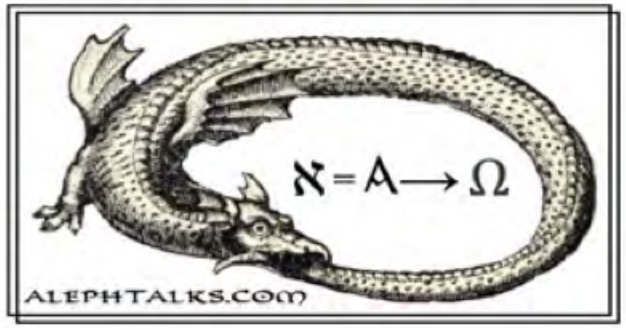
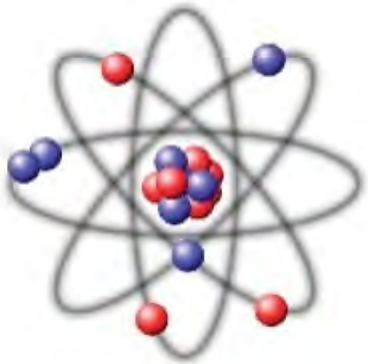
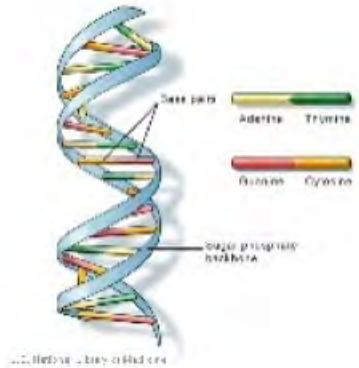
Is Mysticism Where Science, Art, and Religion Meet?

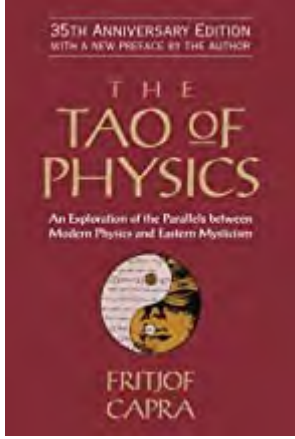




Subject Two
Mysticism and Science



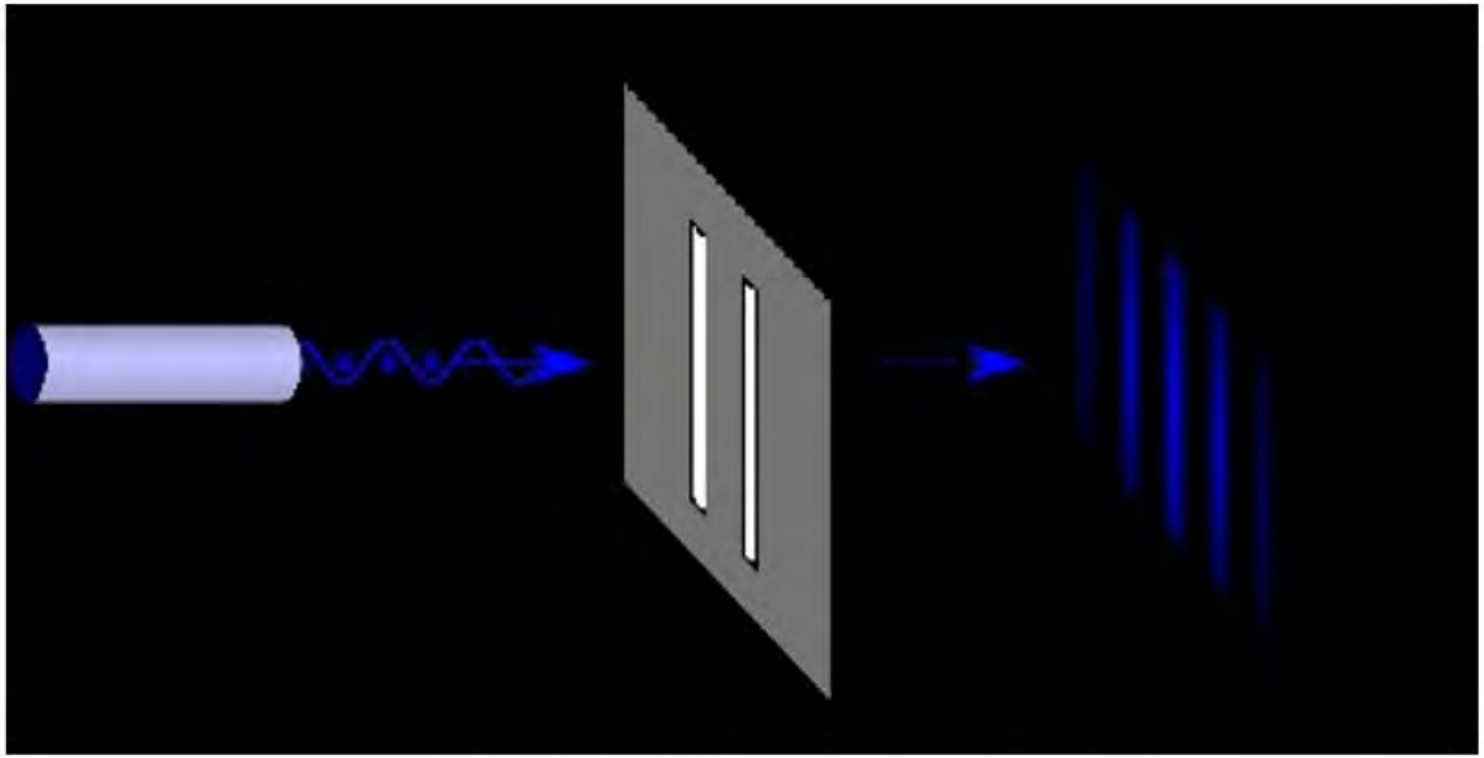
Part I: The Mysticism of Physics



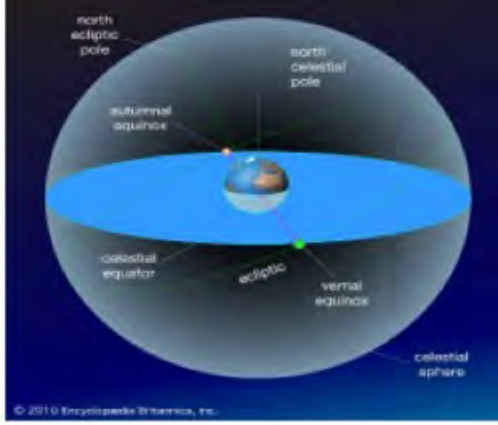
The Electron Single Slit/Double Slit Mystery
The Precession of the Equinoxes
The Titius/Bode Law of Planetary Orbits
Astronomy Drives Science
Matter Is Made Up of Atoms
Matter and Dark Matter Description
Native American Indians and Star People
Newton Space-Time
Emmy Noether Conservation Laws
Elie Cartan Ten Equations of Rigid Body Mechanics
The Ether: A Road Not Taken
Setting the Stage: More Than Four Dimensions
Compactified Dimensions
Calabi-Yau Manifolds
Historical Evolution of Space-Time Concepts

Mysticism in Science

- https://www.youtube.com/watch?v=Q1YqgPAtzho&t=14s



Precession of the Equinoxes



Hamlet's Mill by Geogio de Santillana and Hertha von Dechend

· an early (Neolithic) discovery of the precession of the equinoxes (usually attributed to Hipparchus, 2nd century BCE), one cycle of 25,920 years roughly (25,920/12=2,160 years or one age, we just left Age of Pisces and have now entered Age of Aquarius), and

·an associated very long-lived Megalithic civilization of "unsuspected sophistication" that was particularly preoccupied with astronomical observation.

