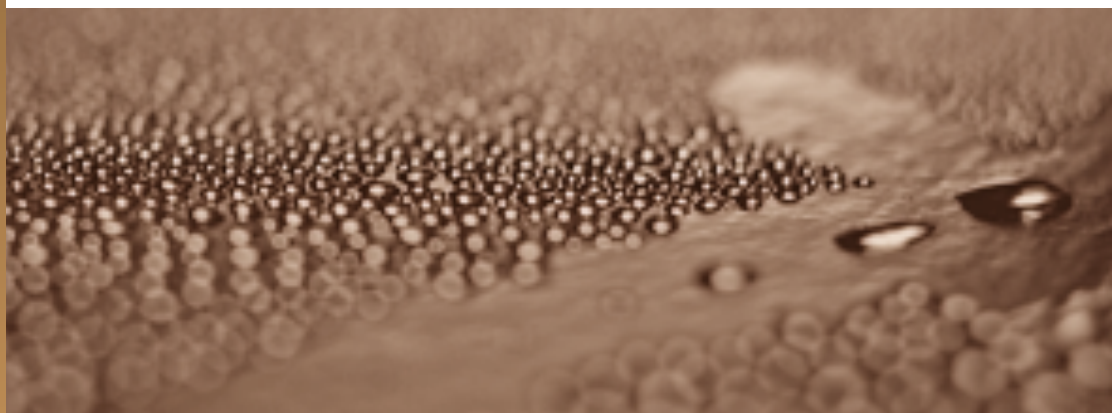
The Biology of Belief

Actually, I believe that the unwritten ban on anthropomorphism is an outmoded remnant of the Dark Ages when religious authorities denied any direct relationship existed between humans and any of God's other creations. While I can see the value of the concept when people try to anthropomorphize a light bulb, a radio, or a pocket- knife, I do not see it as a valid criticism when it is applied to living organisms. **Human beings are multicellular organisms—we must inherently share basic behavioral patterns with our own cells.**

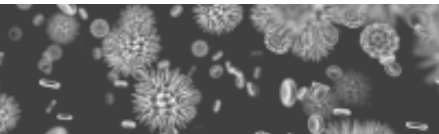
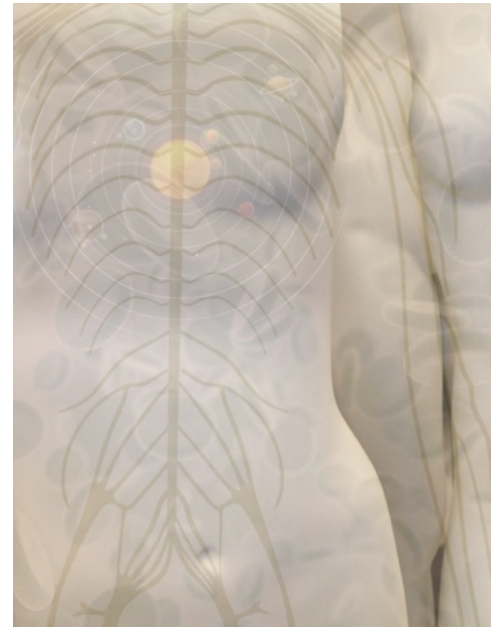
However, I know that it takes a shift in perception to acknowledge that parallel. Historically, our Judeo-Christian beliefs have led us to think that we are the intelligent creatures who were created in a separate and distinct process from all other plants and animals. This view has us looking down our noses at lesser creatures as non-intelligent life forms, especially those organisms on the lower evolutionary rungs of life.

Nothing could be further from the truth. When we observe other humans as individual entities or see ourselves in the mirror as an individual organism, in one sense, we are correct, at least from the perspective of our level of observation. However, if I brought you down to the size of an individual cell so you could see your body from that perspective, it would offer a whole new view of the world.

When you looked back at yourself from that perspective you would not see yourself as a single entity. You would see yourself as a bustling community of more than fifty trillion individual cells.



As I toyed with these ideas for my histology class, the picture that kept recurring in my mind was a chart from an encyclopedia I had used as a child. Under the section on humans, there was an illustration with seven transparent plastic pages, each printed with an identical, overlapping outline of the human body. On the first page the outline was filled in with an image of a naked man. Turning the first page was like peeling off his skin and revealing his musculature, the image within the outline on the second page. When I turned the second page, the overlapping images of the remaining pages revealed a vivid dissection of the body. Flipping through the pages I could see in turn, the skeleton, the brain and nerves, blood vessels, and organ systems.



Lessons from the Petri Dish

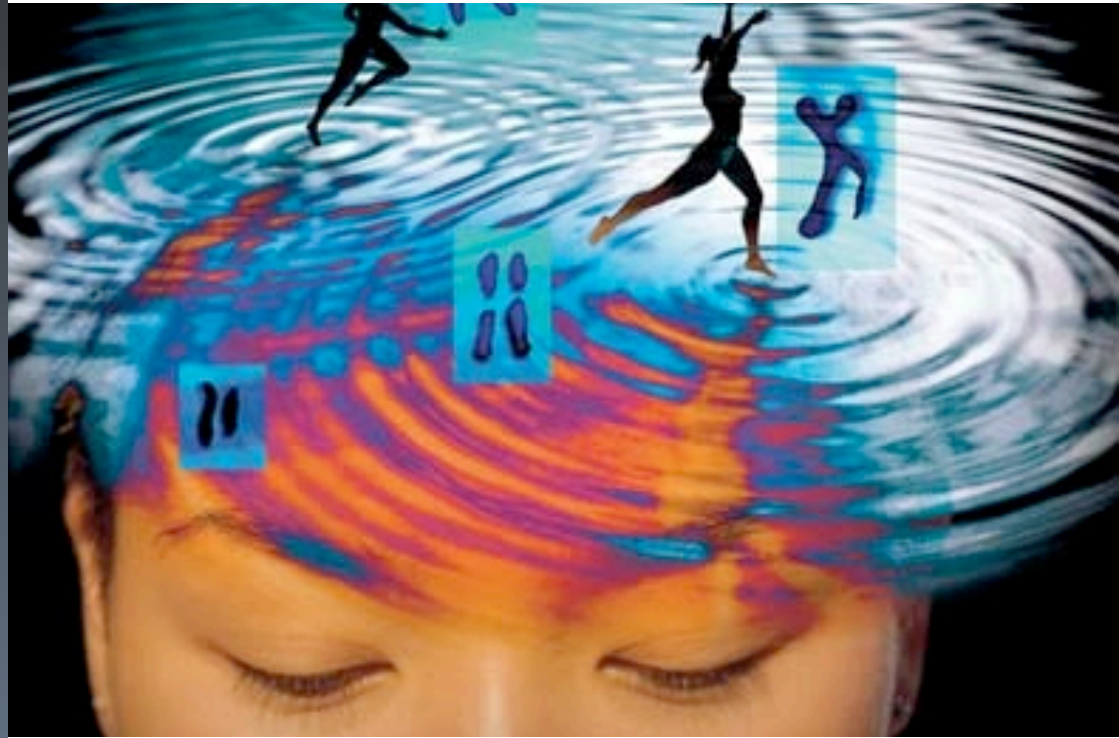
For my Caribbean course, I mentally updated those transparencies with several additional, overlapping pages, each illustrated with cellular structures. Most of the cell's structures are referred to as organelles, which are its “miniature organs” suspended within a jellylike cytoplasm. Organelles are the functional equivalents of the tissues and organs of our own bodies. They include the nucleus, which is the largest organelle, the mitochondria, the Golgi body, and vacuoles. The traditional way of teaching the course is to deal first with these cellular structures, then move on to the tissues and organs of the human body. Instead, I integrated the two parts of the course to reflect the overlapping nature of humans and cells.

I taught my students that the biochemical mechanisms employed by **cellular organelle systems are essentially the same mechanisms employed by our human organ systems.** Even though humans are made up of trillions of cells, I stressed that there is not one “new” function in our bodies that is not already expressed in the single cell. Each eukaryote (nucleus-containing cell) possesses the functional equivalent of our nervous system, digestive system, respiratory system, excretory system, endocrine system, muscle and skeletal systems, circulatory system, integument (skin), reproductive system, and even a primitive immune system, which utilizes a family of antibody-like “ubiquitin” proteins.

Systems within Systems

The Biology of Belief

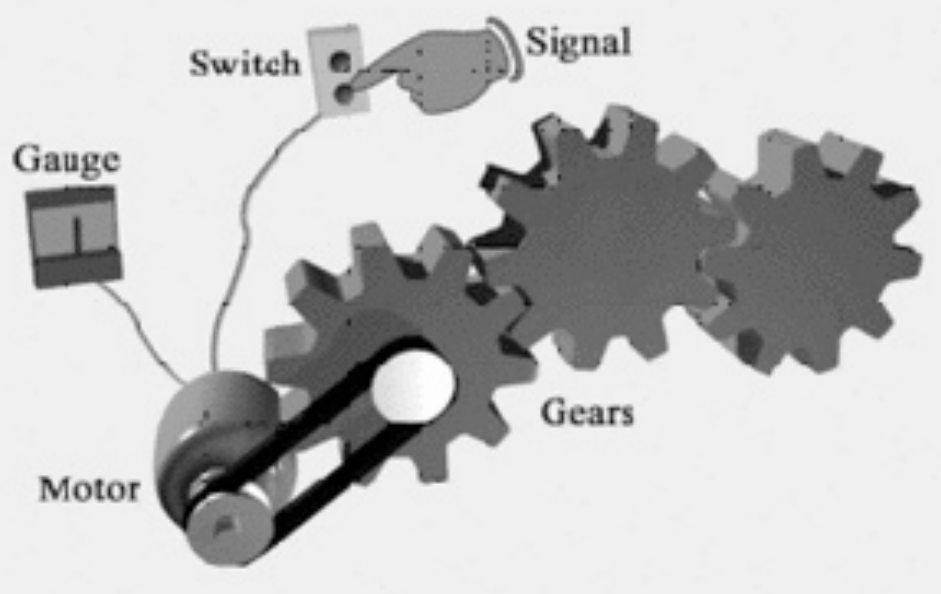
I also made it clear to my students that **each cell is an intelligent being** that can survive on its own, as scientists demonstrate when they remove individual cells from the body and grow them in a culture. As I knew intuitively when I was a child, **these smart cells are imbued with intent and purpose; they actively seek environments that support their survival while simultaneously avoiding toxic or hostile ones.**



Like humans, single cells analyze thousands of stimuli from the microenvironment they inhabit. Through the analysis of this data, cells select appropriate behavioral responses to ensure their survival.

Single cells are also capable of learning through these environmental experiences and are able to create cellular memories, which they pass on to their offspring. For example, when a measles virus infects a child, an immature immune cell is called in to create a protective protein antibody against that virus. In the process, the cell must create a new gene to serve as a blueprint in manufacturing the measles antibody protein.

Mimicking Nature's Design



We have revealed that molecular switches activate protein gears, which, in turn, move, and generate behavior. Now the big question concerning the secret of life is, **“Who or what turns on the switch? To turn the switch, we introduce... the signal.”**

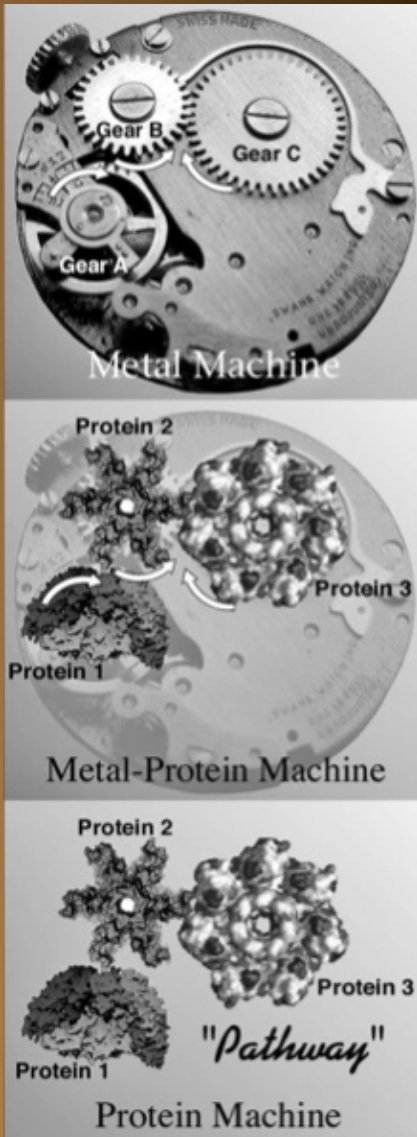
A signal from the cell's environment puts the gears, motor, switch, and gauge into motion.

The Signal: Signals represent environmental forces that switch on the motor within a cell and cause protein gears to move. Signals represent both physical and energetic information that comprise the world in which we live. The air we breathe, the food we eat, the people we touch, even the news we hear—all represent environmental signals that activate protein movement and generate behavior. Consequently, when we use the term *environment* in our discussion, we mean everything from the edge of our own skin to the edge of the Universe. This is environment in the truly large sense.

Each protein responds to a specific environmental signal with the intimacy and accuracy of a key fitting into its matching lock. The coupling of a protein molecule with a complementary environmental signal causes the protein molecule to change its shape, which, by its nature, is expressed as movement. The cell harnesses these molecular movements to drive its life-providing protein pathways, such as respiration, digestion, muscle contractions, and others. Protein movement animates the cell, bringing it to life.

