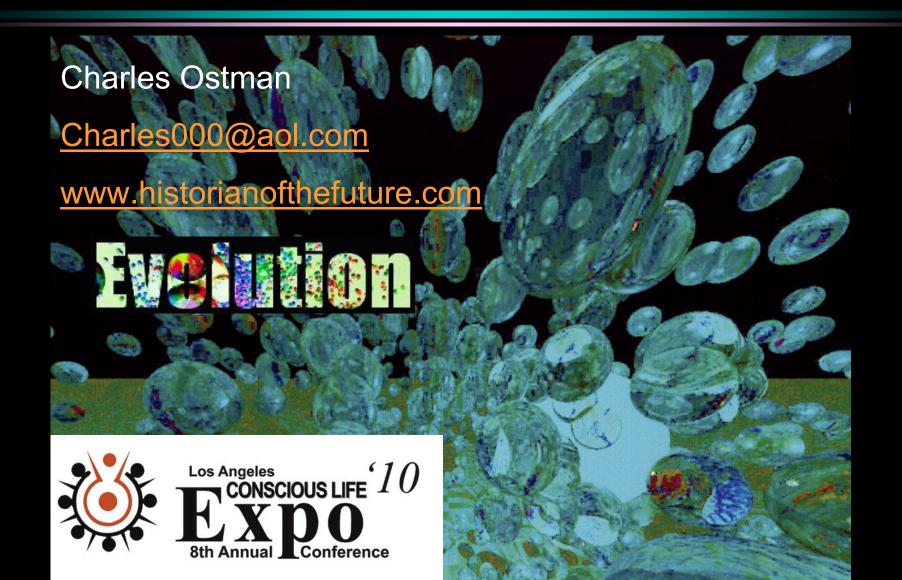
## Quantum Biology, Collective Consciousness, and the Proactive Manifestation of Future History



**The Purpose** – Many people, of all walks of life, cultures, and belief systems are becoming profoundly aware of the fragility of the world and it's populations, being subject to ever more severe "tests" of character and intent, mapped against a realm of apparent chaos and complexity that is daunting to even the most well intentioned.

Current Window of Opportunity - intersection of potentially measurable quantum entanglement phenomena, biophysics, and a potential mechanism for pro-active manifestation of "future history".

## Quantum Biology, Collective Consciousness, and the Proactive Manifestation of Future History

A brief look at "big history" – the holographic universe

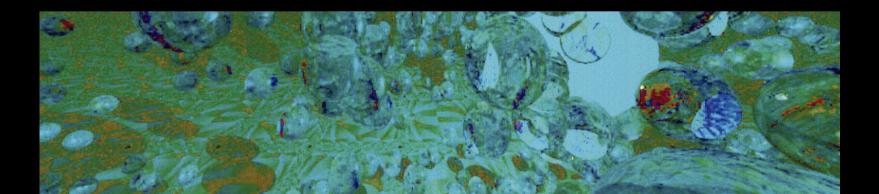
Existence as a "pre-existing" condition – existence morphology

Cosmology, time / space continuum, and the "quantum foam"

Quantum biology – neurons, photons, and "entanglement"

Theory, Experiments, Data . . . Potential Applications

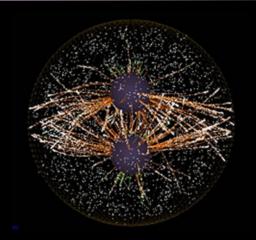
Conclusions, thoughts for consideration, Q&A



Things and concepts presented . . .

#### Things and concepts presented . . .

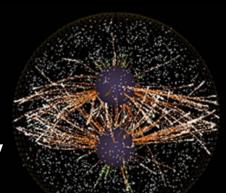
A brief primer on Quantum Physics

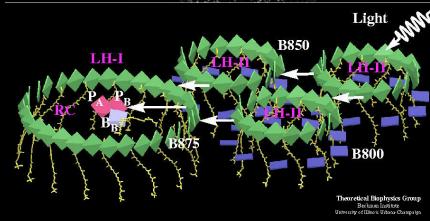


#### Things and concepts presented . . .

A brief primer on Quantum Physics

A slightly longer primer on quantum biology





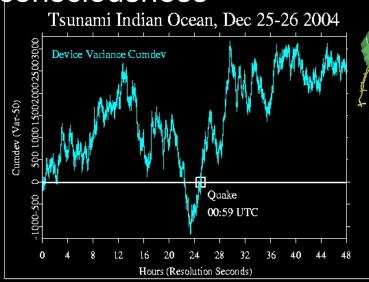
### Things and concepts presented . . .

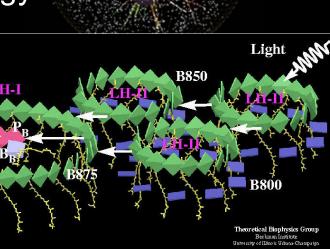
A brief primer on Quantum Physics

A slightly longer primer on quantum biology

Current hard data and experiments in

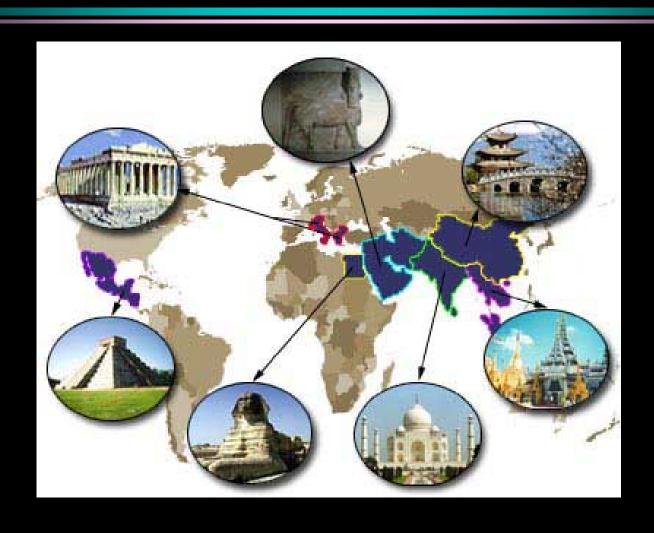
quantum consciousness





4/24/2010

# Existence Navigation – In the Beginning, the End



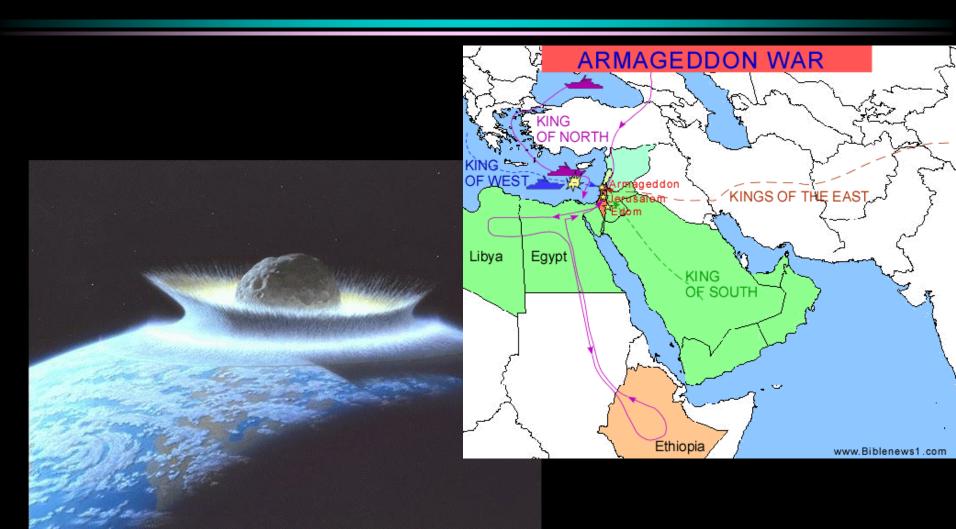
# Existence Navigation – In the Beginning, the End

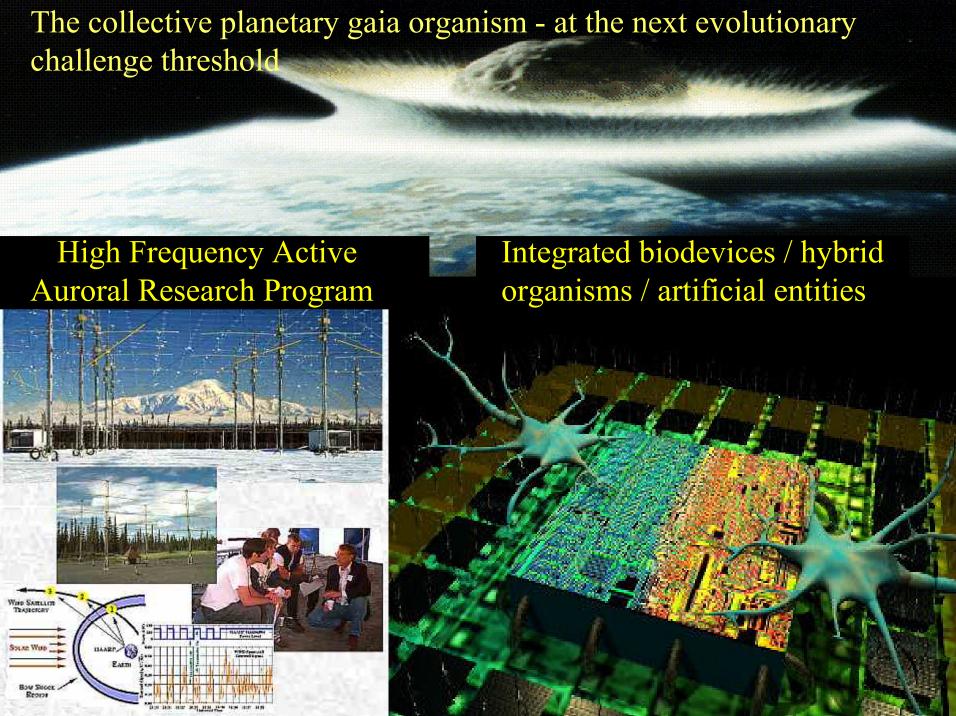


# Approaching the end . . . Define "end"



# Approaching the end . . . Define "end"







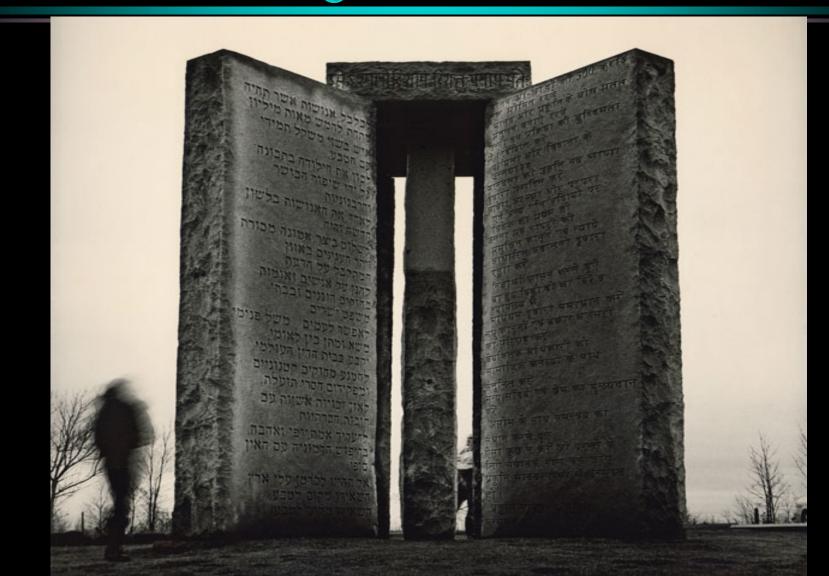


10,000 Year Clock Mt. Washington, NV

## Svalbard Global Seed Vault Longyearbyen, Norway



## Instructions for the Post Apocalypse Georgia Guidstones

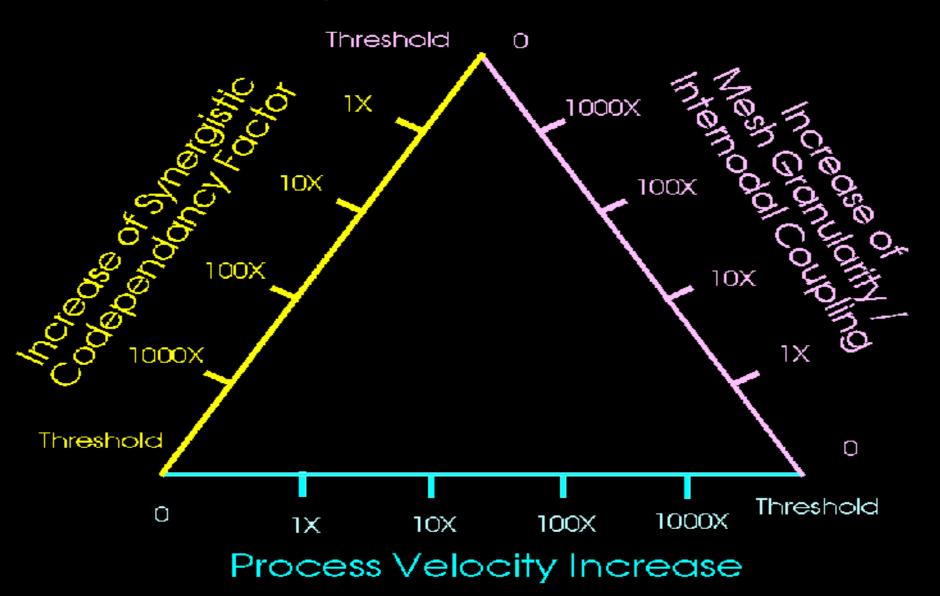


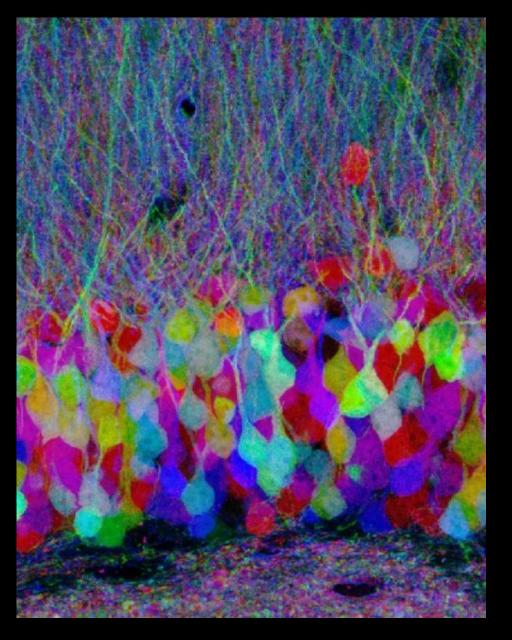
The Current Condition – That such would be occurring at this time is no accident. In fact, it is exactly this manifestation threshold that has been foretold by many civilizations, which refer to an event, of global proportions, of extreme significance that the current civilizations of the world will be "tested" by.

The Response – The harnessing of Quantum Biology, Collective Consciousness, and the Proactive Manifestation of Future History



## Convergence Syndrome Triad

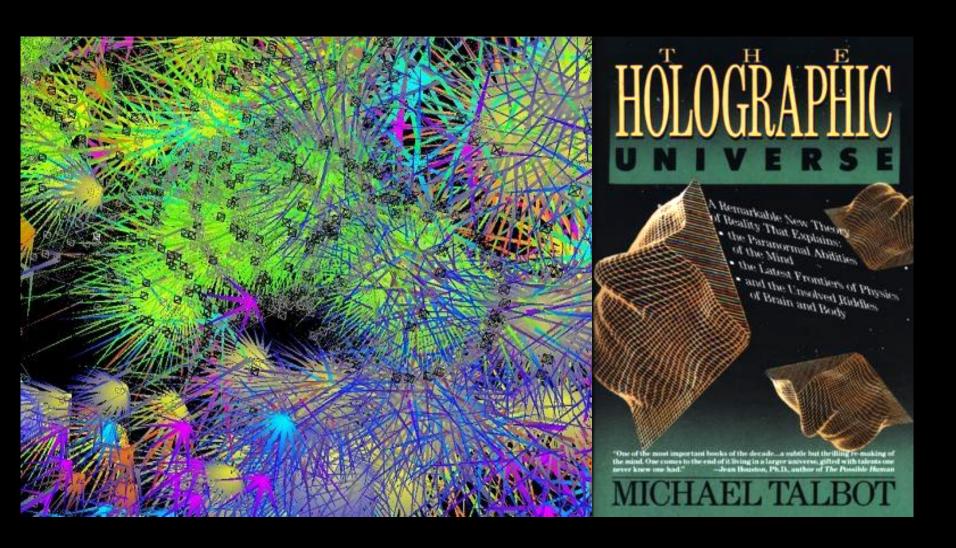




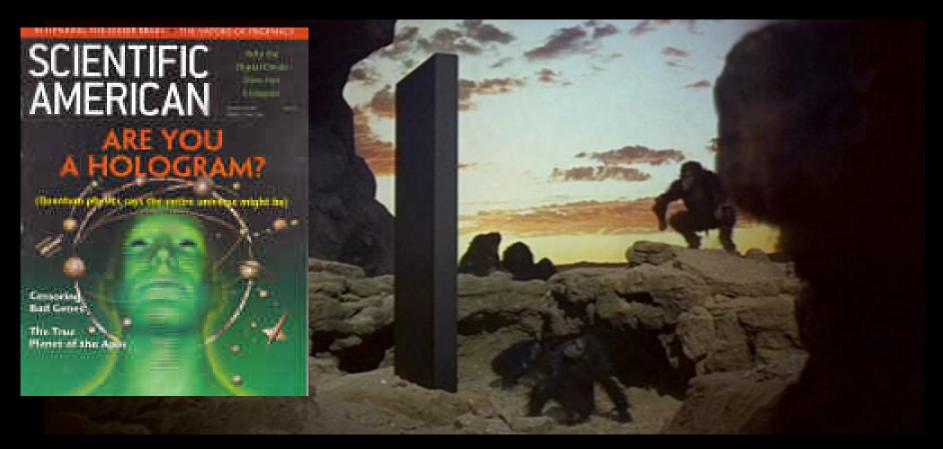
The holographic imperative –

Think different

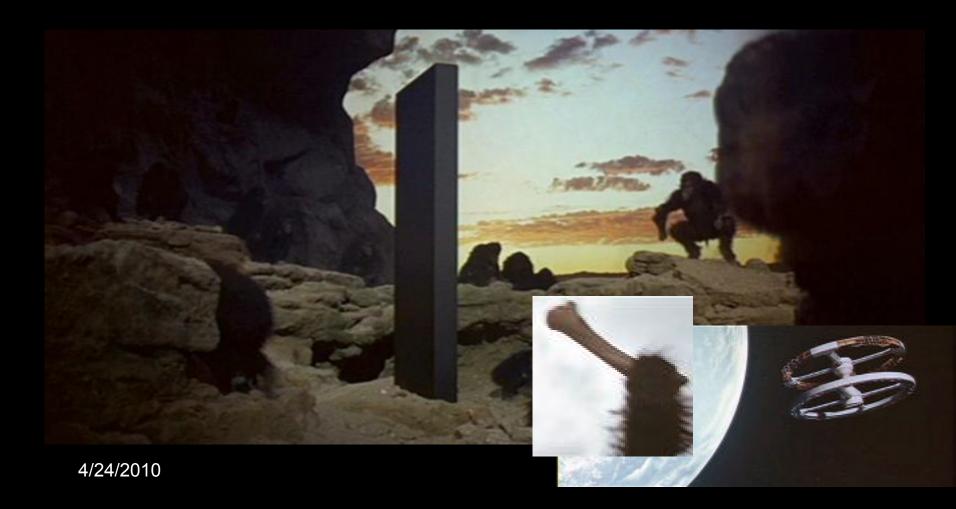
Think holographic



The Evolutionary Evenstream . . .



The Evolutionary Evenstream . . .

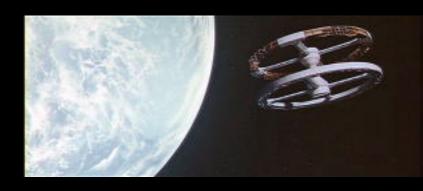


The Evolutionary Evenstream . . .





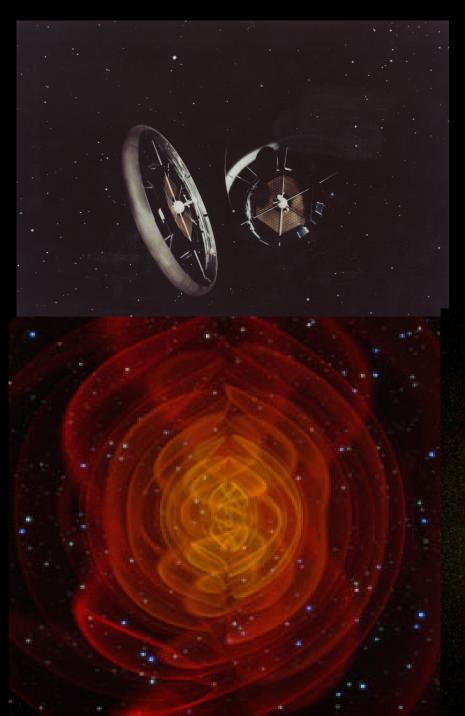




## The Holographic Perspective

- All living things are systematically interconnected
- Definition of "living things" extends to systems, processes, entities which behave biologically
  - "Knowledge and timber shouldn't be much used till they are seasoned."
  - -- Oliver Wendell Holmes Jr.

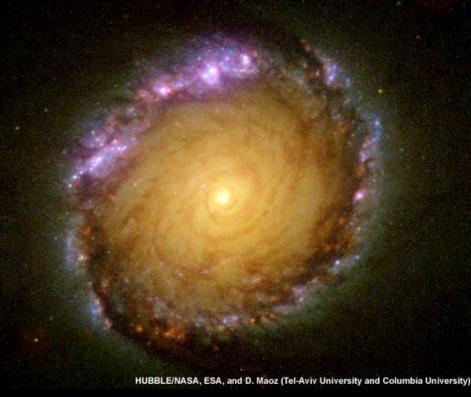
- "Any sufficiently advanced technology is indistinguishable from magic"
- Arthur C Clarke



The holographic imperative –

Think different

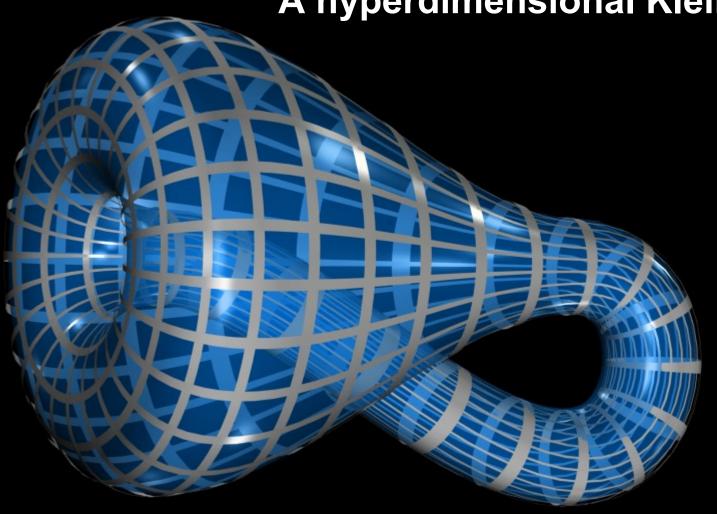
Think holographic

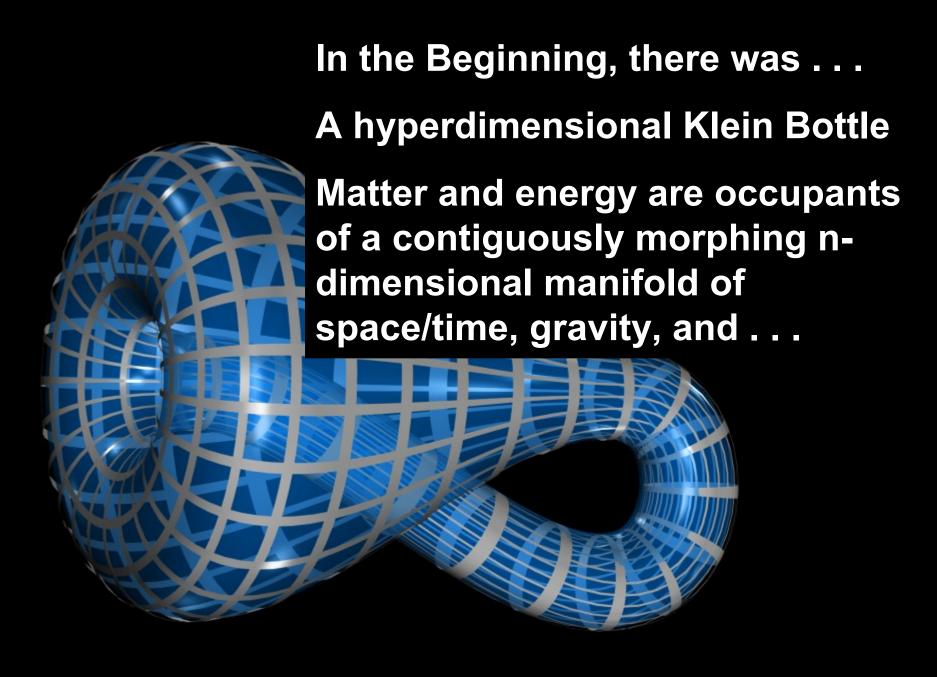


In the Beginning, there was . . .

In the Beginning, there was . . .

A hyperdimensional Klein Bottle





#### **History of Cosmic Evolution**

#### Cosmic microwave background

After 380,000 years, loose electrons cool enough to combine with protons. The Universe becomes transparent to light. The microwave background begins to shine.

#### Inflation

A mysterious particle or force accelerates the expansion. Some models inflate the Universe by a factor of 10<sup>26</sup> in less than 10<sup>-32</sup> seconds.

Quantum Fluctuations

#### **Big Bang**

In an infinitely dense moment 13.7 billion years ago, the Universe is born from a singularity.

#### **Galaxy formation**

Gravity causes galaxies to form, merge and drift. Dark energy accelerates the expansion of the Universe, but at a much slower rate than inflation.

> Dark Energy Accelerated Expansion

Development of Galaxies, Planets, etc.

WMAP

#### First stars

Dark ages

Clouds of dark

and coalesce.

hydrogen gas cool

Gas clouds collapse. The fusion of stars begins.

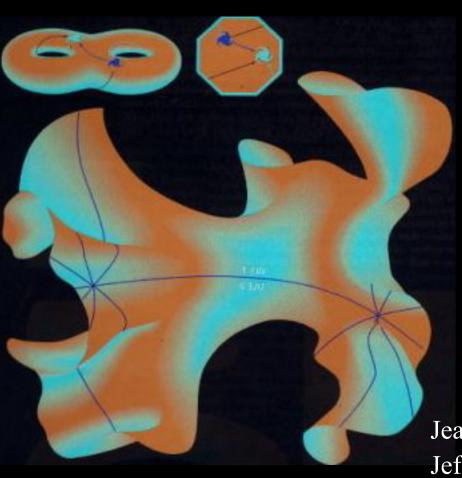
Big Bang Expansion

13.7 billion years

## The emergent Evolutionary Increment . . . Hyperdimensional Awareness



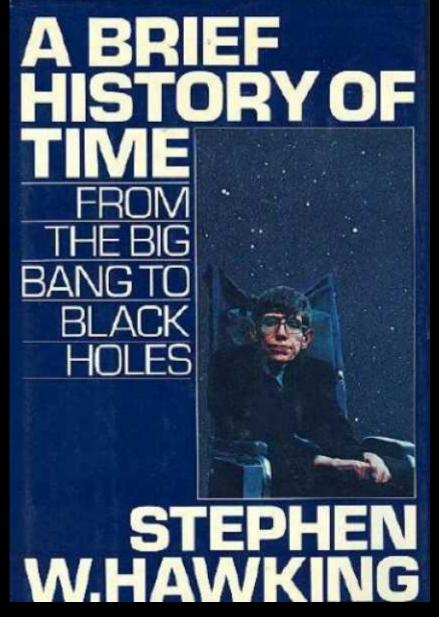
# Hyperdimensional Doughnut Model of the Universe

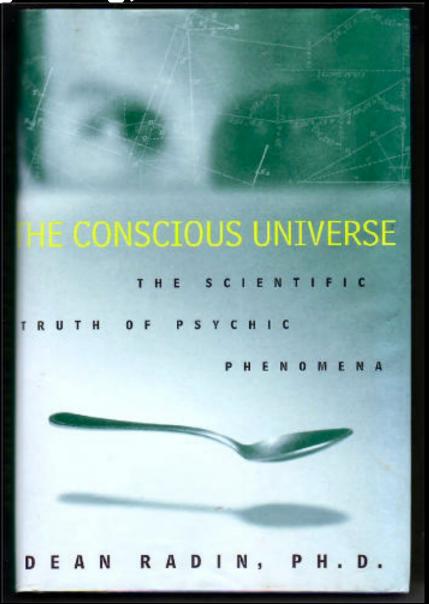


Torroidal model of the universe – "doughnut" spatial geometry of the universe, as is currently one the major prevailing theoretical models of time / space continuum – represented here as an infinite octagonal grid structure configured into a dual torroidal domain. Though not "possible" in 3D space, it can become manifest as a hyperbolic manifold.

Jean-Pierre Luminet, Glenn Starkman, Jeffery Weeks – Scientific American

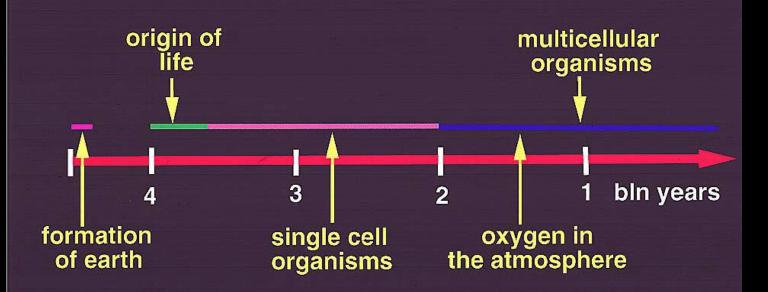
### In the Beginning, there was . . .



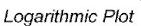


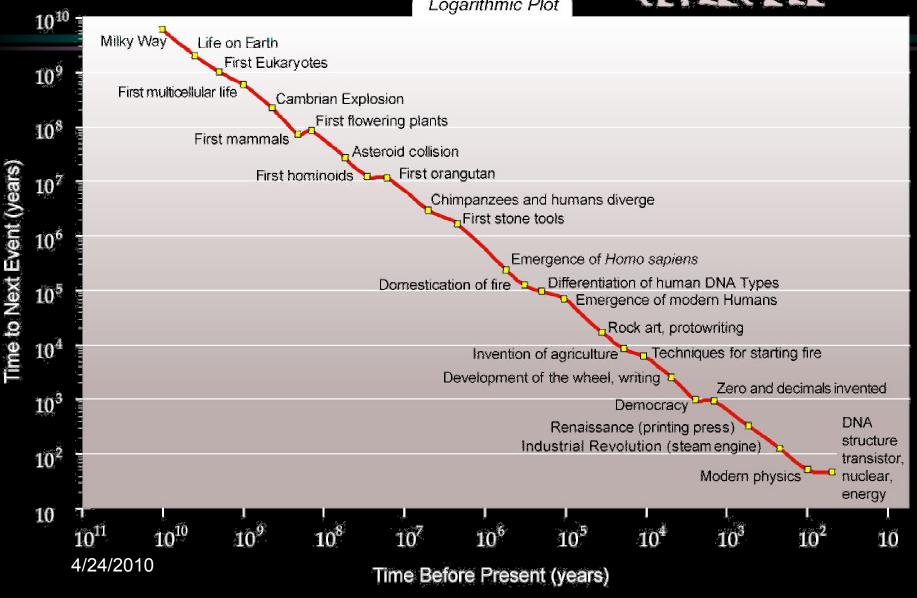
### In the Beginning, there was . . .

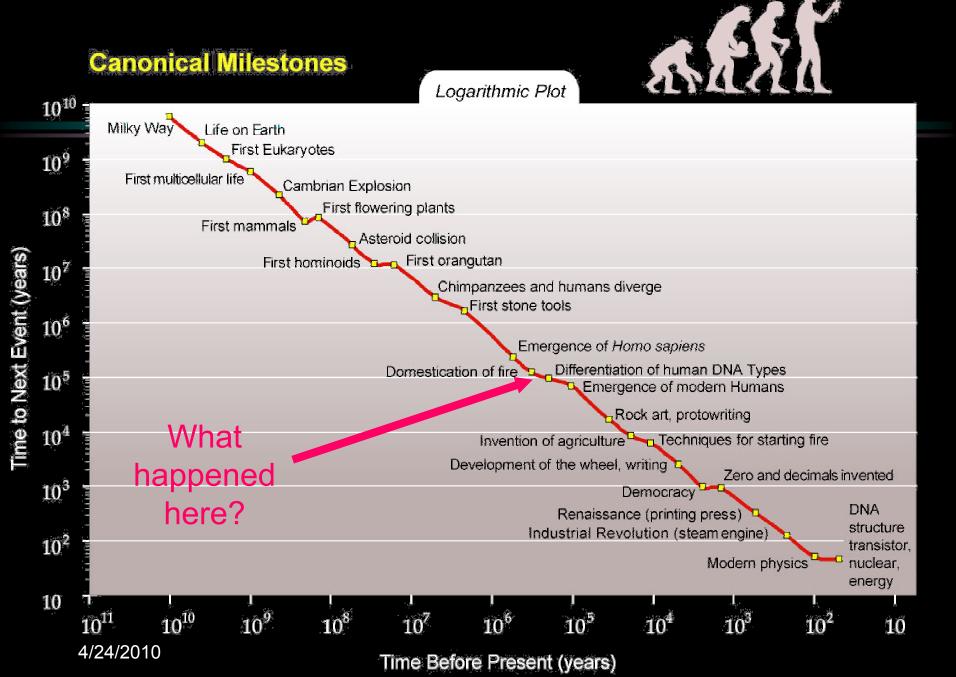
#### A BRIEF HISTORY OF EARTH

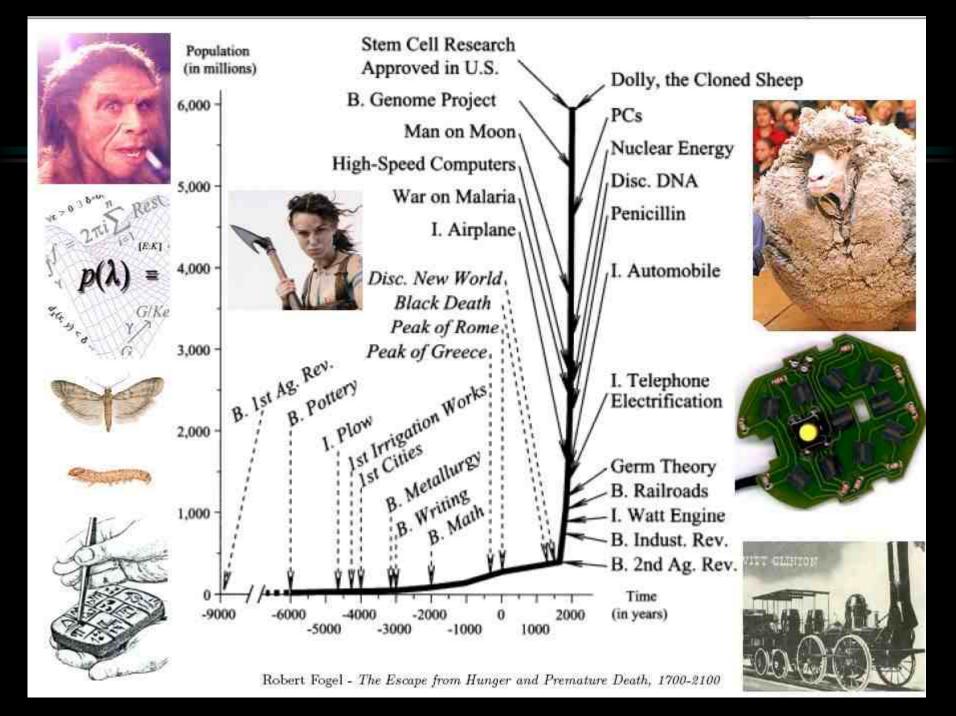


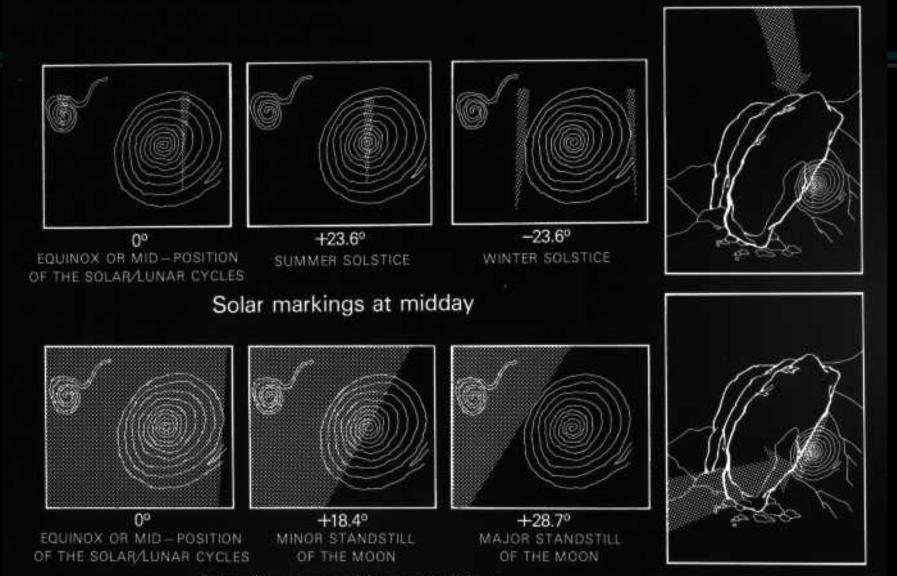






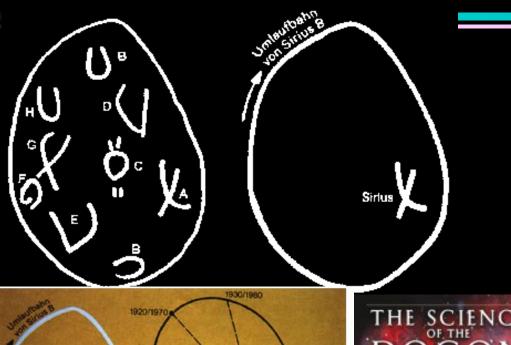


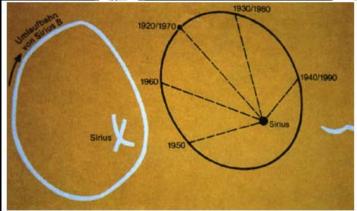




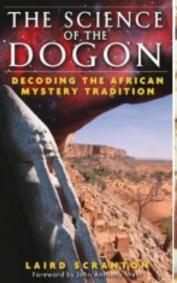
Solar/lunar markings at rising



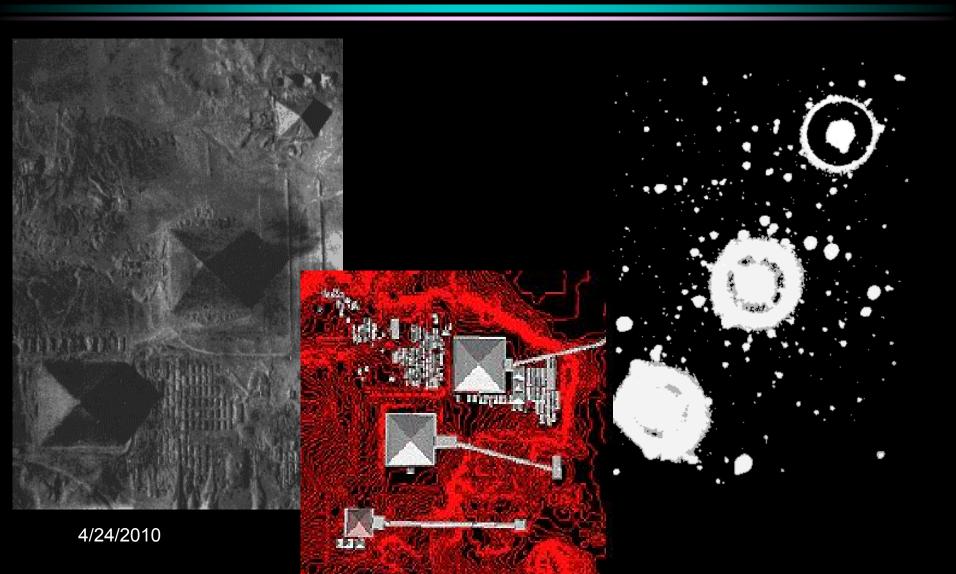




Darstellung der Umlaufbahn von Sirius B um Sirius A: Links eine Skizze der Dogon, rechts die Position des Sirius-Begleiters im Zeitraum zwischen 1920 und 1990.