·The knowledge of this civilization about precession, and the associated astrological ages, would have been encoded in mythology, typically in the form of a story relating to a millstone and a young protagonist—the "Hamlet's Mill" of the book's title, a reference to the kenning Amlóða kvren recorded in the Old Icelandic Skáldskaparmál.

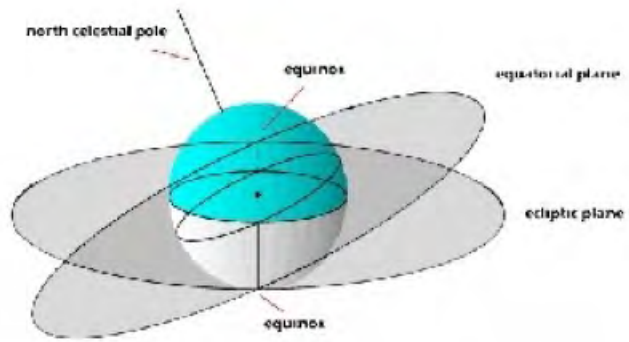
·The authors indeed claim that mythology is primarily to be interpreted as in terms of archaeoastronomy ("mythological language has exclusive reference to celestial phenomena"), and they mock alternative interpretations in terms of fertility or agriculture.

Logarithmic Spiral Basis of the Titius-Bode Law

Sacred Geometries & Their Scientific Meaning (smphillips.mysite.com)

Why do all planets in the solar system except for Neptune and Pluto obey the Titius-Bode Law?
When the solar system formed, the spiral arms of the planetary nebula had the geometry of a logarithmic spiral, and spread out into elliptical rings around the proto-sun while the elliptical rings aggregated together through collisions into separate planets
Each annulus narrowed as its material accreted through collisions to form a planet
The arithmetic mean of the radii of each ring set the distance of the planet from the asymptotic center of the logarithmic spiral.
Titius-Bode Law says these averages are wavelengths of perfect fourths of undertones of the Pythagorean musical scale.
Mercury's orbit is not concentric with those of other planets, so astronomers misinterpreted the the first in the relationship as the average distance of this planet from the sun
The eight-fold patterns of nature (electrons in atoms, quarks in nuclei) suggest the planets too group in octets conforming to self-similar, scale-invariant geometry of the logarithmic spiral
The Solar System exhibits beautiful arithmetic properties expressed in terms of integers 1,2,3 and 4 (octonions!)
The number values of the Hebrew Godnames/Kaballah determine planetary distances
The E8 Lie algebra/projective geometry of octonions with 248 parameters emerges as the distance in units of one tenth the Earth-Sun distance between the outer edges of the rings generating Earth and Pluto

Astronomy Drives Science



- **Egypt, Sumeria, Stonehenge**-precession of the equinoxes
- **Copernicus**-Heliocentric solar system of sun and planets
- **Kepler**-three laws of planetary motion
- **Tycho Brahe**-precise observations used by Kepler
- **Galileo**-speed, velocity, inertia, gravity, telescopic observations
- **Newton**-mechanics of planetary motion via calculus
- **Laplace, Lagrange, Hamilton**-principle of least action
- **Poncaire**-chaos
- **Edwin Hubble**-galaxies are moving away from one another
- **Fritz Zwicky**-galaxies contain dark matter
- **Einstein**-black hole exists

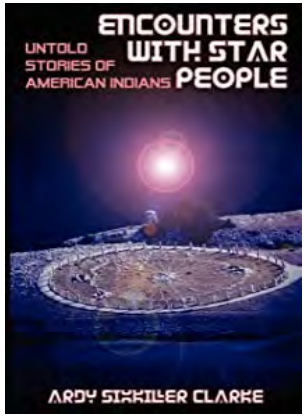
The Fundamental Components

- Democritus: Atoms and Void, Atoms Fundamental Building Blocks of Matter, Last forever
- Newton: Space and Time, Each Separate and Go Forever
- Maxwell/Tesla: Space Is an Ether
- Einstein: Space-Time Is a Manifold that Curves/bends as you approach/depart from matter
- Alfven (Nobel Prize Physics 1970): Matter is 99.9 % plasma, plus solid, liquid, gas
- Zwicky: Dark Matter Inferred in 1933 from Revolution of Galaxies
- Current State of Universe: 5% matter, 27% Dark Matter, 68% Dark Energy

The Fundamental Components

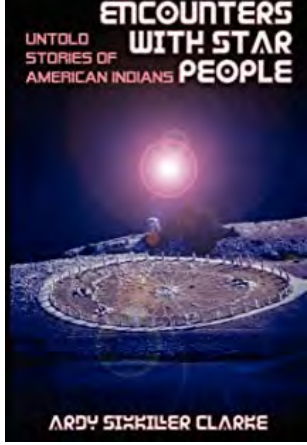
- **Matter**
  - Rutherford 1909-1911 showed atom mostly empty, electron cloud around nucleus
  - Heisenberg 1930: Neutron.proton makes up nucleus
  - Pauli 1930: Neutron breaks down into electron, proton and neutrino
  - Gellmann 1964: Three quarks make up each neutron/proton
  - Besant-Leadbeater 1894: Three subquarks make up each quark
  - Neutrinos, Higgs boson, strings of neutrinos for subquarks, electron, information, space compartments, unchanging and eternal but can be converted to dark matter
- **Dark Matter: Ron Cowen 1990-2019**
  - Quiescent, forms tubes hundreds of kilometers long in space
  - Active, interacts by gravity with matter for energy, sentient spirits/souls
  - Dark matter neutrinos, dark matter Higgs bosons, strings of dark matter neutrinos for subquarks, information, space compartments, unchanging and eternal

American Indian Encounters with the Star People



- Hopi emergence myth: destruction of three earlier worlds when wars were fought with flying shields
  - In 1969, Hopis said we have been to Moon before, look around for our rock writings
  - In 1970, Chief Dan Katchongva, Hopi elder, told of a future when space travelers from other planets would lift the Hopi's faithful on the Day of Purification to safe worlds
- Cherokee told of the Star People who create Elohi (Earth) for Cherokee
- Iroquois and Cherokee told story of a young man who met four men in robes who said they were there to protect him
- Algonquin tell of a great willow basket that descended from sky with 12 beautiful women
- Blackfeet tell of a young woman who fell in love with Morning Sun who took her to live in sky
- Pawnee designed lodges and villages in alignment with stars and planets
- Cree claimed to come from stars in spirit form then became flesh and blood