New-Edge Biology Conclusion #2

Environmental signals cause proteins to change shape; the resulting movements create the functions of life.



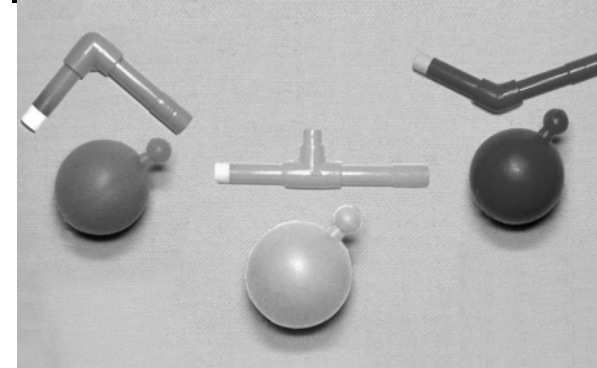
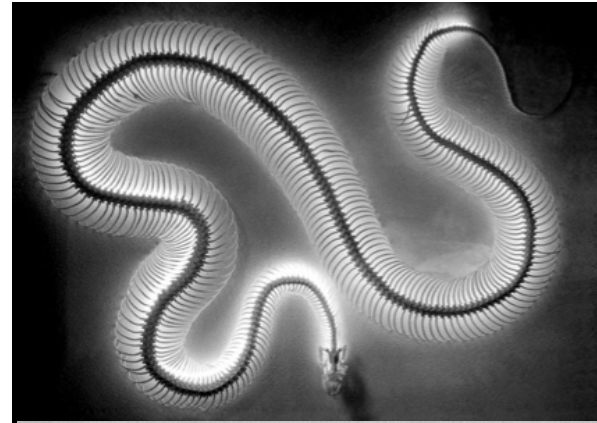
Can you imagine how excited cell biologists were when they figured out how the protein assembly machines work?

The Biology of Belief

Every cell has thousands of these channels built into the membrane. Collectively, their activity uses almost half of your body's energy every day. This channel opens and closes so frequently that it resembles a revolving door in a department store on the day of a big sale. Every time this channel revolves, it shuttles three positive-charged sodium atoms out of the cytoplasm and simultaneously admits two positive-charged potassium atoms into the cytoplasm from the environment.

Sodium-potassium ATPase not only uses up a lot of energy, it also creates energy as surely as store-bought batteries provide energy for Game Boys (at least until your kids wear them out). Actually, the energy-producing activity of sodium-potassium ATPase is a lot better than the batteries your kids wear out because it turns the cell into a constantly recharging biological battery.

Here's how sodium-potassium ATPase manages that trick. Every revolution of sodium-potassium ATPase throws more positive charges out than it lets in to the cell, and there are thousands of these proteins in each cell. As these proteins go through hundreds of cycles per second, the inside of the cell becomes negatively charged while the outside of the cell becomes positively charged. The negative charge below the membrane is referred to as the membrane potential. Of course the lipid, i.e., the butter portion of the membrane, does not let charged atoms cross the barrier, so the internal charge stays negative. **The positive charge outside the cell and the negative charge inside make the cell essentially a self-charging battery whose energy is used to empower biological processes.**



Free Energy Design

Idea

Bruce H. Lipton, Ph.D

Bruce H. Lipton, PhD is an internationally recognized leader in bridging science and spirit. Stem cell biologist, bestselling author of *The Biology of Belief* and recipient of the 2009 Goi Peace Award, he has been a guest speaker on hundreds of TV and radio shows, as well as keynote presenter for national and international conferences.

Dr. Lipton began his scientific career as a cell biologist. He received his Ph.D. Degree from the University of

Virginia at Charlottesville before joining the Department of Anatomy at the University of Wisconsin's School of Medicine in 1973. Dr. Lipton's research on muscular dystrophy, studies employing cloned human stem cells, focused upon the molecular mechanisms controlling cell behavior. An experimental tissue transplantation technique developed by Dr. Lipton and colleague Dr. Ed Schultz and published in the journal *Science* was subsequently employed as a novel form of human genetic engineering.



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Based on his bestselling books, The Biology of Belief and Spontaneous


Evolution, Bruce presents frontier science that illuminates the hidden connections among biology, psychology, spirituality and our imminent evolutionary upheaval. This dynamic presentation on the nature of how consciousness interfaces biology reveals how our thoughts, attitudes and beliefs create the conditions of our body and our place in the world.

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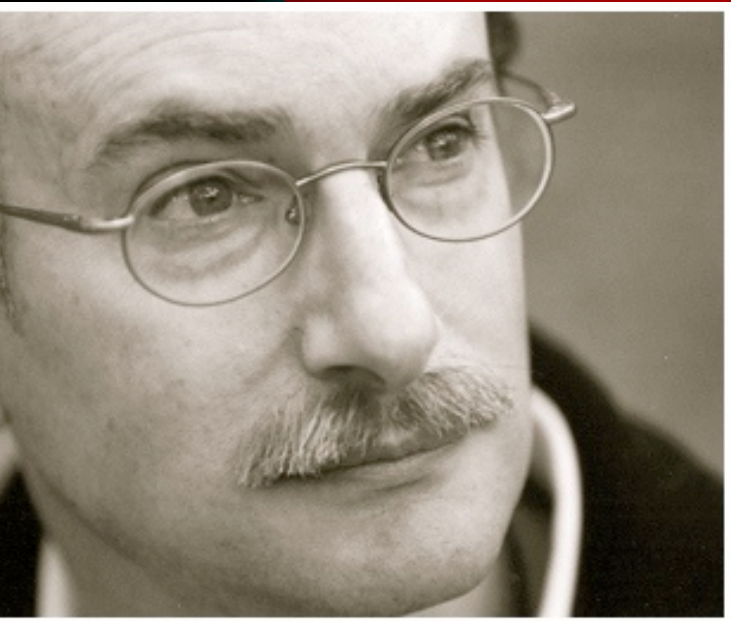
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by Dean Radin

If you do not get schwindlig [dizzy] sometimes when you think about these things then you have not really understood it [quantum theory]. - Neils Bohr

Entangled Minds

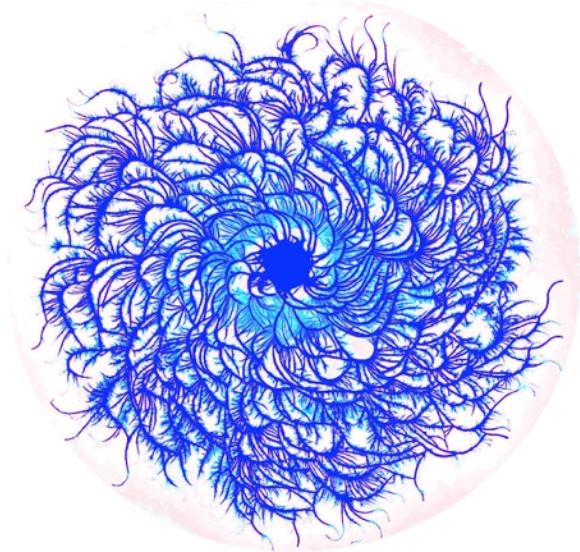
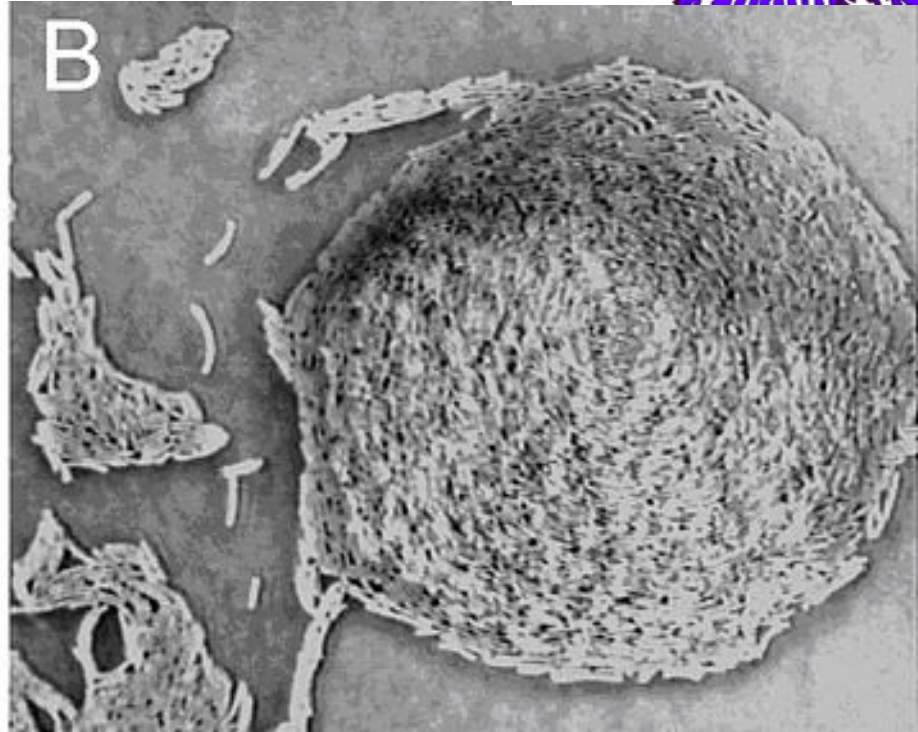
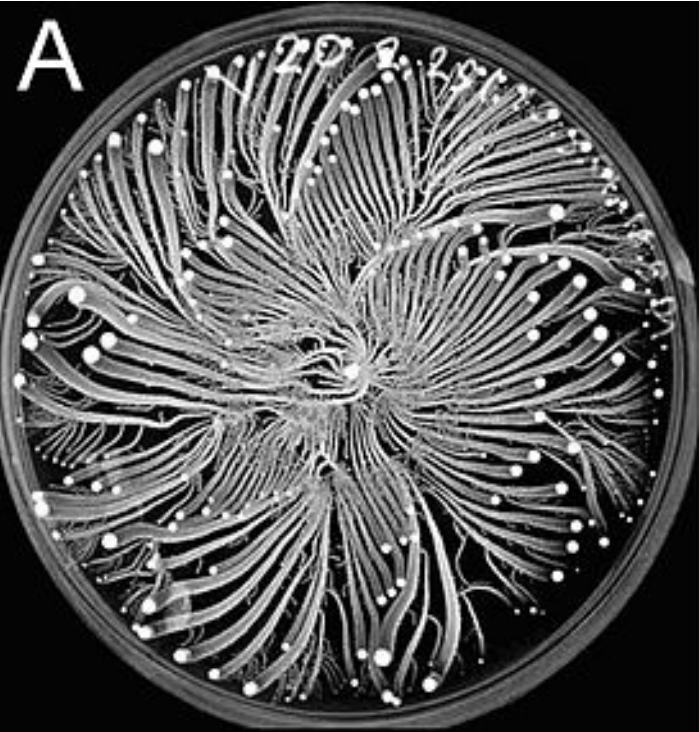
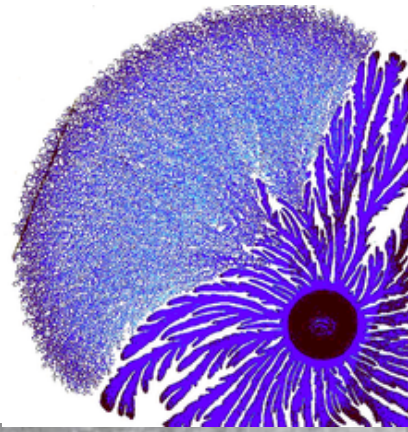


One of the most surprising discoveries of modern physics is that objects aren't as separate as they

may seem. When you drill down into the core of even the most solid-looking material, separateness dissolves. All that remains, like the smile of the Cheshire Cat from Alice in Wonderland, are relationships extending curiously throughout space and time. These connections were predicted by quantum theory and were called "spooky action at a distance" by Albert Einstein. One of the founders of quantum theory, Erwin Schrödinger, dubbed this peculiarity *entanglement*, saying "I would not call that one but rather the characteristic trait of quantum mechanics."



What would human experience be like in such an interconnected universe?



A colony generated by the Chiral morphotype bacteria of *P. dendritiformis*. The image was taken in **Prof. Ben-Jacob's** lab, Tel-Aviv University, Israel

A typical bacteria colonial pattern generated by *P. vortex*

when grown on 2.25% (w/v) agar with 2% (w/v) peptone in a 9 cm Petri dish. A. Whole colony view. Each vortex (the condensed group of bacteria – the bright dots) is composed of many cells that swarm collectively around their common center at about 10 $\mu\text{m/s}$. B. An individual vortex – the diameter of the vortex is 75 μm . **Both clockwise and anti-clockwise rotating vortices are observed**, although the majority have the same handedness. Ingham and Jacob BMC Microbiology

http://en.wikipedia.org/wiki/Paenibacillus_vortex

Bacteria

The deeper reality suggested by the existence of entanglement is so unlike the world of everyday experience that until recently, many physicists believed it was interesting only for abstract theoretical reasons. They accepted that the microscopic world of elementary particles could become curiously entangled, but those entangled states were assumed to be fleeting and have no practical consequences for the world as we experience it. That view is rapidly changing.