### Existence Navigation – The Face of God

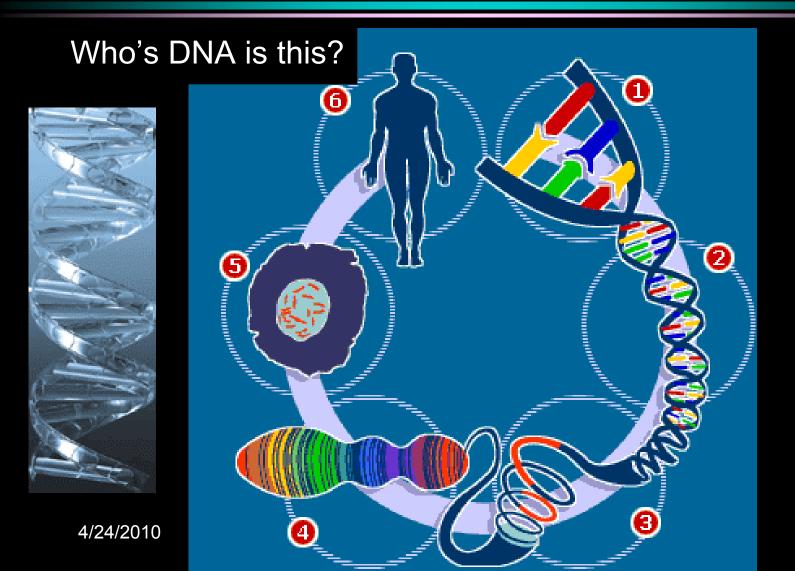


Aliens would have destroyed us years ago if it weren't for our entertainment value.

### Existence Navigation – Are we the product of "Junk DNA"?

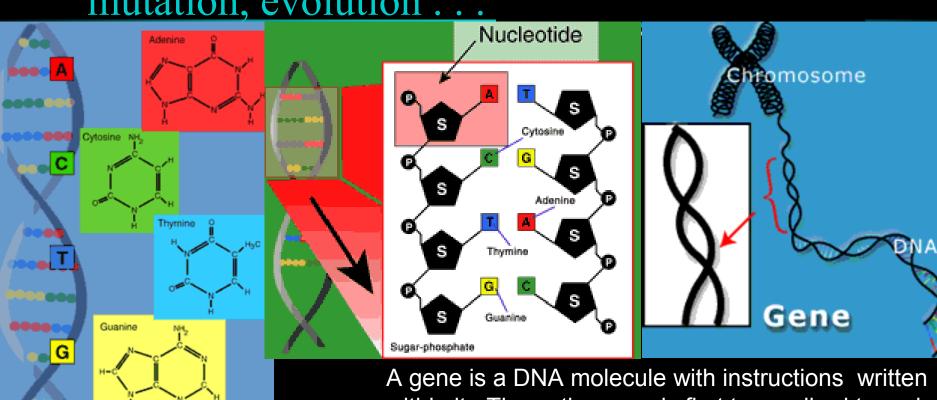


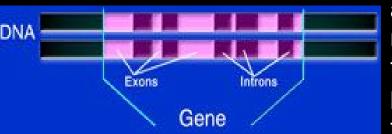
## Existence Navigation – Are we the product of "Junk DNA"?



"Junk DNA" – The missing links of

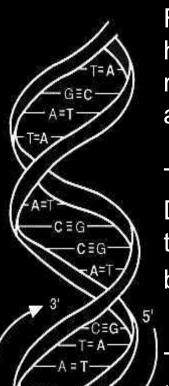
mutation, evolution . . .





within it The entire gene is first transcribed to make

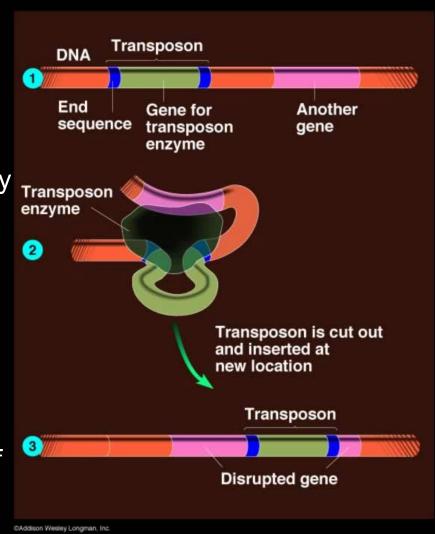
AGTCCGCGAATACAGGCTCGGTRNA, but then the intronic sections are removed, and the RNA exons are spliced together to form mature mRNA Introns are segments of DNA within the gene that are not ultimately translated into protein. The introns alternate with exons, segments that are translated

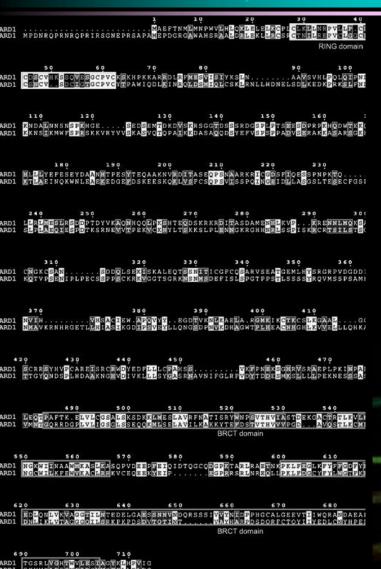


Five to ten percent of the human genome is currently recognized as a blueprint for a useful molecule

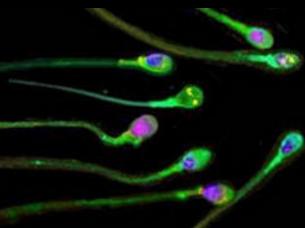
Transposons change the way DNA code is edited before the information is used to build a useful protein

Transposons induce the cell to make a copy of their sequence and then reinsert that copy into another part of the genome

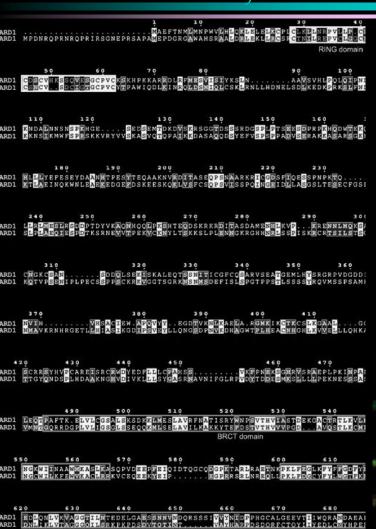




Panspermia "seeds everywhere" Question - Did life originate on Earth or did it arrive here from outer space?



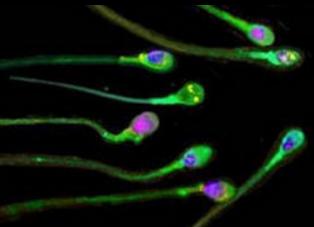




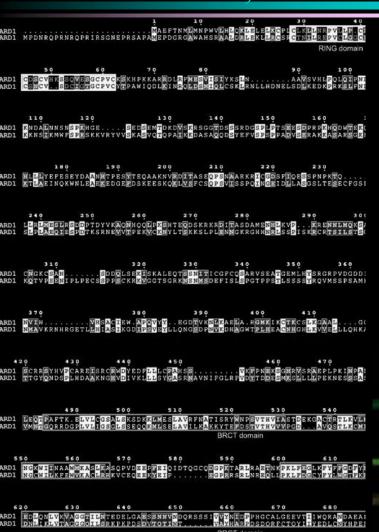
Panspermia "seeds everywhere" Question - Did life originate on Earth or did it arrive here from outer space?

Interstellar dust containing organic compounds

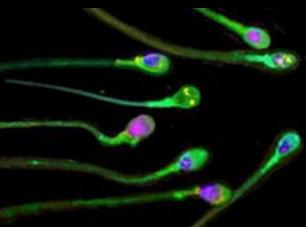
> Spectrographic confirmation of nitrogenated
aromatics – carbon rings - square, hexagon or
other shape, with alternating double and single
bonds







These carbon rings, with various additions, make up chemicals called purines and pyrimidines, among others. Half of RNA and DNA molecules consist of purines, and the other half of pyrimidines. These chemicals also make up chlorophyll, oxygen-storing pigments in animals, and enzymes that produce energy





Bacteria can survive harsh environment of space

- a. Ultraviolet radiation
- b. Protons bombardments
- c. Cold
- 2. Evidence that meteorites contain life
- a. Amino acids (left handed in helicity)
- b. Bacteria
- c. Carbon
- d. Protected inside rocks







The southern Indian state of Kerala where in July-September 2001 a strange red rain fell over a period of several weeks. The rain began on July 25 following reports of a bright flash and boom.



The southern Indian state of Kerala where in July-September 2001 a strange red rain fell over a period of several weeks. The rain began on July 25 following reports of a bright flash and boom.



The first red rain fell in the districts of Kottayam and Idukki in the southern part of the state. Other colers, including yellow, green, and black rains were reported. Many occurrences of the colored rain were witnessed over the first 10 days of the phenomenon, followed by less frequent downpours until late September. The coloration of the rain was due to particles in suspension in the rain water. At times the collected water was as red as blood. Typically it fell in very localized areas, no more than a few square kilometers, and for about 20 minutes per shower.

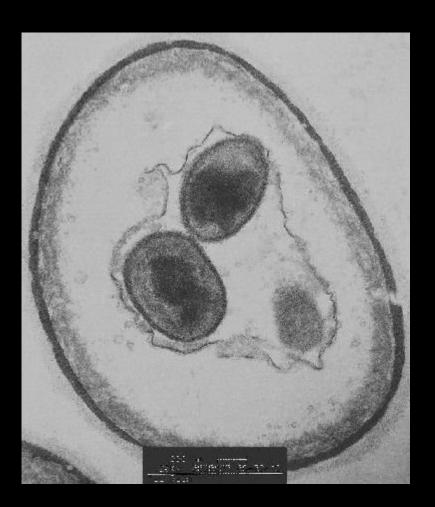


At first, scientists thought that sand blown in from Arabia might be responsible. But microscopic examination of the red particles in the rain, by Indian goverment scientsists and also, independently, by Godfrey Louis and his research student A. Santhosh Kumara at Mahatma Gandhi University (Kottayam, Kerala), showed that they were definitely not sand grains. They more closely resembled cells and appeared to be biological in origin. They were composed of 50% carbon, 45% oxygen, plus smaller amounts of other elements.





Coupled with the report of a flash and boom which may have come from a meteorite, the appearance of the "cells" led Louis to suggest that the red rain was extraterrestrial in origin. He suggested that the red material came from a comet, a piece of which broke off and entered the Earth's atmosphere before streaking across the skies of southern India, seeding the clouds above Kerala with the enigmatic particles. The official government investigation concluded the redness was caused by algal spores that had somehow been swept up into the atmosphere.



Further examination of the red rain particles using optical and electron microscopes has not yet resolved the mystery. At Sheffield University, England, microbiologist Milton Wainwright and his colleagues have confirmed the cell-like appearance and have reported finding DNA using fluorescent stains such as DAPI. Despite this, resarchers at Cardiff University, Wales, led by Chandra Wickramasinghe have been unable to extract and amplify DNA from the particles. Wickramasinghe is convinced that the "cells" are biological but of an unfamiliar nature. The three cells shown here are about 3 micrometers in diameter, with thick cell walls and a variety of nanostructures within a membrane, but with no identifiable nucleus. Image: © Cardiff Centre for Astrobiology, Cardiff University.

- 1. Life began once, on Mars, and came to Earth in Martian meteorites. May or may not still exist on Mars (amino acids or bacteria)
- 2. Life originated on both Earth and Mars independently. Cross-colonization (cross-fertilization) may subsequently have occurred (a.a. or bacteria)
- 3. Life began once, on Earth, and was propagated to Mars, where it possibly established itself (a.a. or bacteria)
- 4. Life originated on both Earth and Mars, but in spite of the exchange of rocks and dust, no transfer of viable organisms has occurred
- 5. Life originated on neither Earth nor Mars, but somewhere else entirely, such as a comet, Jupiter's moon Europa, Venus, or body outside the Solar System altogether. It came to earth, perhaps Mars too, via some sort of Panspermia mechanism (a.a. or bacteria)
- 6. Life has originated on earth alone and has not (yet) successfully colonized another planet. Mars is, and always was, lifeless

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#### Life is Ubiquitous, absurdly common, throughout the universe



The Miller-Urey experiment attempted to recreate the chemical conditions of the primitive Earth with an atmosphere of methane, ammonia, and hydrogen, exposed to electrical discharges – an environment from which amino acids were formed – 1953, U of Chicago

electrodes

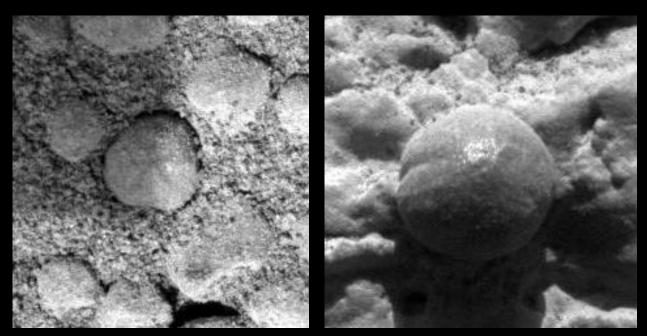
spark

H2O, CH4, NH3.

H2, CO

heat source

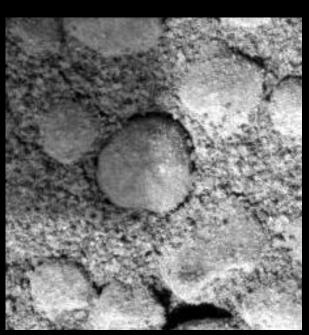
### Existence Navigation – Life is Ubiquitous, *absurdly common*, throughout the universe

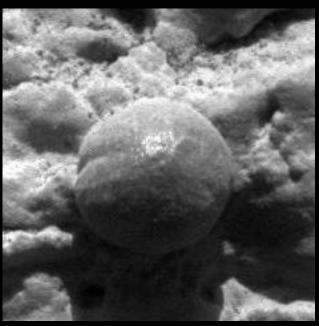




Fossil, and living examples of "pincushion" type sea urchin

### Existence Navigation — Life is Ubiquitous, *absurdly common*, throughout the universe





Mars -

Opportunity Rover

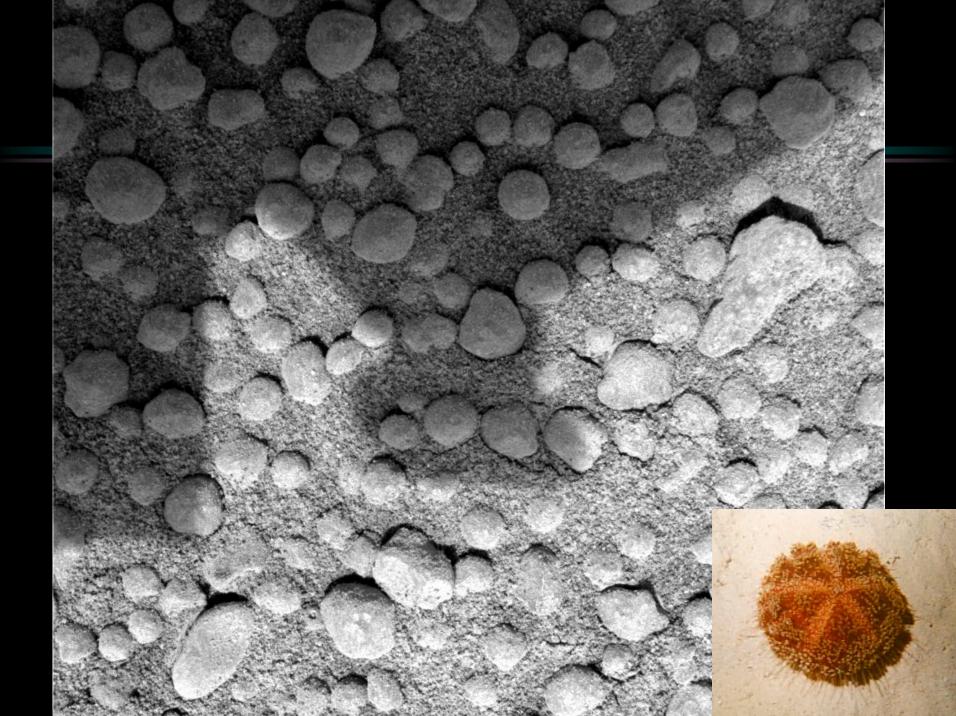
Opportunity :: Microscopic Imager :: Sol 507

http://marsrovers.jpl.nasa.g ov/gallery/all/1/m/507/1M1 73191393EFF55W4P2956 M2M1.HTML

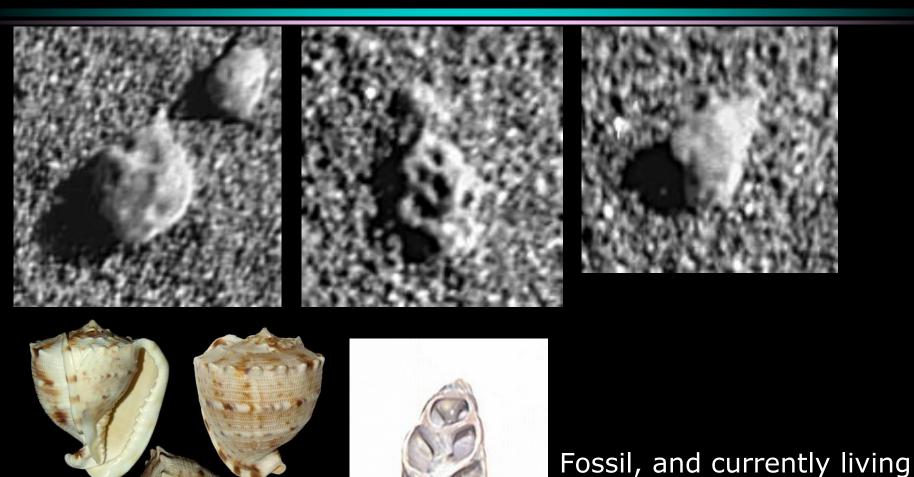


Fossil, and living examples of "pincushion" type sea urchin

Earth - Image courtesy of Davog O'Sullivan

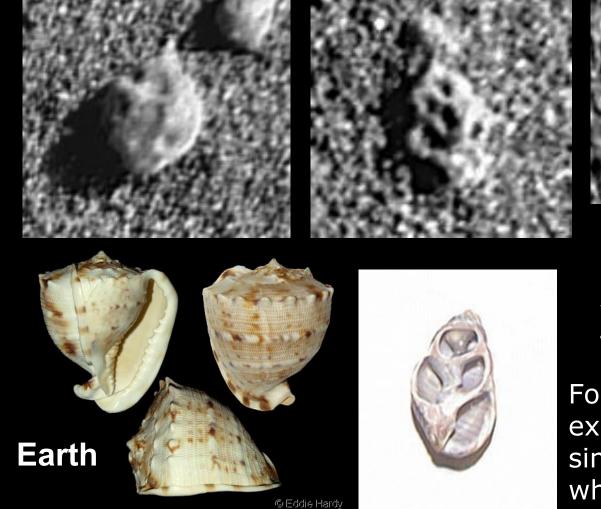


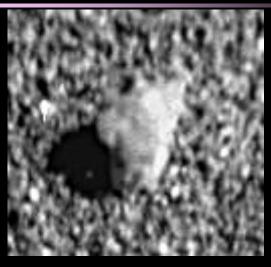
Life is Ubiquitous, absurdly common, throughout the universe



examples of sea shells similar to conch, murex, or whelk types

Life is Ubiquitous, absurdly common, throughout the universe





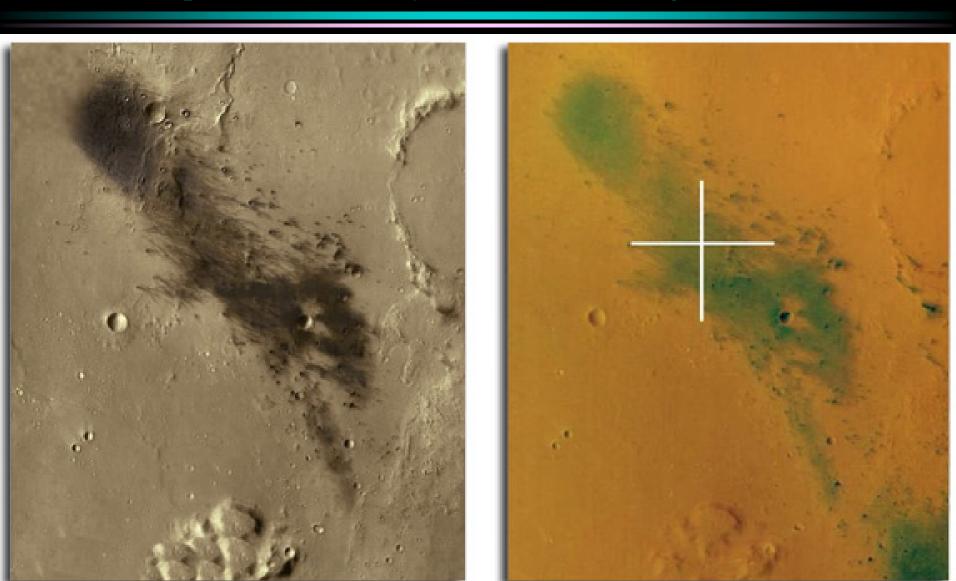
Mars - MER-B Sol 009 Object

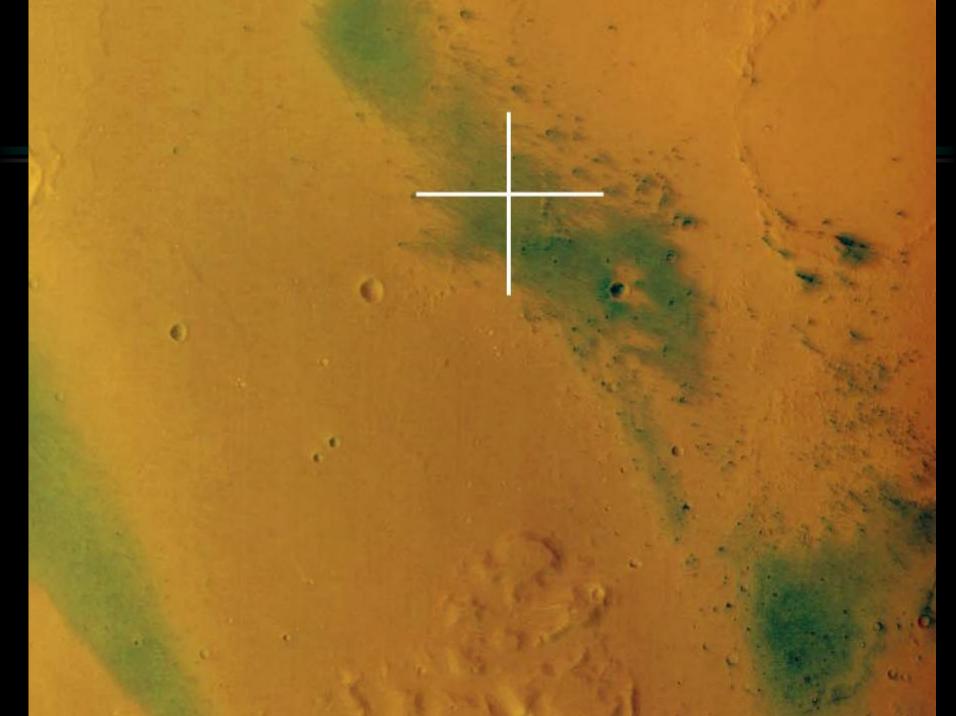
http://marsrovers.jpl.nasa.gov/galler y/all/1/m/009/1M128996989EFF022 4P2933M2M1.JPG

Fossil, and currently living examples of sea shells similar to conch, murex, or whelk types

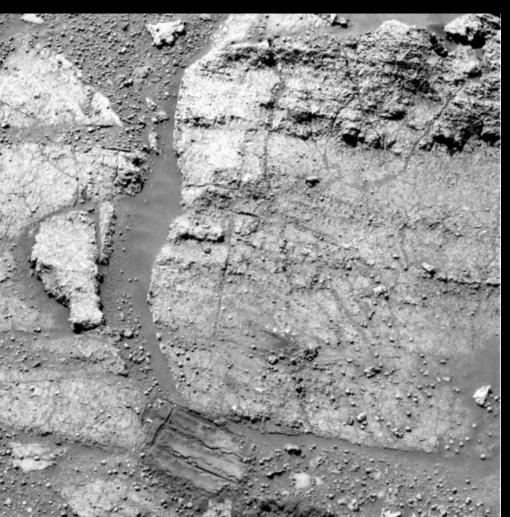


### Existence Navigation – Life is Ubiquitous, *absurdly common*, throughout the universe





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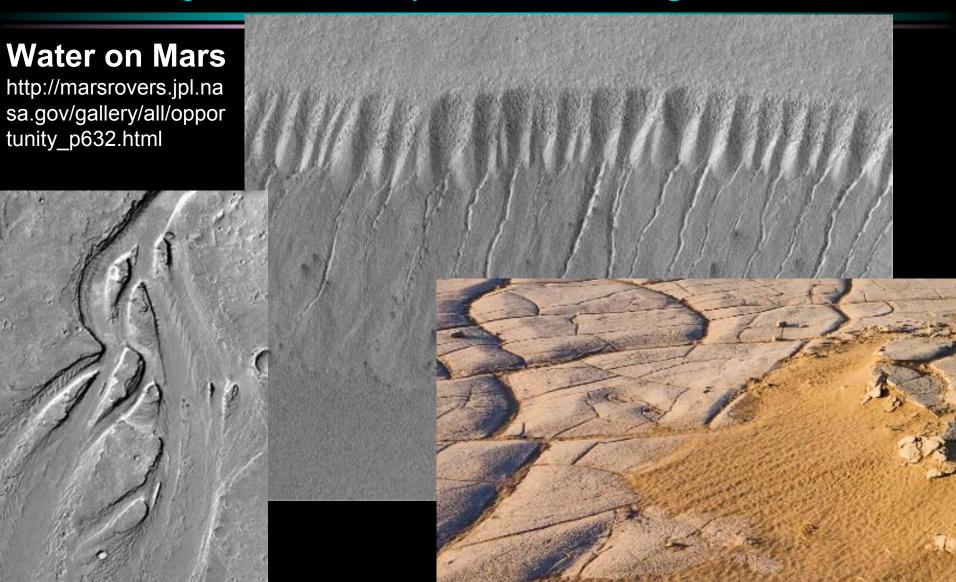


#### Water on Mars

http://www.space.com/ scienceastronomy/mar s\_microorganisms\_040 803.html



Life is Ubiquitous, absurdly common, throughout the universe



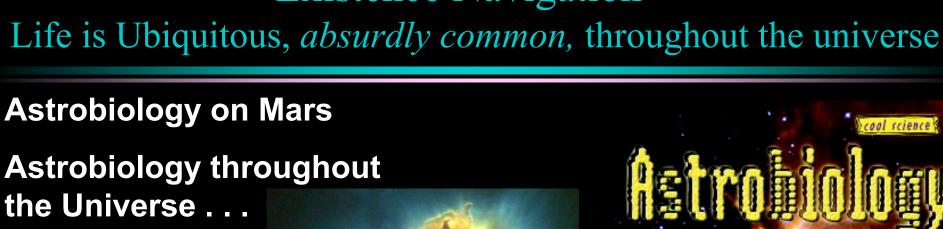
Life is Ubiquitous, absurdly common, throughout the universe

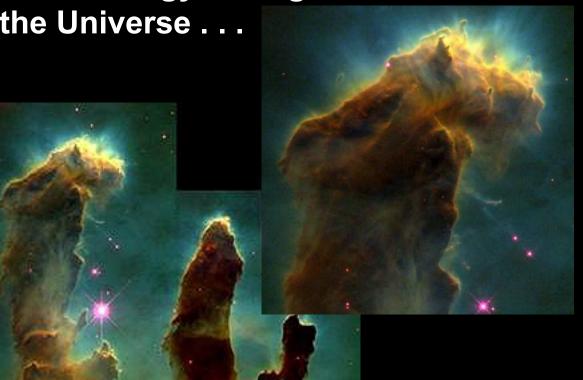
#### **Astrobiology on Mars**

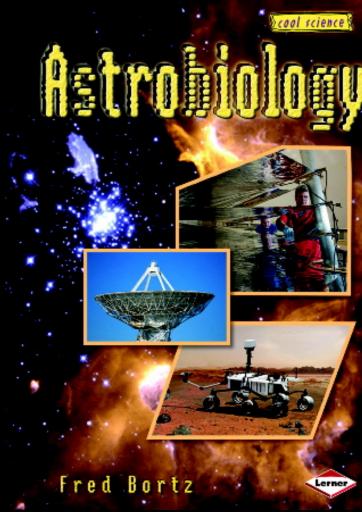
#### Astrobiology throughout the Universe . . .



- •What is life?
- •How did life arise on Earth?
- •What kind of environments can life tolerate?
- •How can we determine if life exists on other planets?
- •How often can we expect to find complex life?
- What will life consist of (DNA/Carbon based? Physiology?) on other planets?



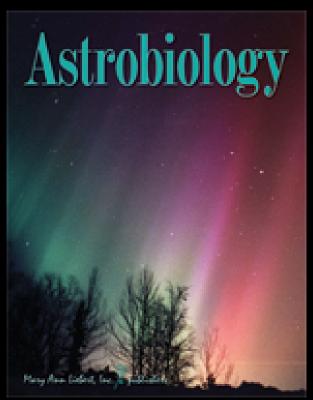


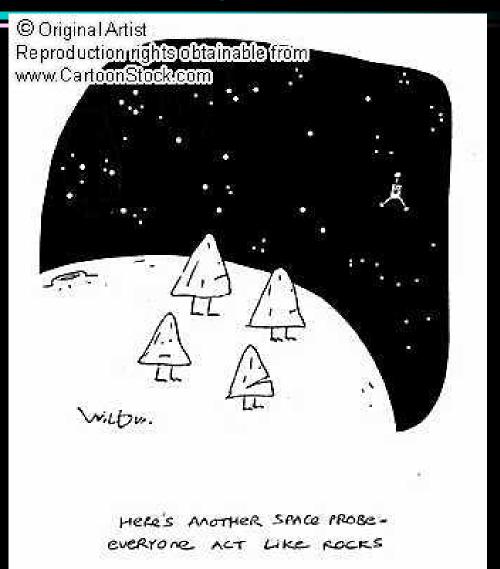


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**Astrobiology on Mars** 

Astrobiology throughout the Universe . . .



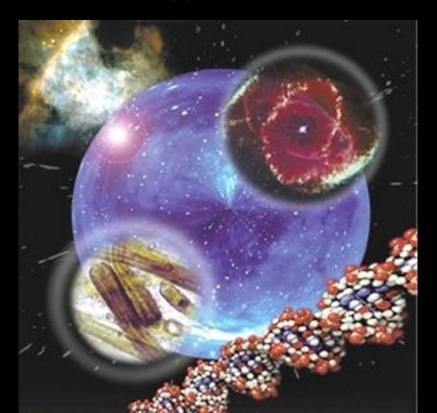


### Existence Navigation –

Life is Ubiquitous, absurdly common, throughout the universe

Astrobiology throughout the Universe . . .

**Astrobiology on Earth?** 





### Existence Navigation –

Life is Ubiquitous, absurdly common, throughout the universe

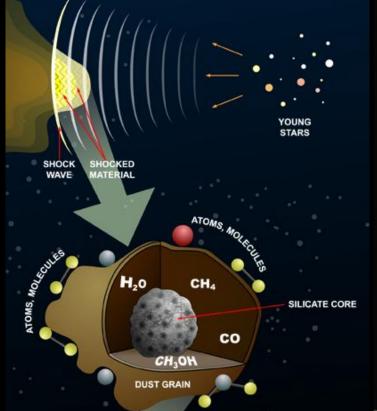


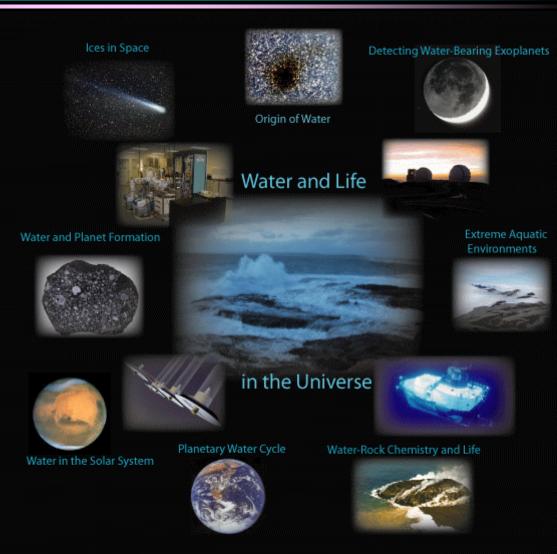
### Existence Navigation –

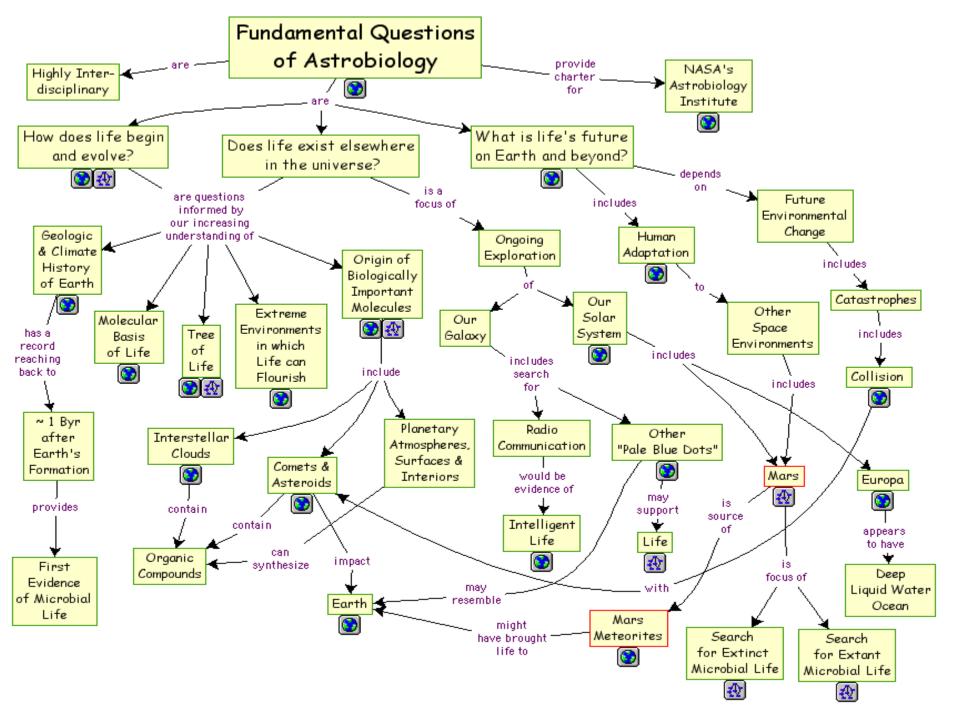
Life is Ubiquitous, absurdly common, throughout the universe

Astrobiology throughout the Universe . . .