American Indian Encounters with Star People and Little People



- Seminoles told of traveling upward to sky to visit Great Spirit
- Snoqualmie tell of two sisters who wished the two stars in hight skies would be their husbands, when they awoke they were in the sky world and stars were men; older sister infant, Star Child, went to earth and transformed or changed the world
- Tula Indians of Tanico were keepers of Manataka in Arkansas; sacred site for Caddo, Quapaw, Osage, Tunic and Pawnee
- Blanca Massif in San Luis Valley is where Navajos say Star People arrive
- Cherokees
  - Southeastern US occupied by race of small people who lived below ground, large eyes sensitive to light with blue skin, called Moon People
  - Ynwi Tsunsdi, the little people who live in the forest, abducted Cherokee pregnant women

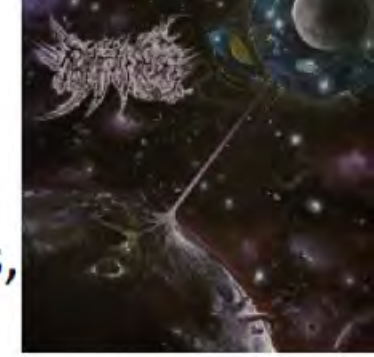
Emmy Noether:
Symmetry and Conservation Laws

Noether's theorem or **Noether's first theorem** states that every differentiable symmetry of the action of a physical system has a corresponding conservation law.[1] The theorem was proven by mathematician Emmy Noether in 1915 and published in 1918, after a special case was proven by E. Cosserat and F. Cosserat in 1909. The action of a physical system is the integral over time of a Lagrangian function (which may be an integral over space of a Lagrangian density function), from which the system's behavior can be determined by the principle of least action. This theorem only applies to continuous and smooth symmetries over physical space.

Ten Equations of Nonrelativistic Rigid Body Dynamics: E Cartan 1924

- Extend from three dimensions to four space-time dimensions
- Four equations for conservation of linear momentum and energy
- Six equations for conservation of space-time angular momentum

The Ether: A Road Not Taken



- Light was postulated to be particles called corpuscles by Isaac Newton in **Opticks**, because waves to not travel in straight lines (longitudinal wave)

- Light obeyed diffraction, interference and polarization so Huygens-Young-Fresnel wave theory was adopted (transverse wave)

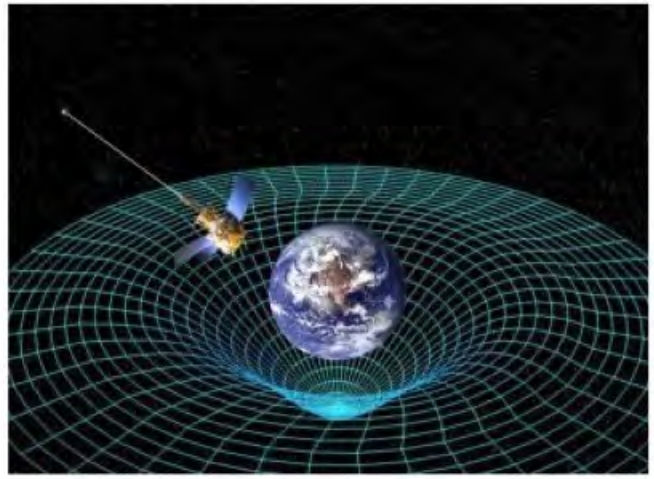
- Albert Einstein postulated light in photoelectric effect was made of particles called photons that would hop in quantized space compartment from space compartment to space compartment

- The quantized space compartments form the ether that carries light

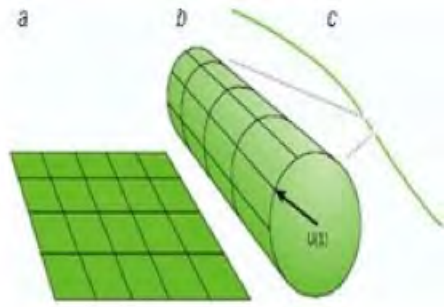
- If the equations of electrodynamics and fluid mechanics for a perfect incompressible fluid are combined, electromagnetism, strong and weak force, and gravity (spatial density) all arise from these equations (perturbation analysis)

Setting the Stage

- 1916 Albert Einstein Publishes General Theory of Relativity
- 1919 Kaluza: five dimension extension
- 1926 Oskar Klein: compactified dimensions
- 1954 Eugenio Calabi hypothesizes new manifold
- 1976 Shing-Tung Yau proves manifold exists
- 1962 Richard Feynman Caltech Lectures
- Showed spin-2 graviton is simplest quantum gravity theory



More Compactified Dimensions



- In April 1919 Theodor Kaluza noticed that when he solved Albert Einstein's equations for general relativity using five dimensions, then Maxwellian equations for electromagnetism emerged spontaneously.

- Kaluza wrote to Einstein who, in turn, encouraged him to publish. Kaluza's theory was published in 1921 in a paper, "Zum Unitätsproblem der Physik" with Einstein's support in *Sitzungsberichte Preußische Akademie der Wissenschaften* 966–972 (1921)

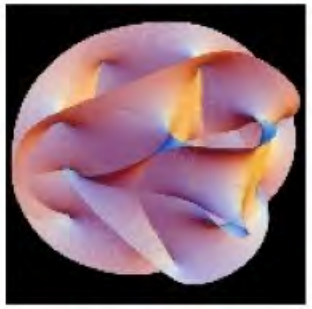
- Oskar Klein is credited for inventing the idea, part of Kaluza–Klein theory, that extra dimensions may be physically real but curled up and very small, an idea essential to string theory / M-theory.

Many Dimensions!

Three dimensions for space and one for time is NOT enough
Twenty six dimensions might suffice but is incomprehensible:
-Suppose the dimensions are folded up on one another,
  So we can have 26! foldings or 10^27 possible foldings!!!
  With a six dimensional space we have 6!=720 possible foldings!!
  How in the world does this simplify anything?
One possibility is that when a space compartment is examined
  The walls of the space compartment abut onto a six dimensional subspace
  Or even an eighteen dimensional subspace, so the dimensions are not
  Compactified but rather are walled off by information walls

Science (cont'd)

- Calabi-Yau Manifold
- Calabi proposed these geometric structures in 1954
- Yau proved these geometric structures exist in 1976
- http://www.scholarpedia.org/article/Calabi-Yau_manifold#:~:text=0his%2 Conjecture.