Scientists are now finding that there are ways in which the effects of **microscopic entanglements "scale up" into our macroscopic world.** Entangled connections between carefully prepared atomic-sized objects can persist over many miles. There are theoretical descriptions showing how tasks can be accomplished by entangled groups without the members of the group communicating with each other in any conventional way. Some scientists suggest that the remarkable degree of coherence displayed in living systems might depend in some fundamental way on quantum effects like entanglement. Others suggest that conscious awareness is caused or related in some important way to entangled particles in the brain. Some even propose that the entire universe is a single, self-entangled object.

What if these speculations are correct? What would human experience be like in such an interconnected universe? Would we occasionally have numinous feelings of connectedness with loved ones at a distance? Would such experiences evoke a feeling of awe that there's more to reality than common sense implies? Could "entangled minds" result in the experience of your hearing the telephone ring and somehow knowing - instantly - who's calling? If we did have such experiences, could they be due to real information that somehow bypassed the usual sensory channels, or are such reports mere delusions? Can psychic or "psi" experiences be studied by science, or are they beyond the reach of rational understanding?

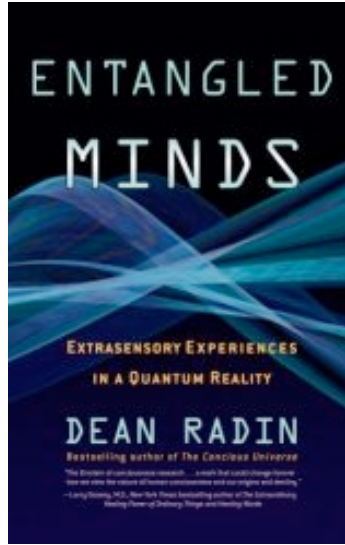
These are the questions explored in my book *Entangled Minds*. In a nutshell, the book shows that there's substantial experimental evidence indicating that some psi experiences are genuine. It also shows that one reason for persistent scientific skepticism about psi is due to outdated assumptions about the nature of reality. We'll also learn that one reason for persistent scientific skepticism about psi is due to outdated assumptions about the nature of reality. For centuries, scientists assumed that everything can be explained by mechanisms analogous to clockworks. But over the course of the 20th century, we've learned that this common sense assumption is wrong. When the fabric of reality is examined very closely, nothing resembling clockworks can be found. Instead, reality is woven from strange, "holistic" threads that aren't located precisely in space or time. Tug on a dangling loose end from this fabric of reality, and the whole cloth twitches, instantly, throughout all space and time.



Dean Radin: A
Tribe the Size of
the Entire World

[http://
www.youtube.com/
watch?
v=kL7L0OYF0os&
feature=relmfu](http://www.youtube.com/watch?v=kL7L0OYF0os&feature=relmfu)

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v=ssO3uhvF73o&
feature=relmfu](http://www.youtube.com/watch?v=ssO3uhvF73o&feature=relmfu)



I thank [JOHN ZEULI](#) for taking the above photo in August 2005.

Dean Radin, PhD, is Senior Scientist at the [INSTITUTE OF NOETIC SCIENCES](#) (IONS) and Adjunct Faculty in the Department of Psychology at [SONOMA STATE UNIVERSITY](#). His original career track as a concert violinist shifted into science after earning a BSEE degree in electrical engineering, *magna cum laude* with honors in physics, from the University of Massachusetts, Amherst, and then an MS in electrical engineering and a PhD in psychology from the University of Illinois, Urbana-Champaign. For a decade he worked on advanced telecommunications R&D at AT&T Bell Laboratories and GTE Laboratories. For over two decades he has been engaged in consciousness research. Before joining the research staff at IONS in 2001, he held appointments at Princeton University, University of Edinburgh, University of Nevada, and several Silicon Valley think-tanks, including Interval Research Corporation and SRI International, where he worked on a classified program investigating psychic phenomena for the US government.

He is author or coauthor of over 200 technical and popular articles, a dozen book chapters, and several books including the bestselling *The Conscious Universe* (HarperOne, 1997) and *Entangled Minds* (Simon & Schuster, 2006). Both of these books are in print, and so far they've been translated into six foreign languages. A new book will be published in 2013. His technical articles have appeared in journals ranging from *Foundations of Physics* and *Physics Essays* to *Psychological Bulletin* and *Journal of Consciousness Studies*; he was featured in a *New York Times Magazine* [ARTICLE](#); and he has appeared on dozens of television shows ranging from the BBC's *Horizon* and PBS's *Closer to Truth* to *Oprah* and *Larry King Live*. He has given over 200 interviews and talks, including invited presentations at Harvard (medical), Stanford (medical and statistics), Cambridge (physics), and Princeton (psychology), for industries including [GOOGLE](#) and Johnson & Johnson, and for government organizations including the US Navy and DARPA. In 2010, he spent a month lecturing in India as the National Visiting Professor of the Indian Council of Philosophical Research, a program in the Indian government's Ministry of Human Resource Development.

by Dean Radin



What We do to Our World
We do to Ourselves

To see the web of interconnectedness is vital to
our sustainable future.

**HUMANS and the PLANET are of equal measure – 70% water,
99.9% empty space, electric and magnetic . We are designed with
similar dynamics --hum!**

What is the Self?

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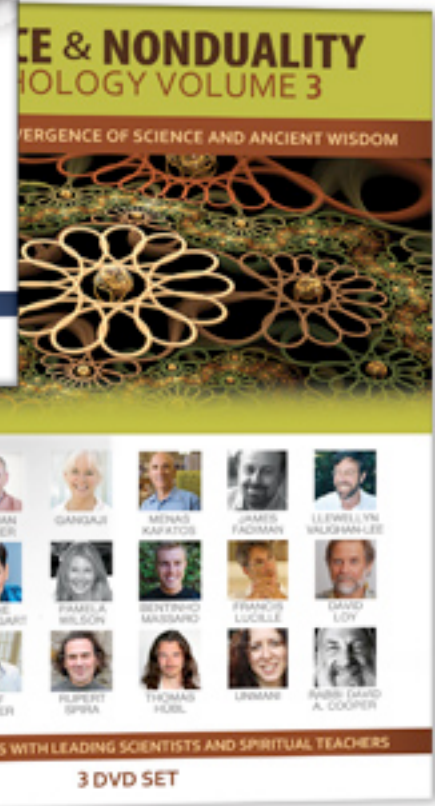
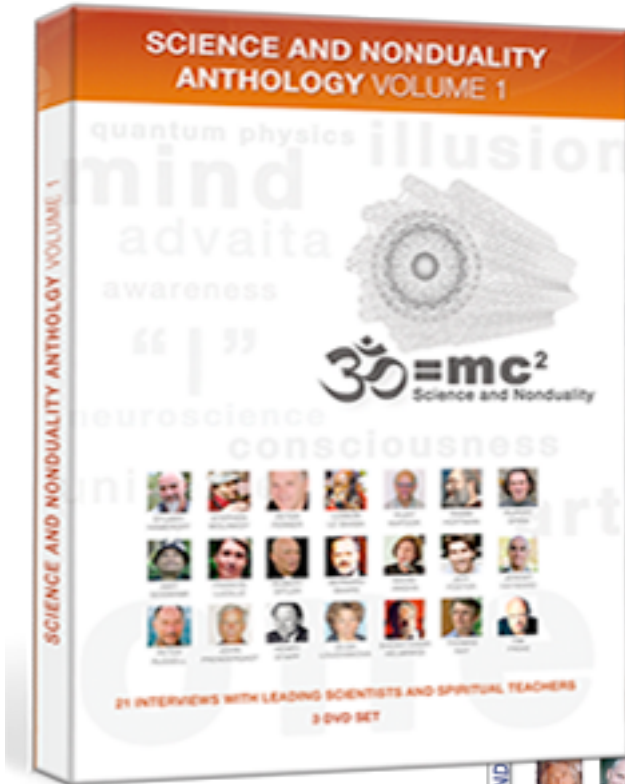
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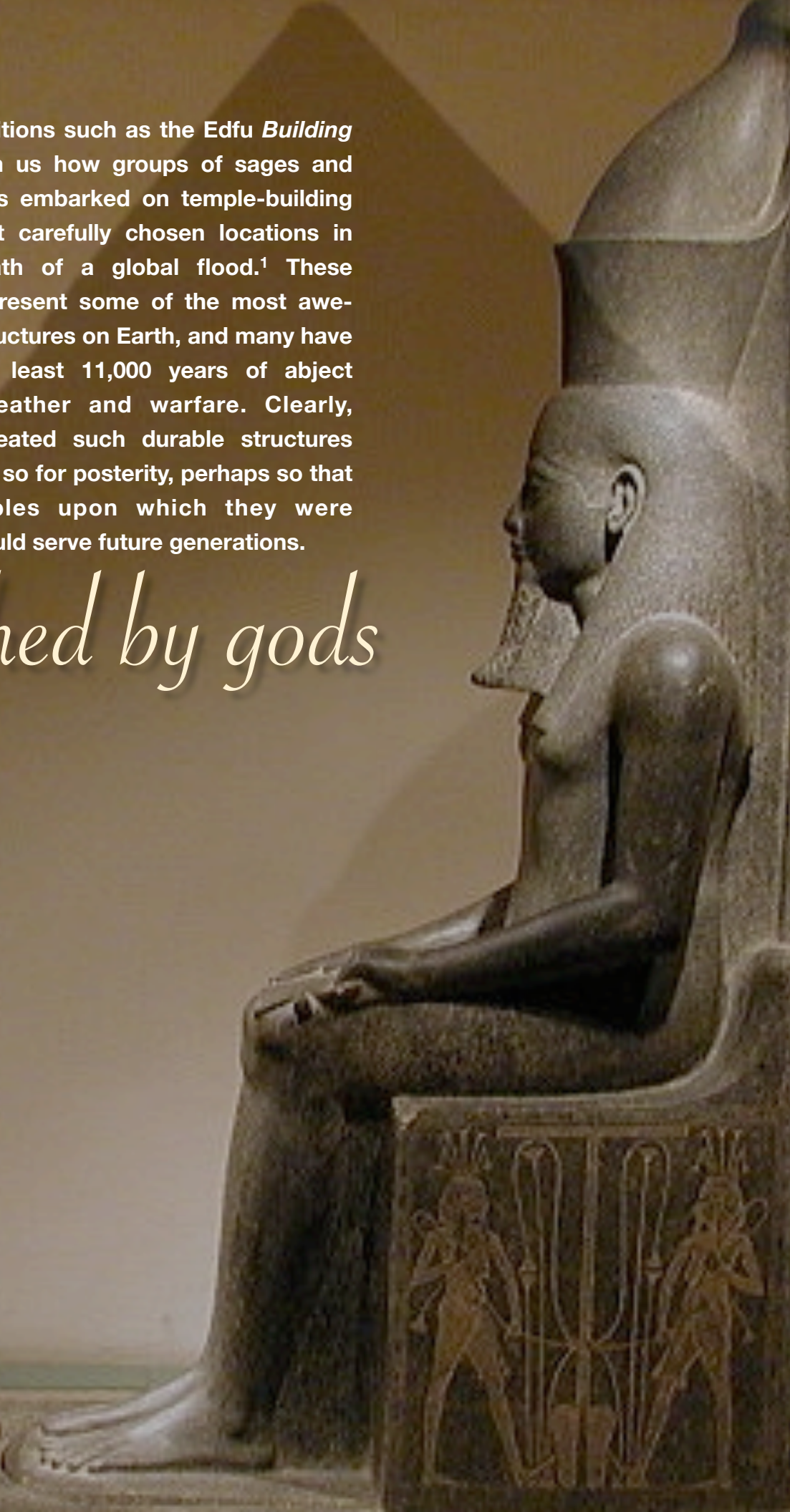


<http://www.scienceandnonduality.com/>

By Freddy Silva

Written traditions such as the Edfu *Building Texts* inform us how groups of sages and creator gods embarked on temple-building programs at carefully chosen locations in the aftermath of a global flood.¹ These temples represent some of the most awe-inspiring structures on Earth, and many have survived at least 11,000 years of abject politics, weather and warfare. Clearly, whoever created such durable structures meant to do so for posterity, perhaps so that the principles upon which they were founded would serve future generations.

bequeathed by gods



Or perhaps they would remind future generations of the principles they'd abandoned.

These "gods" are often described as people of enormous stature, or having unusual physical characteristics, literally and metaphorically. But physical beings nevertheless.

Super-men, perhaps.

In the land of Sumer, a god of giant stature once gave men "an insight into letters and sciences, and every kind of art. He taught them to construct houses, to found temples, to compile laws, and explained to them the principles of geometrical knowledge... so universal were his instructions, nothing has been added materially by way of improvements." Tales of traveling gods escaping a global deluge underscore the myths in practically every culture, and they regularly appear in groups of seven.

In the Indian Vedas seven sages are said to have come from an island, "the home of the primeval ones" destroyed in a great flood.

The few survivors became "builder gods, the lords of light." With them came the principle of maintaining indefinitely a society in perfect balance with itself and with the universe through earthly and cosmic balance.



*They built temples for
our common wealth.*

The same tradition appears in Egyptian texts, which refer to seven sages arriving from an island that was swallowed up in the waters of an earth-destroying flood to establish sacred mounds along the Nile that served as foundations for future temples. An identical situation exists in the myths of Easter Island.