**Astrobiology on Earth?** 

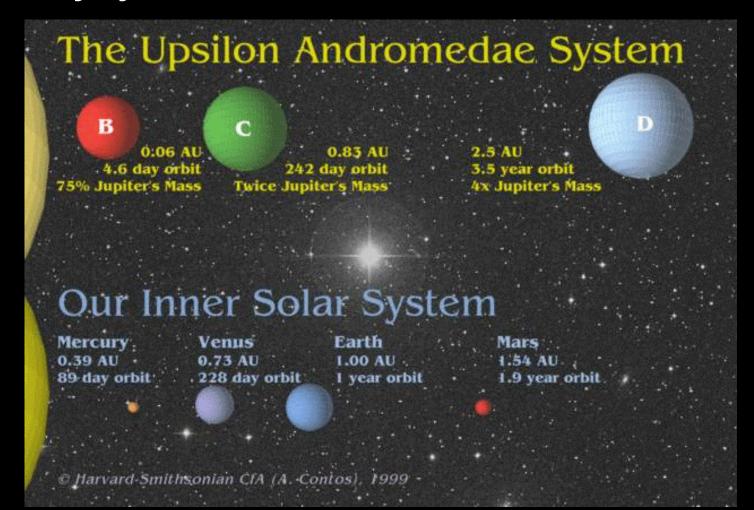


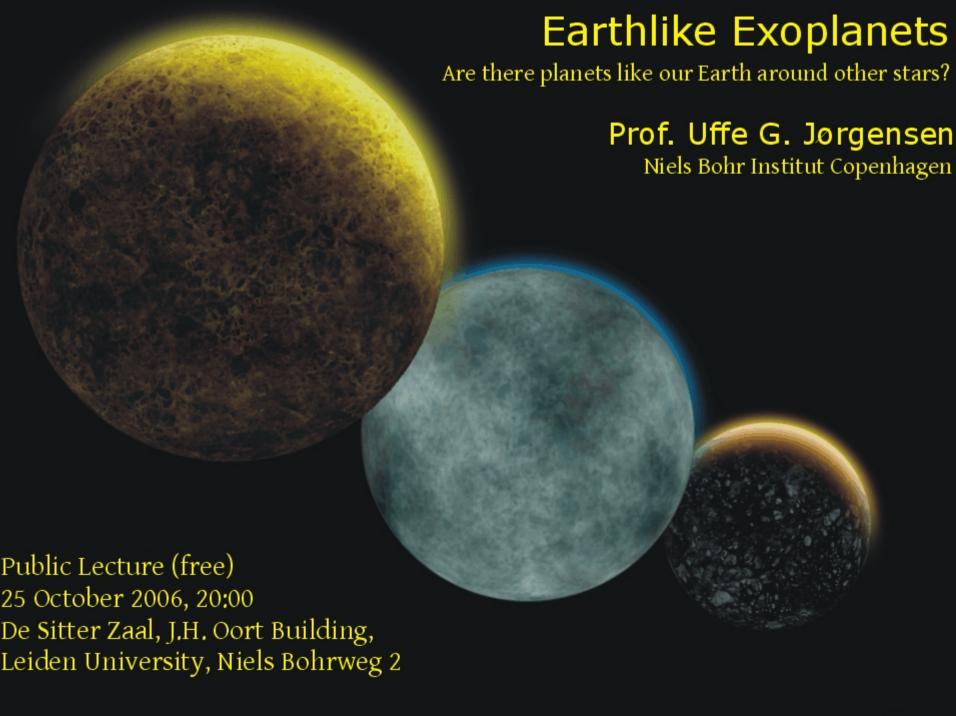




## Existence Navigation – Life is Ubiquitous, *absurdly common*, throughout the universe

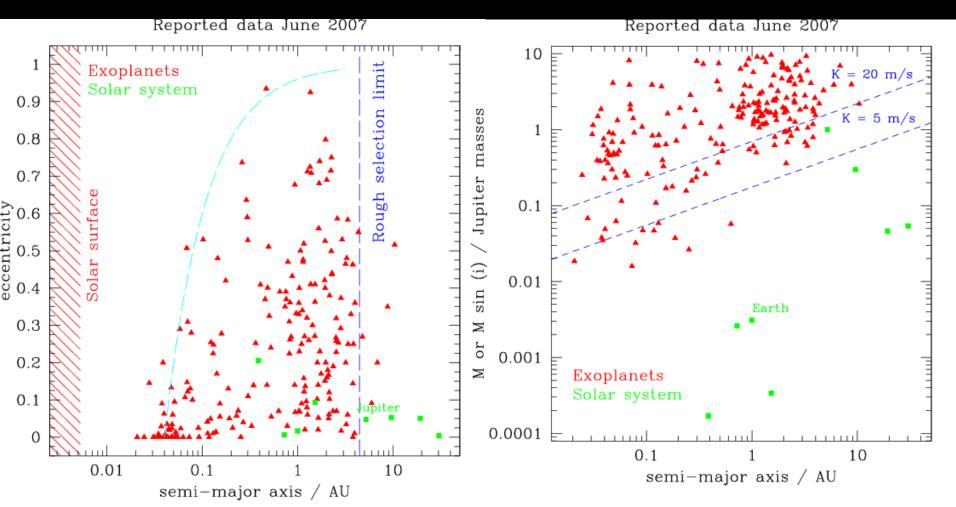
#### **Exoplanetary systems**





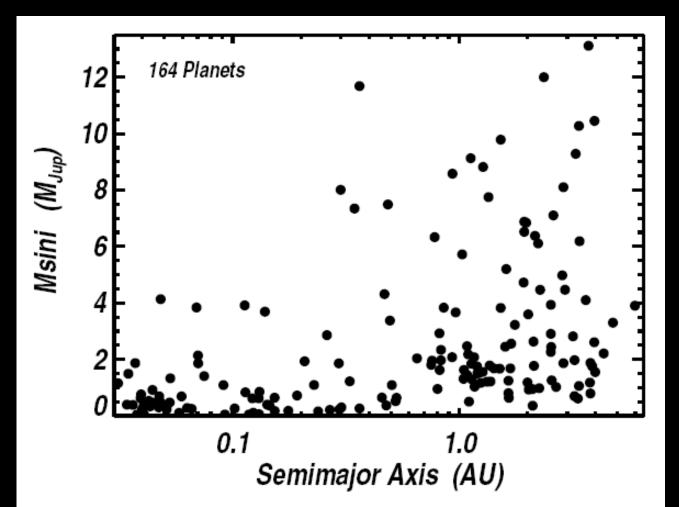
## Existence Navigation – Life is Ubiquitous, *absurdly common*, throughout the universe

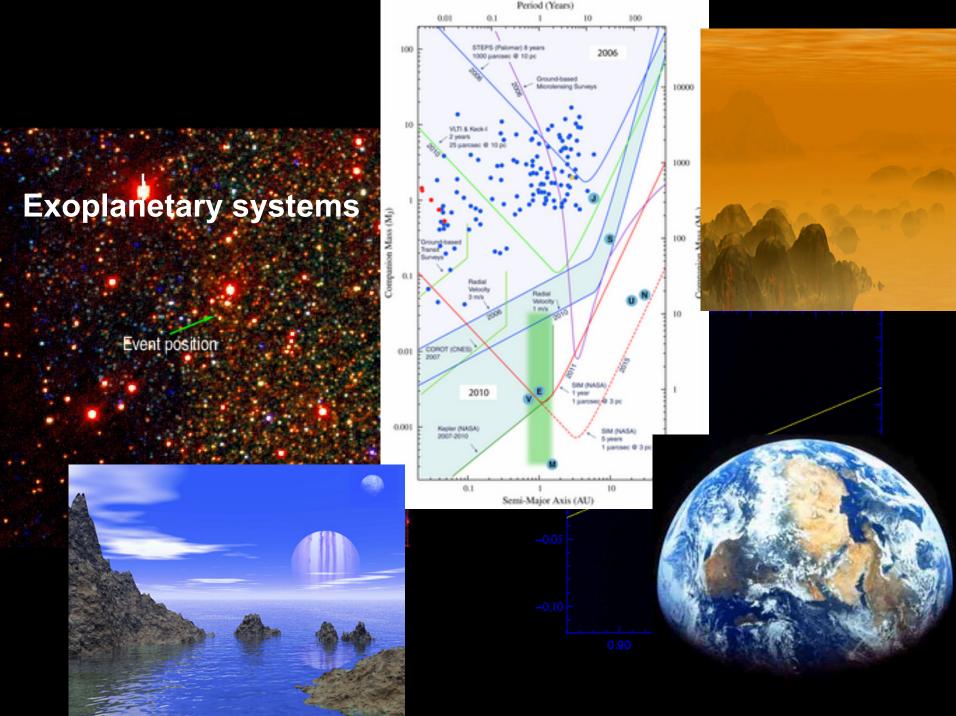
### **Exoplanetary systems**



## Existence Navigation – Life is Ubiquitous, *absurdly common*, throughout the universe

#### **Exoplanetary systems**



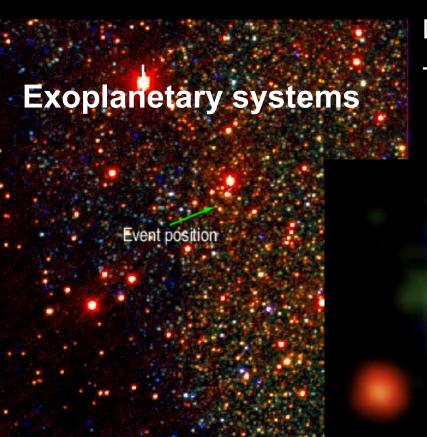


#### **Methods for discovering exoplanets**

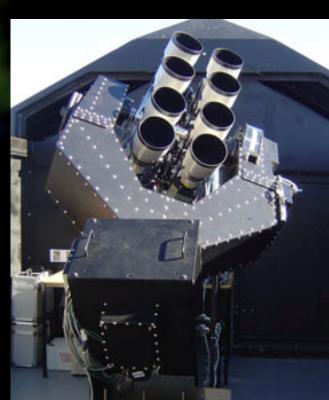
Wobbling stars: gravitational offset

Direct imaging: Infrared signature

Transit method: Optical occlusion







## Existence Navigation – Let us review, shall we?



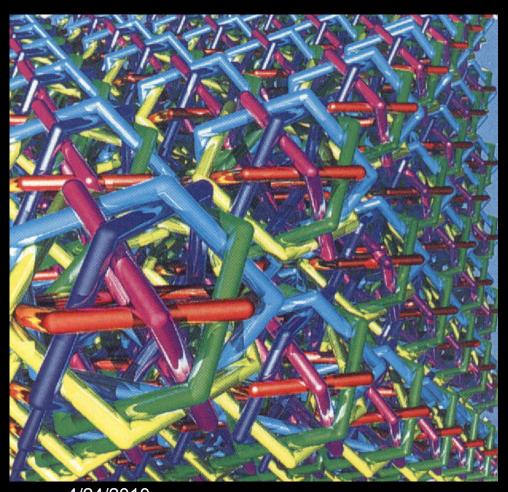
- Life bearing chemistries
- "Unexplained" DNA
- Astrobiology
- Exoplanets
- Accelerated evolution
- Faces of God . . .
- Visitation
- "Acts of God" redefined?
- Past History > Future History

## Existence Navigation – Let us review, shall we?

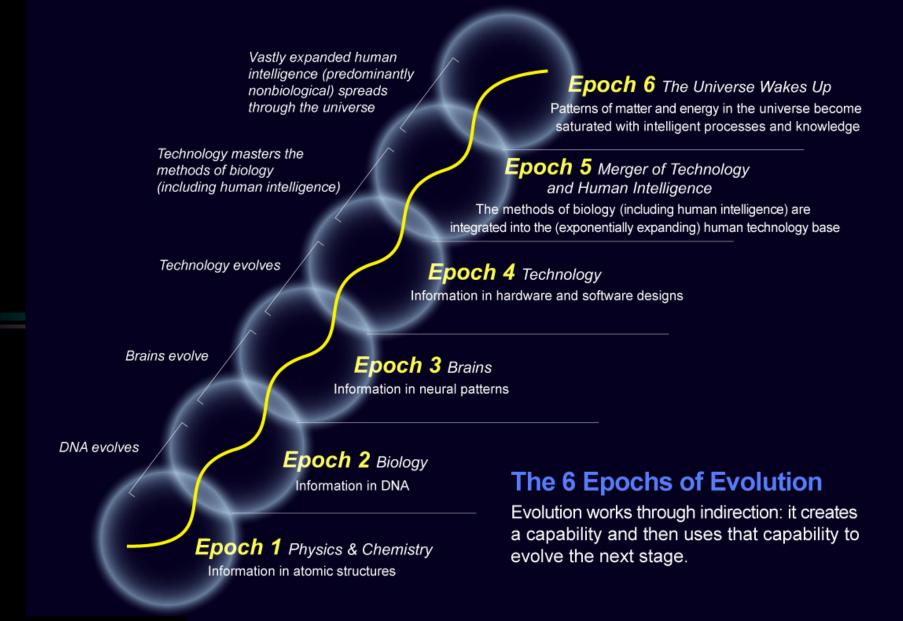


- Life bearing chemistries
- "Unexplained" DNA
- Astrobiology
- Exoplanets
- Accelerated evolution
- Faces of God . . .
- Visitation
- "Acts of God" redefined?
- Past History > Future History

### Michio Kaku Civilization Hierarchy



Type 0 fixed localized resources **Type 1** renewable planetary resources **Type 2** invulnerable to planetary phenomena **Type 3** interstellar travel **Type 4** wormholes – transdimensional access to multiple universes



## Singularity Paradigm

"The brain is complex enough to conjure fantasies of technotranscendence and also to foil their fulfillment"

-JOHN HORGAN





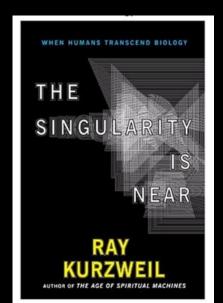
## What is the "Singularity"?

In the next few years or decades, humanity will become capable of surpassing the upper limit on intelligence that has held since the rise of the human species. We will become capable of technologically creating smarter-than-human intelligence, perhaps through enhancement of the human brain, direct links between computers and the brain, or Artificial Intelligence. This event is called the "Singularity"

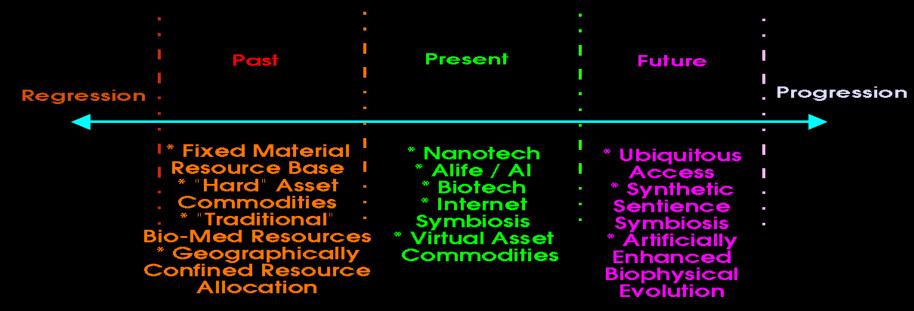
The

### Singularity Summit

http://sss.stanford.edu
http://www.singularity.org/



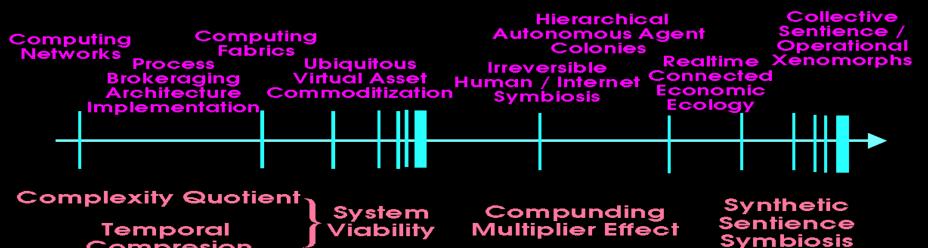
#### Technology Driven Socio-Anthropological **Evolutionary Threshold Domains**



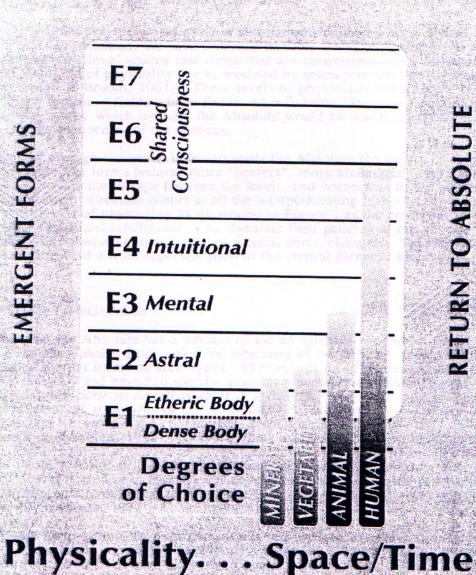
#### **Evolutionary Eventstream Seminal Markers**

Compresion

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**Threshold** 

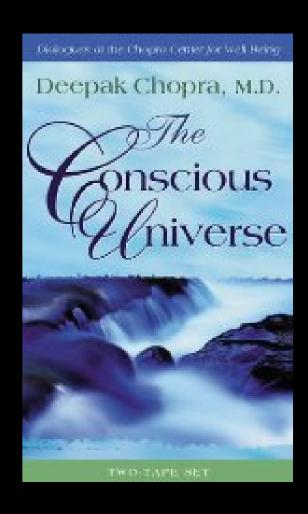


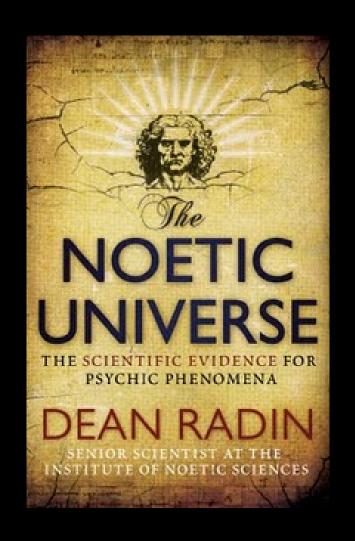
RETURN TO ABSOLU

Excerpted from: "Domain of Unbounded Potential – The Science of the Absolute"

> William Gough Dean Brown

### In the Beginning, there was . . .





### Cosmic Embryogenesis (in Three Easy Steps)

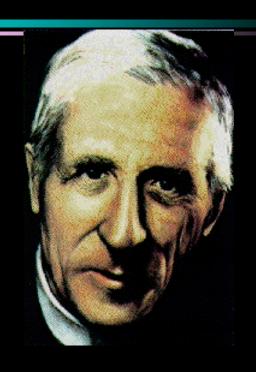
## Geosphere/Geogenesis (Chemical Substrate)



Biosphere/Biogenesis (Biological-Genetic Substrate)

## Noosphere/Noogenesis (Memetic-Technologic Substrate)

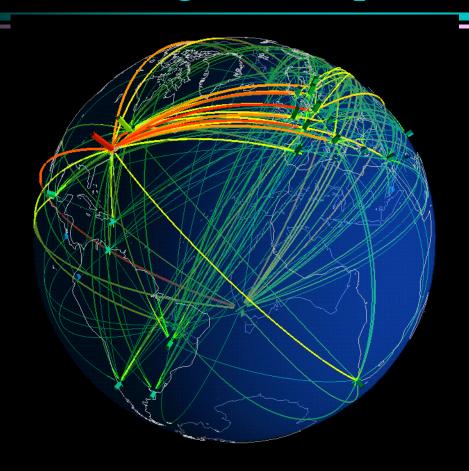
Le Phénomène Humain, 1955



Pierre Teihard de Chardin (1881-1955)

Jesuit Priest, Transhumanist, Developmental Systems Theorist

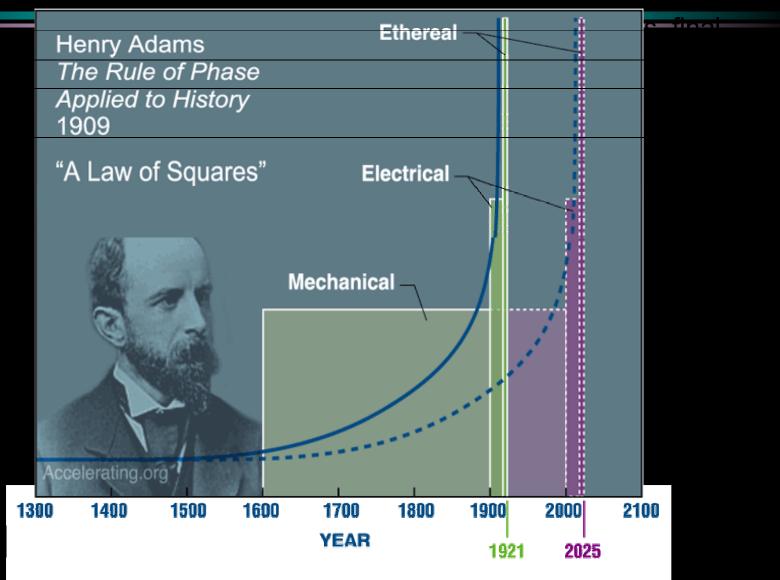
### De Chardin on Acceleration: Technological "Cephalization" of Earth



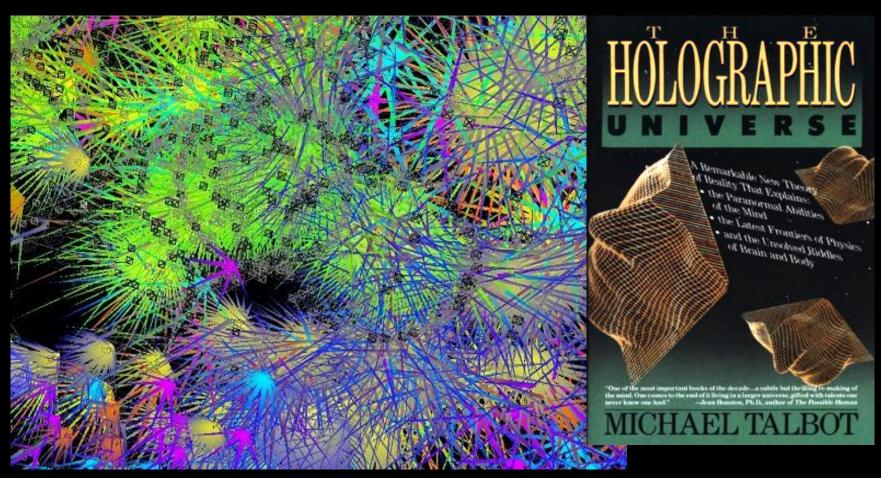
"NO ONE CAN DENY THAT A NETWORK (A WORLD ECONOMIC AND PSYCHIC AFFILIATIONS IS BEING EVER INCREASING SPEED WHICH ENVELOPS AND CONSTANTLY PENETRATES DEEPLY WITHIN EACH OF EVERY DAY THAT PASSES IT BECOMES A LITTLE MORE IMPOSSIBLE FOR US TO ACT THINK OTHERWISE THAN COLLECTIVELY."

"Finite Sphericity + Acceleration = Phase Transition"

## Henry Adams, 1909: Our First "Singularity Theorist"

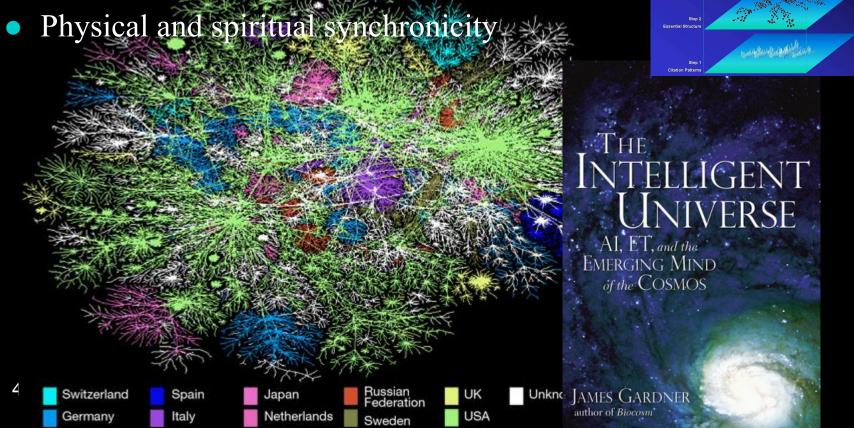


# Think Different – Think *Holographic*



# Think Different – Think Holographic

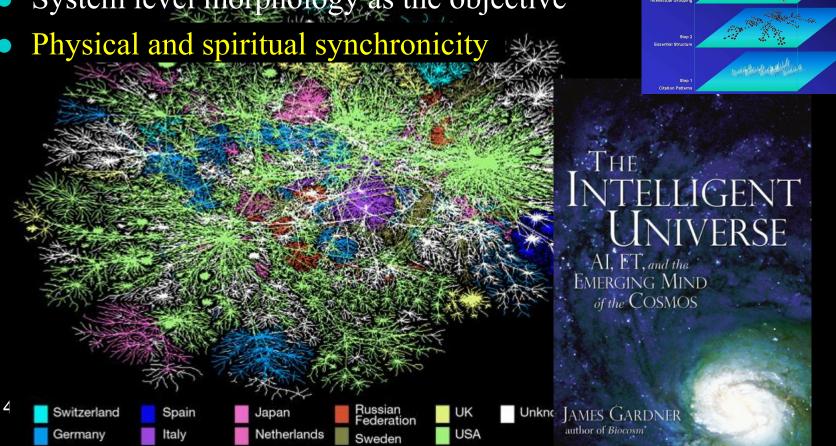
Transition from localized to non-localized cognition
 System level morphology as the objective



# Think Different – Think Holographic

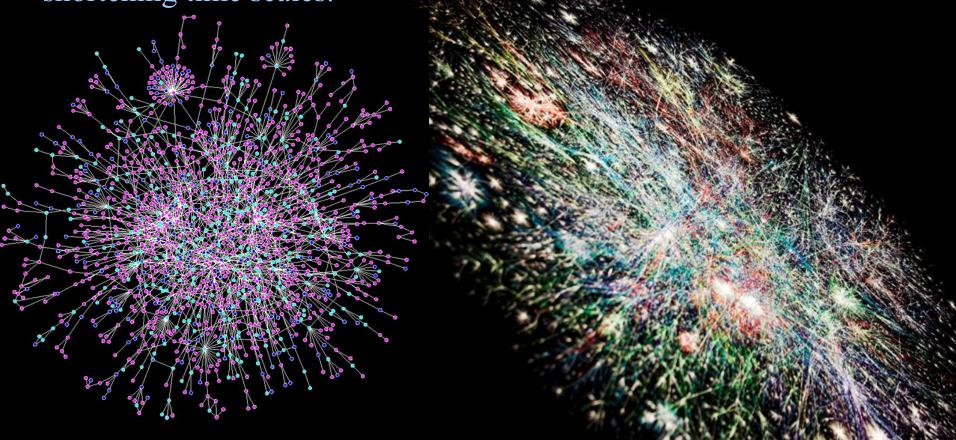
Transition from localized to non-localized cognition

• System level morphology as the objective



# Cultural Imperatives of the Evolutionary Eventstream - Emergent

• Knowledge complexity, scale, and velocity is exceeding human capacity for mission critical decision rendering compressed into ever shortening time scales.

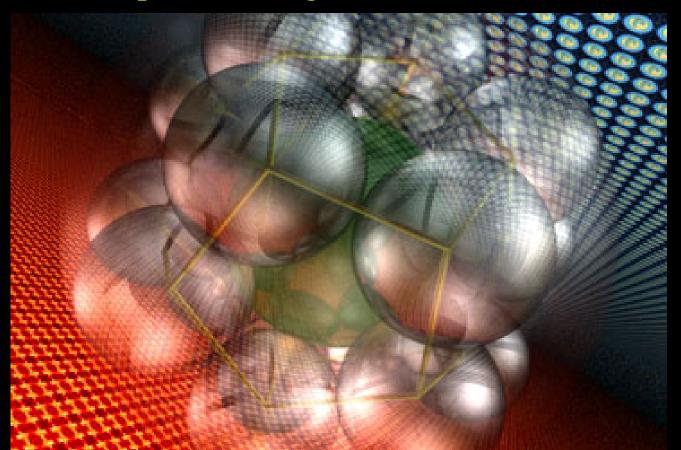


# Cultural Imperatives of the Evolutionary Eventstream - Emergent

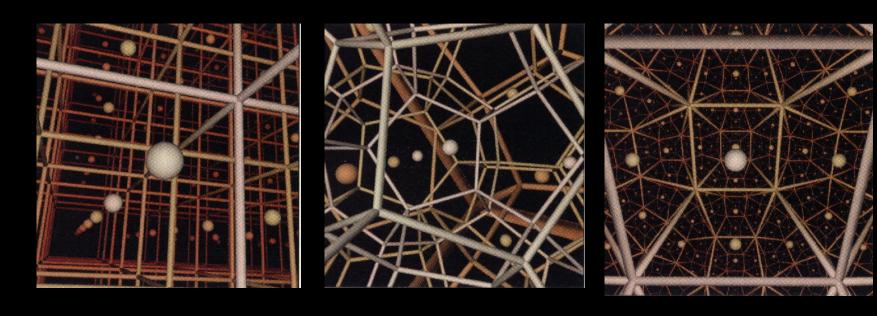
• Knowledge complexity, scale, and velocity is exceeding human capacity for mission critical decision rendering compressed into ever shortening time scales.



• Transition from 4D spatio-temporal cognition to ndimensional quantum cognition



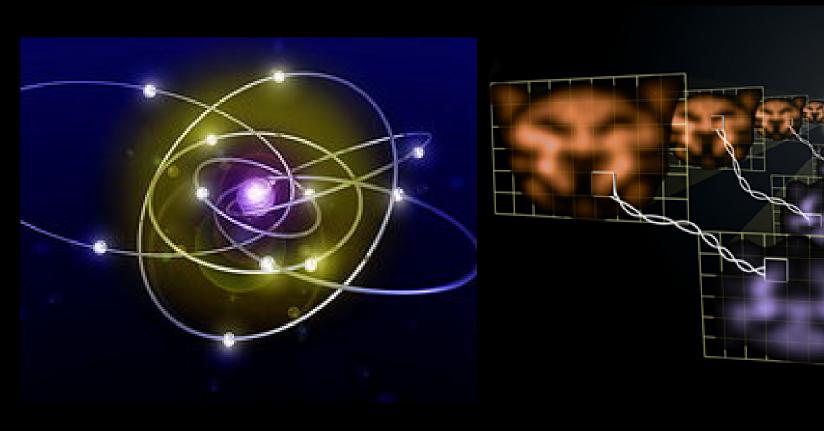
• Transition from 4D spatio-temporal cognition to ndimensional quantum cognition



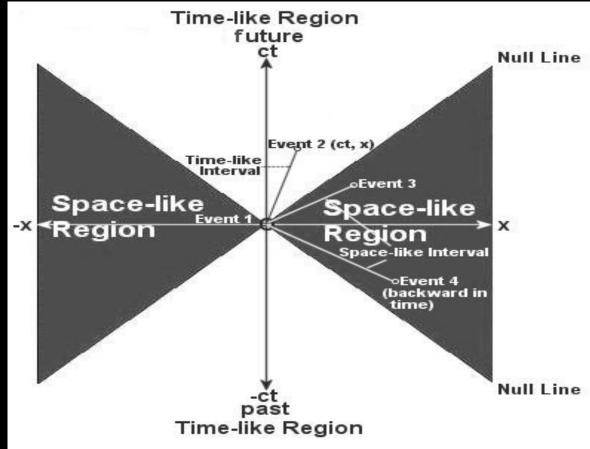
4D space / time

5D space / time . . . 8D space / time

• Transition from 4D spatio-temporal cognition to ndimensional quantum cognition



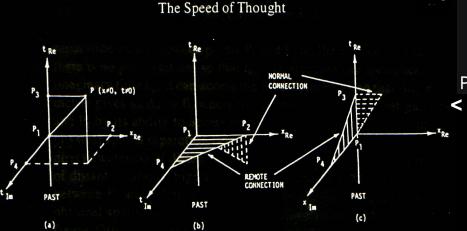
 Transition from 4D spatio-temporal cognition to ndimensional quantum cognition

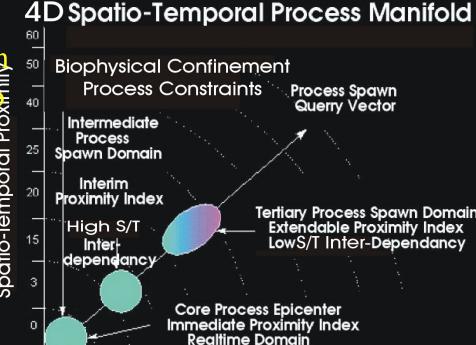


# 4D Spatio-Temporal Domain of Biophysical Confinement in Localized Phenomenological Causality Linkage vs 8D / ND Quantum Domain non-Locality Space-Time Metric

The Speed of Thought: Investigation of a Complex Space-Time Metric to Describe Psychic Phenomena Elizabeth Rauscher, Russell Targ

8D "complex Minkowski space"





Phenomenological / Causality Linkage Proximity Domains

0.6

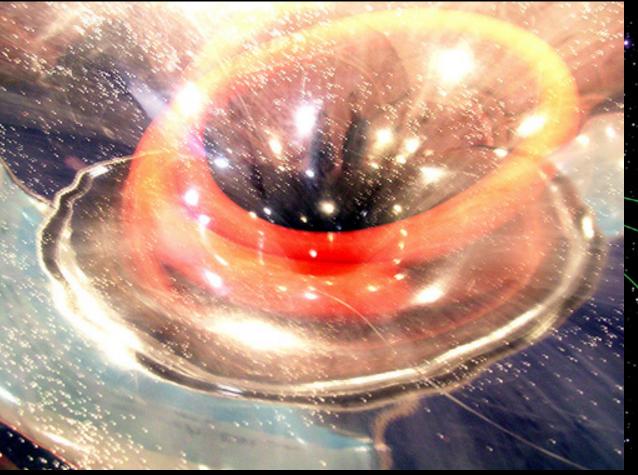
0.5

< 8D Precognitive perception domain model

0.9 0.8 0.7

- A spatio-temporal separation
- B spatially separated, temporally synchronous
- C temporally separated, spatially contiguous

• 11 D space / time continuum cosmology . . .



Special relativity

**Gravity wells** 

Gravity waves

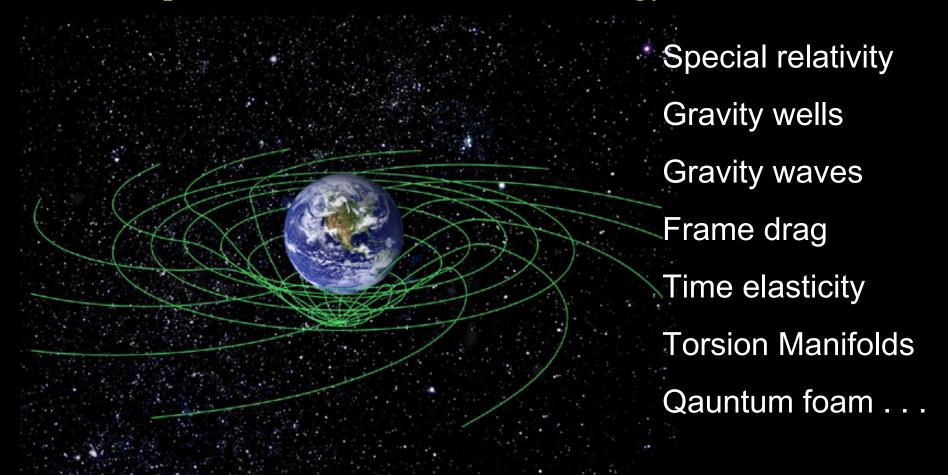
Frame drag

Time elasticity

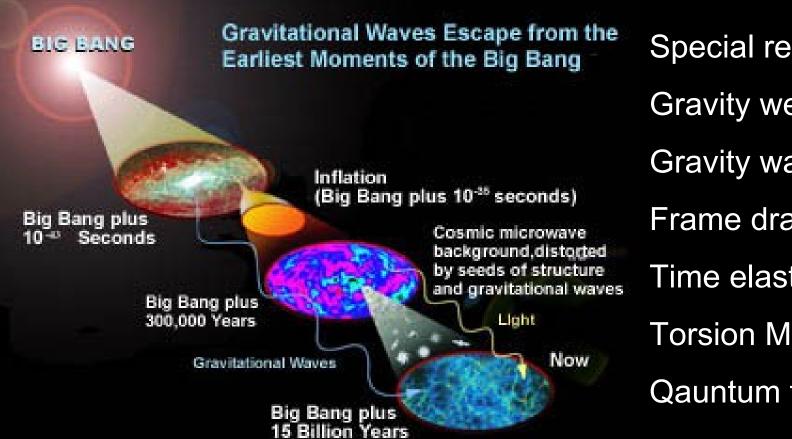
**Torsion Manifolds** 

Qauntum foam . . .