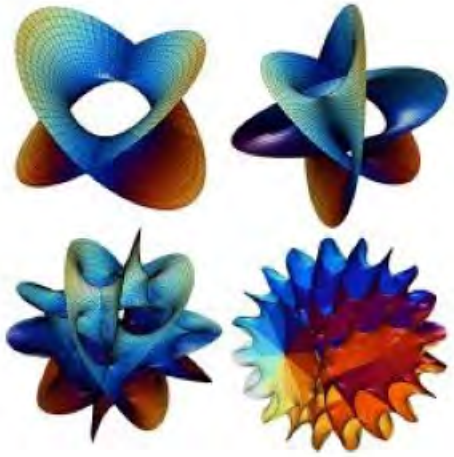
Calabi Yau Manifold: Wikipedia

- In algebraic geometry, a **Calabi–Yau manifold**, also known as a **Calabi–Yau space**, is a particular type of manifold which has properties, such as Ricci flatness, yielding applications in theoretical physics. Particularly in superstring theory, the extra dimensions of spacetime are sometimes conjectured to take the form of a 6-dimensional Calabi–Yau manifold, which led to the idea of mirror symmetry. Their name was coined by Candelas et al. (1985), after Eugenio Calabi (1954, 1957) who first conjectured that such surfaces might exist, and Shing-Tung Yau (1978) who proved the Calabi conjecture.

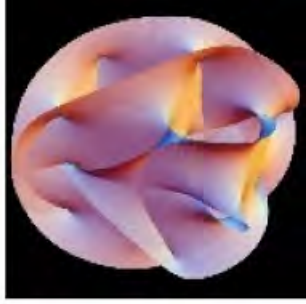
- Calabi–Yau manifolds are complex manifolds that are generalizations of K3 surfaces in any number of complex dimensions (i.e. any even number of real dimensions). They were originally defined as compact Kähler manifolds with a vanishing first Chern class and a Ricci-flat metric, though many other similar but inequivalent definitions are sometimes used.

Calabi Yau YouTube Videos

- https://www.youtube.com/watch?v=TO2Re7529Go
- https://www.youtube.com/watch?v=_fzxshvzK6s
- https://www.youtube.com/watch?v=BtQwf8vVay0



Calabi-Yau Manifold Information Dimensions

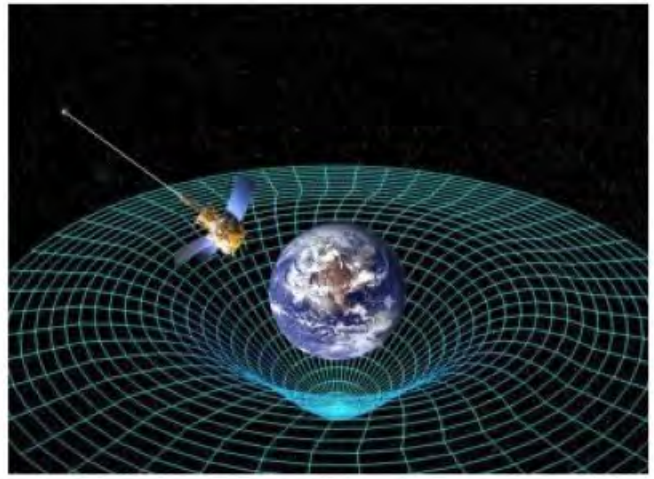


The six dimensions in each of the three Calabi Yau manifolds deal with different entities on different scales of space

1. electrons
2. Protons and neutrons
3. space compartments
4. large bodies like galaxies
5. large clouds (plasma matter clouds, dark matter clouds)
6. the precision and order of return in the big bounce

Setting the Stage

- 1971 Lovelace shows spin-2 graviton exists in 26 dimensional space
- Basic equations hold for vibrating strings and satisfy symmetry conditions
- 2019: 26 real (13 complex) dimensional space for fermions and bosons
- Real matter fermions exist in 10 dimensional subspace
- four spacetime, six compactified
- Dark matter fermions exist in separate 10 dimensional subspace
- four spacetime, six compactified
- Bosons exist in all 26 dimensions
- Six compactified dimensions connect to matter/dark matter compactified dimensions



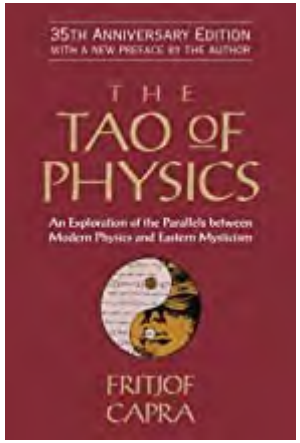
Space and Time: Modern Science Evolution

- **Mechanics:** space and time have no relation
- Newton's equations are time reversible
- **Special Relativity:** space and time are coupled
- As velocity approaches the speed of light, time slows
- **General Relativity:** space and time are coupled
- As the gravitational field strength grows, time slows
- **Statistical Mechanics:** time is an arrow
- The arrow of time points, but does it move

Where Are We Going: A Picture

MATTER	DARK MATTER
Space Time 4 DImensions	Space Time 4 Dimensions
Calabi Yau Manifold 6 Compactified Dimensions 3 Holes Hodge Diamond (9,11,6,7)	Calabi Yau Manifold 6 Compactified DImension 4 Holes Hodge Diamond (17,12,21,12)
Calabi Yau Manifold 6 Compactified Dimensions 8 Holes Hodge Diamond (8,23,21,17)	

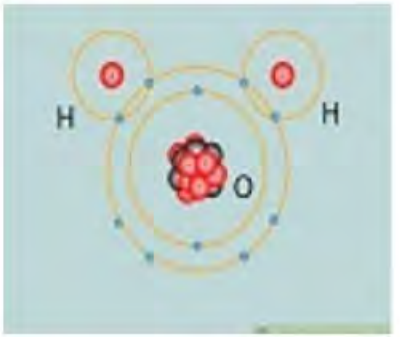
Part II: Modern Mathematical Physics

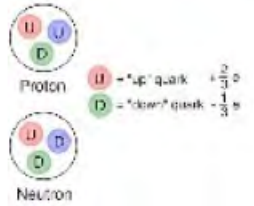


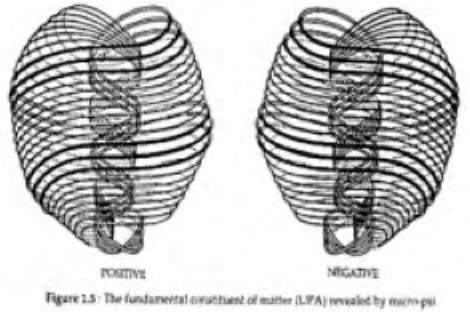
Twenty Six Real Dimensional Universe
Matter Particles in the Ten Dimensional Matter Subspace
Dark Matter and Dark Energy and Big Bounce
The Standard Model of Matter Fermions/Bosons
Mathematics and Physics
Herman Grassmann and Exterior Calculus/Electromagnetism
Four Fundamental Forces
Eastern Medicine
Alchemy
Global Religions
Where We Are Going in Words
The Layers of Science
Action at a Distance vs Fields
Lagrange Principle of Least Action