This priesthood, for lack of a better noun, was dedicated to the preservation and transmission to the future of a body of spiritual knowledge from the remote past. The cities and temples from which the gods emerged and then recreated were no ordinary places; as with Siva, the god of wisdom, they ruled *jnana puri*, literally “the city of knowledge.”

Evidence of this intent is imprinted in the very fabric of the structures they left behind, as a hundred years of analysis of sacred sites now reveals knowledge of advanced geometry, the mathematics of the Earth’s Precessional Cycles, solar, lunar and stellar alignments, and so forth.

Texts discovered at Nag Hammadi stipulate how leading away from such spiritual places caused people to die not knowing the truth, never understanding the Source or why they are here, deceived by darkness and ignorance. And darkness and ignorance aren’t just the prisons of modern society, they are lead curtains that threaten to obscure the light which groups of enlightened individuals have championed to re-establish for the past 4000 years.

Few lay people have been privy to this information, and there is very good reason for this. *Because temples are living organisms that amplify the human potential,* the laws that govern them have been used and misused throughout history. Enlightened rulers, sages and pharaohs once were entrusted with the keys to the temple, and used these sacred places for the improvement of humanity – to ‘transform base metal into gold’, to coin the alchemical metaphor.

The secrets of the temple have been quietly handed down among esoteric societies such as the Cathars, Bogomils and Manicheists, later to be rediscovered by the Knights Templar during their excavations of the Temple of Solomon in Jerusalem.



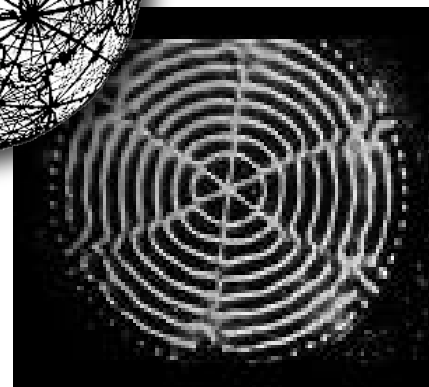
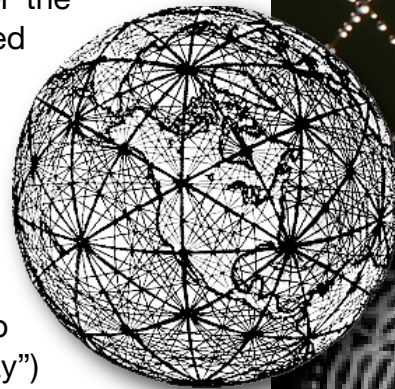
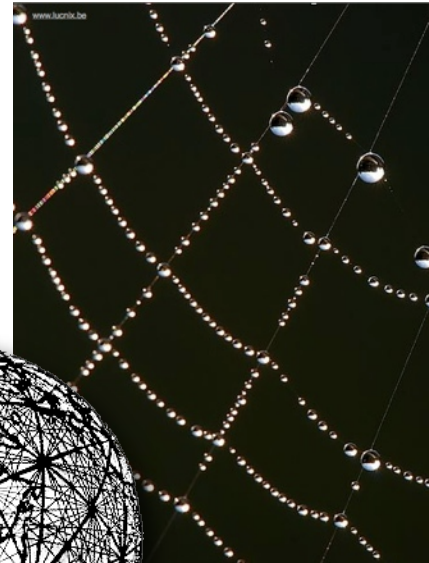
The gods did not build temples for the benefit of one culture or creed. They designed these heirlooms to last as a legacy for all races unborn, an insurance policy for times which they foresaw as dangerous to the proper conduct of human life.

It is now time for the lost knowledge of temple-building to resurface.

Like the force that drives mammals to migrate along invisible roads century after century, the peoples of the land were drawn to specific hotspots, and if they lived far from these special places they utilized a network of hidden highways that led them there. Native tribes of Bolivia and the American southwest refer to them as *spirit roads*; in Ireland they are the *fairy paths*, in China the *Lung Mei*. The compacting of the earth by millions of pilgrim feet walking them over the course of thousands of years has even transformed some of these once occult roads into visible footpaths. In the area around Chaco Canyon, New Mexico, these old straight tracks are described in Navajo lores as tunnels along which the Anasazi could invisibly travel; in Britain you can still walk hundreds of such paths called *dod lanes*, a term handed down from the early Saxon *deada waeg*, the “path of the dead.” This is also one of the names of the Via Sacra (“sacred way”) connecting the pyramid complex at Teotihuacan, which goes by a second name, the “Way of the Stars.”

Other celebrated spirit roads are those of the Australian Aboriginal tribes, whose own oral tradition, the *altjurunga* (“dreamtime”) recalls events that took place over a million years ago.⁴ Thankfully, Aboriginal tribes are still with us, and it is from them that we get a sense of what it feels like to tune-in to the land. And why.

To say these people live among featureless terrain is an understatement, and yet the hardy inhabitants of the **Outback are able to find their way around by sensing invisible lines of force. They call them *djalkiri*, “footprints of the ancestors.”**⁵ When a tribesman walks across a spirit road, if he or she is attentive, they will hear the resonance imprinted by those who walked before. In a way, the invisible *djalkiri* behave like **strips of magnetic cassette tape**, recording the song of every individual. This led them to be described by westerners as *songlines*, but more accurately the Aborigines describe the spirit roads as *dreaming tracks*.⁷ They are imprinted with lore and ritual beyond living memory, a permanent record of events, enabling the Aborigines to walk hundreds of miles while listening to a data-stream. And just like modern-day cloud computing, the information can be accessed on-demand.



“Men of High Degree” – have long used such pathways to locate energy nodes, and to transmit information telepathically and receive it in the form of visions.⁸

In fact, telepathy is enhanced thousands of times at sacred sites dating to the Neolithic era. And just like the Aboriginal places of power, all such sacred sites are connected by a network of spirit roads.

The energy nodes and their effect on the individual are not restricted to ancient people or modern shaman. Anyone attuned to the environment is able to open a doorway of communication at these focal spots, and that can lead to an intimate experience with the spirit of place. Mountaineers are just such a type.

Although the concentration demanded of them requires intense mental clarity and total left-brain engagement, at certain moments a climber's bond with the rock can become a religious experience. One such occasion occurred to Maurice Herzog while climbing the Annapurna in Nepal, a holy mountain named for the Goddess of Fertility: "I had the strangest and most vivid impressions such as I had never before known in the mountains... all sense of exertion was gone, as though there was no longer any gravity...

I had never seen such complete transparency, and I was living in a world of crystal.

Sounds were indistinct. The atmosphere like cotton wool. An astonishing happiness welled up in me, but I could not define it. An enormous gulf was between me and the world. This was a different universe... we were overstepping a boundary."

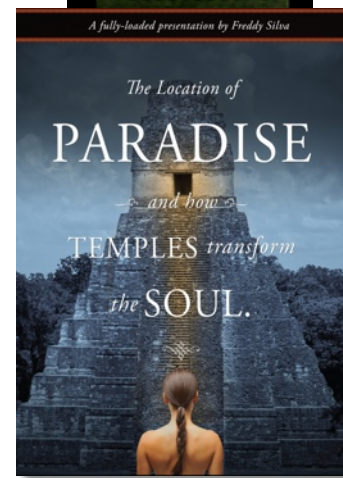
In some cultures, natural power places are marked with petroglyphs, notably in the American southwest, the Sahara and Australia, and particularly where landscape temples have been in continuous use for millennia as hotspots for vision quests, as well as healing. They are often some of the most serene places on Earth, where the sky and the earth seem limitless and in balanced proportion to one another.

They are also unique in that they are located at unusual electromagnetic or gravitational hotspots. Every dawn, the Earth is subjected to a rise in the solar wind, which intensifies the planet's geomagnetic field; at night this field weakens, then picks up at dawn and the cycle repeats *ad infinitum*. But there are places on the land where the geomagnetic field interacts with another force, and the effect intensifies. In physics it is called a *telluric current*; ancient people call it a spirit road. These subtle lines of force tend to travel better along soil with a high content of metal and water, and possibly quartz. Drier, less metallic ground conducts telluric currents minimally. Where a boundary between these two types of land occurs, the telluric current crossing it either reinforces or weakens the daily fluctuations of the geomagnetic field.¹² This generates a hotspot called a *conductivity discontinuity*, and even though ancient people did not own magnetometers, they were able to locate them long before science built machines that proved them right.

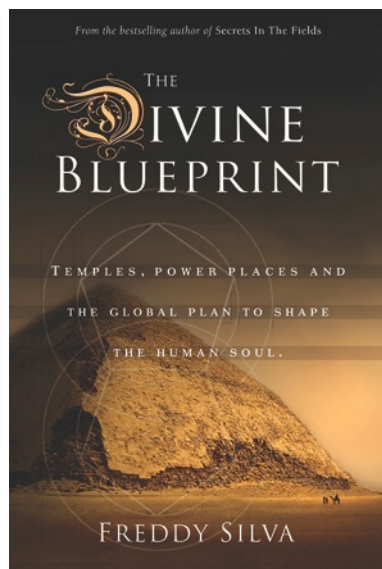
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Tse'Bit'ai is one of several sacred mountains in the American southwest, each serving distinct functions above and beyond mere places of power. So while this acts as the navel, one hundred and twenty miles due southeast, the pyramidal Tsoodzil (Mt. Taylor), is regarded as the doorway to the spirit world – an exact mirror of the relationship between Giza and Thebes in Egypt.



Freddy Silva



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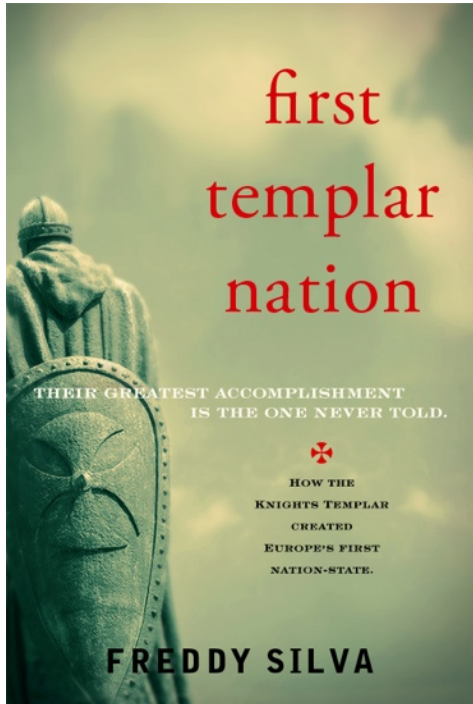
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The Knights Templar was established on Temple Mount in 1118. But what if it could be shown that prior to this date the order was already embedded in a land on the other side of Europe? And that three years before receiving papal approval Grand Master Hugues de Payns dispatched five knights with the power to establish a country that did not yet exist?

Covering numerous territories and epochs, this fast-paced historical detective story shows how the Templars were not only instrumental in creating the state of Portugal, they subsequently built a kingdom within a kingdom in which they placed aspects of the Grail and practiced the ritual of 'raising the dead'.

But why did the Templars venture to Jerusalem only to establish a virgin territory 2000 miles away? Was their motive related to a secret discovery under Temple Mount, a secret requiring protection from the Church, and for which the knights would rather die than reveal? Why did they build initiation chambers and source ancient temples dedicated to Isis? Why the obsession with John the Baptist and Mary Magdalene? Why did Portuguese Templar Masters vow to protect a holy bloodline? And why did their guidance come from an abbot in Clairvaux rather than the pope?

This original, eye-opening account will engage and surprise even the most seasoned Templar enthusiasts.

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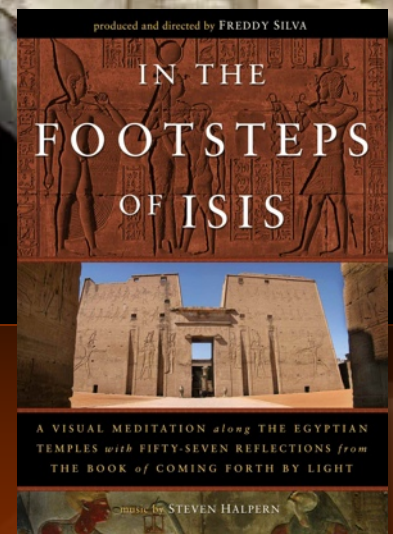
In The Footsteps Of The Ancient Gods

with Freddy Silva · Egypt

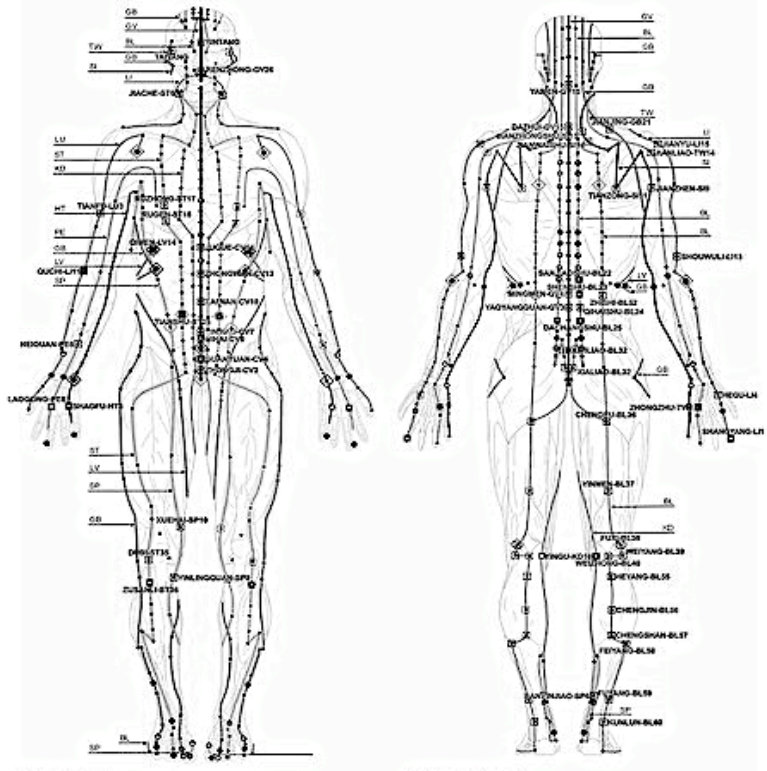


Some people come to Egypt to see elegant buildings, ornate columns and towering pyramids. Others come for a deeper purpose: to experience their resonance.