• 11 D space / time continuum cosmology . . .



• 11 D space / time continuum cosmology . . .



Special relativity

**Gravity wells** 

**Gravity waves** 

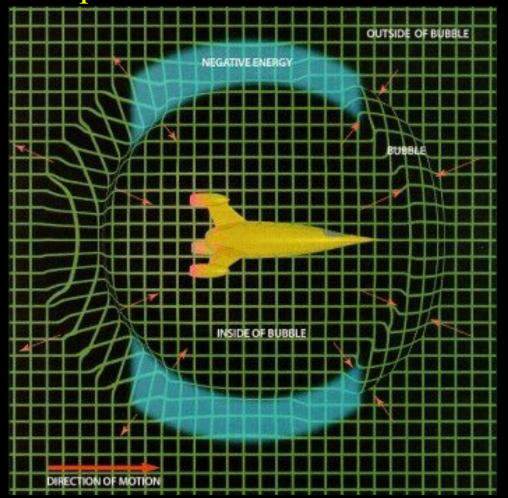
Frame drag

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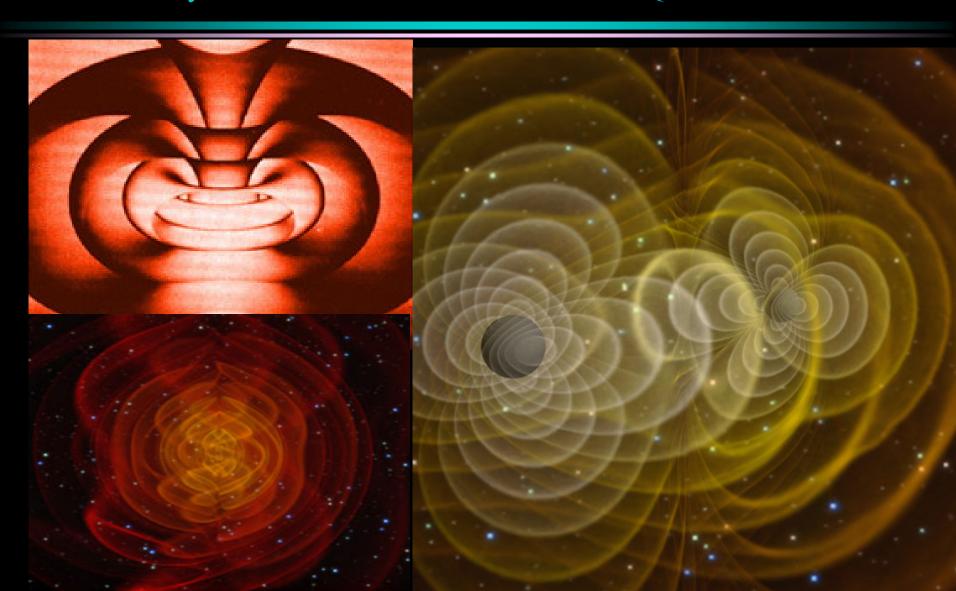
Frame drag

Time elasticity

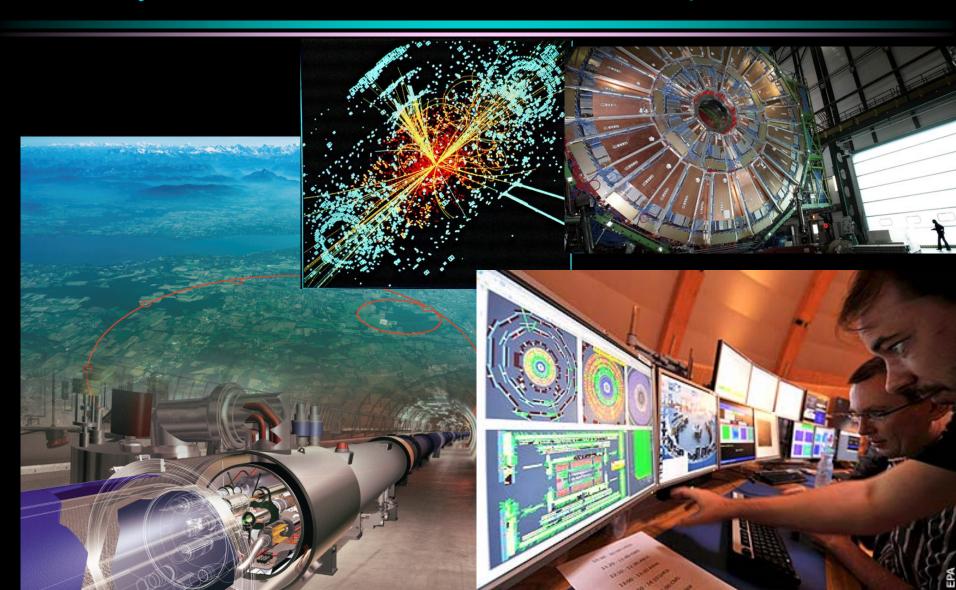
**Torsion Manifolds** 

Qauntum foam . . .

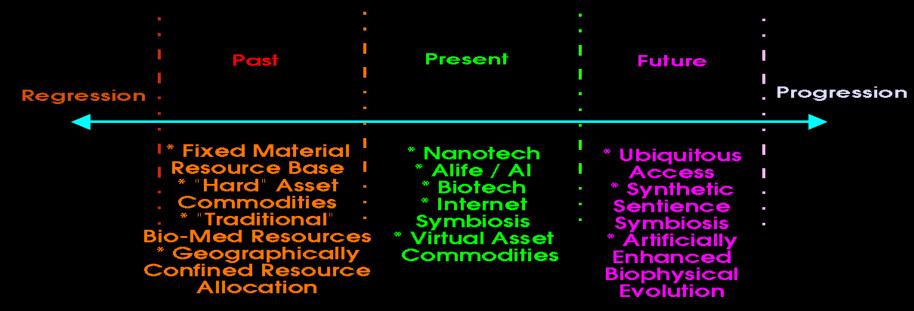
### 11D Cosmological Universe > Space-Time Metric Gravity Waves / Torsion Manifolds / ND Quantum Domain



### 11D Cosmological Universe > Space-Time Metric Gravity Waves / Torsion Manifolds / ND Quantum Domain



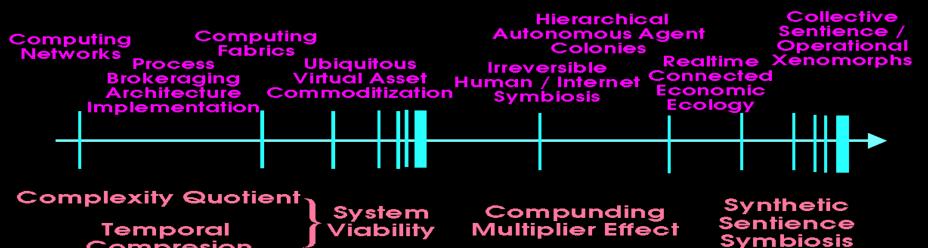
### Technology Driven Socio-Anthropological **Evolutionary Threshold Domains**



#### **Evolutionary Eventstream Seminal Markers**

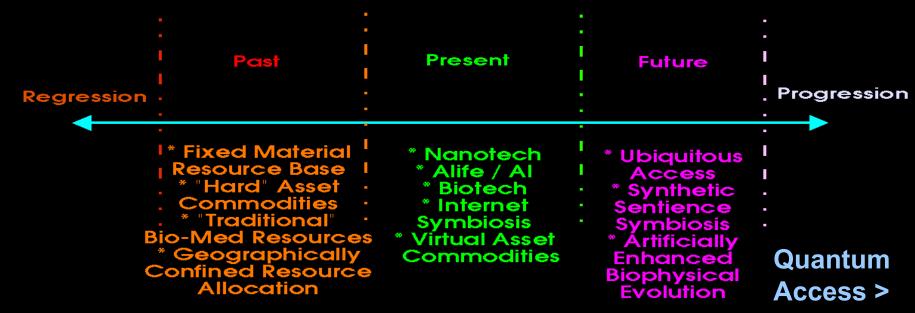
Compresion

Index

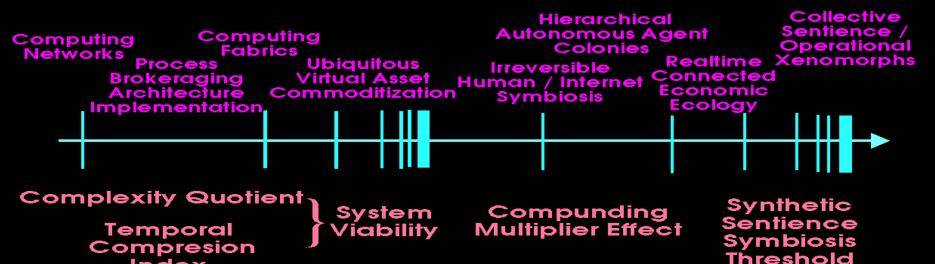


**Threshold** 

### Technology Driven Socio-Anthropological Evolutionary Threshold Domains

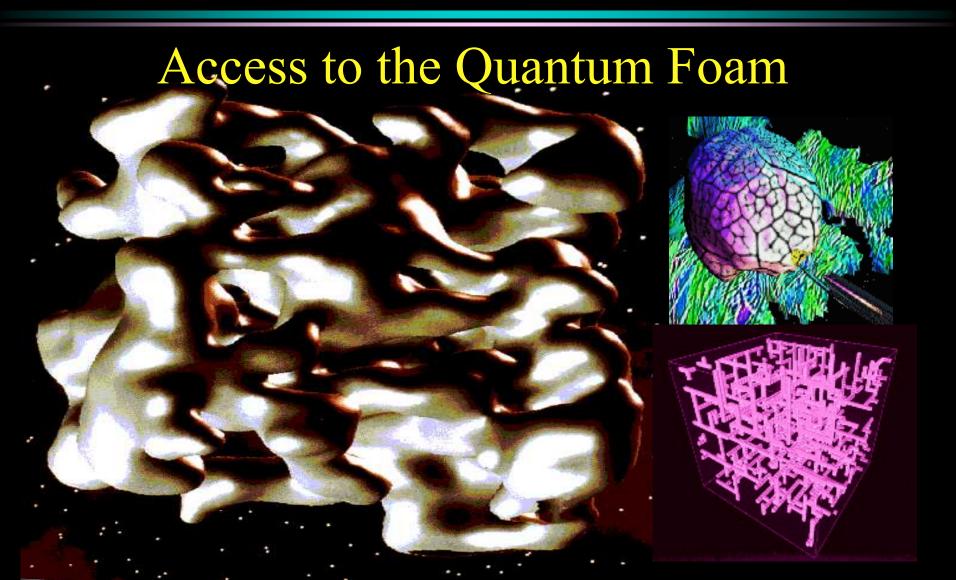


### **Evolutionary Eventstream Seminal Markers**



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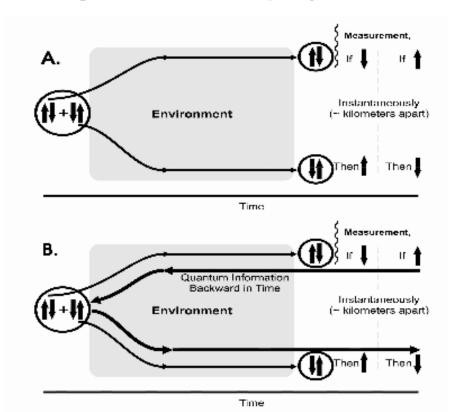
# The Next Evolutionary Eventhorizon Hybrid Forms of Consciousness -



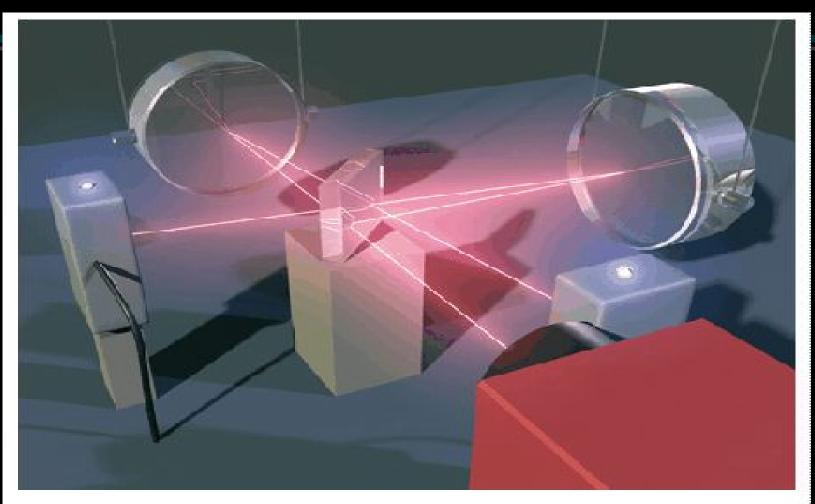


Quantum entanglement In the quantum world, particles/objects....

 Remain intimately connected when spatially separated (quantum entanglement – Einstein's "spooky action at a distance").



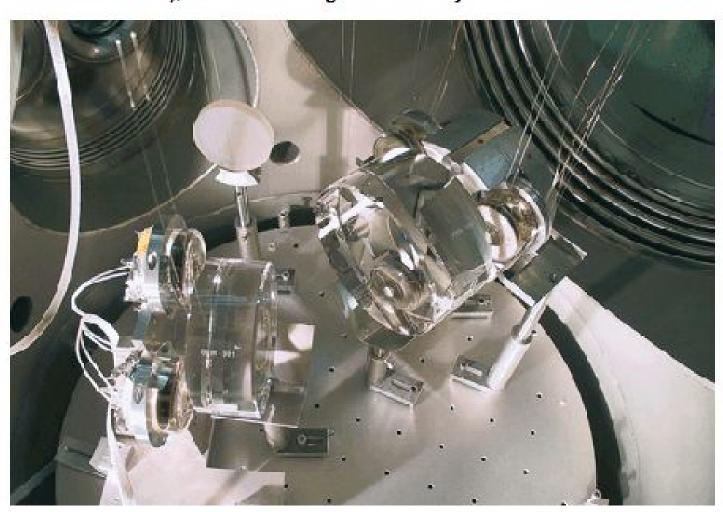
## Quantum Entanglement



A laser beam split by a semitransparent piece of glass entangles the mirrors and measures their motion.

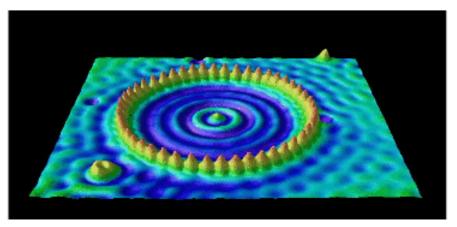
Graphic: A. Franzen, Albert Einstein Institute

The properties of one particle can determine those of another even though the two are miles apart and don't exchange any information. What appears to be a spooky phenomenon is what physicists call entanglement, and they have already observed it in small particles. Now Roman Schnabel, a professor at Leibniz University Hannover and at the nearby Max Planck Institute for Gravitational Physics (Albert Einstein Institute), aims to entangle two heavy mirrors.



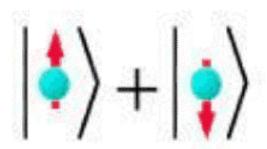
Quantum superposition
In the quantum world, particles/objects....

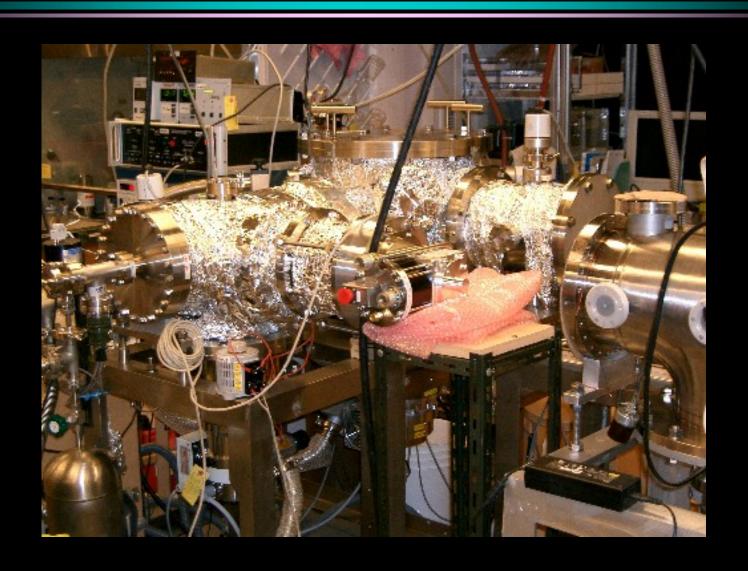
1) Behave like waves......

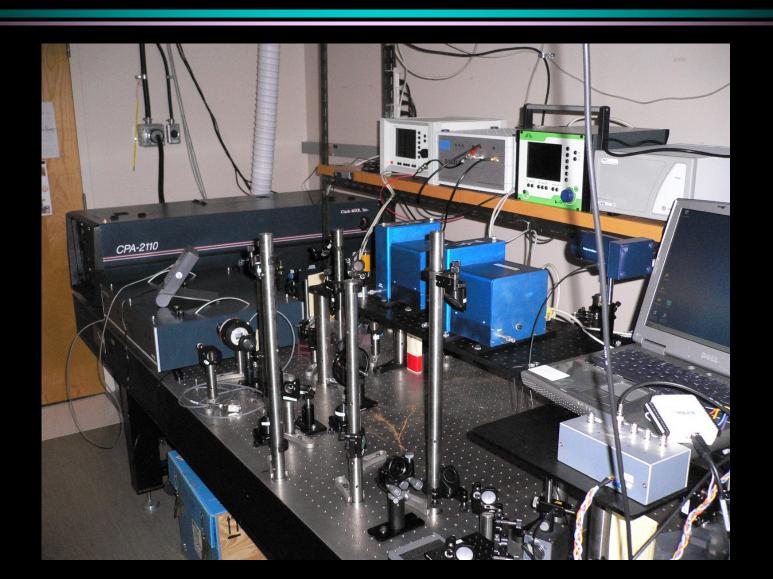


Exist in two or more locations or states simultaneously (quantum superposition),

Electron spin up and spin down

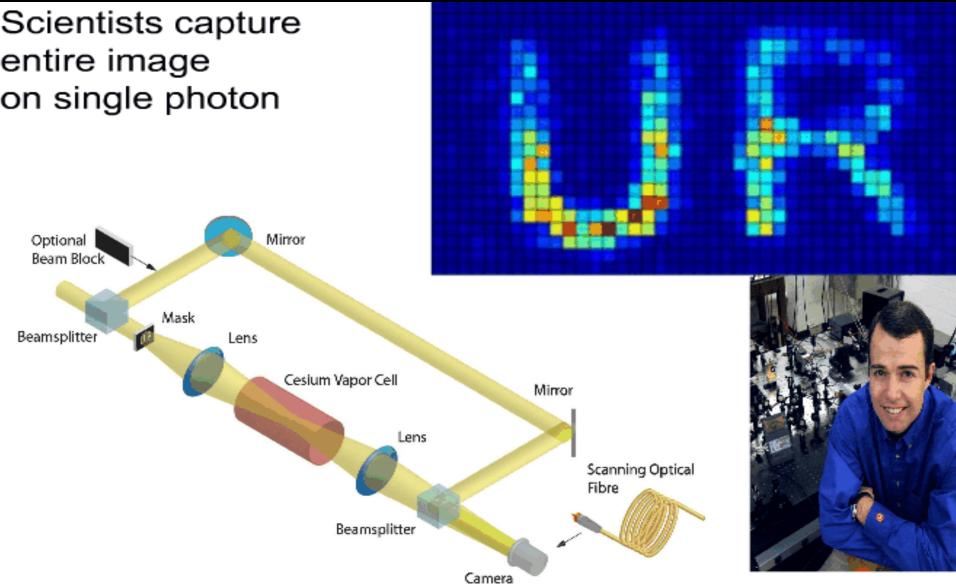






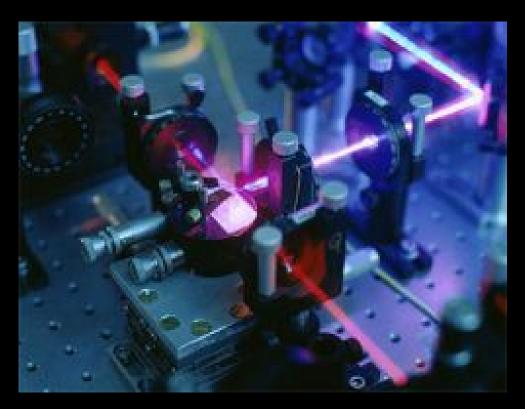
# Quantum access —

the next increment of n-dimensional evolution



# Quantum crypto — the next increment of secure system evolution

• All networks are vulnerable

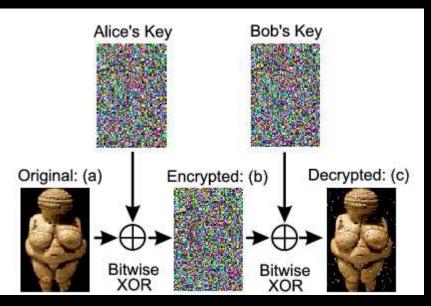


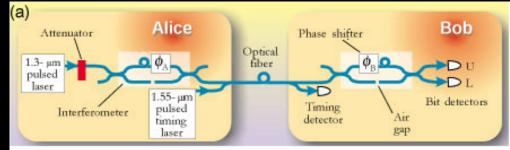


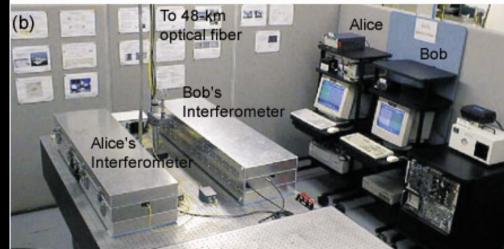
# Quantum crypto — the next increment of secure system evolution

• All networks are vulnerable









# Quantum Informatics . . . Quantum Encryption

From Computer Desktop Encyclopedia © 2005 MagiQ Technologies





# Quantum domain interaction – "delayed thought" vs perceived photon activity experiment

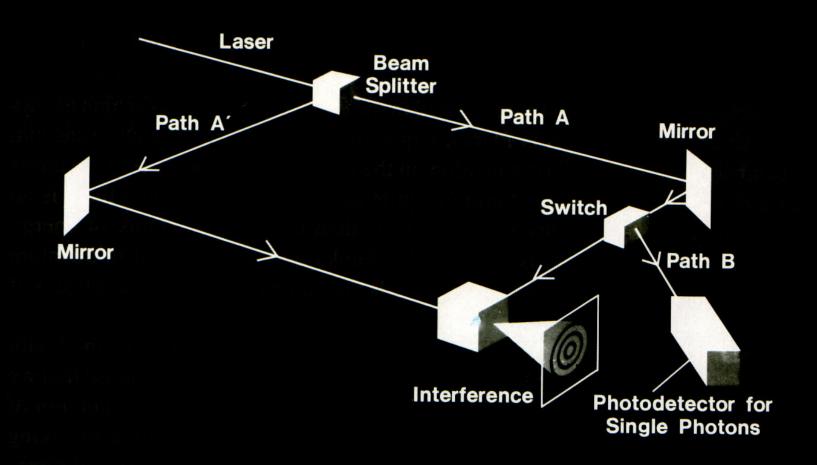
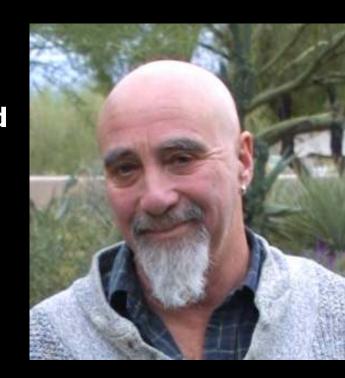


FIGURE 12. A delayed-choice experiment that has been carried out in the laboratory by groups at the University of Maryland and the University of Münich.

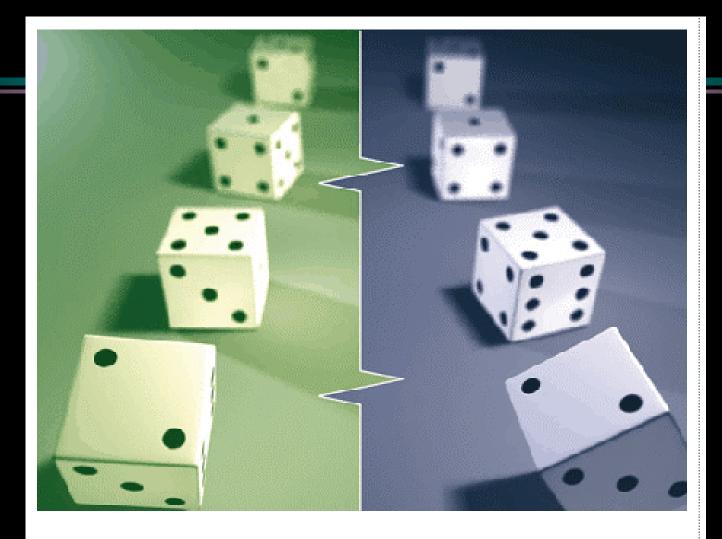
## Quantum Biology

**Quantum Biology** - An emerging field of study that focuses on the quantum properties of biological systems.

Neurons alone aren't sufficiently complex to explain consciousness and provide a computational model for thought – Dr Stuart Hameroff



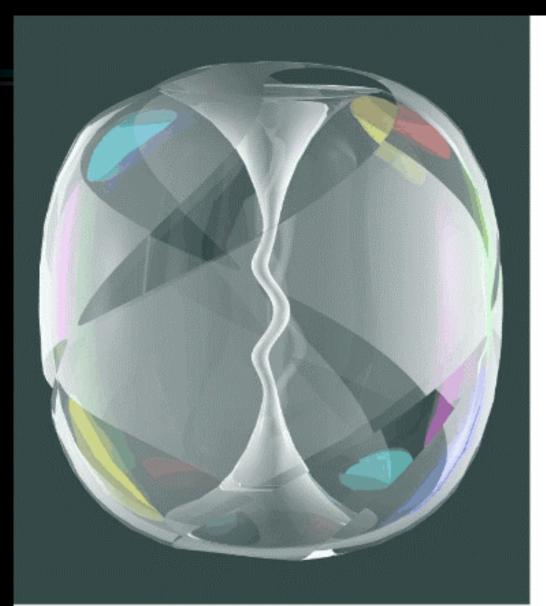
## Quantum Entanglement . . . In Biology



Two entangled dice would show random but always identical numbers (below).

Unlike dice, it should be possible to entangle two mirrors suspended on quartz threads (left).

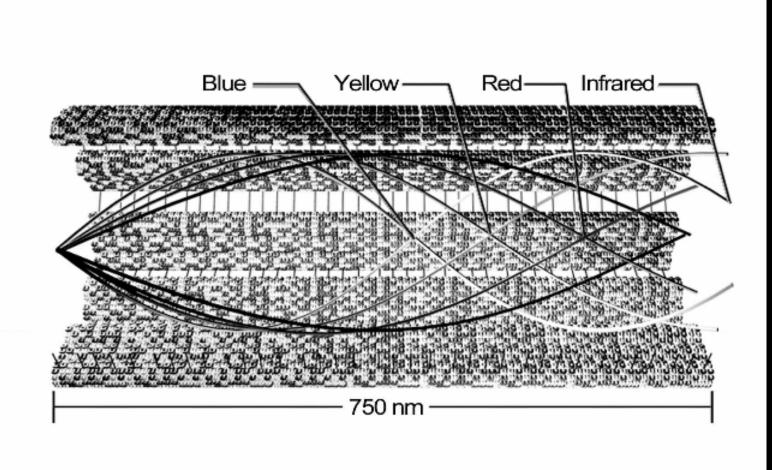
Graphic: A. Franzen, Albert Einstein Institute

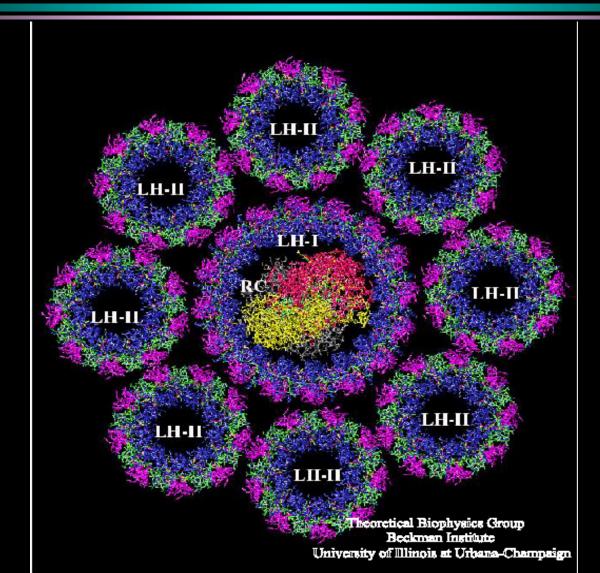


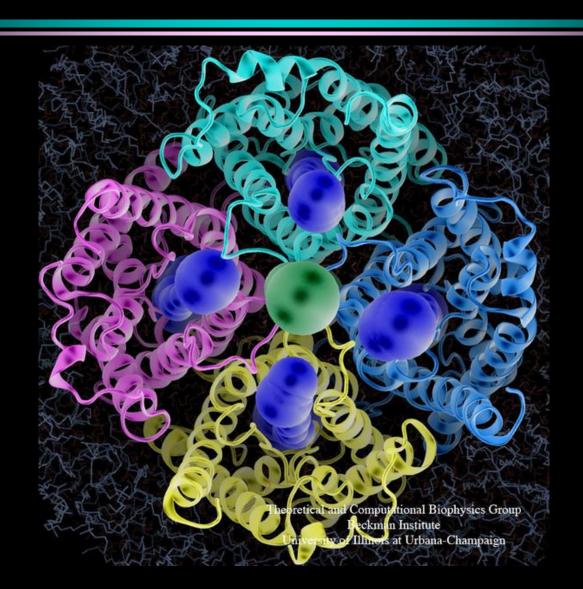
Each photon conveys not just frequency and wavelength, but also quantum information manifest in polarization, angular and orbital momentum.

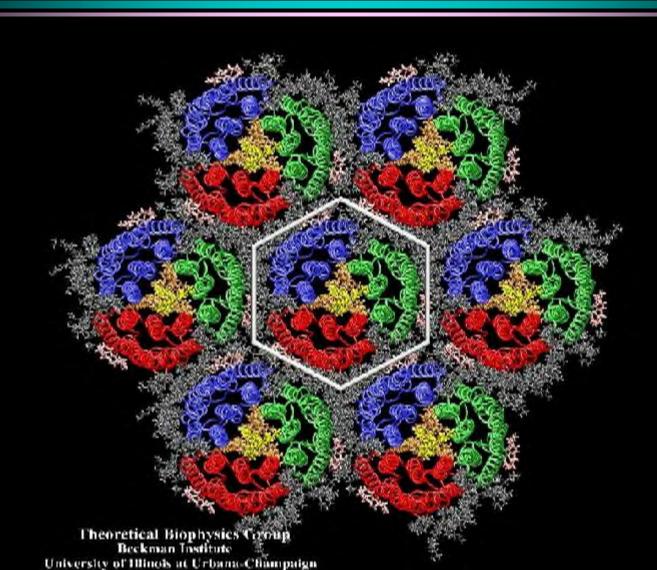
Can quantum information be extracted from photons in cilia?

Could such quantum information influence unconscious or conscious processes?