The Particle Hierarchy of Nature

- Molecules are made up of elemental atoms
- Elemental atoms are made up of electrons and nuclei
- Nuclei are made up of neutrons and protons
- Neutrons and protons are made up of three quarks each
- Quarks are made up of three subquarks each
- Subquarks are made up of closed heterotic strings
- Strings are made of neutrinos
- Higgs bosons scales the mass of matter/dark matter







Where Are We Going In Words

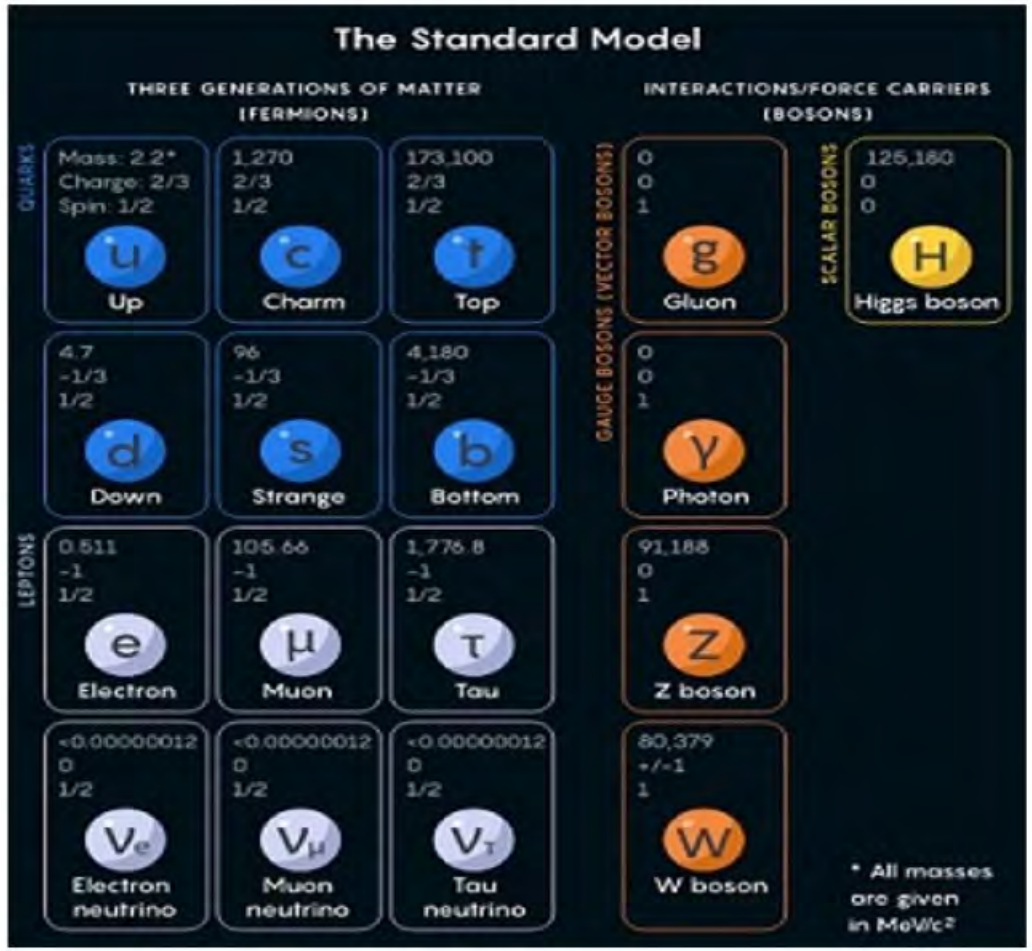
- **Dark energy** is the expansion of space compartments from the **Big Bounce** (which has been misnamed the **Big Bang**)

- **Dark matter** consists of a dark matter Higgs boson, dark matter neutrinos, and dark matter quarks

- **Dark matter** is either quiescent (in instellar space forming tubes hundreds of kilometers long) or active (forming sentient entities called souls or spirits, as well as chakras)

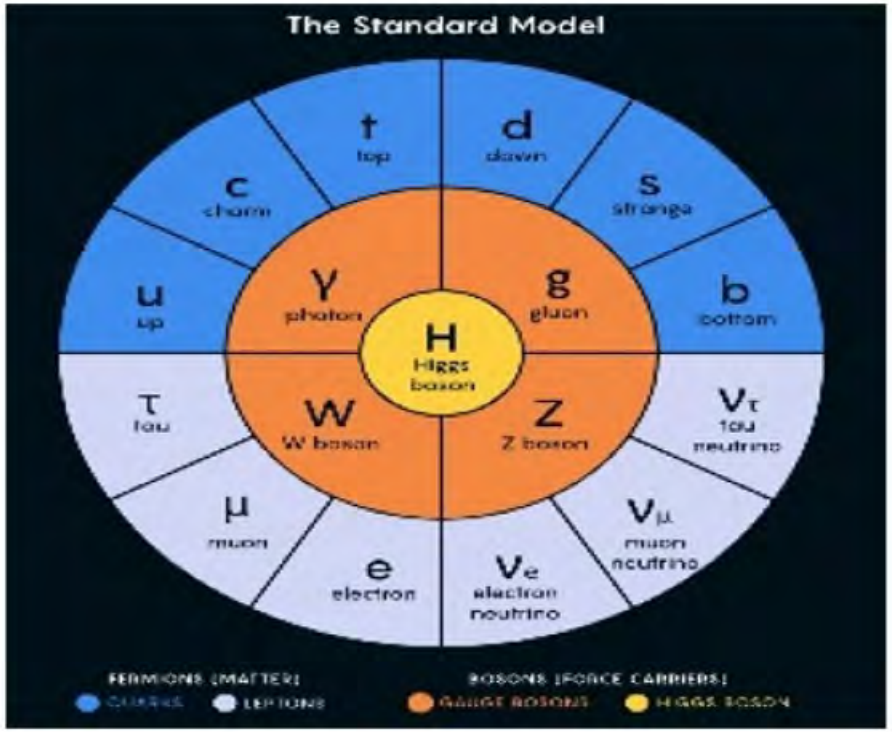
- The **Big Bounce** occurred when all of the universe was compacted down into strings made up of neutrinos and information forming the walls of space compartments; the **Big Bounce** led to information inflating outward to create larger space compartments and this continues today and is called dark energy; the **Big Bounce** occurred at least a quadrillion years ago.