You see, when the ancient temple-builders erected sacred monuments, they created much more than beautifully appointed stonework. The buildings are harmonic structures designed by master craftsmen to guide subtle forces into a defined space whose ultimate purpose is to induce a higher state of consciousness in the pilgrim. Temples, then, are far and beyond masonry and mortar: they are alive, they are living, breathing entities, living mirrors of the pure forces that bind nature. As the ancient architects stated on the walls, temples are, first and foremost, places for self-realization, where a person can be “transformed into a god, into a bright star.” Which brings us to this tour. [Find out more...](#)

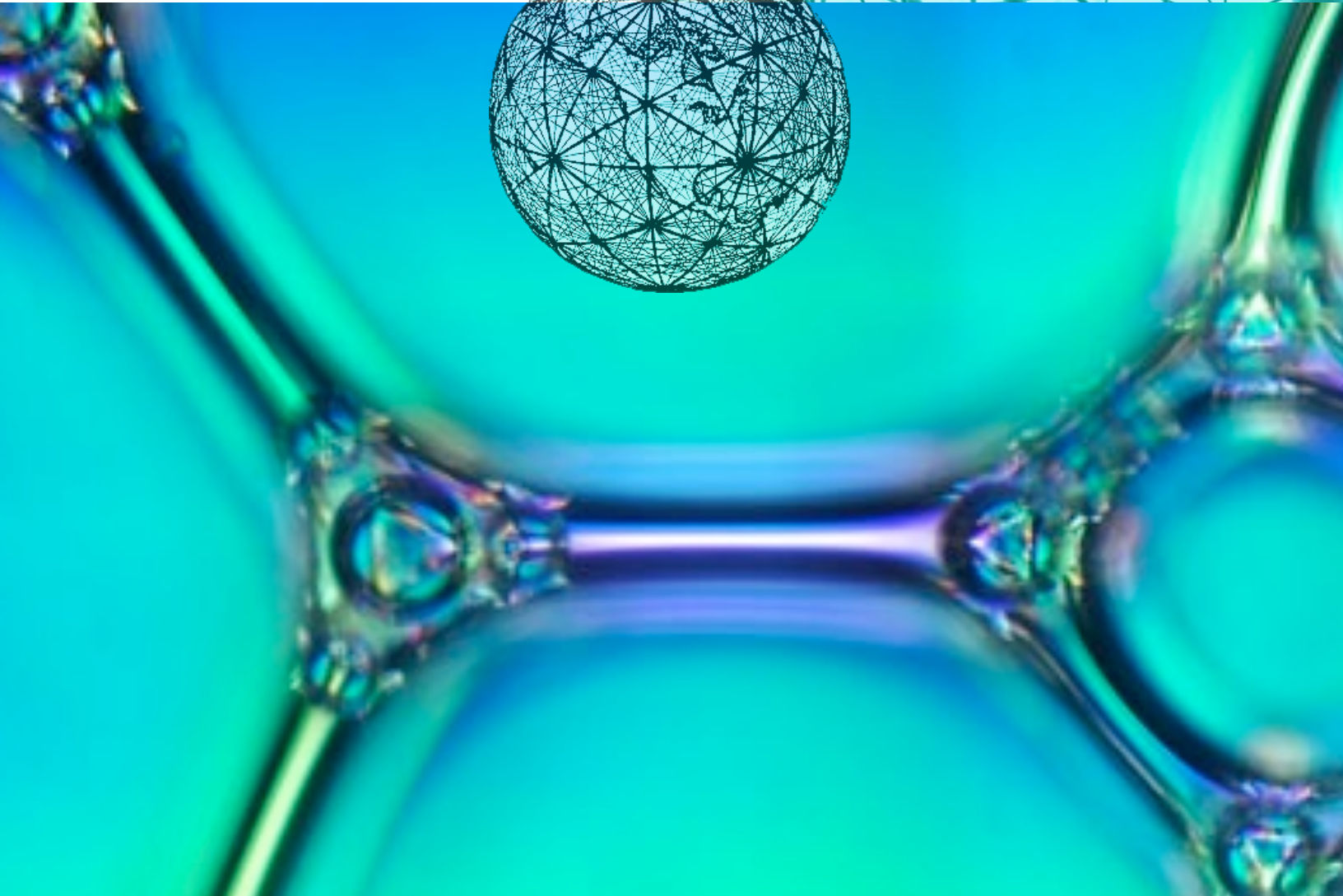


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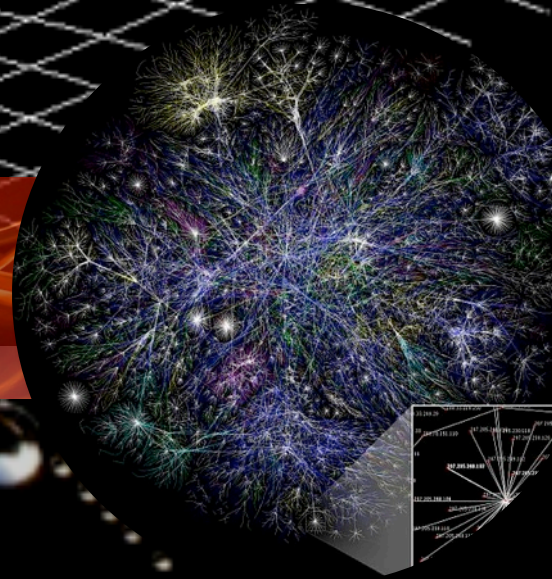
This internet is woven into the very fabric of our universes - micro to macro.



*The Divine Matrix is the
container that holds the
universe, the bridge between
all things and the mirror that
shows us what we have
created.* - The Divine Matrix,
Gregg Braden



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The Bond



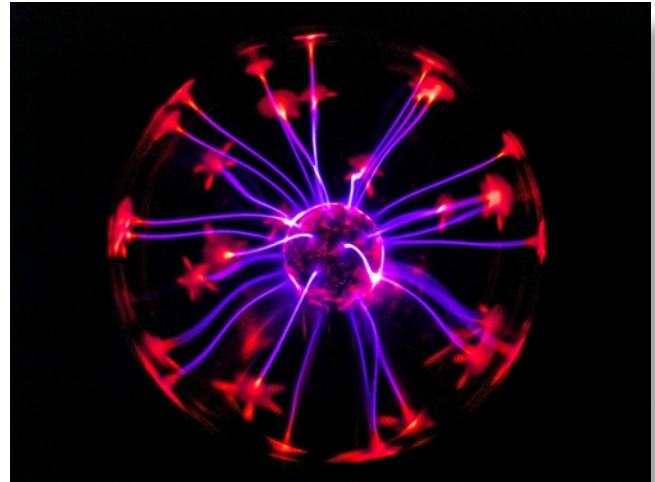
Lynne McTaggart

Economists have traditionally claimed that we do best for society by looking out for number 1. But the latest science clearly demonstrates that we all do better by choosing what is best not simply for ourselves but also all the people around us.

Every success story

for resolving conflict shares one thing in common: an ability to harness the fundamental human need to connect, or Bond, and to move past “every man for himself” to “we’re all in this together.”

In fact, people who fire together wire together; evidence shows that whenever a group works together for a common goal, the brains of all parties begin to get on the same wavelength, strengthening the Bond within the group.




The electrical activity of each individual in the group begins to resonate on a common wavelength — a choir perfectly in tune. Like a coherent group of electrons that begins to vibrate as one giant electron, the group creates a resonance that magnifies the individual effect.

Like a jazz group working together as a

superorganism

to produce a common sound, we get on each other’s wavelength whenever we’re working together to produce a common result. We are able to get on with each other — no matter how different — simply by sharing an activity or goal.



We also experience a powerful physical boost by being part of a superorganism. Recently, a group of Oxford University anthropologists measured the pain thresholds of individual members of the Oxford rowing team while they were working out and discovered that they had significantly larger tolerance to pain after the group training, compared with the effect of exercising individually.

The synchrony of the shared physical activity appeared to create a ramped-up endorphin release, which may have something to do with communal bonding. The rowers created a “field” that magnified individual efforts and overrode individual limitations. Within the field, the whole was greater than the sum of its parts.

Scientists now understand that neurons become more efficient and operate as a unit when they are repeatedly and persistently stimulated together: neurons that fire together wire together. What may be also true is that people who fire together wire together. When we work with others for a common purpose, we very quickly and literally get on their wavelength. All of this suggests that coming together in small groups with a common goal provides a social cohesion beyond money, job or size of property.

When we do things in groups, the rush of “we’re-all-in-this-together” elation that we feel actually allows us to resist difficulties, including pain. This offers proof of the old adage that there is power in numbers and also explains why we feel something extraordinarily akin to magic in groups working for a common purpose. We move outside our own individuality and into the space of the Bond.

The Power of Eight

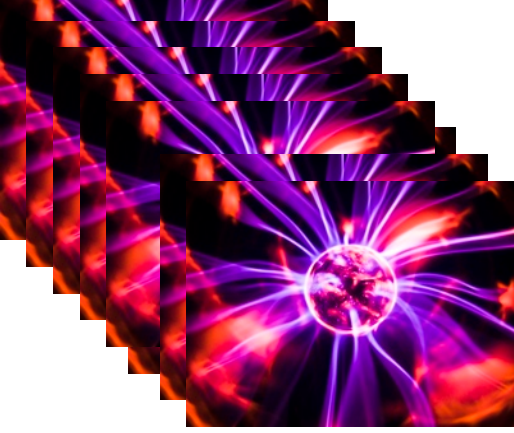
In my work, I see what I call the ‘Power of Eight’: the extraordinary power of small groups to transform into a “superorganism” of instant closeness and potent healing. During my many workshops, I have witnessed powerful stories of emotional or physical healing among both the senders and receivers of small groups carrying out healing intention.

The feeling of oneness reported by the members of the workshops and the Intention Experiment community is an example of the Bond – the resonance effect of pure connection. The simple act of belonging and spontaneously giving within a small group of strangers is so powerful and so satisfies our deepest longing that it heals both the healer and the recipient.

*people who fire together
wire together.*



Superorganism



Here's how to create your own *Power of Eight:*

Assemble a group of between 6 and 12 likeminded friends who are open to the possibility of healing and intention.

1. Ask if any one of the members of the group with a healing challenge of some sort (emotional or physical) would like to be the target of the healing intention. Allow the person nominated as the recipient to describe his or her problem in detail.
2. Spend a few moments talking over and designing the intention statement that you will all hold together.
3. Gather around in a circle. Either join hands or place the nominated subject in the middle of the circle, as all the rest of the group place one hand on him, like the spokes of a wheel.
4. Begin by having each member of the group close his eyes and concentrate on inhaling and exhaling. Each should clear his mind of any distractions, then hold the intention statement in his mind while imagining, with all five senses, the intention recipient as healthy and well in every way. All members should then send out the intention through their hearts. The intention recipient should remain open to receive.
5. At the end of 10 minutes, each member may come back into the room and begin to share experiences. First ask the intention recipient to describe how he or she feels, and if he has experienced any changes, positive or negative. All the other members may then take turns sharing experiences. Take note of any feelings of palpable oneness and also any improvement in the condition of both senders and receivers.

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_Lynne McTaggart is one of the preeminent spokespersons on consciousness, the new physics and the science of spirituality. She is the award-winning journalist and author of six books, including the worldwide bestsellers The Intention Experiment and The Field, and the architect of the Intention Experiments, a web-based “global laboratory.”

Lynne McTaggart

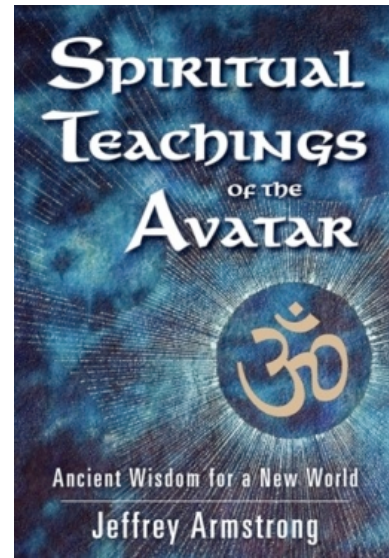


www.thebond.net



On Earth, we all understand the woman is the giver of life, the gateway of birth (a true sacrifice). This genius of the woman to profoundly create in countless ways is evident to most anyone watching: the woman is—like the Earth—the endless giver and worthy of the greatest honor, love, and protection.