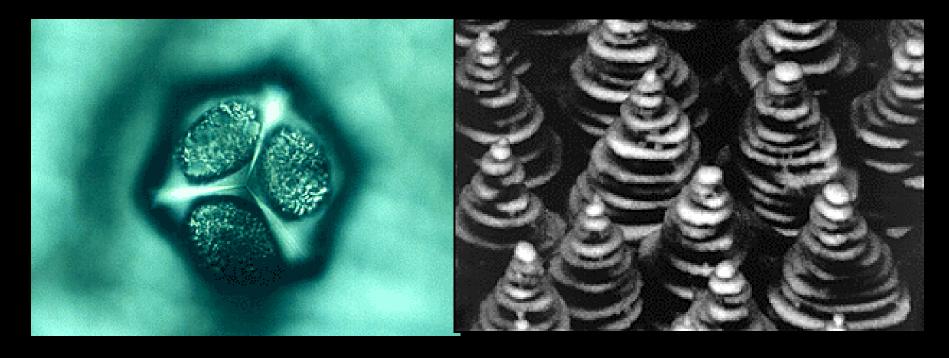








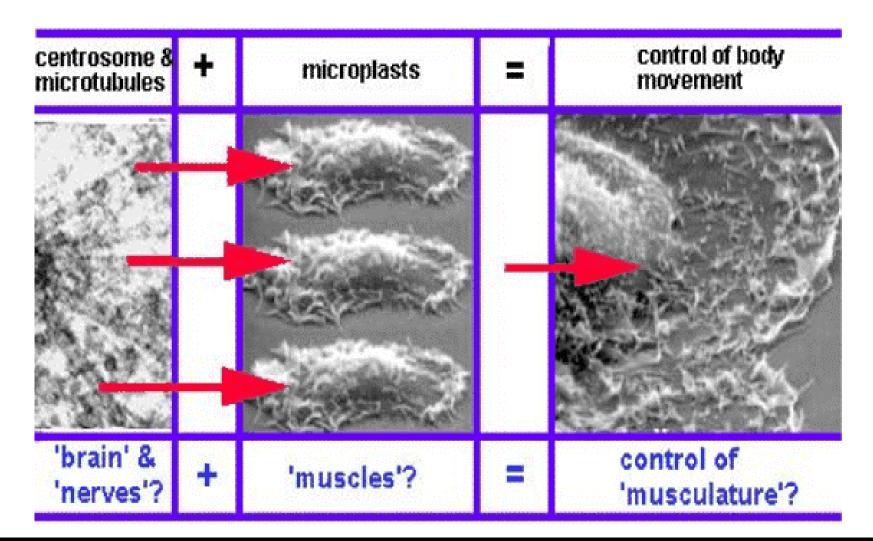
## Crystallized proteins Structural proteomic systems



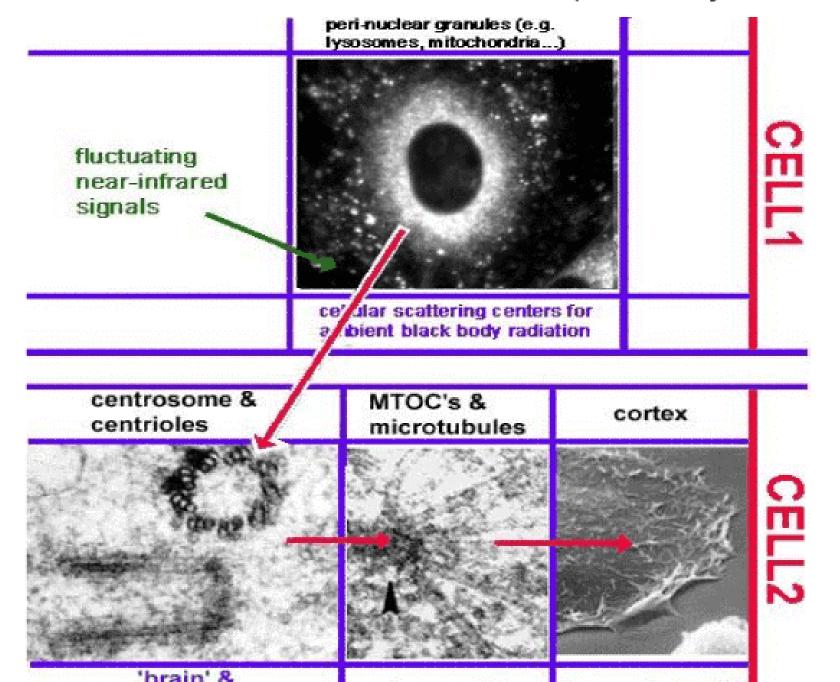
### CENTRIOLES AND CELL INTELLIGENCE Guenter Albrecht-Buehler, Ph.D. Northwestern University Medical School, Chicago

http://www.basic.northwestern.edu/g-buehler/cellint0.htm

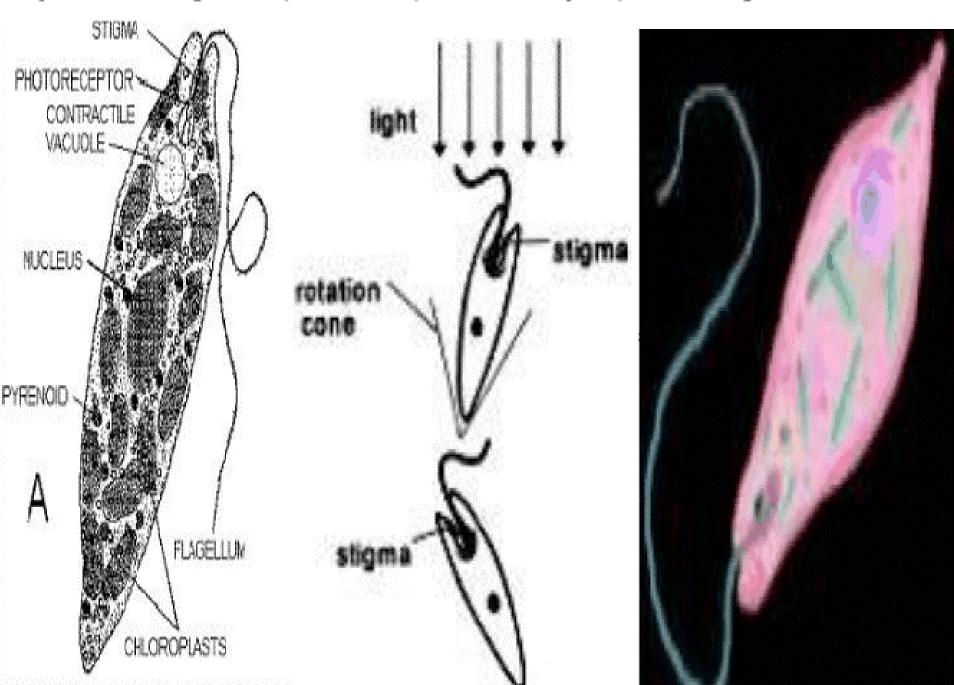
Cell movement is controlled through centrosomes and microtubules



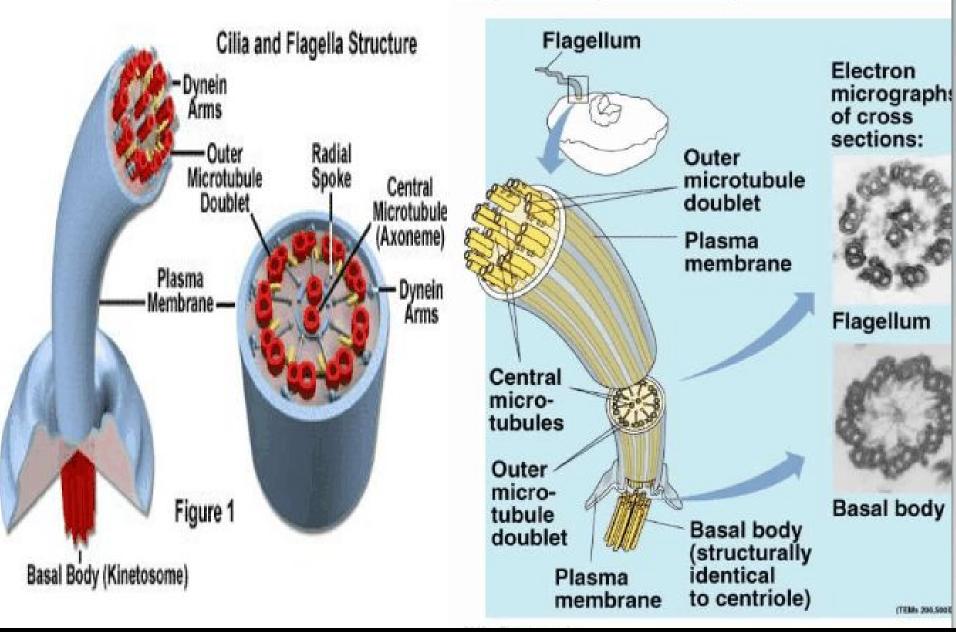
#### Albrecht-Buehler: Cells communicate via near infra-red perceived by centrioles



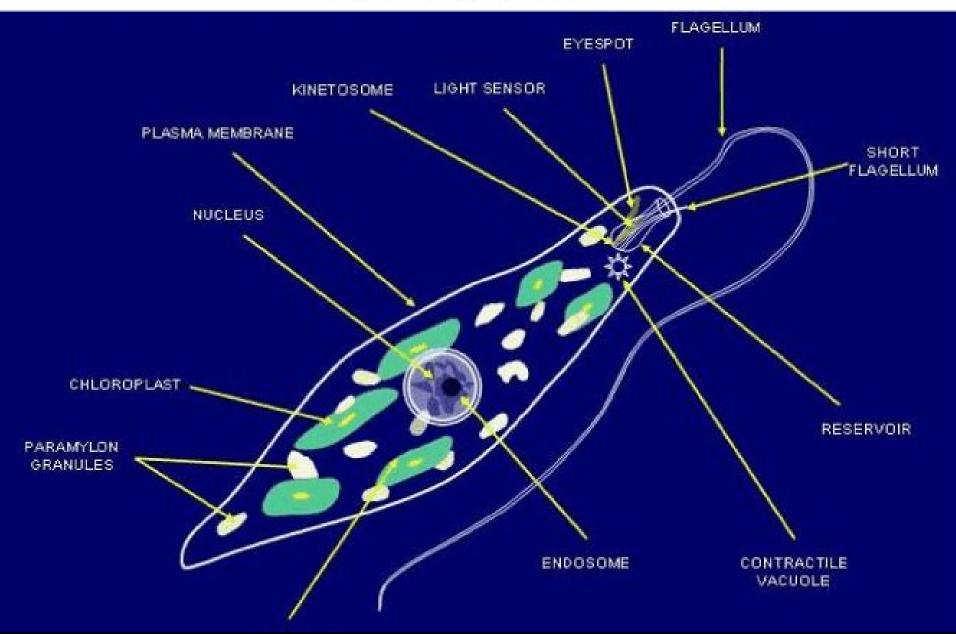
#### Adjacent to flagellum photoreceptor is the eye spot, or stigma

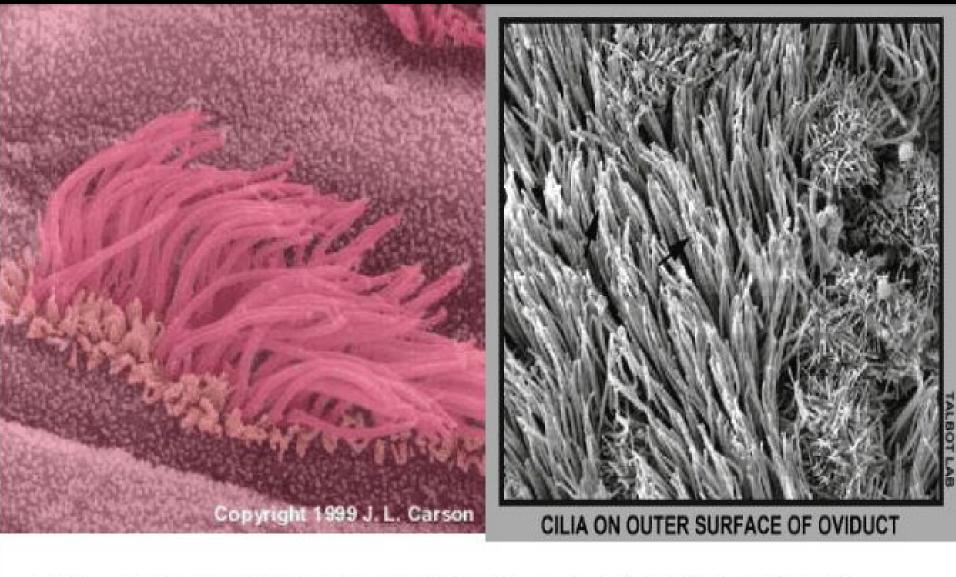


Flagella are structurally identical to cilia (short and "oar-like"), except they are single, and long and "whip-like".



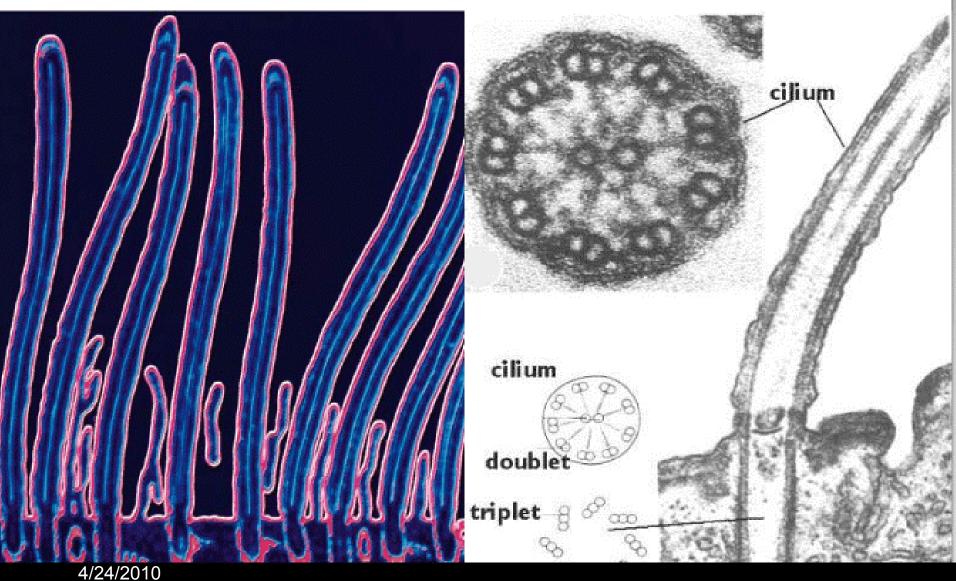
## Euglena viridis moves and navigates to light mediated through its short flagellum and eyespot



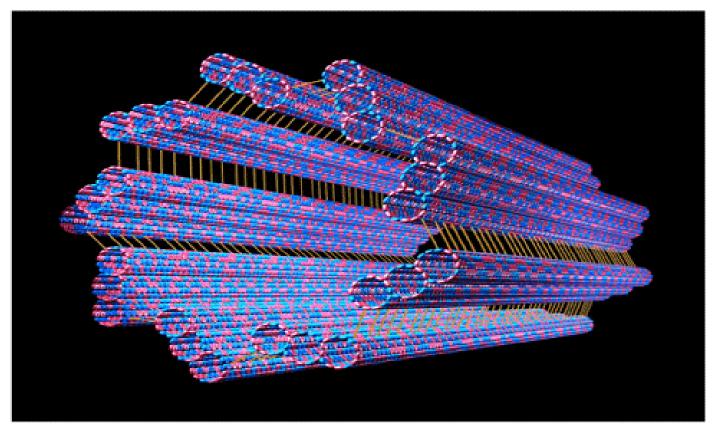


Cilia are found throughout biology, e.g.extending outward from cell surfaces, cooperatively moving, waving and functionally propelling materials or the cell itself

Cilia extending out of the cell are membrane-covered. Internal cilia structure is a cylinder whose walls are 9 doublets (or triplets) of microtubules with a central microtubule pair...this is known as "9&2" structure

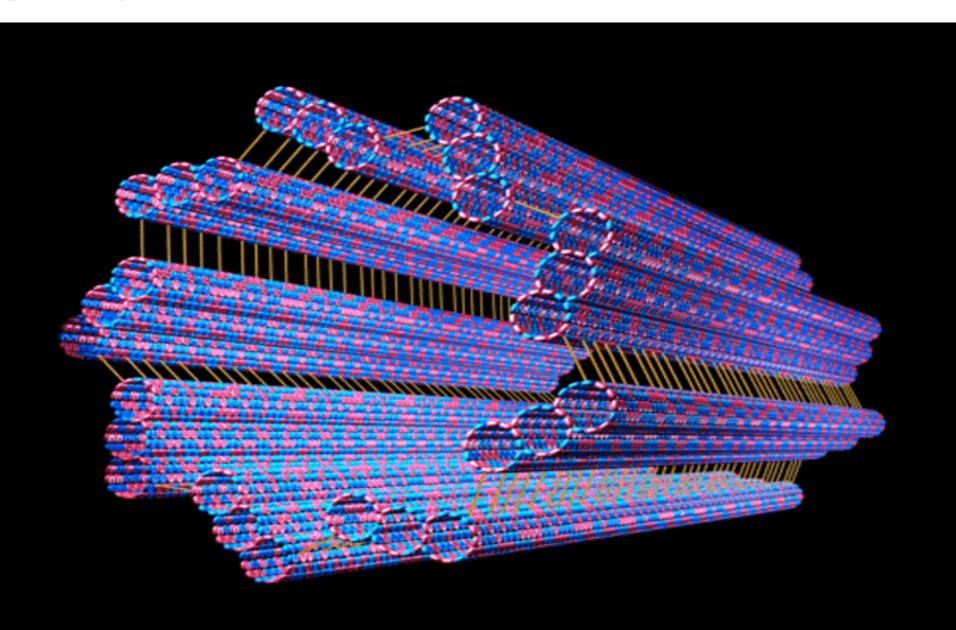


### Cilia in Vision and Consciousness

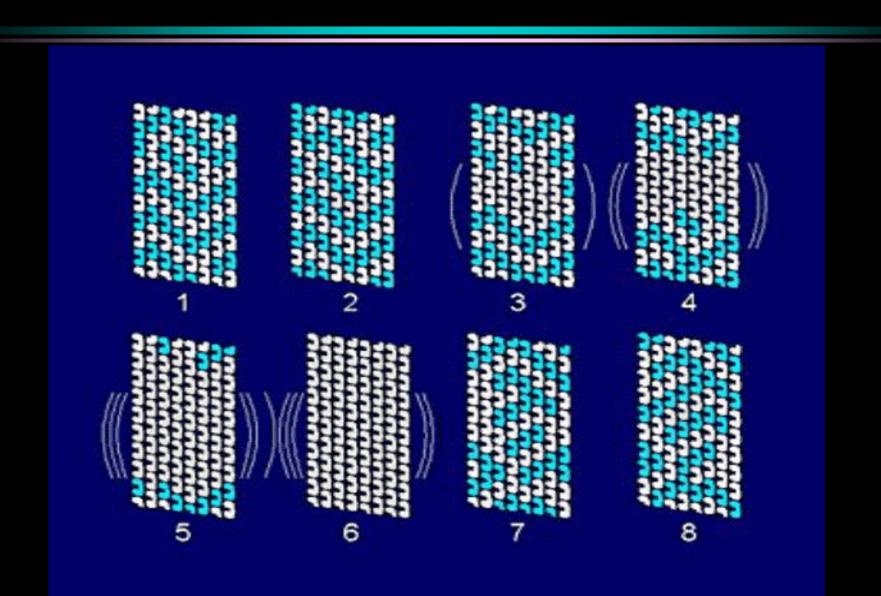


Stuart Hameroff M.D.

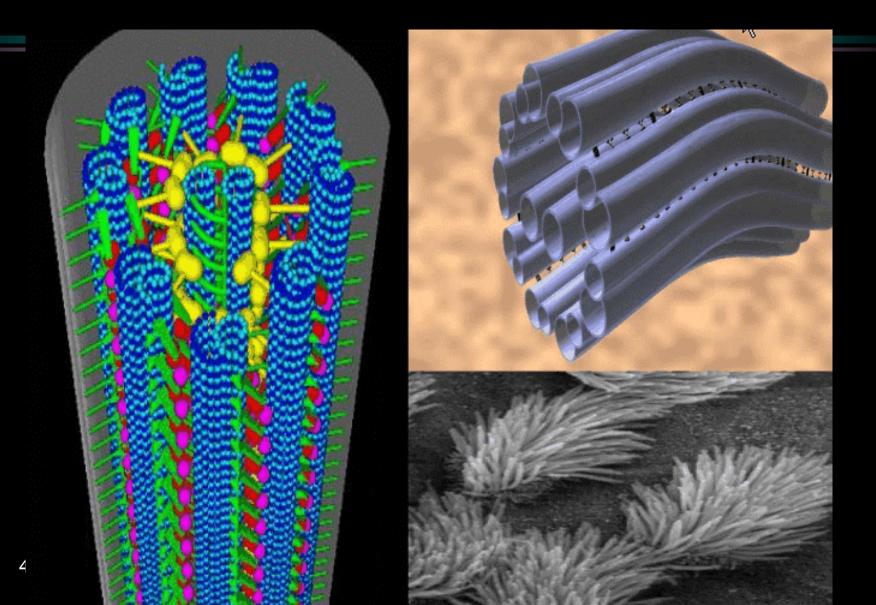
Professor Emeritus, Anesthesiology and Psychology Director, Center for Consciousness Studies The University of Arizona www.consciousness.arizona.edu/hameroff Sensory cilia (including those in retina) lack the central pair, and generally do not bend

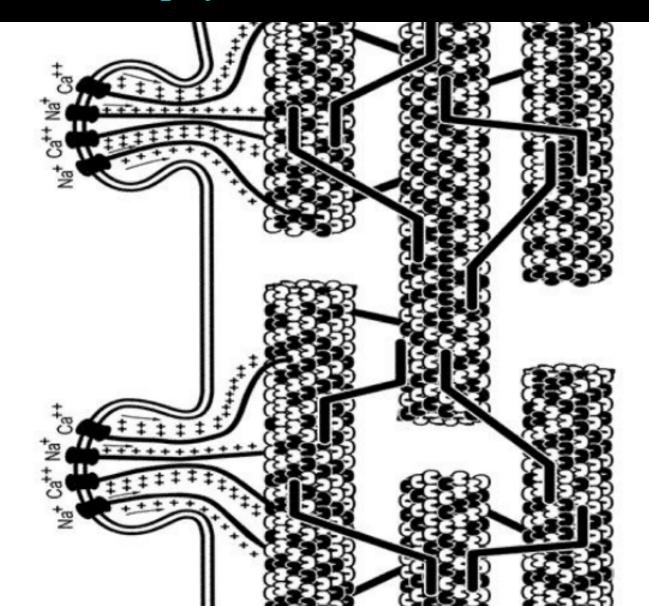


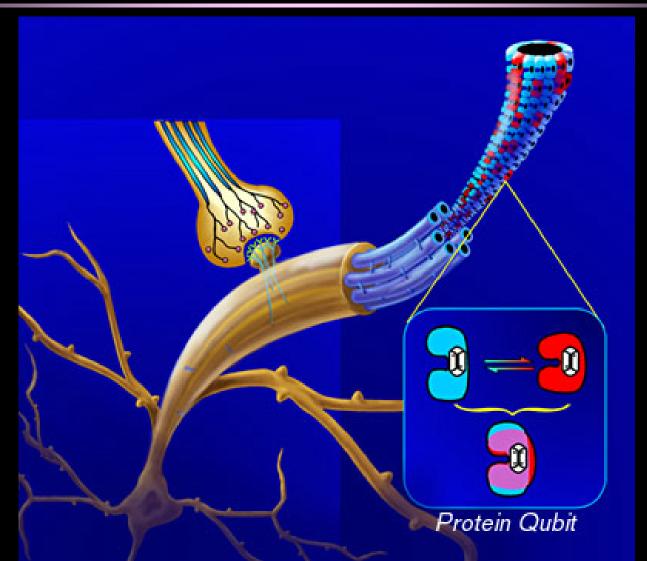
### Quantum / biophysical interaction – theoretical models



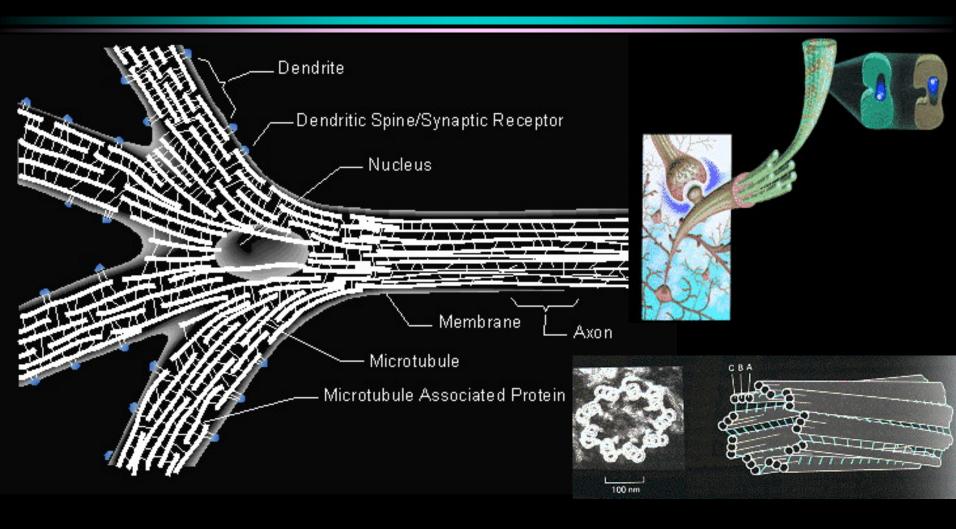
### Quantum / biophysical interaction – theoretical models







### Quantum / Biophysical – Microtubulin / Neural Interface

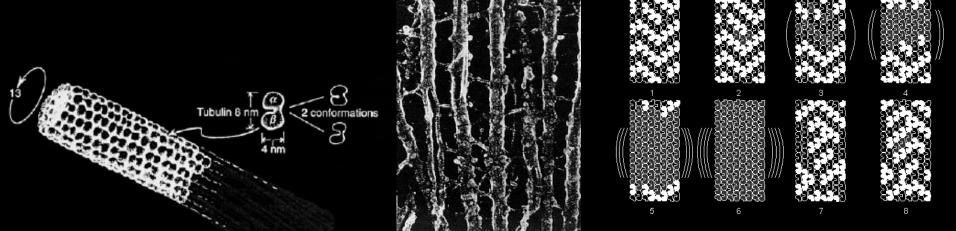


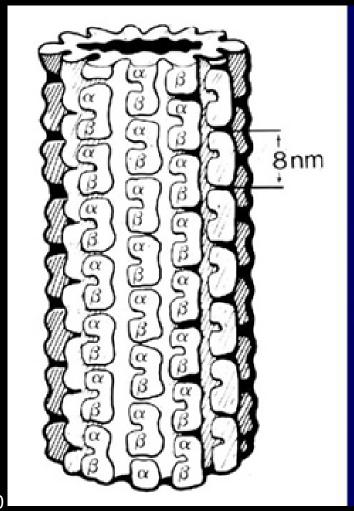
### **Quantum Brain Dynamics**

quantum field-supporting biosubstrate as a dense nanolevel web of protein molecules (microtubules) which penetrates neuronal and neuroglial membrane boundaries

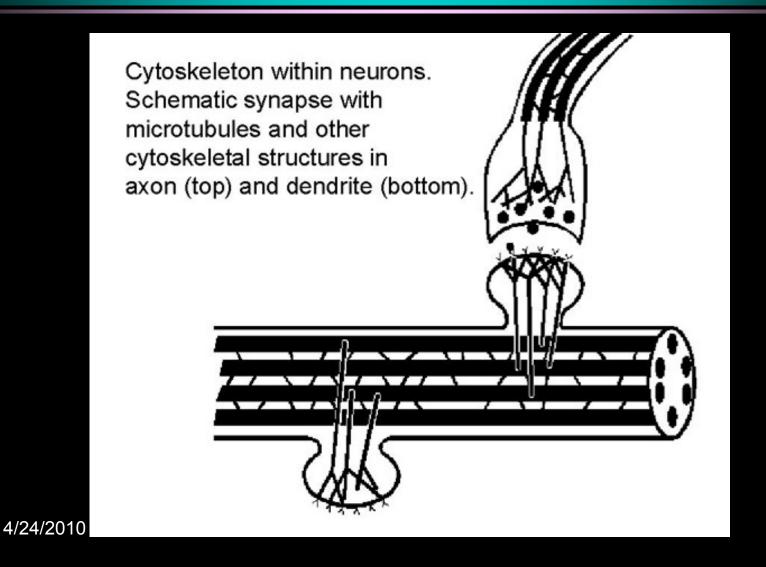
quasi-crystalline ordered water molecules within microtubules and associated with hydrophylic regions on the web of protein filaments, as a biosubstrate for a quantum field which supports super-radiance and self-induced transparency within the

microtubules





Microtubules (MT) are hollow cylinders 25 nm in diameter. MT walls are hexagonal lattices of the protein tubulin. Each tubulin is a 'peanut'-shaped 8 nm dimer consisting of alpha and beta monomers. MT are the major components of the cell cytoskeleton, and self-assemble to determine cell shape and function. X-ray crystallograh from Amos and Klug, 1974.

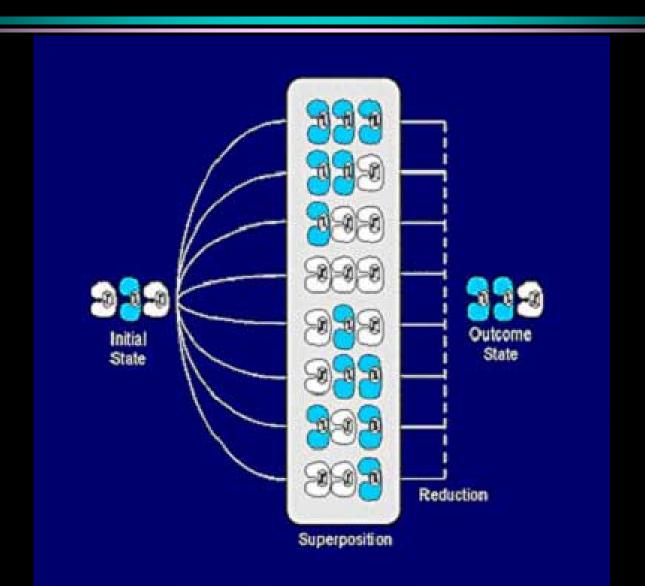


 Quantum electrodynamics and quantum field theory predict virtual particle/waves ('virtual photons') popping into and out of existence. Quantum 'foam', 'zero point energies' fill spacetime.

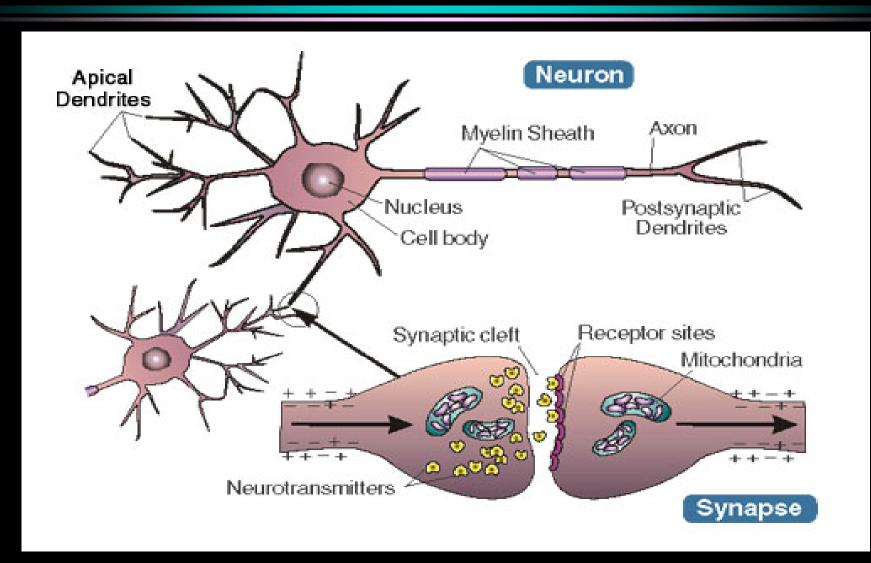


Kip Thorne's picture of quantum foam

Casimir (1938) predicted virtual photons could be measured. Lamoreaux (1997) precisely measured 'Casimir force', verifying presence of quantum foam.

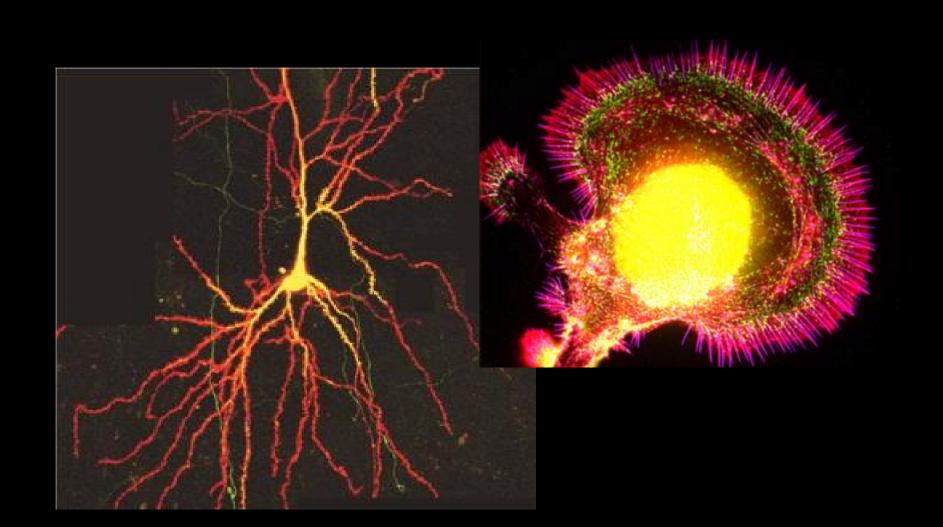


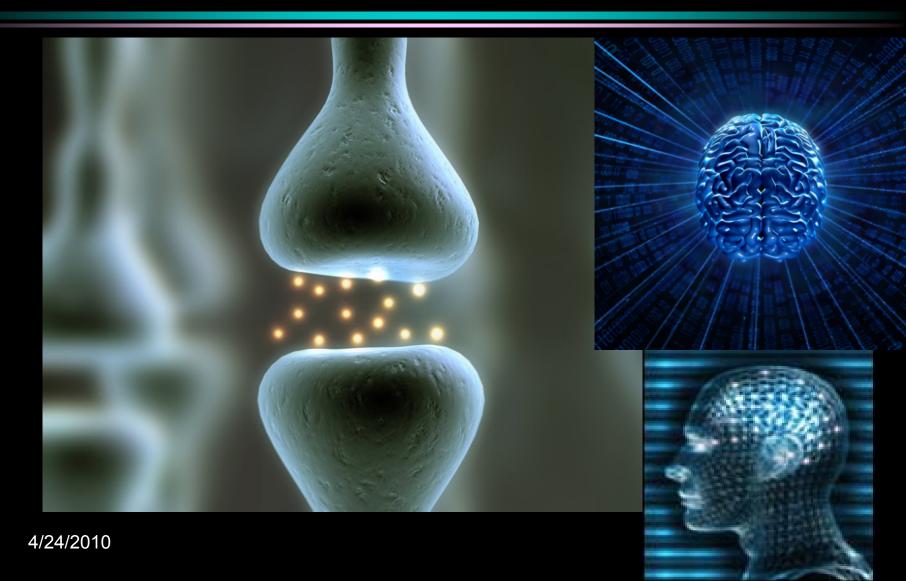
# Electro-chemical signal process engine

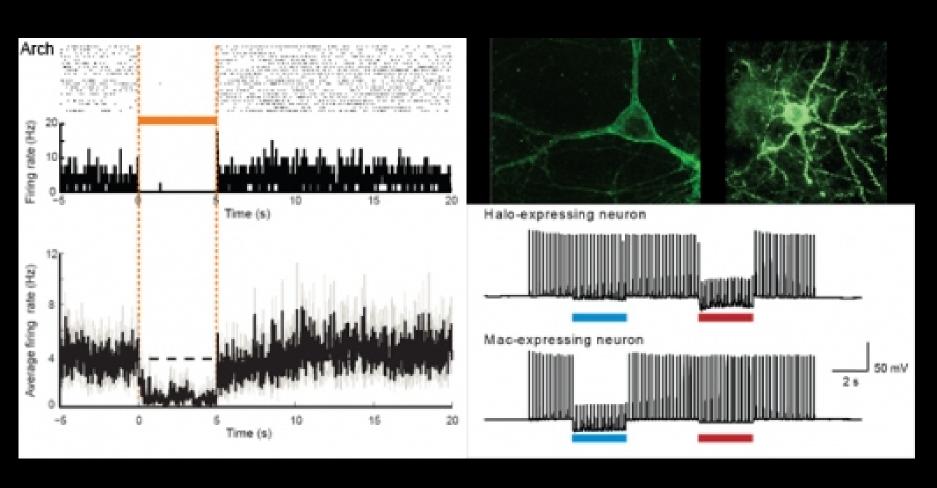


# Electro-chemical signal process engine

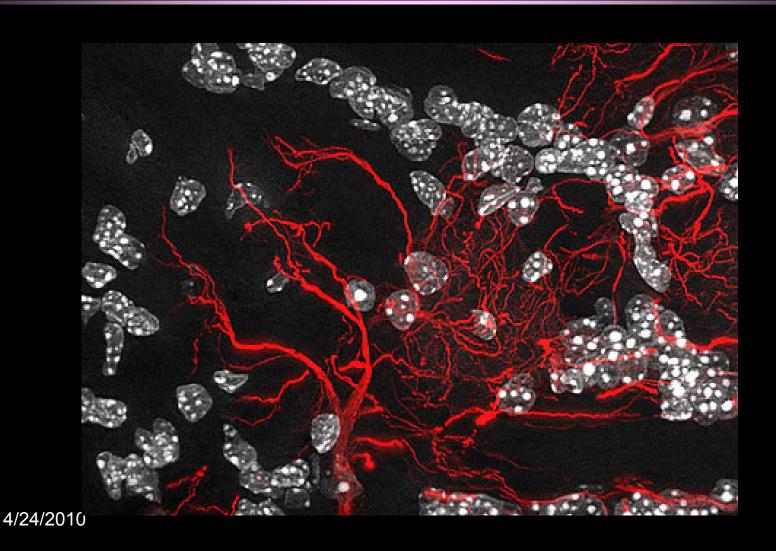


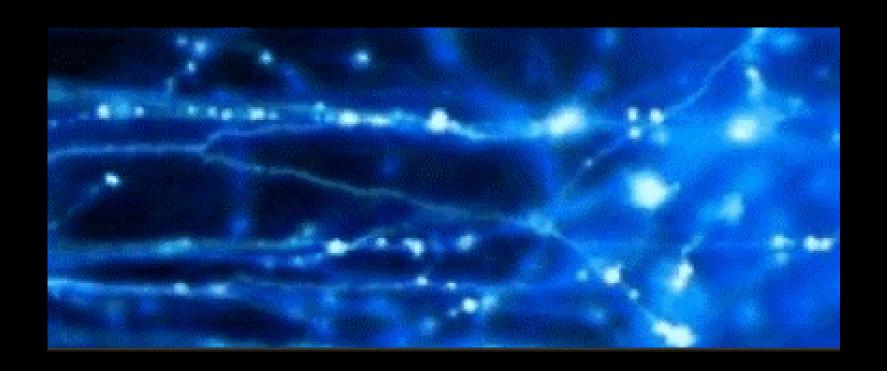


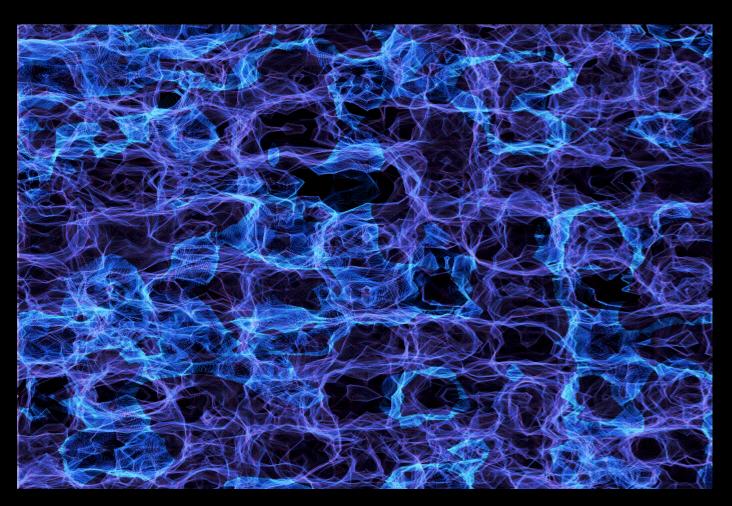












### The GCP Network



### Nonlocal Consciousness And Global Correlations

### The Reach of Mind

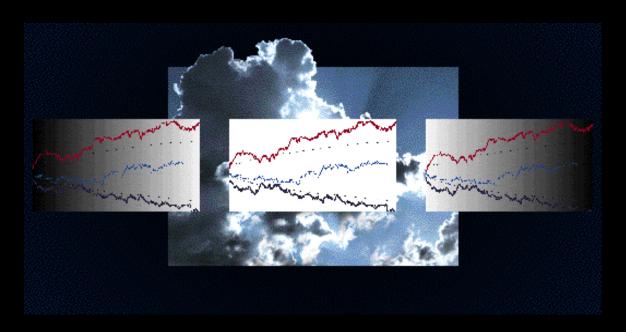
Invited presentation for the International Remote Viewing Association 10<sup>th</sup> Anniversary Conference Las Vegas, NV, June 21 2009

Roger Nelson

Director, Global Consciousness Project http://noosphere.princeton.edu

### Background: PEAR

Princeton Engineering Anomalies Research
Nearly three decades of supported research
Tapping the resources of a great university



I coordinated research at PEAR from 1980-2002 Founded the Global Consciousness Project in 1997

# A major focus at PEAR was on Mind-Machine Interaction (MMI) • In which we asked ordinary people To change the behavior of machines



We found Significant Effects

### Physical Random Event Generators REG or RNG -- Miniaturized for field use



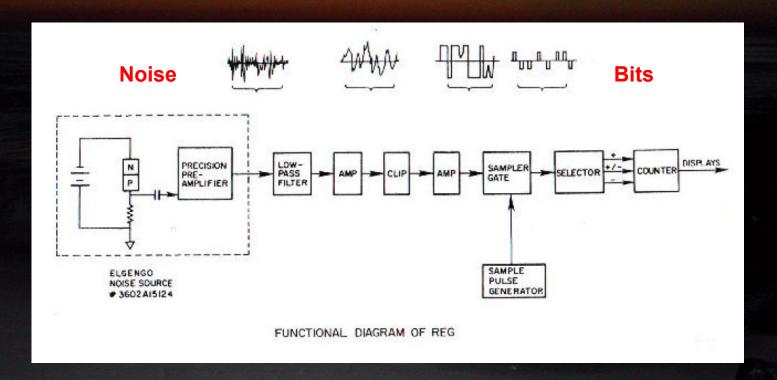




**Orion RNG** 

### Basics of a Physical REG

Quantum electronic noise, e.g. diode Voltage samples, electron tunneling Convert high and low to 1 and 0 Count these 'bits' vs 50/50 probability



# How It Works: Here's 1000 Trials From A Physical Random Source Each Trial Is the Sum of 200 Bits

Trial Scores: 100 ± 7.701

Plotted as a Sequence

Like flipping 200 coins and counting the heads

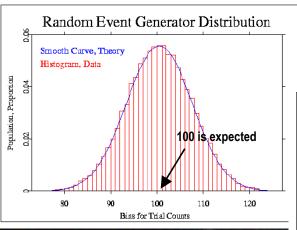
Random Event Generator Raw Data

8,1,10,1000

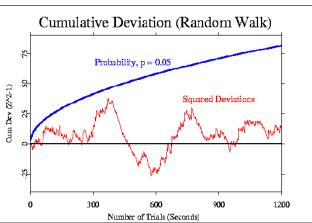
0 100 200 300 400 500 600 700 800 900 1000

Number of 200-bit Trials

Binomial Distribution of Data Compared to Theoretical Normal

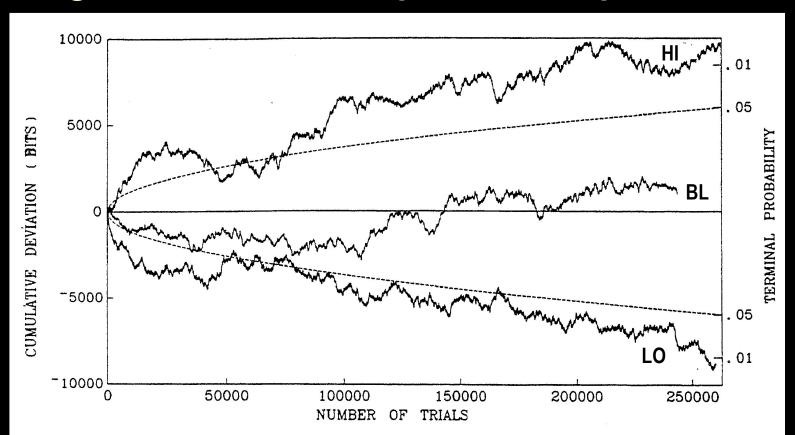


Display data history with Cum Dev from Expectation Random ("Drunkard's") Walk



### **PEAR's Primary MMI Experiment**

# Random Event Generator (REG) Intention to change machine behavior High and Low both depart from expectation



REG cumulative deviations from theoretical mean: All data, 33 operators.