New Map of the Standard Model

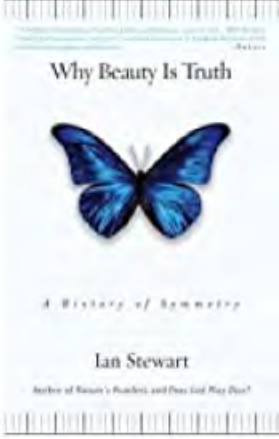


New Map of the Standard Model

https://www.quantamagazine.org/a-new-map-of-the-standard-model-of-particle-physics-20201022#interactiveMap



The Unreasonable Effectiveness of Mathematics in the Natural Science



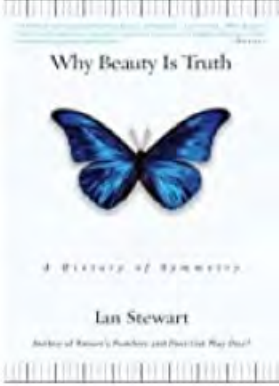
- The enormous usefulness of mathematics in the natural sciences is something bordering on mysterious and there is no rational explanation for this

- This uncanny usefulness of mathematical concepts raises the question of the uniqueness of our physical theories

- We should be grateful for it and hope it will remain valid in future research and that it will extend, for better or for worse, to our pleasue, even though perhaps also to our bafflement, to wide branches of learning

- 1960, Eugene Wigner, https://www.dartmouth.edu/~matc/MathDrama/reading/Wigner.html

Physics and Mathematics



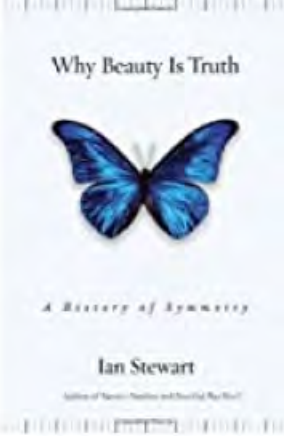
·Paul Dirac: Nature's laws have to be both mathematical and beautiful. The mathematician plays a game in which he himself invents the rules, while the physicist plays a game in which the rules are provided by nature, but as time goes on, it becomes increasingly evident that the rules which the mathematician finds interesting are the same as those which nature has chosen.

·Thomas Huxley: science is organized common sense, where many a beautiful theory was killed by an ugly fact

·Albert Einstein: so many fundamental things are unknown (e.g., the nature of time, the sources of ordered havior of matter, the start and end and shape of the universe) we must remind ourselves how far we are from understanding anything ultimate. To the extent that it is useful, mathematical elegance provides us only local and temporary truths. Still it is our best way forward.

·Eugene Wigner: we make a rather narrow selection when choosing the data on which we test our theories. How do we know that, if we made a theory which focuses its attention on phenomena we disregard and disregards some of the phenomena now commanding our attention, that we could not build another theory which has little in common with the present one but which, nevertheless, explains just as many phenomena as the present theory? It has to be admitted that we have no definite evidence that there is no such theory.

Science and Religion



- **Astronomy** (Copernicus, Kepler, Brahe, Galileo, Laplace)
- **Mechanics** (Newton, Lagrange, Hamilton, Poincare)
- **Group Theory/Symmetry** (Galois, Killing, Lie, Cartan, Conway)
- **Electro-magnetism** (Faraday, Maxwell)
- **Quantum mechanics** (Planck, Einstein, Bohr, de Broglie, Heisenberg, Schroedinger, Pauli, Dirac)
- **Relativity** (Lorenz, Einstein, Hawking, Penrose)
- **Information** (von Neumann, Turing, Grenander, van der Linde, Wolfram)
- **Particle physics:** (Feynman, Schwinger, Tomonaga, Gellman, Weinberg, Salam, Higgs, Anderson, Bardeen, Witten)
- **Fundamental ingredients:** space-time and information controlling geometry of space-time

Exterior Calculus and Electromagnetism

- Hermann Grassmann (1809-1877) was a German polymath
- In 1844 he published a work that laid down the foundations of linear algebra: dimension, subspace, join, meet, span, projections
- He also defined exterior product (1847), which was modified by Clifford in 1878 to include Hamilton's quaternion algebra
- The **exterior derivative** extends the concept of the differential of a function to differential forms of higher degree. The exterior derivative was first described in its current form by Élie Cartan in 1899. It allows for a natural, metric-independent generalization of Stokes' theorem, Gauss's theorem, and Green's theorem from vector calculus.
- If a differential k-form is thought of as measuring the flux through an infinitesimal k-parallelotope at each point of the manifold, then its exterior derivative can be thought of as measuring the net flux through the boundary of a $(k + 1)$-parallelotope at each point.

Exterior Calculus and Electromagnetism: Grassmann (1847)

- Scalar function in electromagnetism: electric and magnetic **gauge** in zero dimensions
- First exterior derivative: electric and magnetic **vector potential** in four dimensions (space (x,y,z) and symplectic time (ict))
- Second exterior derivative: electric and magnetic **fields** in two pairs of three dimensional spaces or one six dimensional space
- Third exterior derivative: electric and magnetic current density in four dimensions
- Fourth exterior derivative: electric and magnetic **charge source** in zero dimensions

Exterior Calculus and Electromagnetism

Theorem (Classical electrodynamics—Maxwell's equations): If $M : \Lambda^k(T^*_x) \to \Lambda^k(T^*_x)$ is a smooth function of $\Lambda^k(T^*_x)$, and is invertible at every point of the manifold X, then the diagram shown below commutes

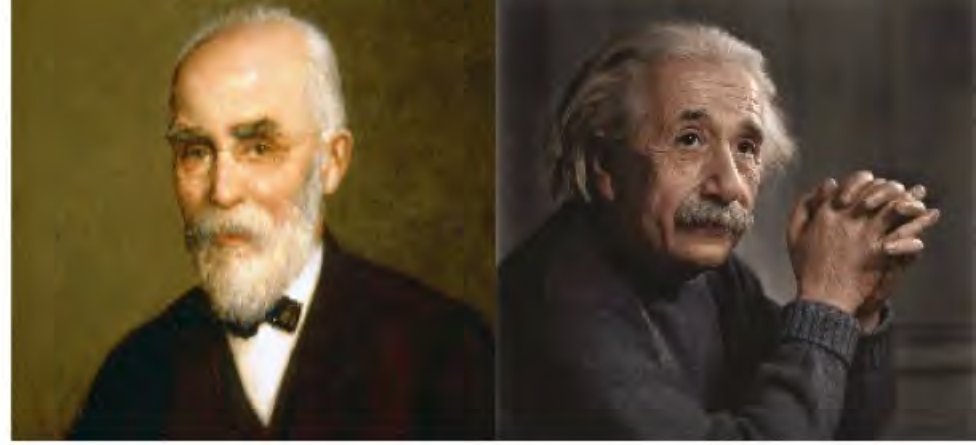
$$\begin{array}{ccccccccc}
\Lambda^0 & \xrightarrow{d} & \Lambda^1 & \xrightarrow{d} & \Lambda^2 & \xrightarrow{d} & \Lambda^3 & \xrightarrow{d} & \Lambda^4 \\
\downarrow{\scriptstyle *M*} & & \downarrow{\scriptstyle *M*d} & & \downarrow{\scriptstyle M} & & \uparrow{\scriptstyle M^{-1}} & & \uparrow{\scriptstyle *M^{-1}*d} & & \uparrow{\scriptstyle *M^{-1}*} \\
\Lambda^4 & \xleftarrow{d} & \Lambda^3 & \xleftarrow{d} & \Lambda^2 & \xleftarrow{d} & \Lambda^1 & \xleftarrow{d} & \Lambda^0
\end{array}$$

where d is the exterior derivative.