By Jeffrey Armstrong



Excerpts from the Spiritual Teachings of the Avatar

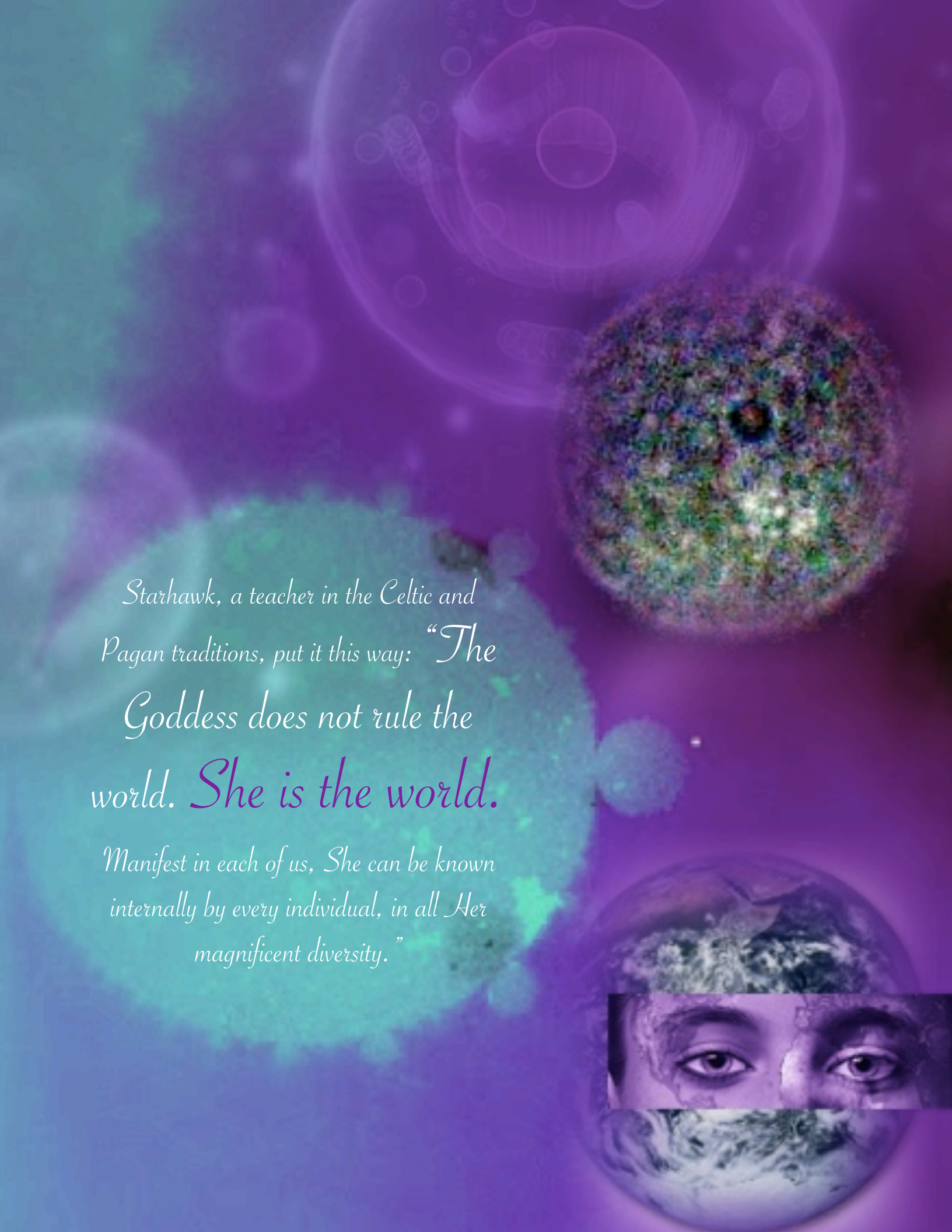
The Mother of All

Famed scientist and environmentalist Dr. David Suzuki has estimated that Mother Nature annually provides over thirty trillion dollars of economic output, free of charge, and we don't even believe She exists, let alone protect Her. She is constantly breathing to restore the campus to balance so that it can benefit and serve the journey of the endless waves of incoming students.

She is a thermostat and a soft bed; she is the most thirst-quenching drink and the fragrance of love. She mends, weaves, rearranges, recycles, and rebirths all through the mysterious layers of life's genius fabric.

And given that humans have the most free will of all beings, it is we among all biological life who can most easily be the cause of environmental imbalances or, even worse, have complete ignorance of Her as a living, breathing, utterly selfless Divine. And within that spectrum of free will also lies the possibility of collective understanding of our utter dependence upon Her—and how Her secrets are revealed by listening, not by forced extraction. This dependence, we need to understand, is not mutual. Mother Nature can continue in our absence.





Starhawk, a teacher in the Celtic and Pagan traditions, put it this way: “The Goddess does not rule the world. She is the world.”

Manifest in each of us, She can be known internally by every individual, in all Her magnificent diversity.”

It is commonly understood that Indigenous cultures have always viewed the Earth as a great being that is alive in every sense of the definition—and far greater than ourselves.

How did they discover this? Put another way, how did we forget this? They also understood that Mother Nature did not do Her work alone but employed billions of divine helpers to assist in the biosphere's ongoing renewal. From the viewpoint of the Supreme Being or the Indigenous shaman, the divine helpers are seen as Divine beings. From the point of view of science, the Devas remain unseen but are evident as the Laws of Nature. Either way, the process is infinitely beyond genius or personhood, as we comprehend it.

To envision this generosity from the All Mother is to begin the birthing of gratitude in our hearts.

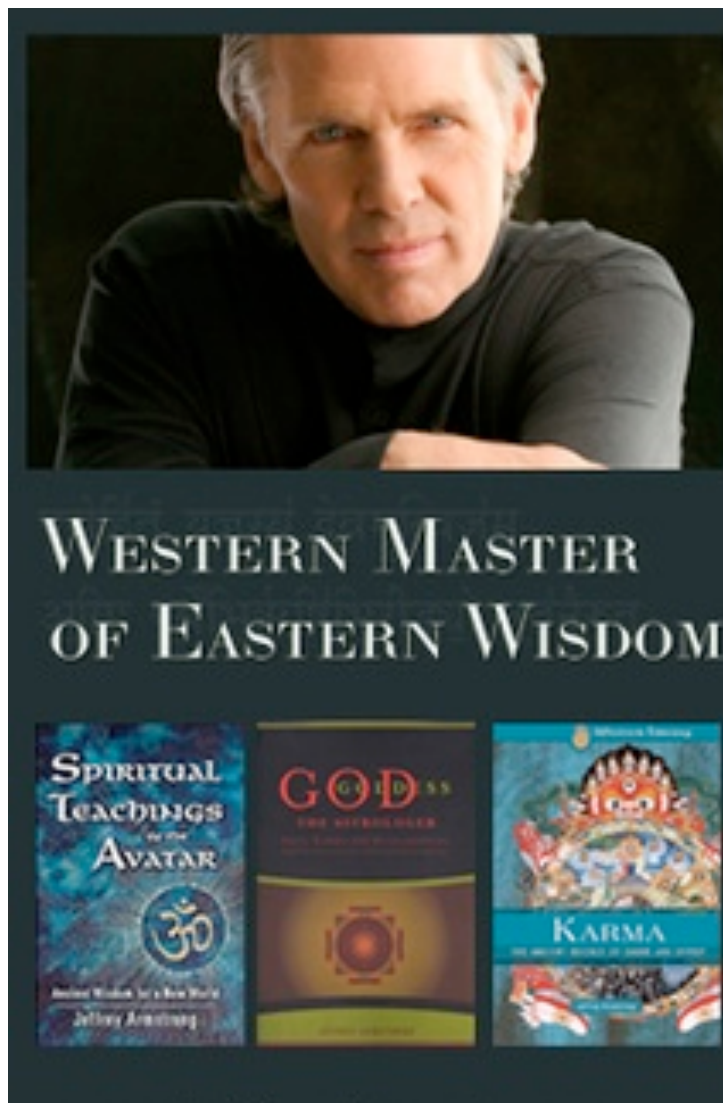
Of the many ancient teachings that the movie Avatar reintroduces, the clear expression of the All Mother's beauty, tenderness, and generosity is one of the most needed, and most welcome. That Her film debut was created in a studio on green screens, using advanced technology is all the more remarkable, and a little ironic. However it was done, Her promotion in our hearts and minds—and into our imaginations—is being applauded by many Indigenous cultures. In the absence of this vision, this sensibility, we have seen a couple of centuries of violent and rapacious thugs trampling the planet and destroying its treasures, including the irreplaceable knowledge of a natural pharmacy—plants, seeds, and herbs—and the death of countless species forever, as if there were and is no All Mother witnessing our every action. Her return into our collective psyche, and our hearts, is long overdue.

On our journey here, how can we children of Nature be complete without a loving relationship with the All Mother in Her many forms—along with the All Father? Although in the Abrahamic religions the Divine Mother does not exist as part of the story, in the Vedas the Divine Mother is the true sustainer. She is the inseparable Shakti, or energy of the male. And just as a human mother would care for all her children, so the Mother of All Nature and Mother Earth does not favor one group of Her children over another. If our conscience cannot be awakened by wisdom or common sense, then devolution resulting from our insensitivity to environmental change—a lack of resources to sustain ourselves—remains the Great Mother's prerogative. And if She's not a being, with whom are we

negotiating? With whom are we gambling? And if She is a being, what pain She must feel when children needlessly go hungry? Part of the Hopes in Pandora's Box is that modern science decides to join with the deepest traditions of our ancestors to re-imagine our world as a peaceful and sustainable place for the safety and growth of future generations.

Whatever the truth is about this wondrous yet inconceivable reality in which we find ourselves, we know our home planet, Mother Bhumi, is in some ways fragile and finite, but is also constantly expressing to those who will listen the kind of stewardship that could lead to a better life for more beings. www.jeffreyarmstrong.com

Jeffrey Armstrong



Jeffrey Armstrong is a former Silicon Valley Executive and motivational speaker to Fortune 500 companies, who is now known as 'the Western Master of Eastern Wisdom'. Trained as a Monk in the traditional way for 5 years, Jeffrey is also a best-selling author & award-winning poet, who has studied & taught ancient Eastern philosophy for over 40 years. Grounded in daily spiritual practice, his innovative fusion of Western technology and Eastern wisdom has been highly sought after by CEO's, celebrities, youth groups and people desiring to integrate systematized universal spiritual values into their healthy lifestyles. Featured on the CBC documentary Planet Yoga, Jeffrey explains how a universal instinctual need for balance has led to the unprecedented popularity of Yoga in the West; discover why.

<http://www.jeffreyarmstrong.com>



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Mention **Science to Sage**

Love Pours from His Lotus Eyes

It was twilight once again,
So the restless stars were winking,
Trying to get our attention:
“Look up here without blinking,

O lost and lazy mortals,
We are the shining guardians,
Of unseen cosmic portals,
The protectors of those bastions.”

But eons passed in stony silence
And the crushing depredations,
Wrought their mindless violence,
Burning libraries and nations.

Until the planets held a council,
Standing together in the sky,
Focusing their common will,
On the Truth that will not die.

Then from His slumber The Vishnu awoke,
There in eternal paradise,
He glanced across the blinding smoke
And love poured from His lotus eyes.
Love in the form of blazing spirits,
Streaked toward the Earth aflame,
Racing through the night like comets,
In concert chanting His Holy Names.

Striking the world in unison,
They reached the waiting wombs,
Of mothers, praying for daughters and
sons,
Who would bring light into the tomb.

Unseen, unheard, those Angels dove,
Into the swirling earthly fray,
Holding the wish of eternal love,
Shining their light, to show the way.

Down, down, down to the depths of matter,
Scattered across the globe in every place,
To the bottom of the celestial ladder,
In human bodies, they hid their grace.

And in those bodies cut and torn,
They were wounded and abused,
With the pains every savior has borne,
They suffered their divinity unused.

For coming into matter they had forgotten,
The sacred mission on which they were
sent,
The holy task for which they were begotten,
The eternal purpose for which they were
meant.

But now is the time, O children of delight,
To drive away the demons of doubt and
fear,
To stand again and shine your truth and
light,
To speak that truth to every ear.

And when they did the darkness faded,
Like mist before the rising Sun,
Peace returned where love invaded,
Every child was safe and all were one.

Calling all Angels, now is the time
To shine the light you have come to bear.
Devas awake again to shine
And broadcast this message everywhere.



Poetry by Kavindra

Jeffrey Armstrong



Indie Excellence
FINALIST
2007 Book Awards

The Night We First Met
A MYSTIC JOURNEY



KAVINDRA

"Your work is a direct transmission of transcendental energy...You are the new Rumi." PATRICK BERNARD, Award winning producer and composer of devotional music. Montreal, Canada

Ever Since We Met

Ever since we met I have been restless,
Unable to focus on any goal,
And all my knowing now is useless,
My life is spinning out of control.

Ever since we kissed my lips are moving,
Speaking words I cannot understand,
Crying in my dream about our loving,
Reaching out all night to touch Your hand.