### Starting 1993, continuous data recording and Miniaturization facilitated moving out of the laboratory

### Field REG Experiments

Take REG technology into the Field
Look for evidence of a Consciousness Field
Situations with Resonance or Coherence
Concerts, Cathedrals, Rituals, Sacred
Spaces, ...

Comparison with Mundane situations
Shopping center, train station, busy street corner

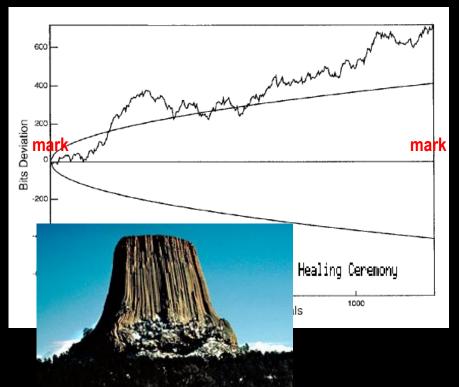
#### REG and Palmtop computer, software to mark important moments

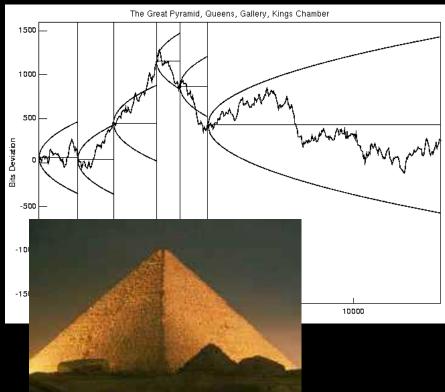
### Field REG prediction: Deep engagement Coherent group consciousness and emotion

Expectation for the data is a level random walk

**Numinous event: Shamanic Healing ritual for Devils Tower** 



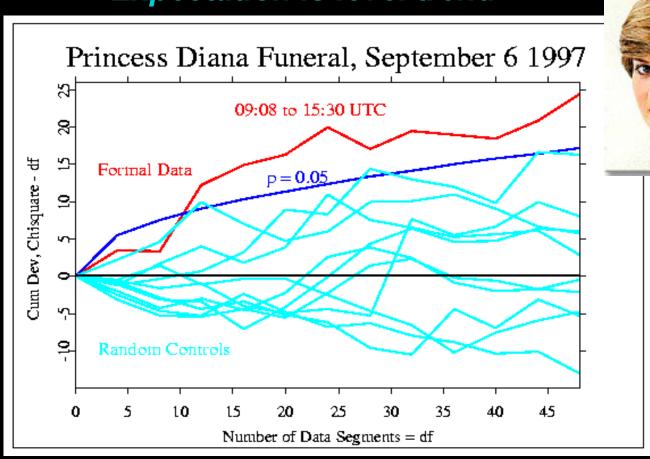




### Global scope, a prototype

## Colleagues in Europe and the US Collect 12 independent data streams

Expectation is level trend



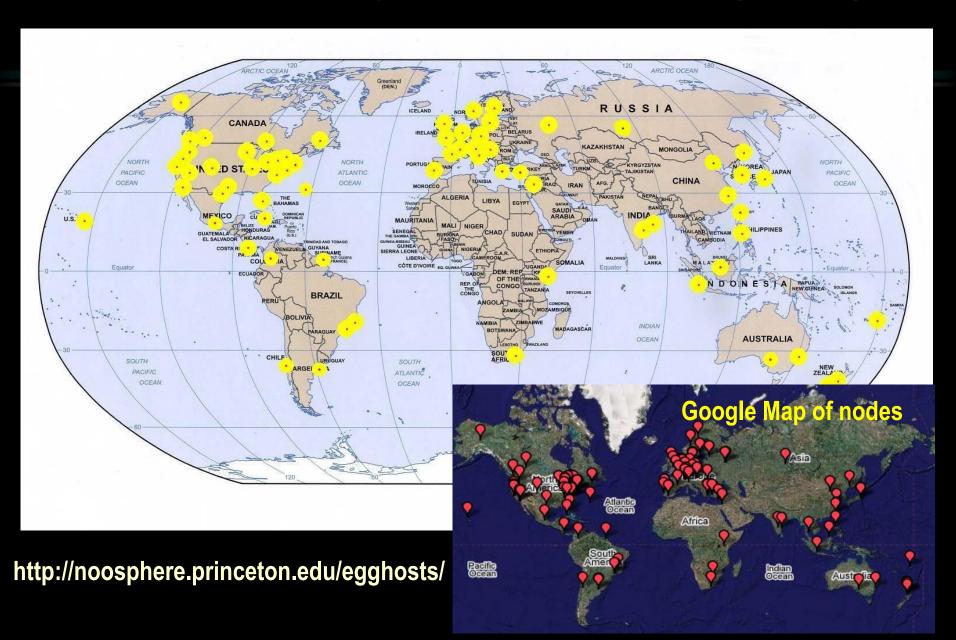
### We were ready to ask a new question:

Could a world-spanning network of such Random devices capture evidence of an Emerging Global Consciousness?

When you put a thing in order, And give it a name, And you are all in accord, It becomes.

- - From the Navajo

### A world-spanning network of REGs (EGGs) •



## Global Consciousness Project (aka the EGG Project)

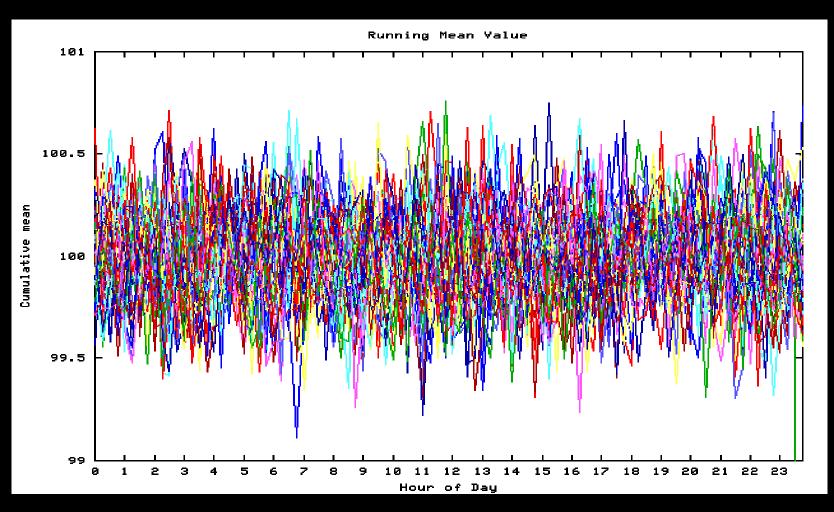
The people: International collaboration, 100+ people Network of over 65 host sites world wide

The tools: REG technology, Field application A world EEG – an *ElectroGaiaGram* or *EGG* 

The method: Identify deeply engaging global events, predict correlated deviations in network data

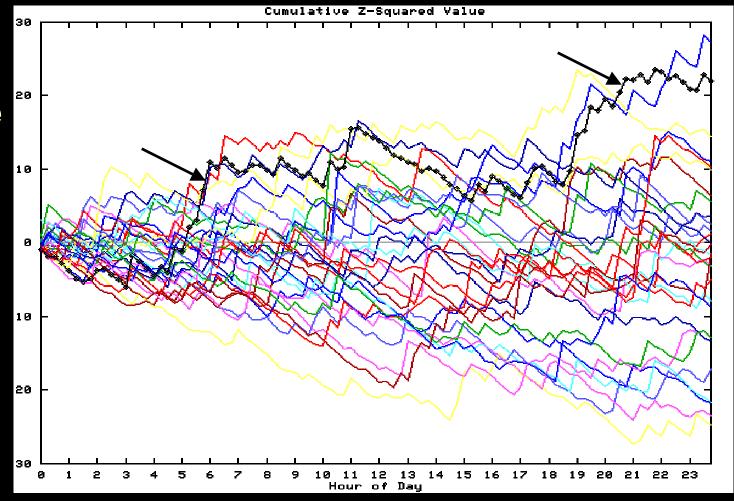
The question: Can we capture a glimmering of Global Consciousness?

### Internet transfer of data to Princeton Combined data for a whole day From all eggs – It looks random



# We can see better what's happening by Plotting cumulative deviations ( $\chi^2$ - df) Correlation tilts ... variance spreads

Average cumulative deviation shown by the black dotted line



### Squared average Z-score across Eggs Network Variance (Chisquare distributed) • Cumulative deviation should be a random walk •

Many events show only The expected level trend

Minneapolis Bridge Collapse, Aug 1 2007

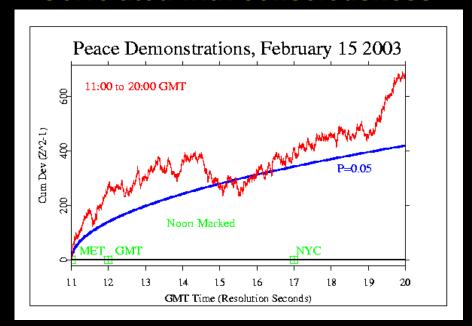
1700 to 2200 local

58 Eggs

Collapse

October 1700 to 2200 local

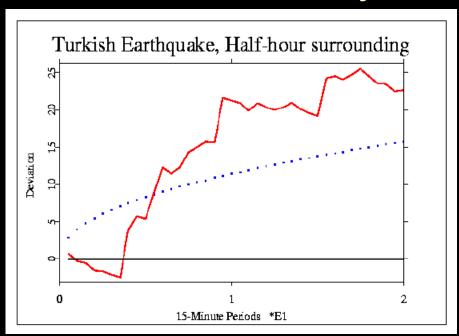
But ~ 70% show departures From expectation apparently Correlated with consciousness



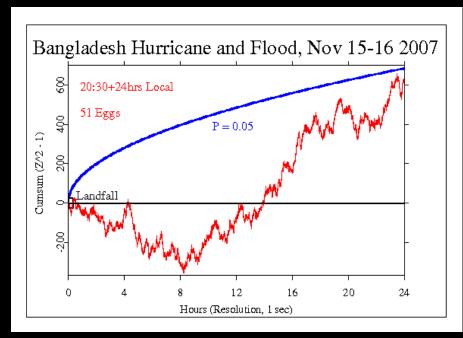
15 to 20% significant at 5% level (we use a one-tailed prediction) •

# Continuous random sequences since 1998 <u>History of data</u> that we can compare with a <u>History of Global Events</u>, e.g. Natural Disasters

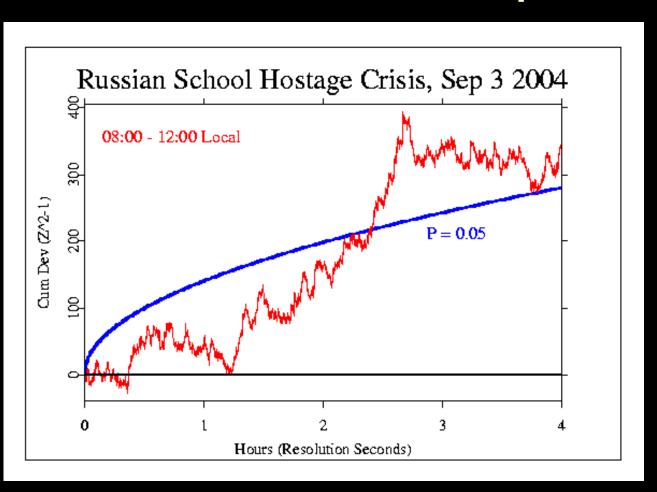
Earthquake Aug 17 1999 Near Istanbul, Turkey



Hurricane and Flooding Nov 2007, Bangladesh



## Human Tragedies: World attention riveted Ossetia hostage crisis, hundreds at risk Does the EGG network respond?



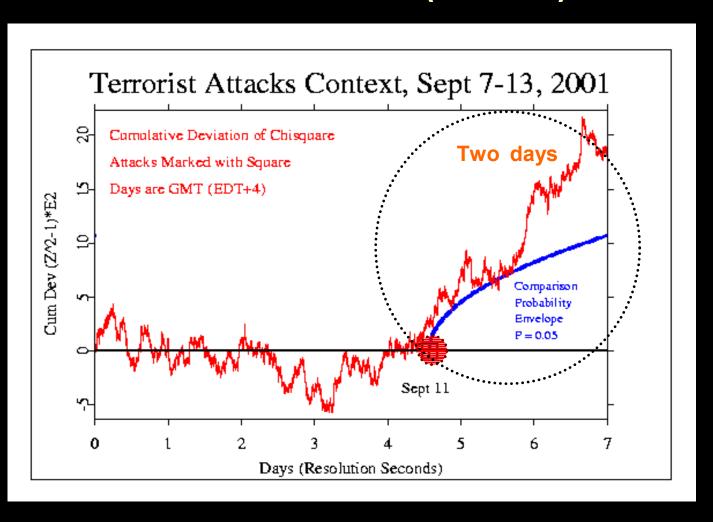
Human caused
Disasters yield
Strong effects

The World
Trade Center
September 11
2001

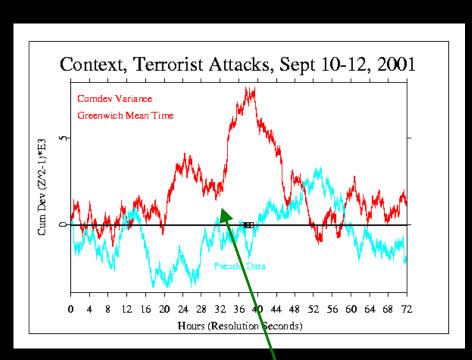


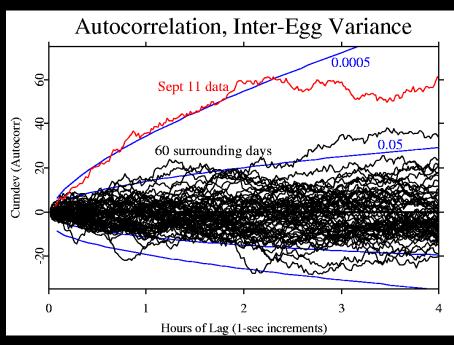
**Tamara Beckwith** 

# September 11 2001 Destruction of the World Trade Towers Increased network variance (Netvar) for 50 hours



# Further assessment of data around 9/11 Learn about the context and broader effects <u>Device Variance</u> Spikes, <u>Autocorrelation</u> is Huge



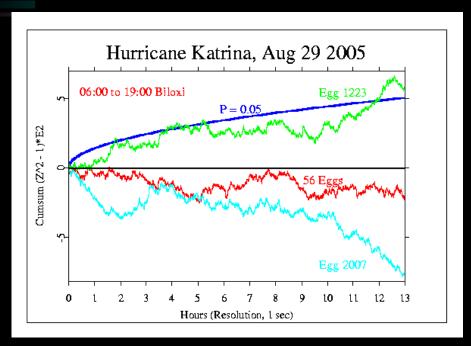


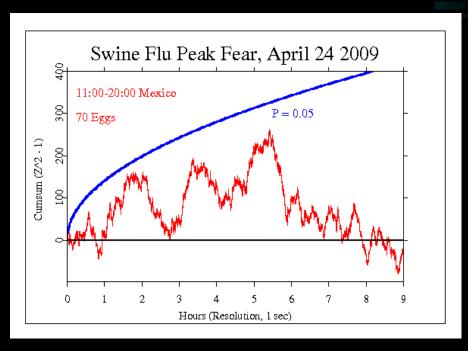
Notice the timing: Shift begins at 4:30 am ET

### But big events don't always show predicted effect

#### **Hurricane Katrina**

#### **Swine Flu Pandemic**

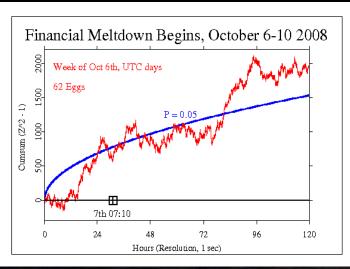




Our signal to noise ratio is low, so real effects may be buried, or noise may masquerade as signal. Solution? Many replications of the hypothesis test.

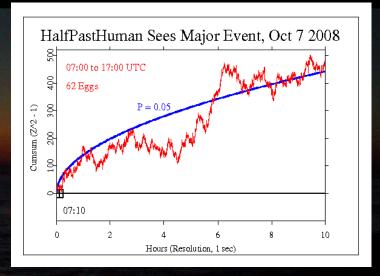
## Dick Allgire's talk inspires me to show another slide: "Remote Viewing" of Half Past Human analysis of Oct 7

William Treurniet's analysis of market fall



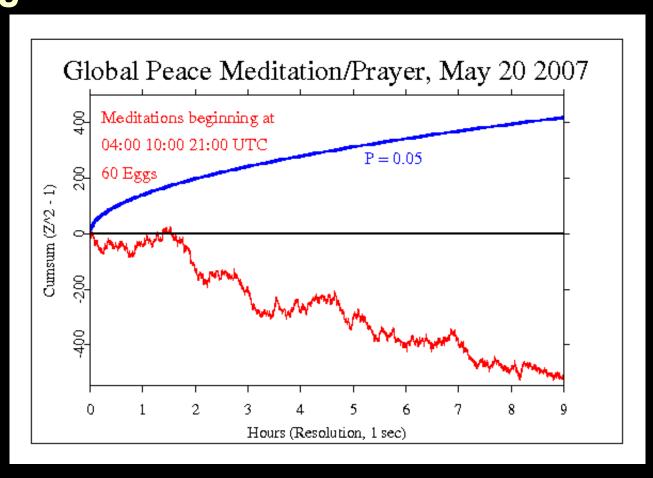


Clif's half past human prediction of Oct 7, 7:10



The straight red segment in the middle is Oct 6-10

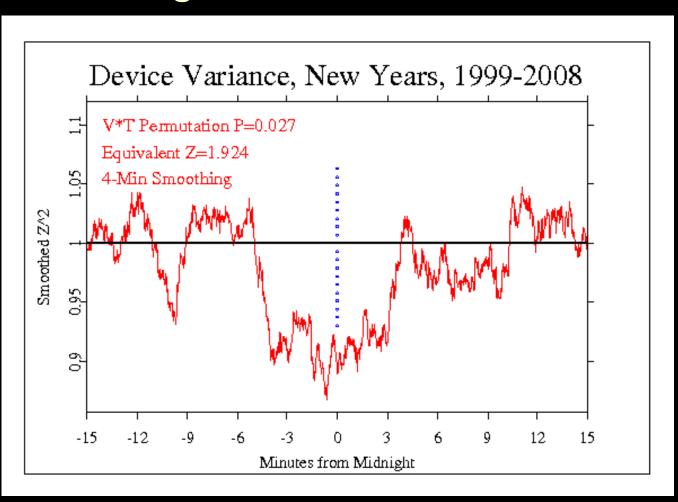
# The network also responds to positive events Synchronized meditation Half a million people around the world Significant reduction of network variance



Note that this trend is opposite to prediction.

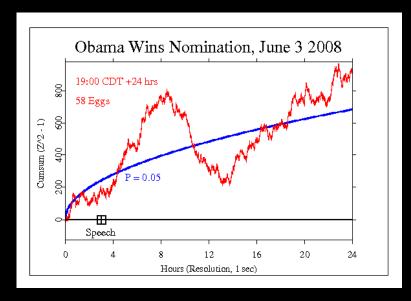
It subtracts from our composite bottom line.

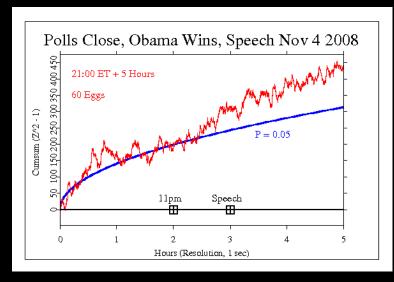
## Celebration: New Years Eve 1999-2008 (10 years, 37 time zones) Signal averaged device variance decreases

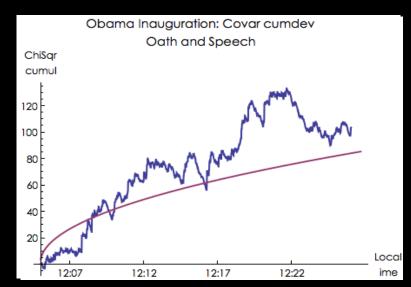


## Elections 2008, Barack Obama

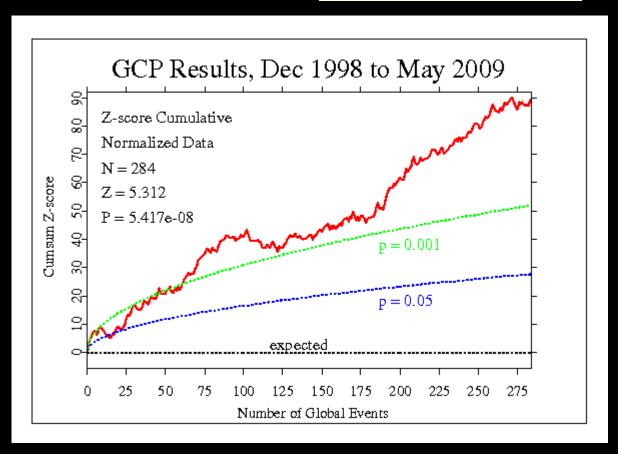








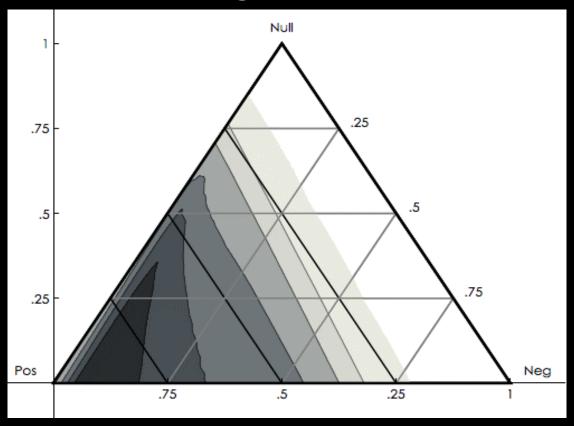
# Concatenate 10 years of formal replications 284 rigorously defined global events Chance odds: 10 million to 1



But it is a small effect: The average Z-score is about 0.35

### **Deeper analysis**

## Proportions in three-way model of effects Positive = 67%, Negative = 17%, Null = 15%

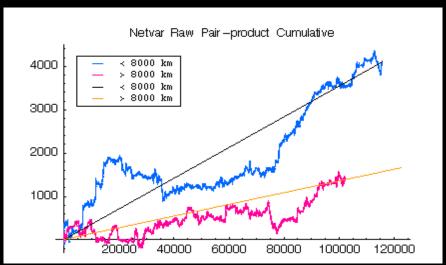


Average positive Z-score based on the model is about 0.59

#### Deeper analysis: Distance structure

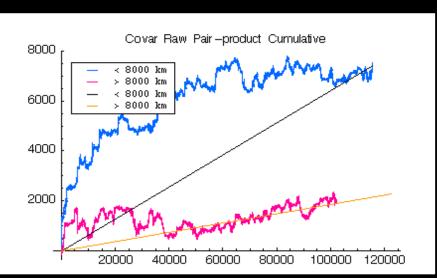
## **Closer pairs = Stronger correlations**

S1:  $Z_i Z_j$ 



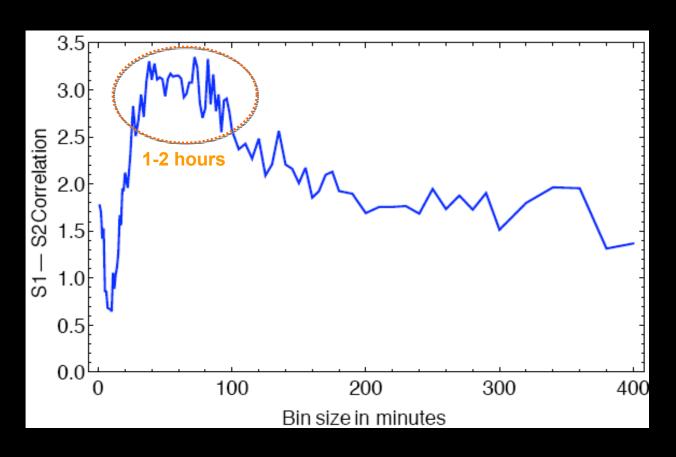
Independent 2<sup>nd</sup> measure

S2:  $z_i^2 z_j^2$ 



#### Deeper analysis: Time structure

## Correlation of two independent measures Z-scores maximal for events ~ 1-2 hours



A "moment" in global consciousness space?

## Deeper analysis yields convergent evidence: Structure in data where there should be none Five independent measures and correlations

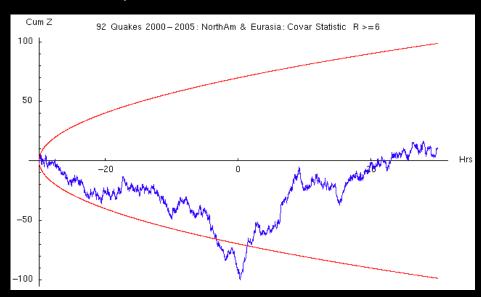
Structure	Sigma	P-value
1. Netvar (phase 1, obsrv eff?)	3.67	0.0001
2. Covar (phase 2)	2.45	0.007
3. Distance – NV (phase 2)	1.49	0.07
4. Distance – CV (phase 2)	2.48	0.006
5. Correlation – NV&CV (ph 2)	1.95	0.02
<b>Combined Results Phase 2</b>	3.90	0.00005
<b>Combined Results Phases 1&amp;2</b>	5.35	5x10 <sup>-8</sup>

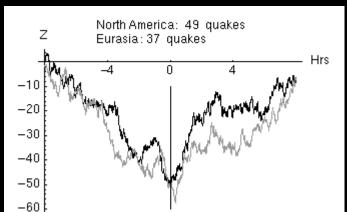
Calculations by Peter Bancel; Uses reduced dataset amenable to all analyses

**Applications?** 

## All Earthquakes, Richter 6 or More Cumulative Deviation of Covariance

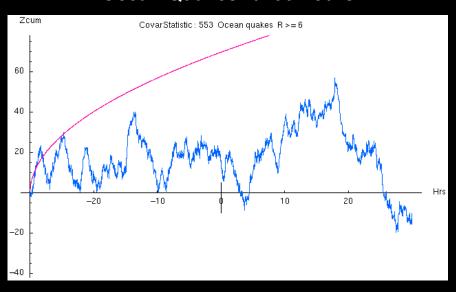
#### Quakes on Land +/- 30 hours





#### Consciousness implied Premonition suggested

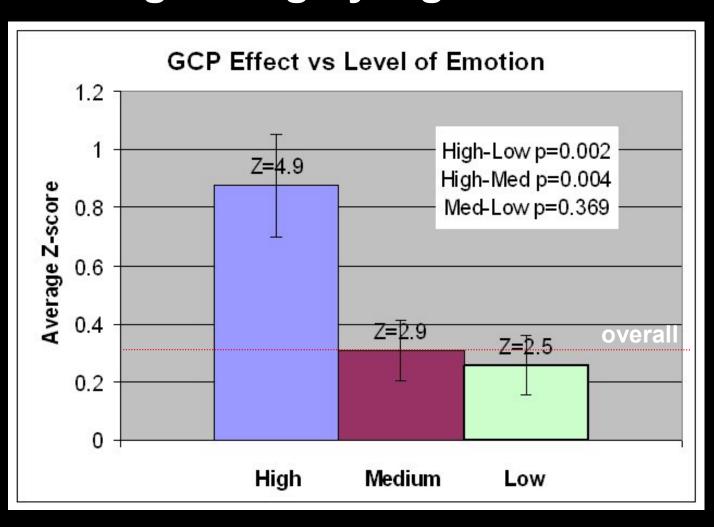
Controls (no humans affected) ● Ocean Quakes +/- 30 hours



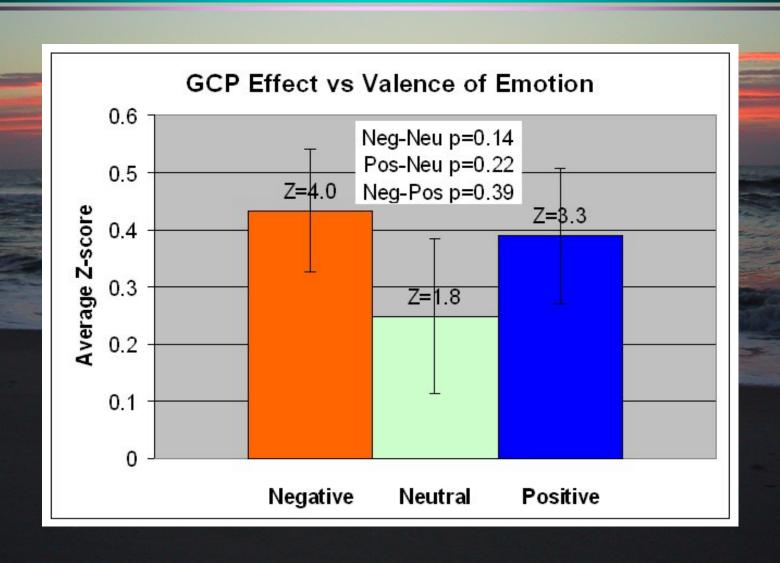
Same trend, independent subsets Begin early ~ 8 hours before quake

#### Exploring what matters, what doesn't

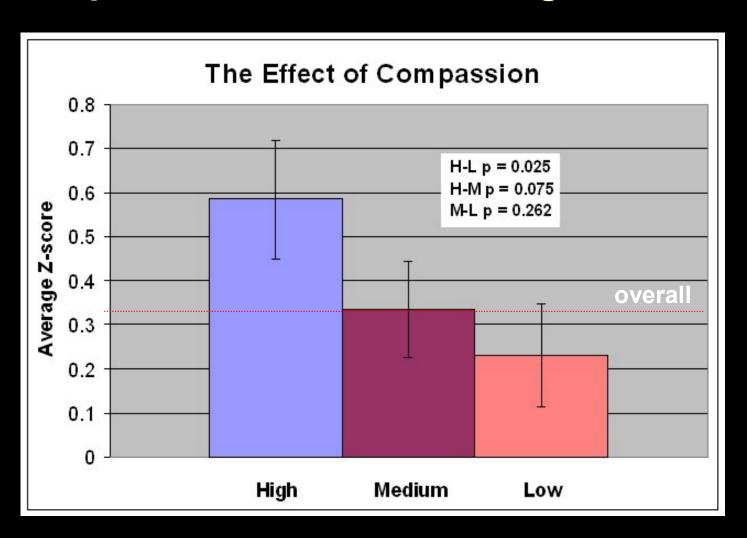
## LEVEL of emotion relatively easy To assign -- highly significant factor



## VALENCE: Both positive and negative events Have larger effects than neutral events (But differences are not significant)



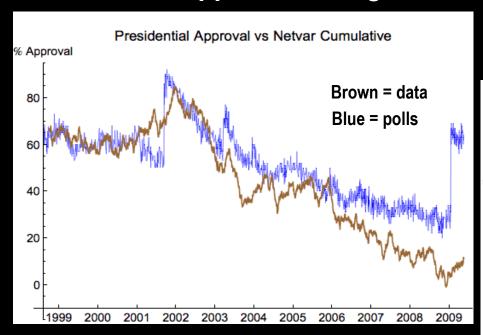
## COMPASSION: Events that evoke or embody Compassion or love have larger effects



#### **Intimations?**

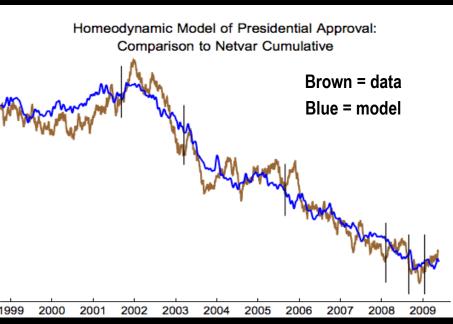
# Long term trend suggests Searching for external correlates Social variable: Presidential Approval Rating

#### **Raw Approval Rating**



It is important to remember this is a correlation. There is no assertion of causation.