Four Forces of Nature

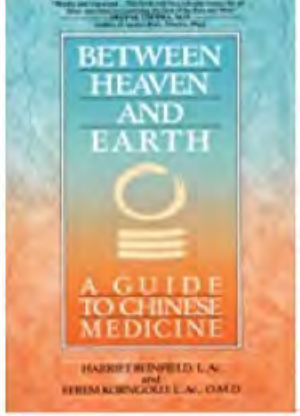
	Strength	Range	Particle	Mass	Spin
Gravity	6*10^-39	Infinite	Graviton	0	2
Electromagnetism	10^-2	infinite	Photon	0	1
Strong Force	1	10^-15	Gluon	0	1
Weak Force	10^-6	10^-18	Weakons	Large	1

Science (cont'd)



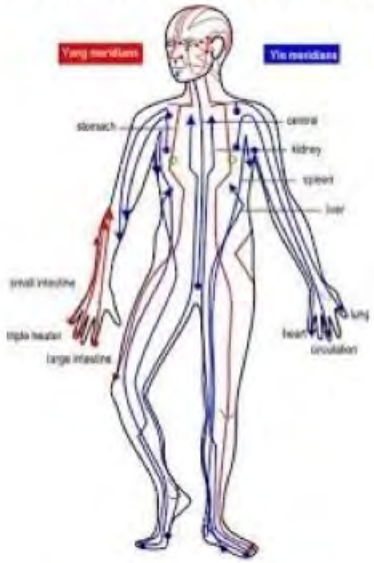
- Time
- We live in the instant of the NOW
- The past is gone
- The future lies ahead
- Only the NOW or present exists
- Time is different from all other dimensions
- Synchronicity
- the simultaneous occurrence of events which appear significantly related but have no discernible causal connection.

Subject Two: Eastern Philosophy



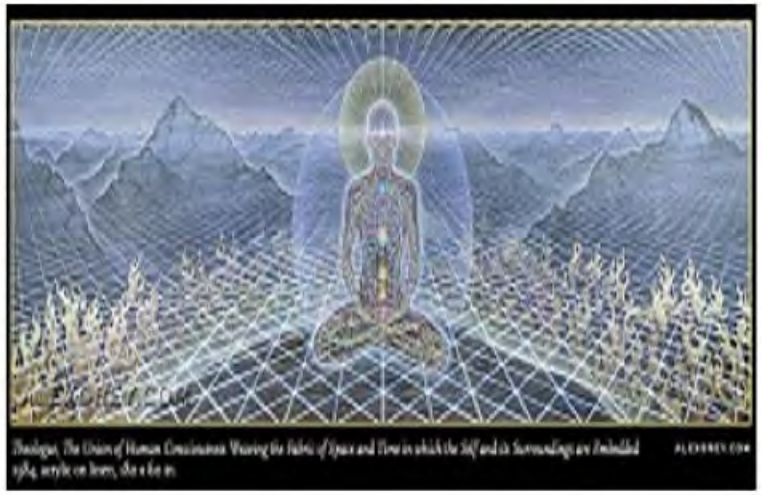
Traditional Chinese Medicine

- Meridians and acupuncture



Japanese Tradition

- Reiki-spiritually directed life force
- Pranic healing (Sanskrit origin)



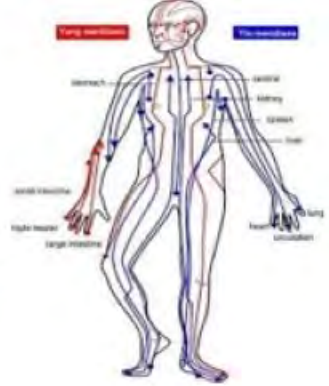
Ayurvedic Tradition

- Chakras

Feng Shui

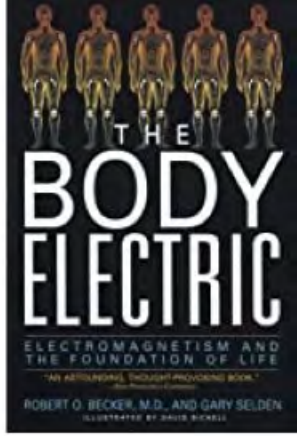
- Wind-water geomancy

Non Western Science



- **Traditional Chinese Medicine**: Herbalism, meridians and acupuncture
- **Ayurvedic Tradition:** Herbalism, chakras, yoga
- **Other:** Reiki, Pranic Healing
- **Alchemy**
  - Egypt, China, Veddas, Sumeria, Patanjali, Dante, Paracelsus, Newton, Jung
  - Ancient spiritual practice and art form that
    - seeks purification of the soul and immortality;
    - in parallel with the transmutation of chemical elements where gold symbolizes perfection / enlightenment
    - Alchemists tried to understand the material basis of the world; Turning lead into gold symbolized a spiritual transmutation equivalent to an awakened consciousness, present in all forms (and which

The Heart and the Human Body

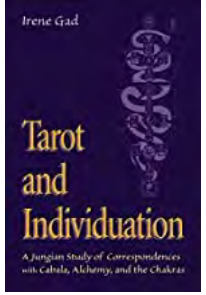


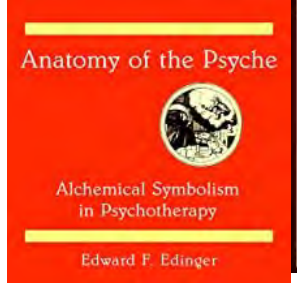
https://www.youtube.com/watch?v=Kyfm5_LLxow&feature=emb_title

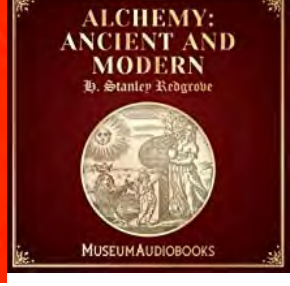
Science: Alchemy

- East: Egypt, China, India Veddas, Sumeria
- West: Dante, Paracelsus, Newton, Jung
- Ancient spiritual practice and art form that
- seeks purification of the soul and immortality,
- in parallel with the transmutation of chemical elements where gold symbolizes perfection / enlightenment
- Alchemists tried to understand the material basis of the world
- Turning lead into gold symbolized a spiritual transmutation equivalent to an awakened consciousness, present in all forms (and which created the Universe)