Everything appears to have a meaning,
Pretends to have a simple plan,
But those illusions are simply screening
Messages written for me by Your hand.

Silence on my lips a red pretending,
Teardrops on my cheek a would be rain,
The clouds a love that crushes never ending,
My heartbeat the prayer to see You once again.

Kavindra ~ "The Night We First Met"

Project your Present to the Future



By Dr. Konstantin Korotkov

When there is a **consciousness revolution**, there is also an exponential growth in people's awareness regarding their day-to-day thoughts, feelings, attitudes and behaviors. That's how we change the world.

“Yesterday is history, tomorrow is a mystery, but today is a gift. That is why it is called the ‘present’.”

We live in the twenty-first century, but we do not fully understand what it means. Most people are involved in their everyday activity and they do not feel the wind of changes. Everyday we hear the news of natural catastrophes all over the world: earthquake in Japan and New Zealand, floods in USA and Australia, avalanche of gale-force blizzards over USA East Coast and unusually hot summers in Russia, the hottest in 1,000 years of history. At least 100,000 people died from earthquakes, floods and heat phenomenon. In Pakistan, record monsoon rains destroyed infrastructure, left thousands dead and millions homeless. Wildfires erupted across the countries, heavily damaging wheat crops and forcing Moscow to impose an export ban that raised global wheat prices. While diplomats and scientists pondered over an accord that could replace the Kyoto Protocol, 19 nations were experiencing unusually high temperatures, including 53.5 degrees Celsius in Pakistan, the hottest ever in Asia. The 2012 Mayan Prophecy is coming true – world is coming to an end!!!

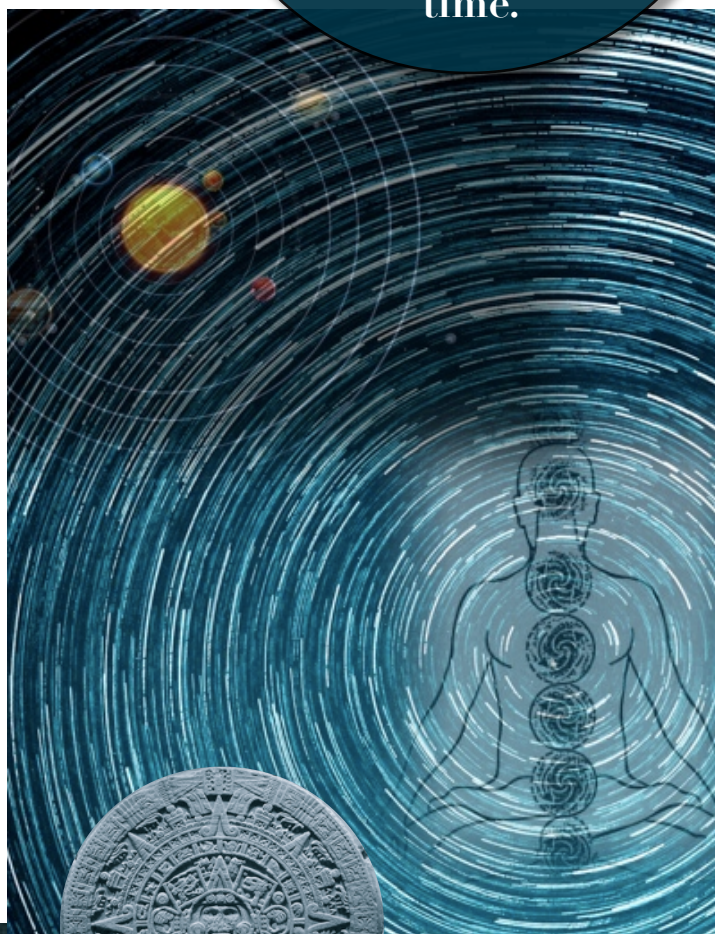
But is it really so? Should people all over the world stop their activity, close their shops and offices and wrap up in white blankets preparing for the coming Armageddon? Of course not! We do have many problems all over the world, but Life is going on. Life is going on!

Together with the Sun, Earth is furiously moving through space and time. In different parts of Cosmos, we are passing through areas of huge energies and eternal Cosmic Rays. Our Earth climate is the reflection of Sun activity, which in turn responds to the cosmic environment. In our millennium, we are spinning pass through the same areas of Cosmos again and again. And now, based on our observations, we may detect only short natural cycles (11 years, 55 years, 110 years), but it is clear that these cycles are of much longer range. **So we ARE in the cycle of transformation in which we have been living since the end of the twentieth century. Our Earth's climate and human civilization are experiencing this tremendous transformation.**

All attempts to make long-ranged forecasts of weather and future are doomed to failure. Who could have predicted the abrupt crash of powerful Soviet Empire – the Empire of Evil? Who would believe by the end of the twentieth century the USA would be led by an African-American? We do not know what will be in the next decades, let alone to predict the end of twenty-first century. Only one thing is clear. **We are living in the Times of Change.** For Russian people this is a normal state of affairs. From the beginning of nineteenth century, we have experienced one transformation after another. For the rest of the world this is still implicit – but it is coming!



Spinning wheels of
light and life,
spinning within
cycles and seasons,
which change and
rearrange us with
time.



We can name quite a few symptoms of upcoming changes:

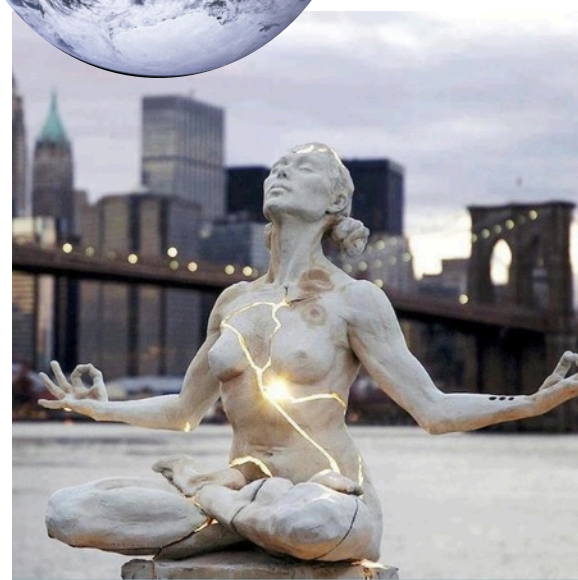
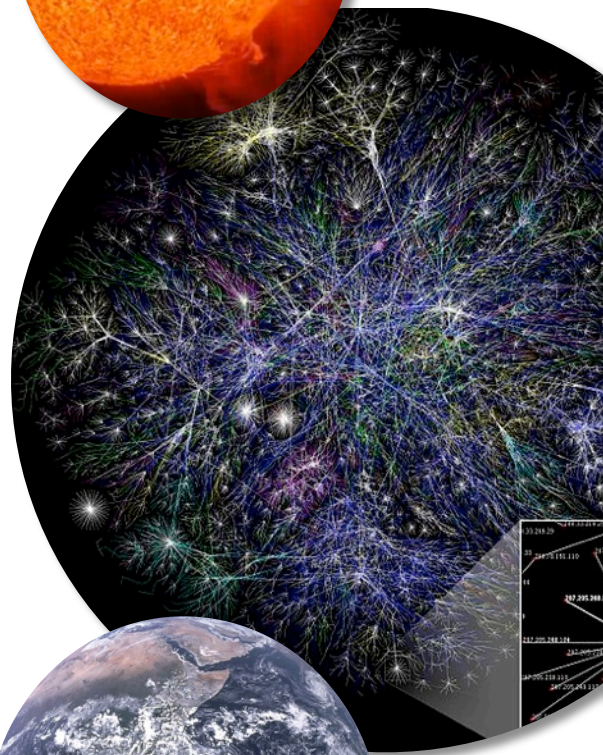
- **Transformation from the Material to the Informational World.** The prices of everyday commodities are reducing and, in principle, even now it possible to use a lot of disposable, single-use items, like underwear, clothing, tableware, etc. Naturally, we may feel attachment to our dresses and table plates. They create an important part of our cozy environment. But in Informational World we easily upgrade software and buy new programs – better than previous ones. And more and more people all over the world spend time with their laptops and iPads, which opens up the World Without Boundaries.
- **Transformation from linear thinking to a more complex one.** Development of modern mathematics and physics long ago has led to them surpassing the boundaries of the medieval vision of reality. Whilst in social sciences, biology and medicine we are still trapped within the old model. Application of non-linear, complex, quantum approaches to modern science and life is an essential goal. We are at the threshold of the great renovation of the Western Scientific Paradigm – new Scientific Revolution.
- **Transformation from the Oil Age to the Sun Age.** In our civilization we are totally dependent on oil and oil money governs the world. But now we understand how damaging this is both for the Nature and for our health and our pockets. Nowadays we have technologies which allow getting energy from the sun and running cars on water, but development of these technologies is restricted by Big Money. The next step is to get an unlimited energy from the vacuum. Slowly but surely, it is coming. So let's see what would be the reality by the end of twenty-first century.
- **Transformation of the interest in consciousness from sneering curiosity to scientific exploration.** Fifteen years ago, the study of consciousness was considered as something between psychiatry and metaphysics. Now it is a serious branch of science. Creation of new quantum instruments allowed scientists to study the operations of the brain in real time and to get deeper understanding of mind-body interconnections. Understanding of consciousness, as a pivotal factor in world safety, civilization development and individual health, is growing in the society.
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• **Transformation from pharmaceutical medicine to holistic, integrative and quantum medicine.** Tremendous achievements in modern medicine has greatly increased in longevity in developed countries; mass implementation of heart, liver and cochlear implants; In Vitro Fertilization (IVF) and a many other modern developments. At the same time, there has been a demonstration of the weak points of modern medicine.



The wound is the place where the Light enters you...

~RUMI~

Human Light System: information transfer using electromagnetic waves - Light

Huge increases in cancer, heart and brain problems and onset of the supposed disease of the aged, senility, affecting people at a much younger age. These all suggest that we lack some important elements in supporting people's health and well-being. These elements would allow us to move from curing diseases to preventing them, from a Medicine of Illness to Medicine of Health. **Not treatment, but prevention; not medications, but healthy lifestyle. In principle, for life we need:**

Sun, Water and Air

But we need a lot of Sun, good structured water and fresh air. And, of course, we need a supervision by clever well-educated doctors, who would guide us in life, taking care of our problems, providing us with proper nutrition, consulting us in the ways of life, food and movement. Some of these tasks would be taken by intellectual machinery, operating in "clouds", but the last world would be doctor's, who would keep your records in a database and would supervise you from conception to maturity.

As you see, we are facing a great times ahead. Humankind has entered a new phase of its development, and we may only guess what wonders we would see even in our time-span. But a lot depends on our own attitude to our life and our future. We may participate in creating a new step, or we may just spend time without any understanding of what is going on around. Your future depends on you now!!!

With your conscious attitude you may recreate your own life and contribute to the development of Humankind.

Be aware of the power of your mind, do not be afraid to use it in everyday activity, accept your life as a precious gift, as a present from God, as a unique adventure, and project your positive thoughts and visions to the future. Your Angels would bring you everything you want, but you need to formulate your wishes, and make it clear and precise. This is our destiny as humans, and I believe that we are only entering into a Shinning New World.

Every time we are doing experiments, and with a lot of equipment we may see people's transformation under the influence of Christos' energy, we may document structurization of Space in his presence, and all these effects give us new understanding of Life, Science and the way of transformation from personal evolution to global transformation in the XXIst century.

Foreword

**Konstantin Korotkov, Dr., Professor
Project your Present to the Future**

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Ph.D., Professor Konstantin Korotkov

holds the following positions:

- Deputy Director of Saint-Petersburg Federal Research Institute of Physical Culture.
- Professor of Computer Science and Biophysics at Saint-Petersburg Federal University of Informational Technologies, Mechanics and Optics.
- Professor of Research in Saint Petersburg Academy of Physical Culture.
- President of the International Union for Medical and Applied Bioelectrography.
- Consultant for Aveda Co (USA).
- Member of the Editorial Board: «Journal of Alternative and Complementary Medicine», “Journal of Science of Healing Outcomes”.

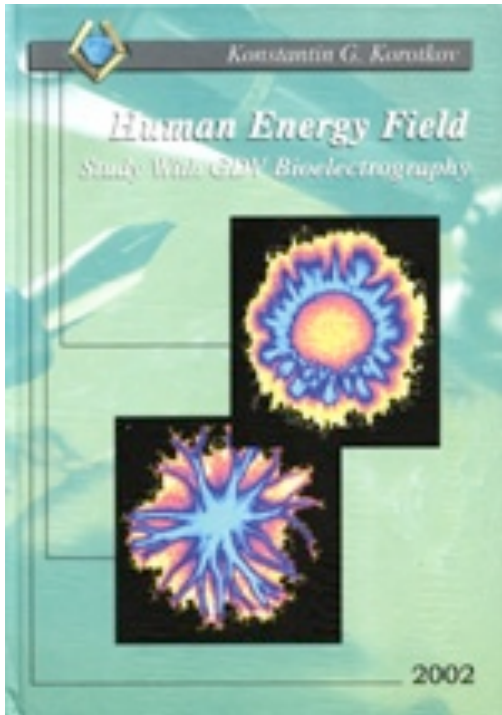
He has published over 200 papers in leading journals on physics and biology, and he holds 17 patents on biophysics inventions. **Prof. Korotkov** has led a research career for over 30 years, combining rigorous scientific method with an insatiable curiosity about things of the spirit and the soul with deep respect for all life. He is also a scholar in philosophy and a serious mountaineer of 25 years experience. He has given lectures, seminars and training sessions in 43 countries, presenting papers and workshops at more than 100 national and international conferences.