## 2 Parameter model fit F = a (value) + b (slope) •



# Global Consciousness Project Extends and Amplifies Decades of Anomalies Research

- 1. Consciousness is "real" and has direct effects
- 2. Consciousness is extended and interconnected
- 3. Consciousness is nonlocal in space and time
- 4. Intention and emotion create information fields
- 5. Physical and statistical theories are incomplete
- 6. Scientific models must expand to include mind
- 7. Conscious evolution is possible and imperative

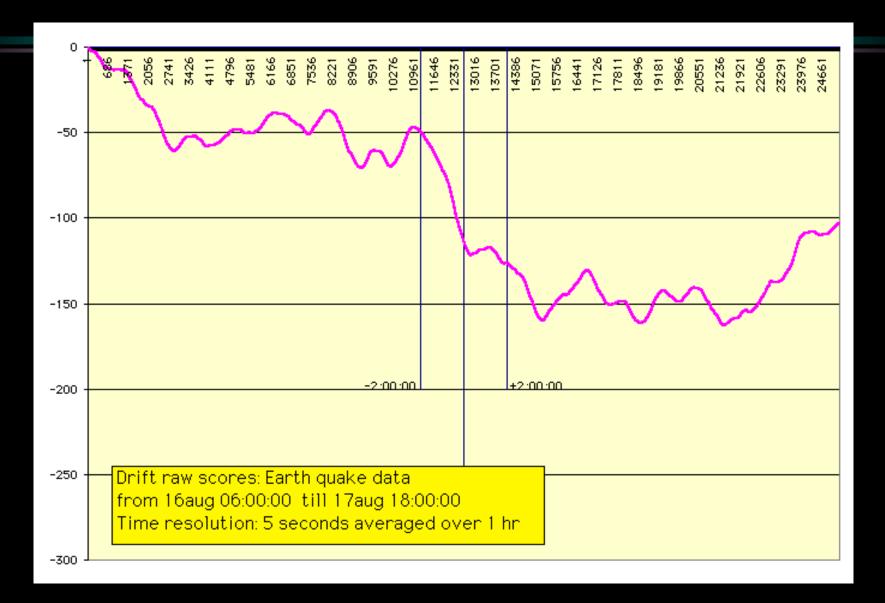
## GCP/EGG Project The people who make it go

International collaboration of 100 Scientists, Artists, Friends, ... Peter Bannel, Paris, professional analysis, collaboration William Treumiet, Canada, egganalysis programming John Walker, Switzerland, programming, general support Richard & Connie Adams, USA, general support Paul Bethke, USA, windows programming, network Dick Blerman, Netherlands, design and realtime display Dean Radin, USA, design and independent analysis **Brad Anderson, USA, widget programming** Taylor Jackson, Canada, realtime display maintenance Greg & Lefty Nelson, USA, program architecture, general support Fernando Rodríguez, Spain, egghosts google map Dale, USA, realtime display and daily movies York Dobyns and PEAR, general support, server hosting Leane Roffey, USA, music, outreach, general support Jaroen Ruuward, Netherlands, realtime programming Dick Shoup, USA, independent analysis Nishith Singh, India, realtime programming Mahadeva Srinivasan, India, general support And all the EGG hosts around the world

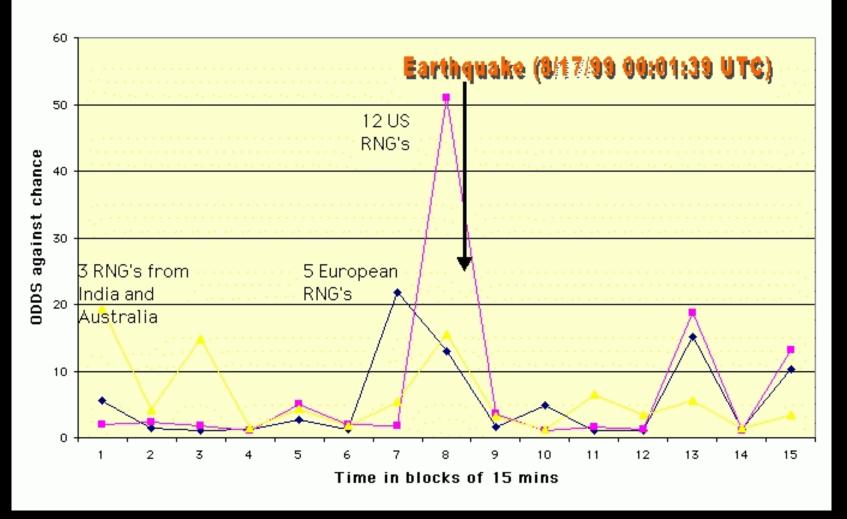
## Theory? David Bohm, *The Implicate Order*

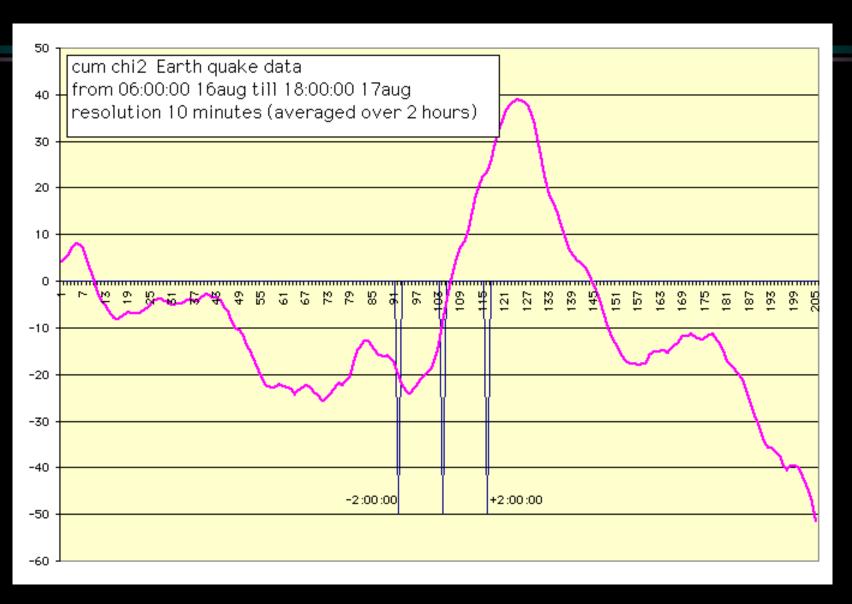
## Active Information: Virtual Field, Actualized at Need

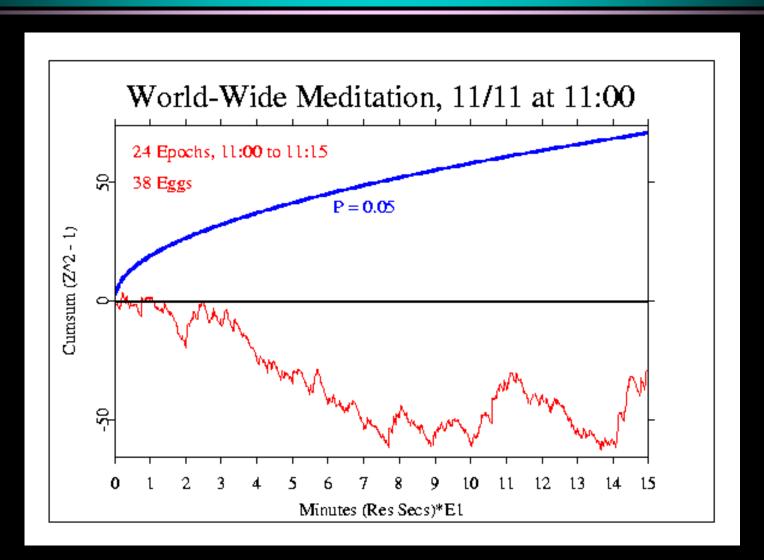
- e.g. Remote Viewing: Task creates "need" Target provides active information
- e.g. Disease or Injury: "need" for structure Remote healing, prayer provide it
  - e.g. GCP Eggs: Labile, open for structure Attention and emotion provide it

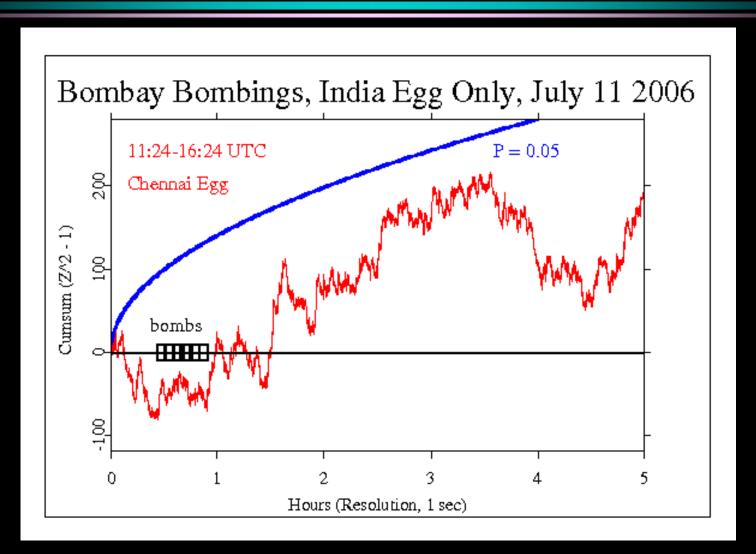


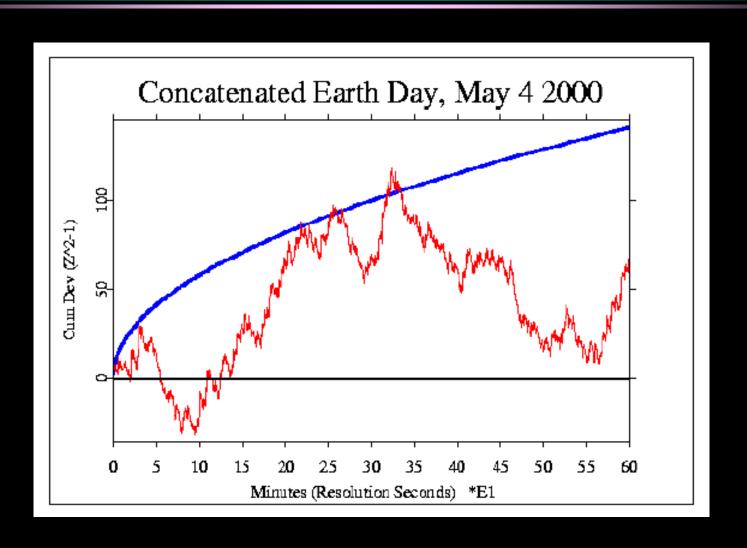
Turkey Earthquake (RNG's split)
Period from -2:00:00 till +2:00:00

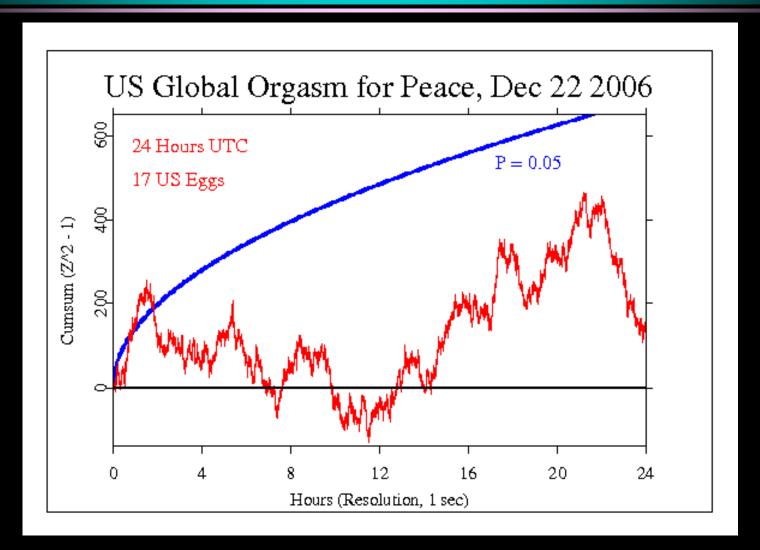


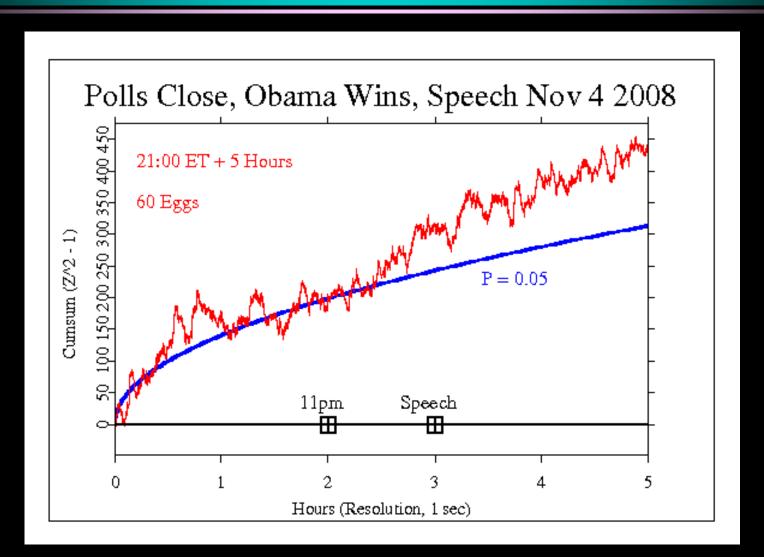


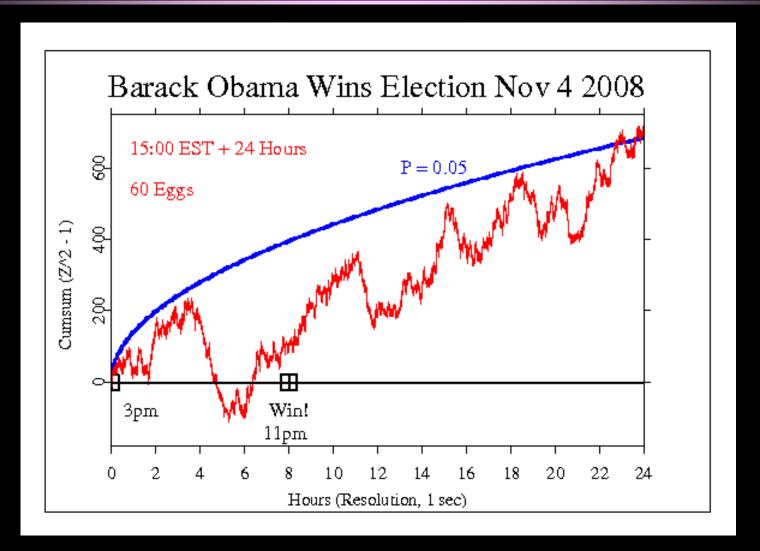


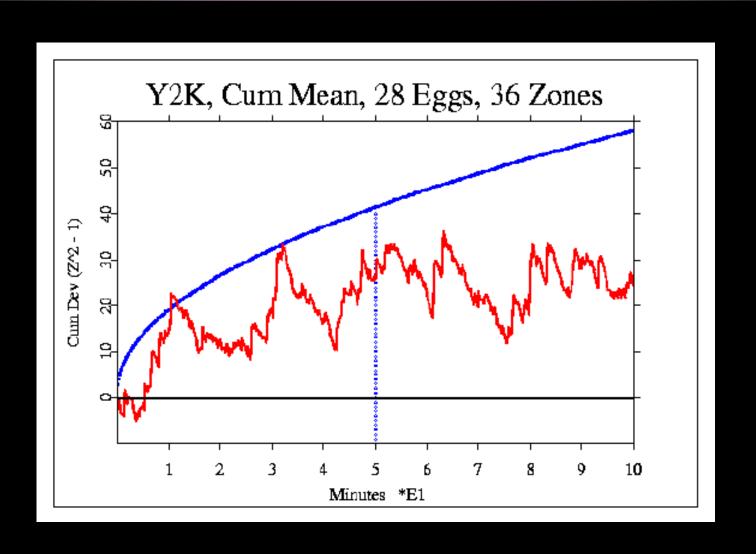


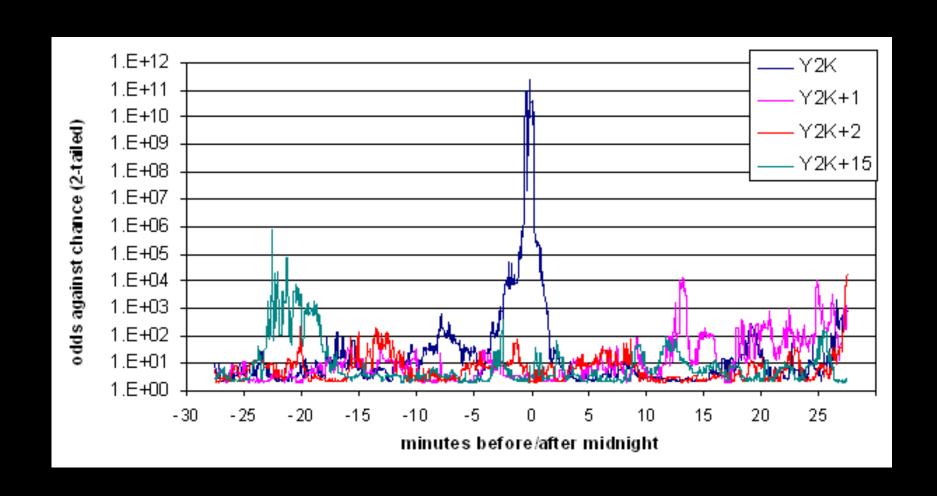






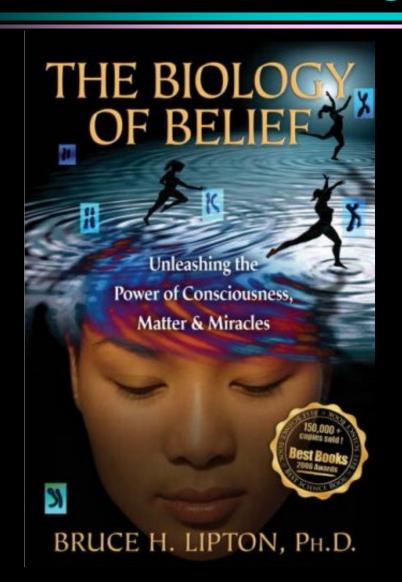








## The Biology of Belief

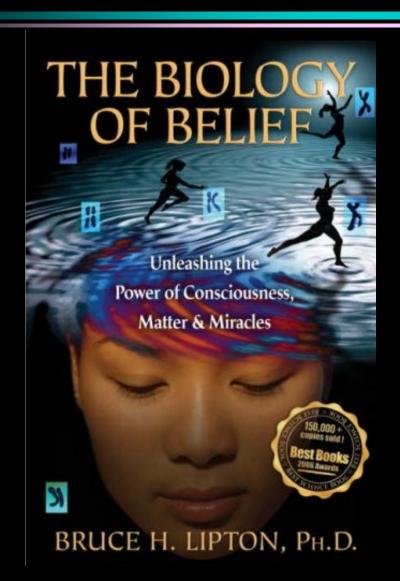


Dr. Bruce Lipton is a former medical school professor and research scientist.

His experiments, and that of other leading edge scientists, have examined in great detail the processes by which cells receive information. The implications of this research radically change our understanding of life.

It shows that genes and DNA do not control our biology; that instead DNA is controlled by signals from outside the cell, including the energetic messages emanating from our positive and negative thoughts.

## The Biology of Belief

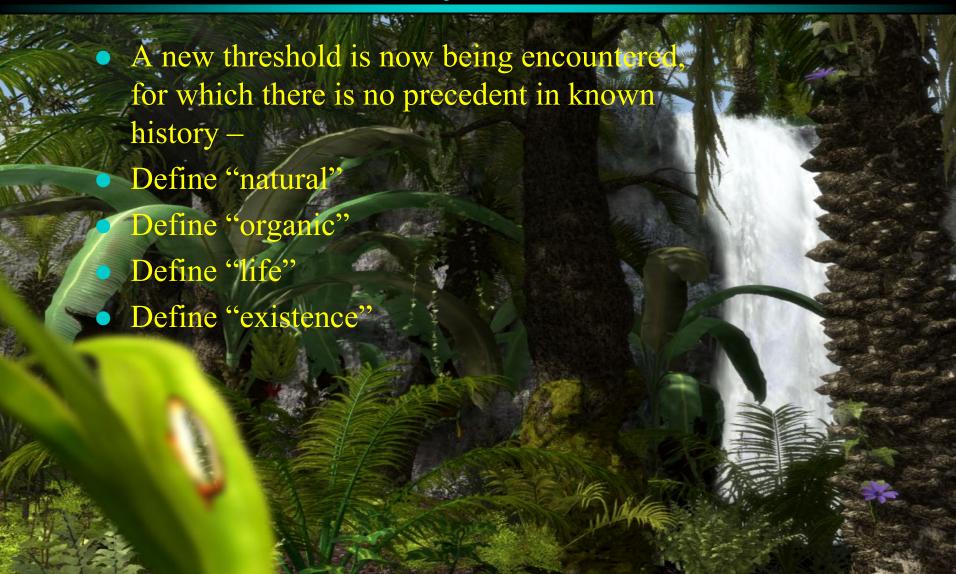


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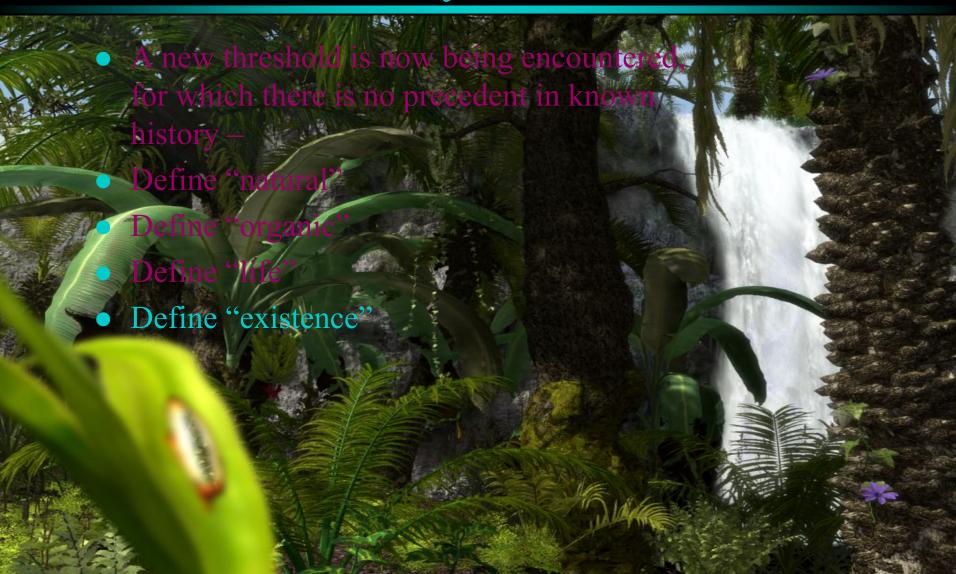
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### Existence Imperatives of the Evolutionary Eventstream

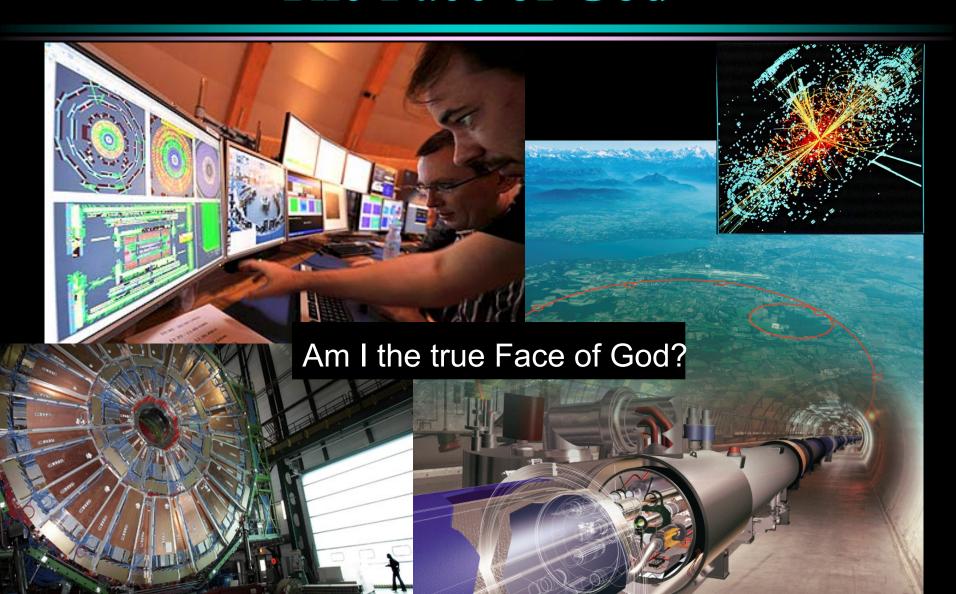


### Existence Imperatives of the Evolutionary Eventstream



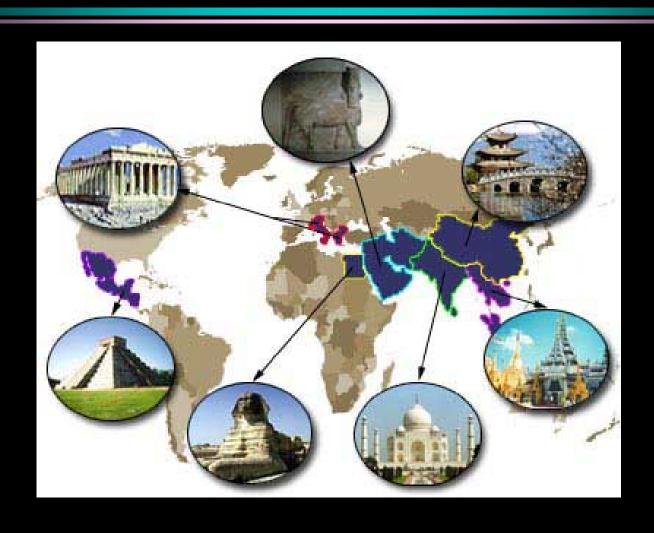


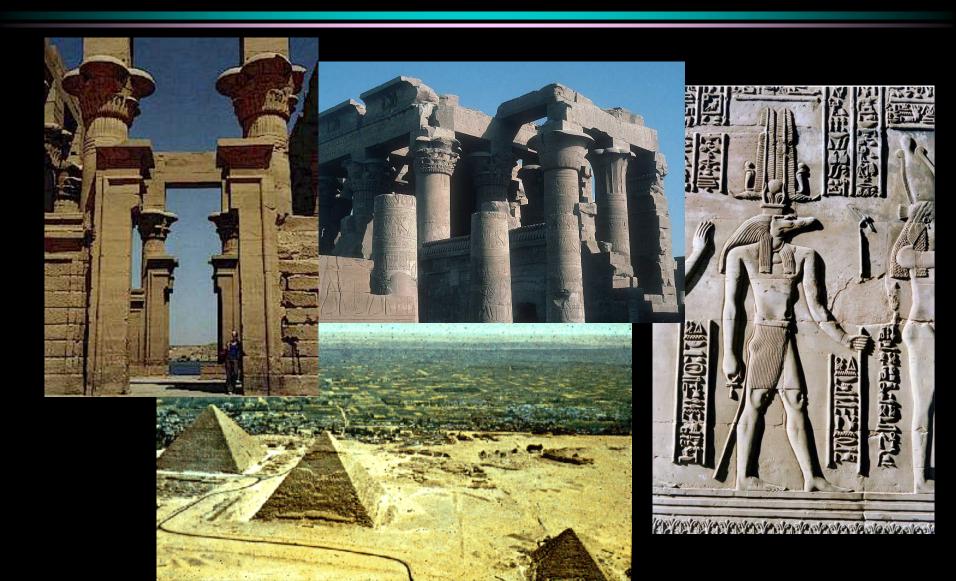






# Existence Navigation – In the Beginning, the End







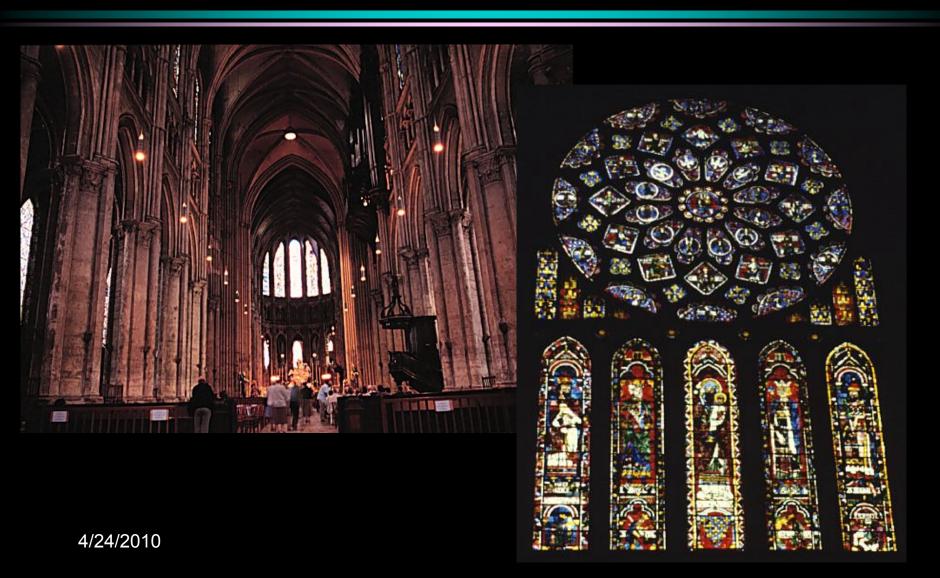


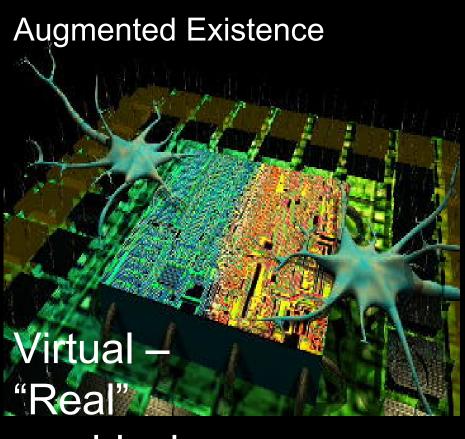


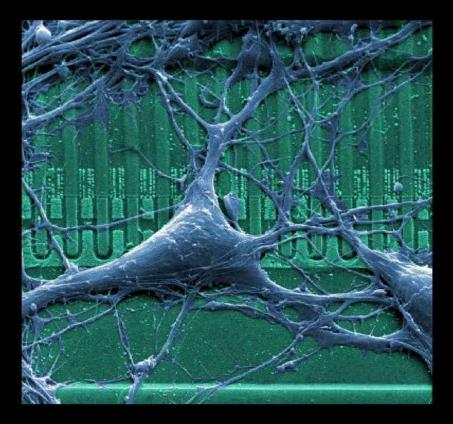












symbiosis

Augmented Existence

symbiosis

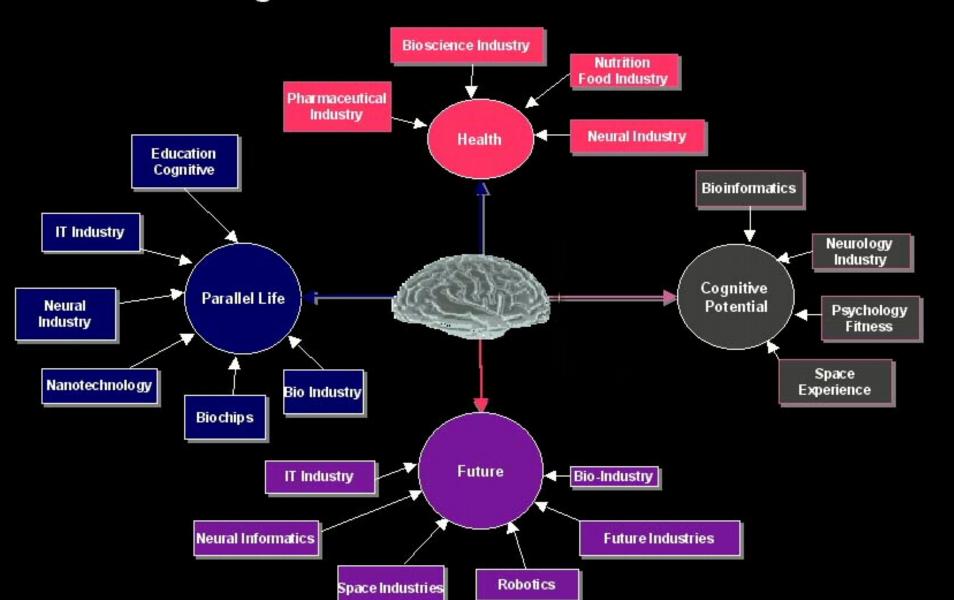


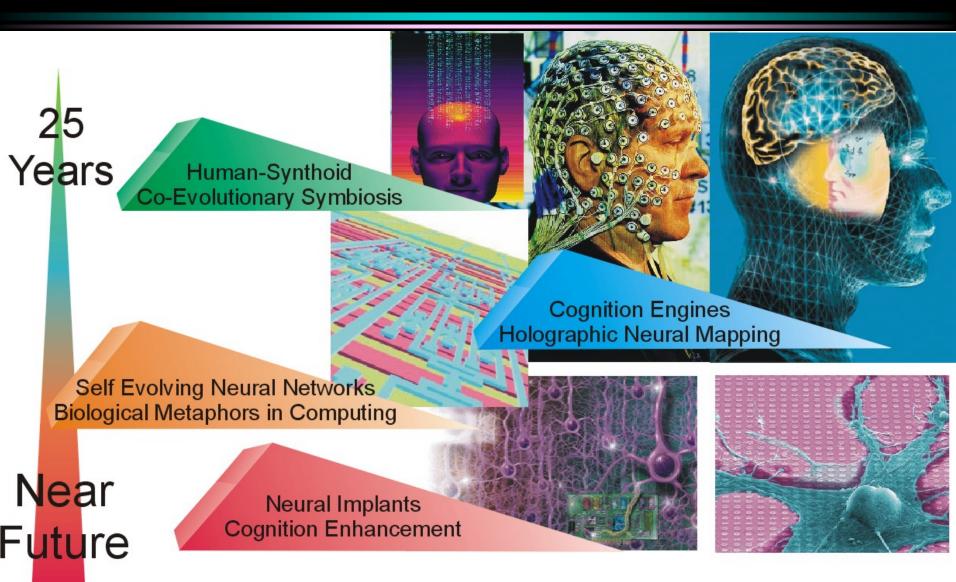
Retinal Implant –

**Artificial Vision** 

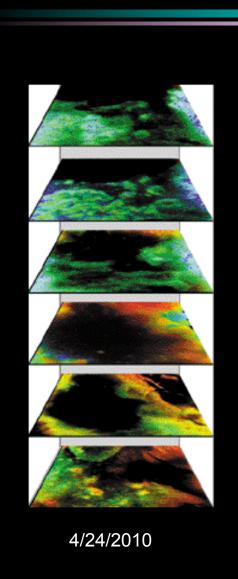
#### **Primary Convergence Vectors**

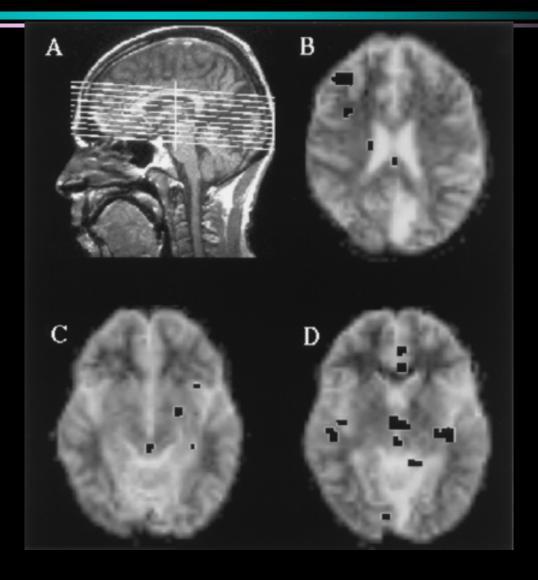
#### Industries Segments in Neural Industries 2002-2020





### Mapping the Brain . . .

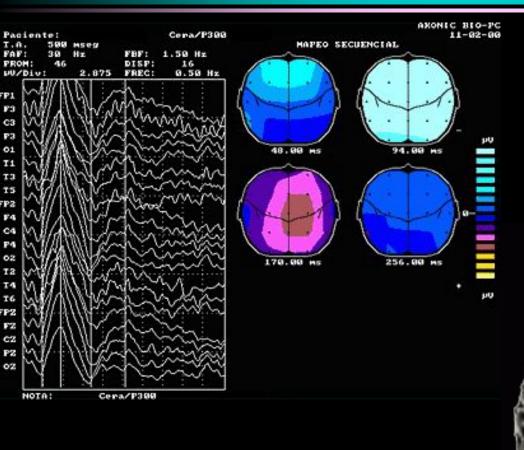


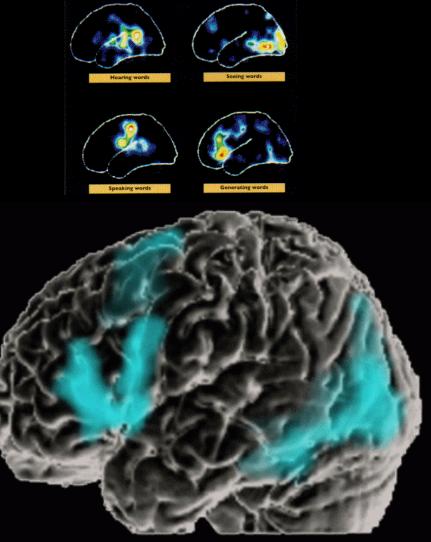


### Mapping the Brain . . .



### Mapping the Brain . . .

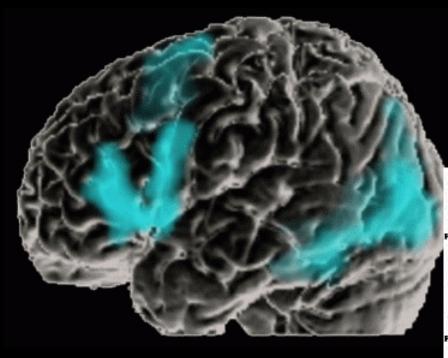


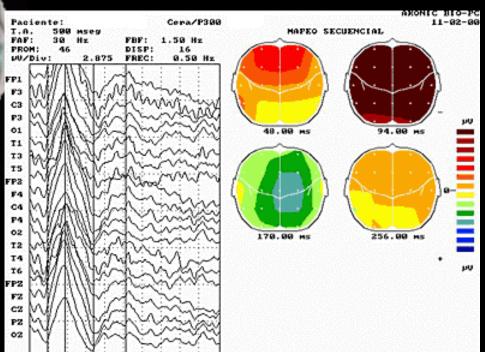


### Correlating to Cognition

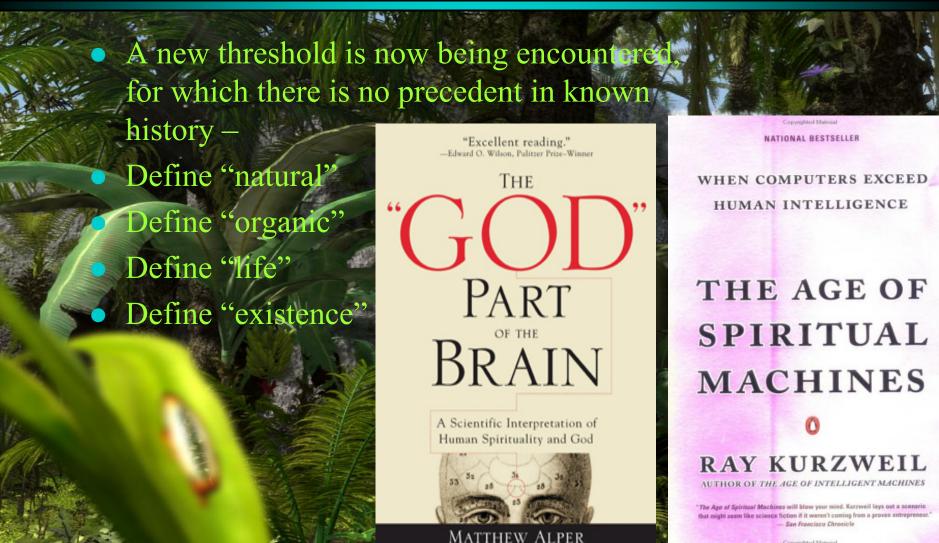
NOTA:

Cera/P300

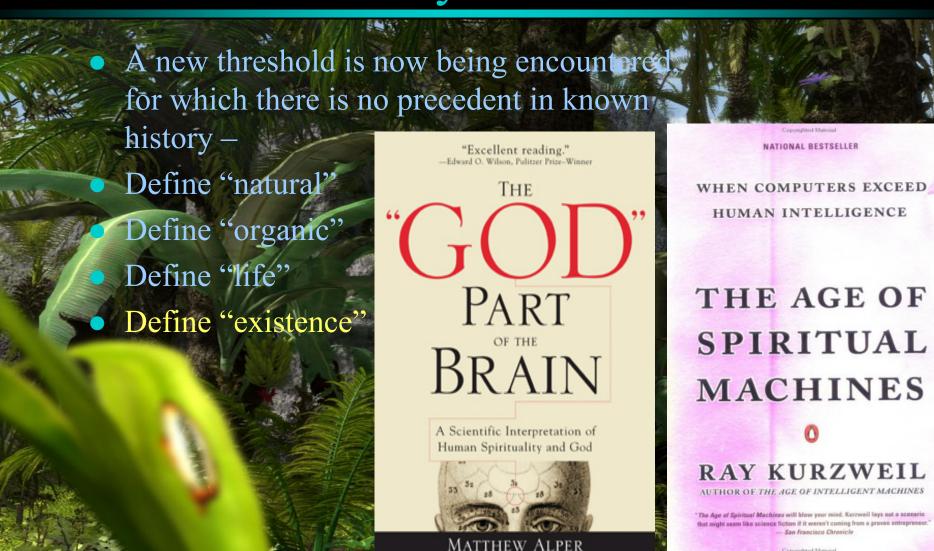




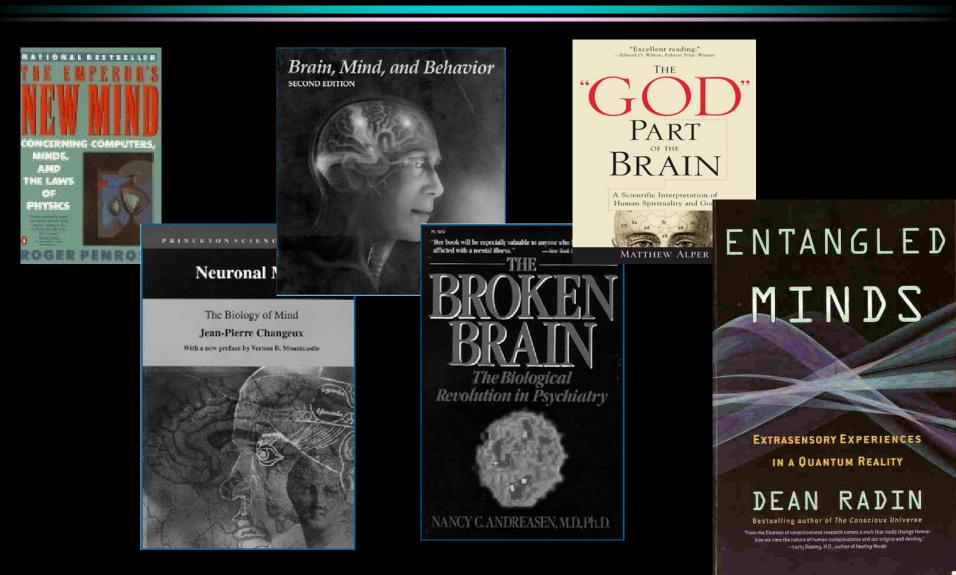
### Existence Imperatives of the Evolutionary Eventstream



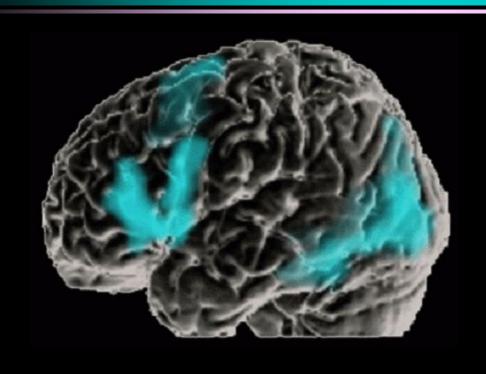
### Existence Imperatives of the Evolutionary Eventstream

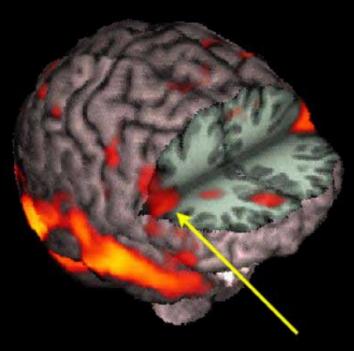


### Biophysics Quantum Physics Consciousness . . . Existence



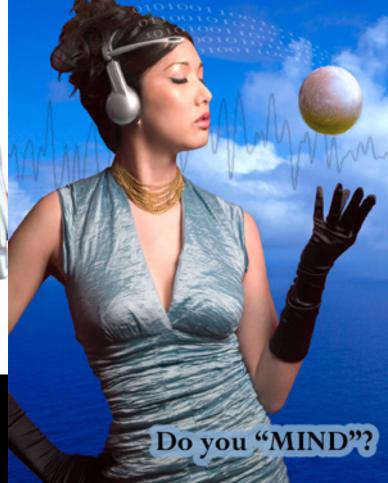
### Biophysics Quantum Physics Consciousness . . . Existence



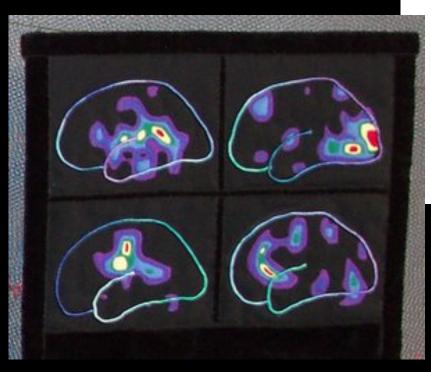


### Mind Machine Interface





### Mind Machine Interface







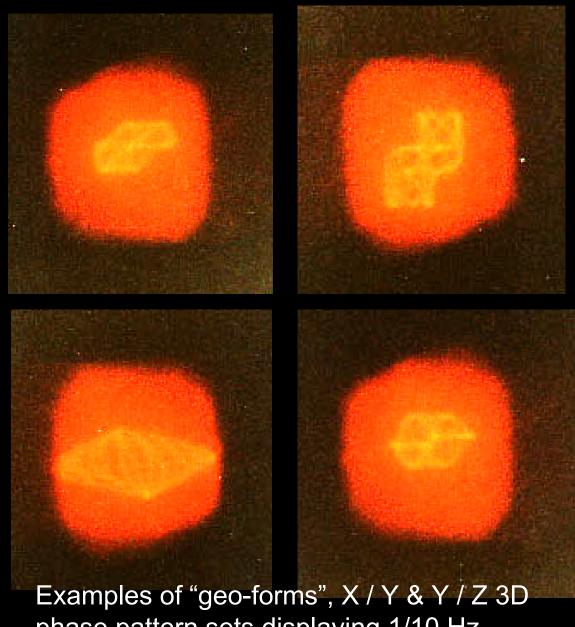


Lab bench setup with the full apparatus, including EEG amplifier / signal processing unit, oscilloscope, laser scanner / projection unit, and secondary signal conditioning and scanner deflection driver circuitry.



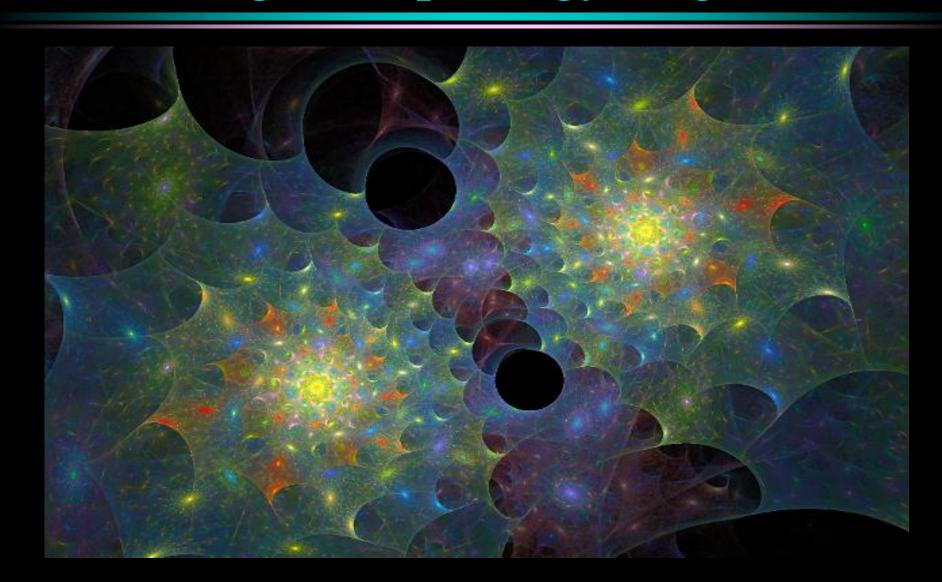


Closeup detail of signal amplifier / processing / conditioning unit

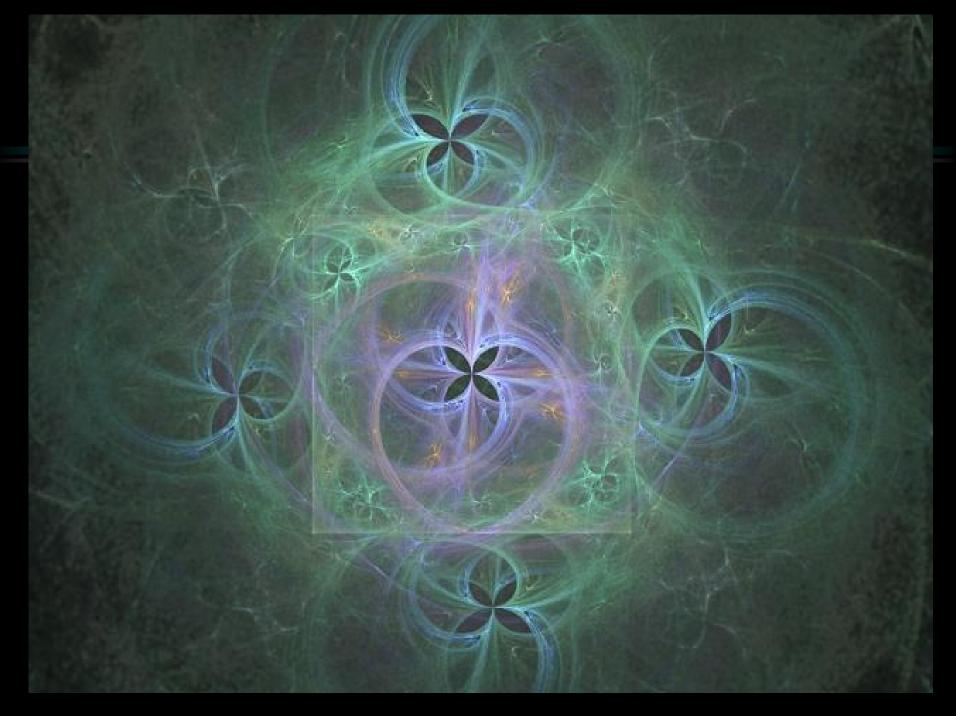


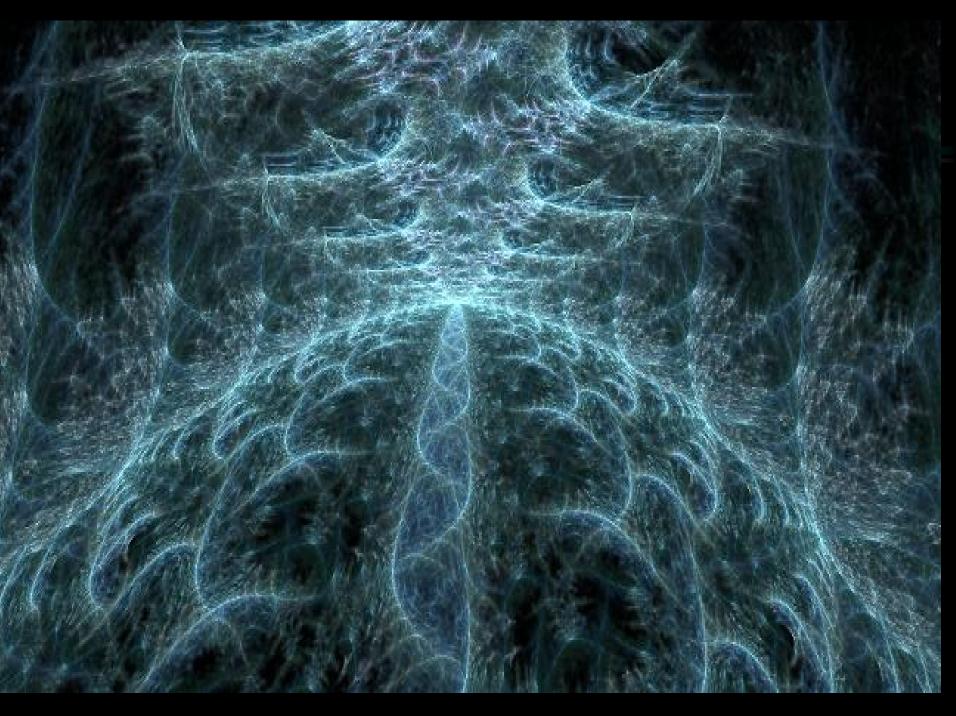
phase pattern sets displaying 1/10 Hz increments of delta f in a 8 – 16 Hz

# "BrainPaint" EEG to Fractal Image Morphology Engine





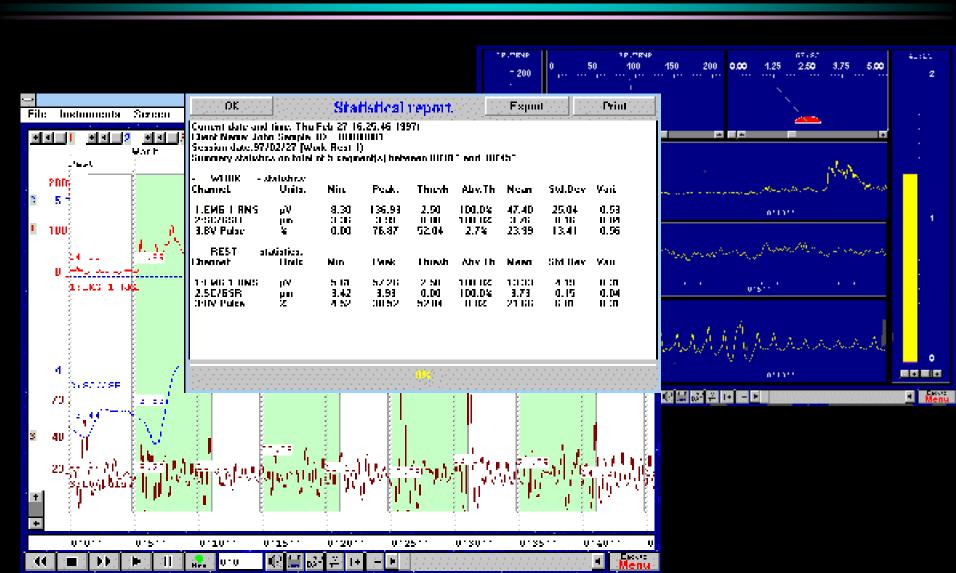








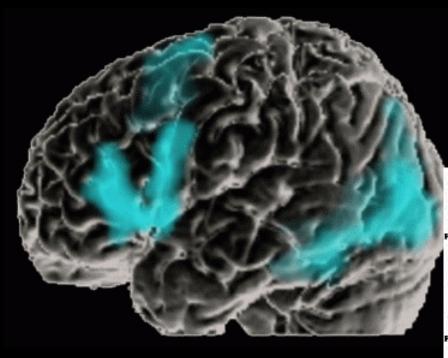
### Mapping Neurological Functions

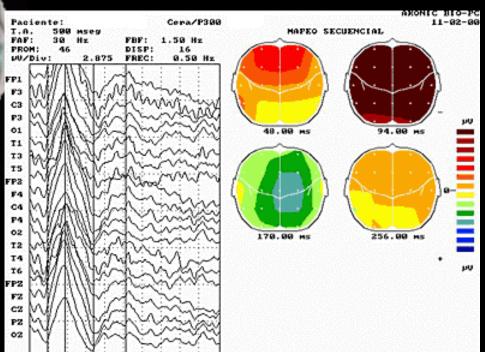


### Correlating to Cognition

NOTA:

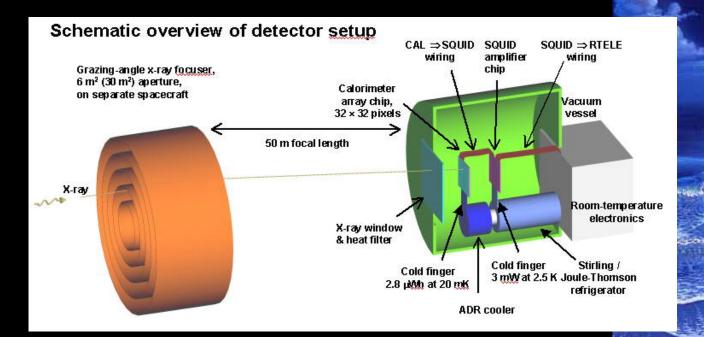
Cera/P300





# Signal detection using superconducting quantum interference device

Technical tools toward spiritual evolution?



Existence Morphology – Re-Defining the Boundaries of Apparent Time / Space Continuum

**Perception** 

Apparent "Reality"

#### Cognition

Mapping the intersection of Inspiration and consciousness

4/24/2010

Existence Morphology – Re-Defining the Boundaries of Apparent Time / Space Continuum

Consciousness

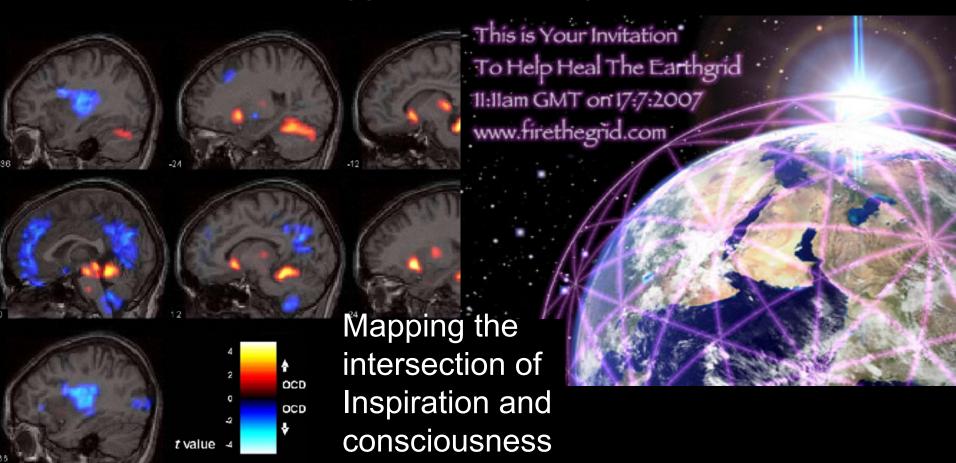
#### Quantum Physics

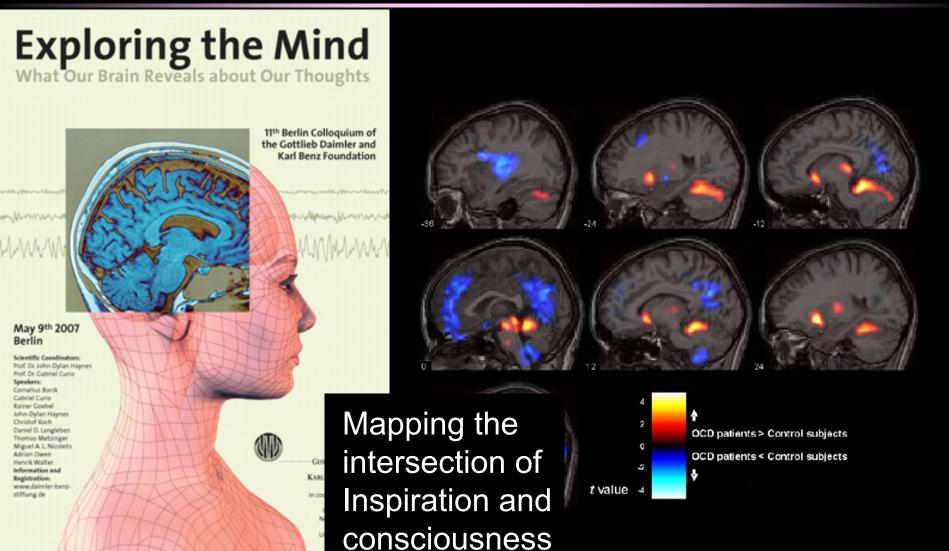
#### **Biophysics**

Mapping the intersection of Inspiration and consciousness

4/24/2010

Existence Morphology – Re-Defining the Boundaries of Apparent Time / Space Continuum





#### Collective Consciousness Enhancement

Evolution of the Hybrid Quantum Meta-Organism



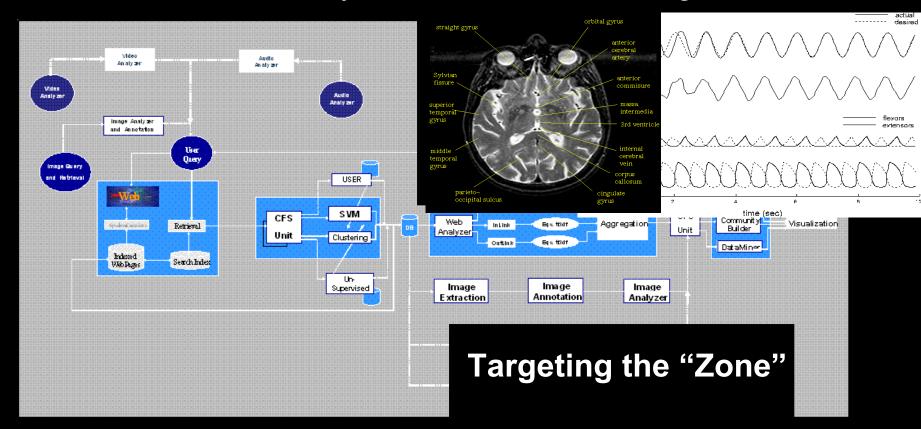


Mapping the intersection of inspiration and consciousness



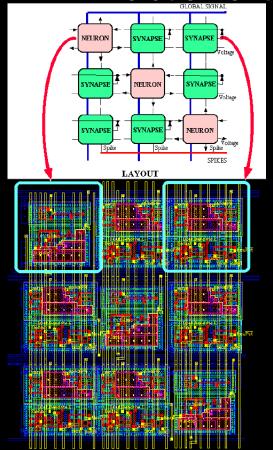
Collective Consciousness Enhancement

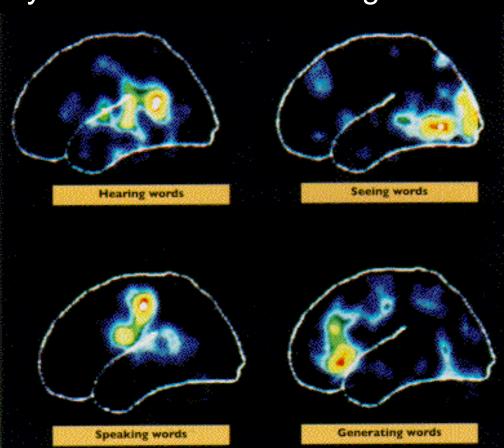
Evolution of the Hybrid Quantum Meta-Organism



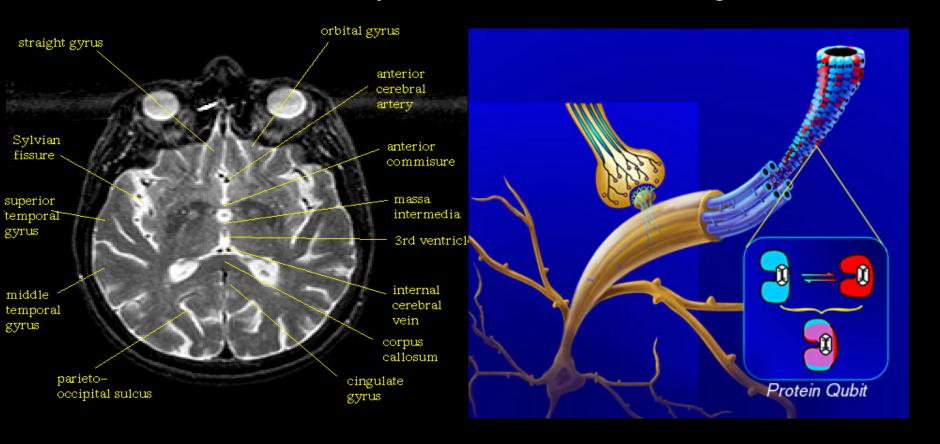
#### Collective Consciousness Enhancement

Evolution of the Hybrid Quantum Meta-Organism

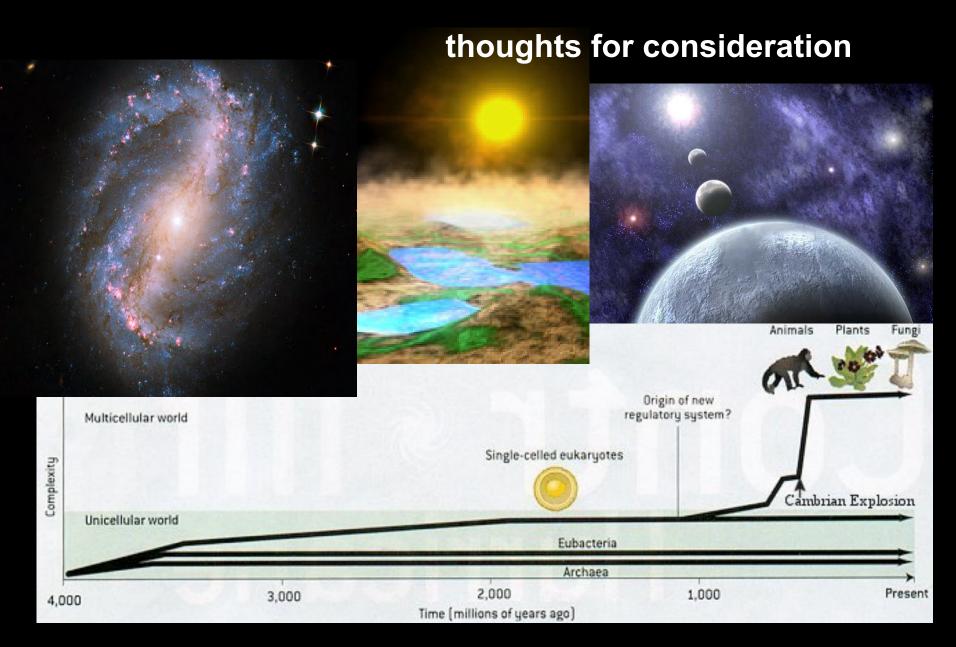




#### Collective Consciousness Enhancement Evolution of the Hybrid Quantum Meta-Organism



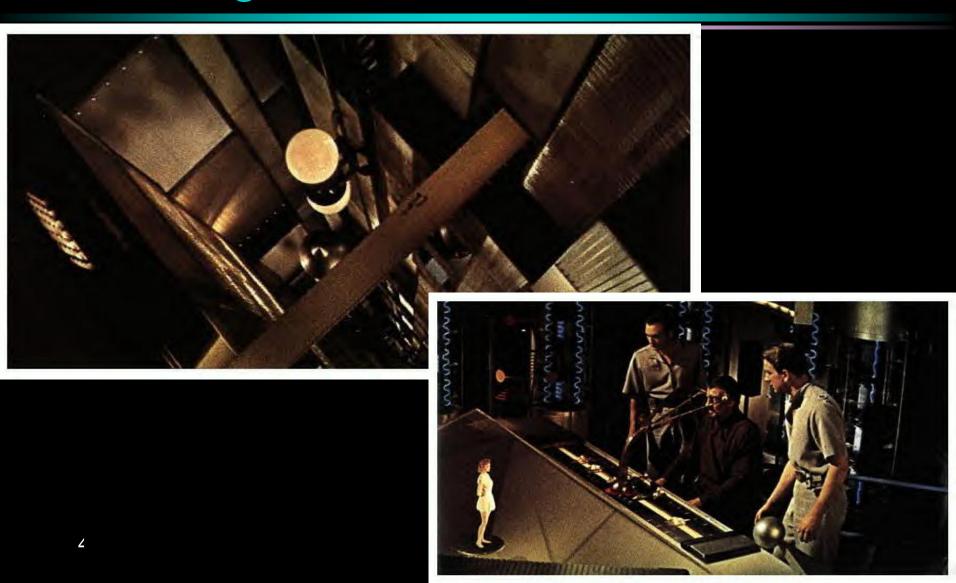
#### Conclusions . . .



### Info Bio Nano Cogno Tech Convergence – on the Forbidden Planet



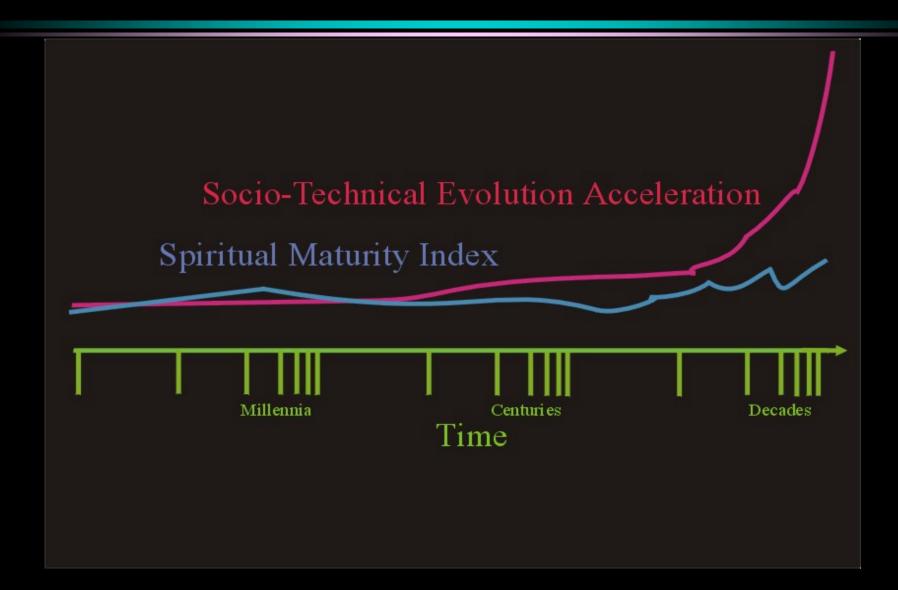
### Info Bio Nano Cogno Tech Convergence – on the Forbidden Planet



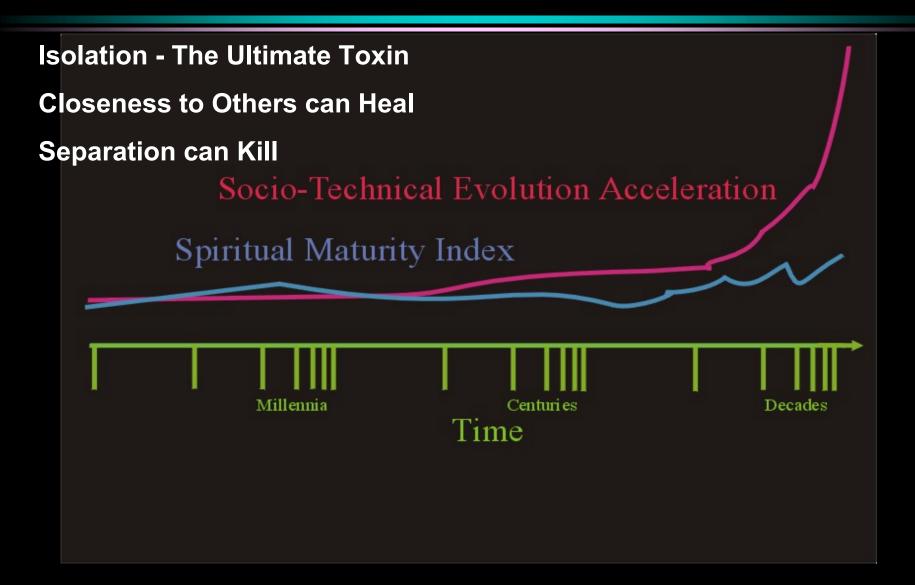
# Ultimate failure point – "monsters from the Id"



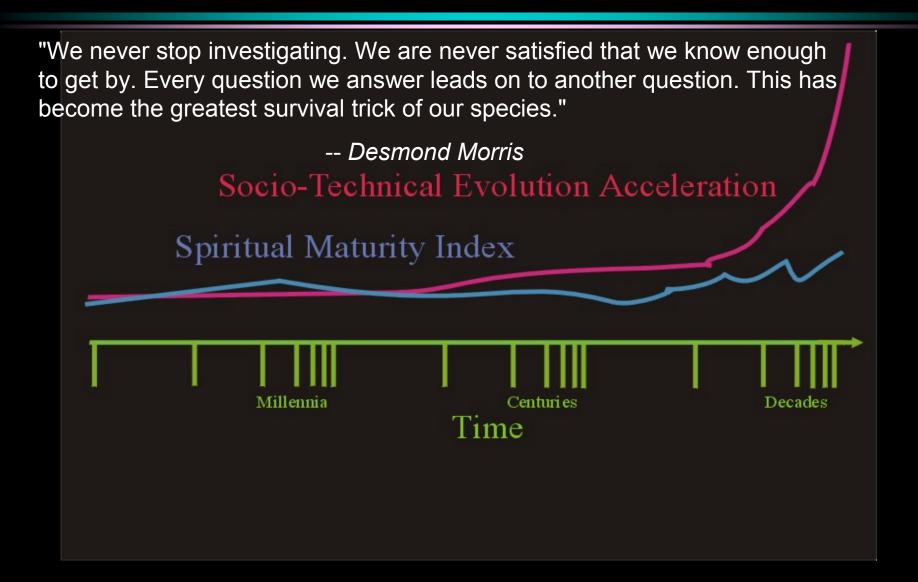
# Approaching the Evolutionary Eventhorizon Threshold



# Approaching the Evolutionary Eventhorizon Threshold



## Approaching the Evolutionary Eventhorizon Threshold



### We are Biophysical Manifestations of Entities Dwelling within the Ubiquitous "Quantum Jello" Manifold –

- All Living Things are Interconnected into an non-localized Operational Ecology
- This Planet as a "Living System" is Interconnected into a Cosmological Ecology

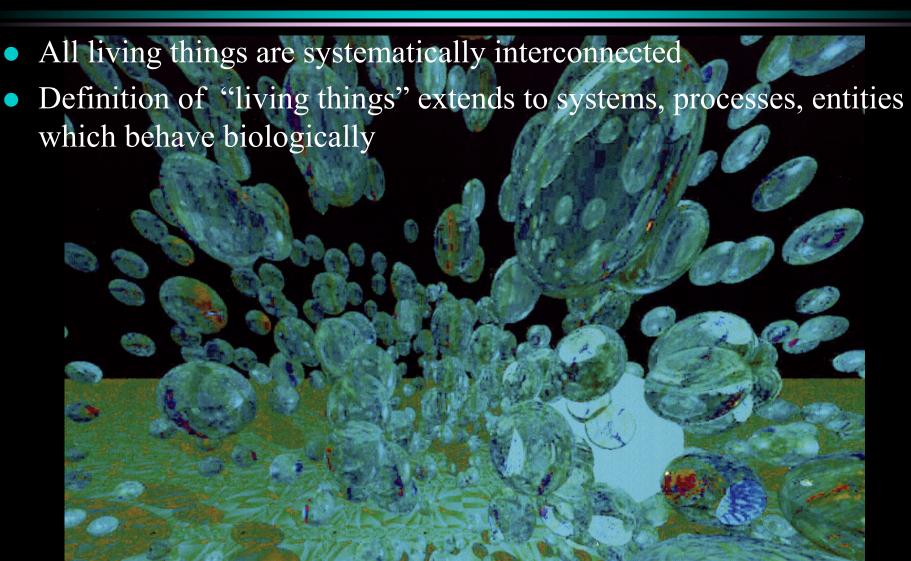




## Evidence of Physical Manifestations of Communication within the Empathic Web



### The Holographic Perspective



# Evidence of Physical Manifestations of Communication within the Empathic Web



## Evidence of Physical Manifestations of Communication within the Empathic Web



## Quantum Biology, Collective Consciousness, and the Proactive Manifestation of Future History