He is the author of 9 books; Most of them are translated to English, French, German, Italian and Spanish, including *Light After Life: Experiments and Ideas on After-Death Changes of Kirlian Pictures*, USA 1998. *Aura and Consciousness – New Stage of Scientific Understanding*, Russian Ministry of Culture, 1998. *Human Energy Fields: Study with GDV Bioelectrography*, USA 2002. *Spiral Traverse, (USA?)* 2006. An editor of the book: *Measuring Energy Fields: State of the Art*. GDV Bioelectrography series, USA 2004.

At the V Congress of the International Union of Medical and Applied Bioelectrography (IUMAB) in Curitiba, Brasil, (Brazil, in USA) in 2001, Dr. Korotkov was elected as President of the IUMAB by the world's most prominent researchers. He was re-elected as a President in 2005 and 2010. He is a Member of the Federal University Scientific Board on new medical technologies, Member of the Scientific Board of the European Society of Predictive Medicine (France) and of the Editorial Board of the «Journal of Alternative and Complementary Medicine» (USA).

His scientific line, known as the Electrophotonics, is based on Gas Discharge Visualization technique (GDV), is a breakthrough beyond Kirlian photography for direct, real-time viewing of the human energy fields. This new technology allows one to capture by a special camera the physical, emotional, mental and spiritual energy emanating to and from an individual, plants, liquids, powders, inanimate objects and translate this into a computerized model. This allows researcher and client to see imbalances that may be influencing an individual's well-being greatly facilitating the diagnosis of the CAUSE of any existing imbalances showing the area of the body and the organ systems involved. One of the greatest benefits to date is the ability to do “real-time” measurements of a variety of treatments for such conditions as cancer to determine which is the most appropriate for the client. The incredible implications for the diagnosis and treatment of physical, emotional, mental and spiritual conditions with applications in medicine, psychology, sound therapy, biophysics, genetics, forensic science, agriculture, ecology etc. have only just begun.

The **EPC/GDV technique** is accepted by Russian Ministry of Health as a Medical technology and certified in Europe. More than 1000 doctors, practitioners and researchers benefit from using this technology worldwide. More than 150 papers are published on GDV in (how many) different countries.



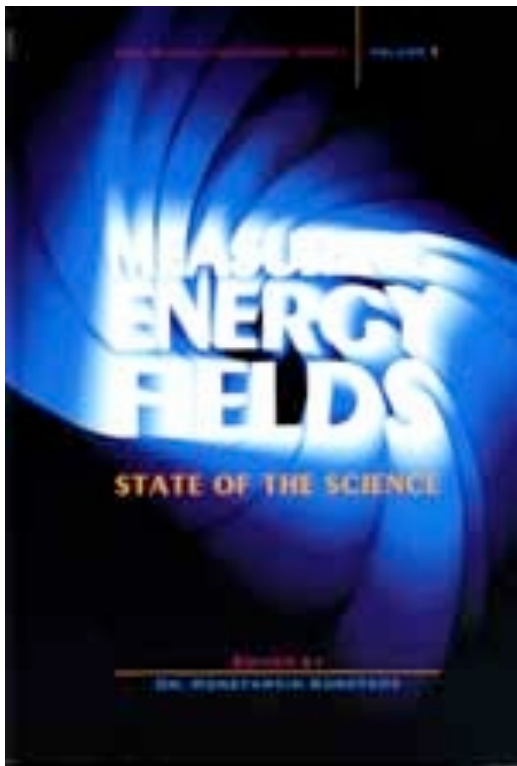
“Human Energy Field: study with GDV bioelectrography”

Author: K. Korotkov.

This book is dedicated to the presentation of the scientific foundations and practical applications of the Gas Discharge Visualization (GDV) technique. This technique represents a revolutionary new method for the study of biological subjects, namely biological energy fields. This research extends scientific tradition, developed in Russia in the twentieth century. The Human Energy Field carries information on physical, mental and spiritual states of a human being, and the GDV Bioelectrography technique is the first method in the world which gives an opportunity to study this information. Utilizing the latest advances in technology, such as microelectronics, computer imaging, and data mining, scientists have been able to create an entirely new class of scientific instruments that allow the practitioner to view, measure and analyze biological subjects in a manner that has never been possible before. The GDV technique has been found to have numerous highly important applications in medicine, sports, consciousness studies, material testing and other areas, discussed in this book...

Measuring Energy Fields: State of the Science.

Author: K. Korotkov.



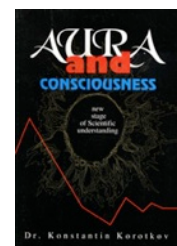
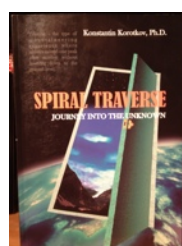
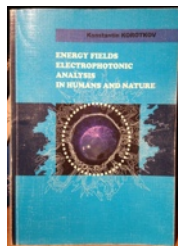
Volume I in the GDV Bioelectrography series presents recent studies and applications of the Gas Discharge Visualisation (GDV) technique. Our previous books were created by a small group of associates. This volume presents a wide range of articles by authors from different countries. After seven years of development, the GDV techniques entered a new stage of “catalytic growth” with innovative methods emerging from various laboratory and clinical settings. Research by independent groups around the world demonstrates that the GDV technique provides methods for recording subtle dynamics in the energy fields of objects with various natures.

GDV assessment methods are demonstrated to have a wide range of important applications in medicine, sports performance, materials testing, as well as analytic studies of human consciousness and spiritual healing.

Spiral traverse will also soon be available in www.krishnaprana.com

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Mothers'

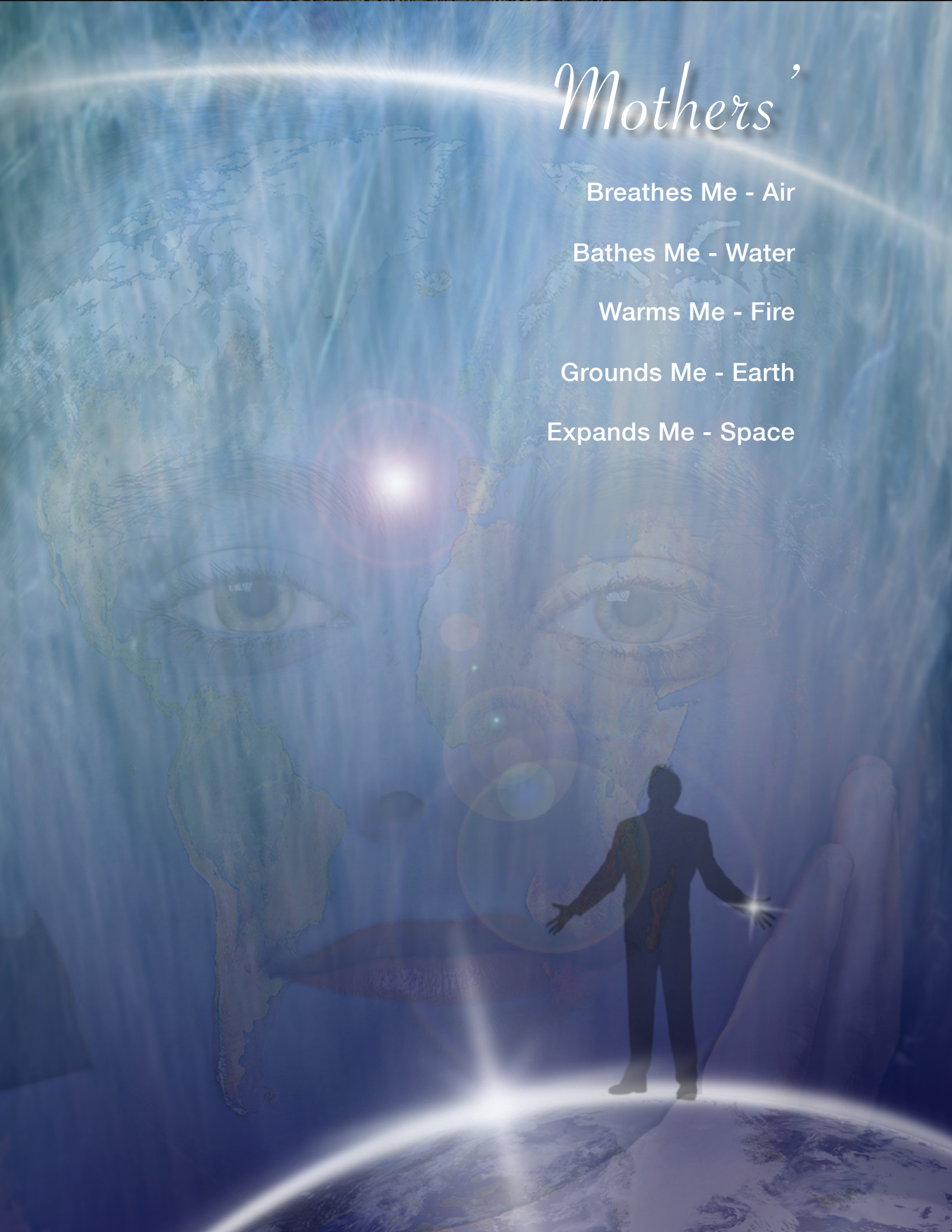
Breathes Me - Air

Bathes Me - Water

Warms Me - Fire

Grounds Me - Earth

Expands Me - Space





Her Art

is for Her Heart





Love to you
..Senea Rose

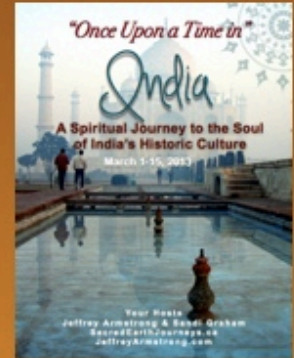
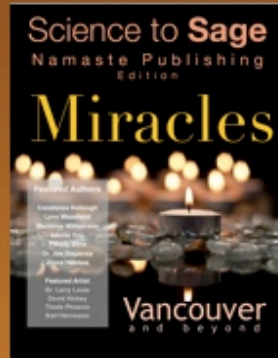
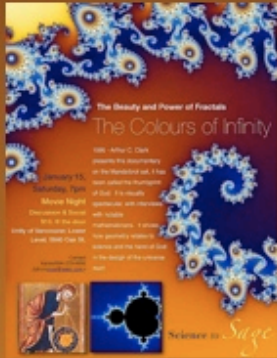
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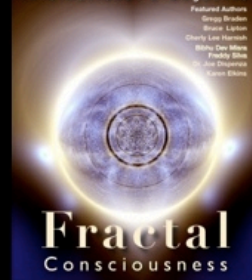
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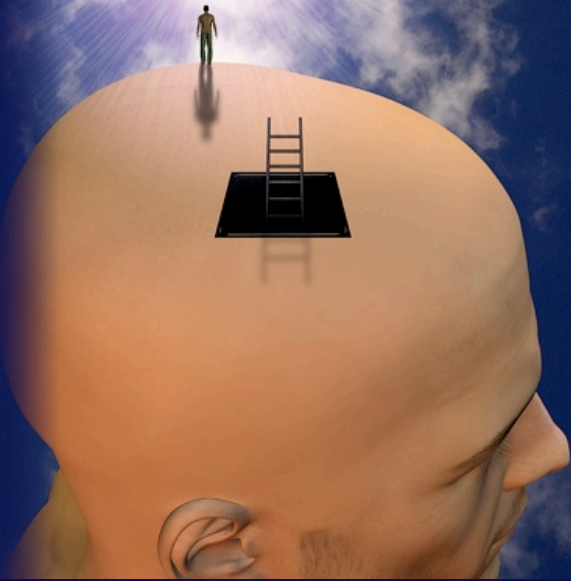
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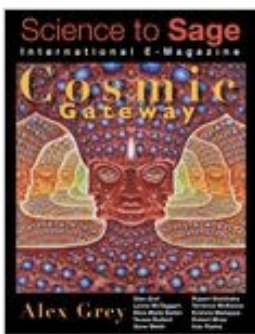
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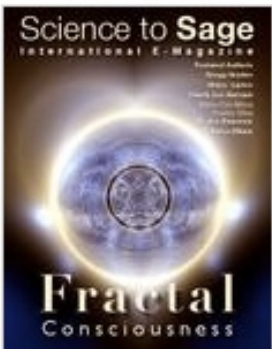


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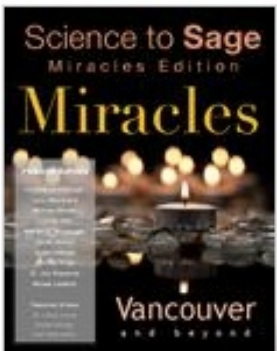


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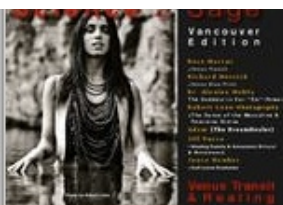


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