Alchemy Leading to Chemistry

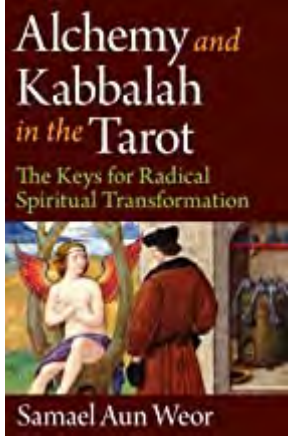






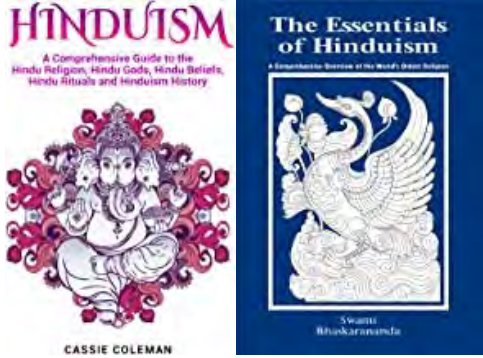
- Dante, Paracelsus, Newton, Jung: brilliant people pursue alchemy for decades
- Both experimental science and philosophy
  - the attempt to demonstrate on the material plane the validity of certain philosophical elements of the cosmos
  - Alchemy was concerned with the soul: its object was perfection, not of material substances, but of humans in a spiritual sense
  - Alcehmy differs from mysticism merely by special language
  - Writings of alchemists must not be taken literally as dealing with chemical operations, furnaces, retorts, alembics, pelicans, as well as materials such as salt, sulphur, mercury and gold, but must be understood as grand allegories dealing with spiritual truths

Alchemy and Tarot
Ten Major Forms of Spiritual Crisis



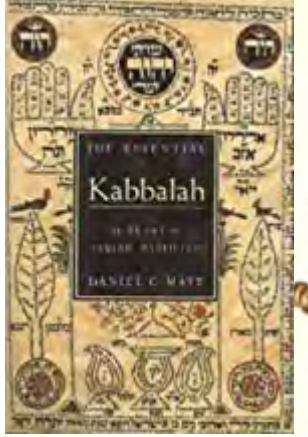
- **Shamanic crisis**
- **Awakening of Kundalini**
- **Episodes of unitive consciousness**
- **Psychological renewal through return to the center**
- **Psychic opening**
- **Past life experiences**
- **Communications with spirit guides and channeling**
- **Near death experiences**
- **Close encounters with aliens**
- **Possession states**

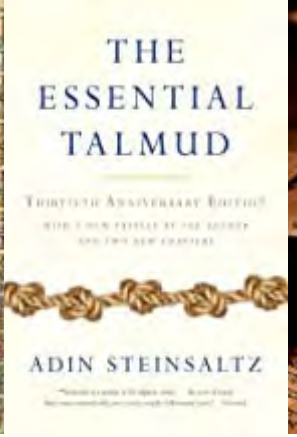
Hinduism

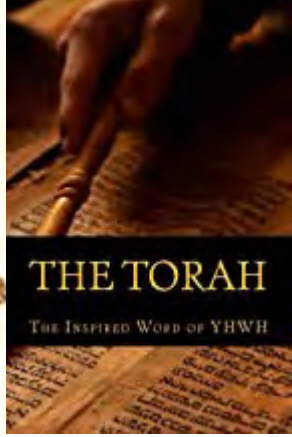


- Aryan view (migrated around 1500 BCE), composed the Rig Veda: Sanatana dharma: the eternal tradition or religion whose origins lie beyond human history, whose truths have been divinely revealed (shruti) and passed down through the ages to the present day in the most ancient of scriptures, the Veda, composed in Sanskrit
- Non Aryan view (Buddhists, Jains, Sikhs, Christians): many others besides Aryans participated in this tradition
- 2600 BCE-1800 BCE: Indus valley civilization (Harappa, Mohenjo-daro) shows temple rites, fertility rituals, use of animals perhaps for sacrifice, and ritual bathing in a large stone pool

Judaism







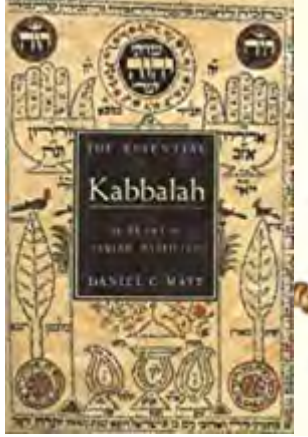
Jewish people believe there's only one **God** who has established a covenant/special agreement with them. Their **God** communicates to believers through prophets and rewards good deeds while also punishing evil. Most Jews (with the exception of a few groups) believe that their Messiah hasn't yet come—but will one day

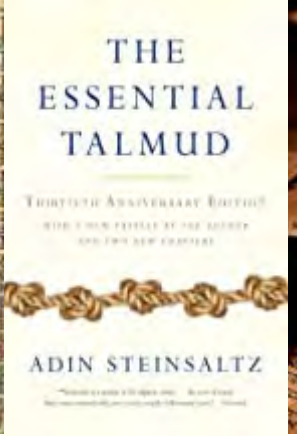
The three main beliefs at the center of Judaism are

- **Monotheism**
- **Identity**
- **Covenant** (an agreement between **God** and his people).

The most important teachings of Judaism is that there is one **God**, who wants people to do what is just and compassionate.

Judaism





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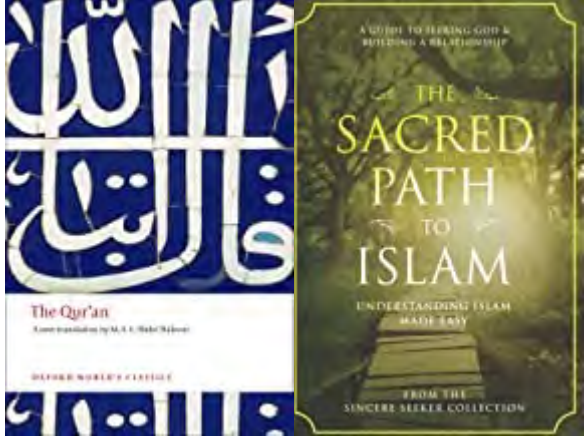
Daoism

- Lao Tzu, who lived in China approximately 2600 years ago, tells us to seek that natural nameless state where there is peace and harmony.
- the destination that Lao Tzu tells us to seek
- the directions that Lao Tzu offers to help us to reach the destination
- the problems that Lao Tzu tells us we will encounter trying to reach the destination
- the strategies that Lao Tzu offers to help us to overcome these problems and to successfully follow his directions

Buddhism

- The essence of Buddha is about living a life with meaning and purpose
- Basic concepts:
  - **The Six Paramitas**
  - **the Laws of Causality**
  - **self-reflection**
  - **the nature of karma**
  - **Reincarnation**
- Enlightenment is a potential achievement for every sentient being.
- The path towards enlightenment is an expansion of consciousness, moving from material concerns to an increaed awareness of the unseen spiritual reality
- The practice of a love that gives, rather than just expecting to be loved, is the only path to happiness, and a better world.

Islam



- **Faith in Islam lets you build a closer and more meaningful relationship with your Creator**
- **The true Message and Wisdom of Islam is a path of life**
- **The Holy Quran is a unique Book that transforms the way one thinks, feels, and lives.**
- **Islam and the Holy Quran changes people from within and makes them better people.**
- **The Five Pillars are the core beliefs and practices of Islam:**
    - **Profession of Faith (shahada). The belief that "There is no god but God, and Muhammad is the Messenger of God" is central to Islam. ...**
    - **Prayer (salat). ...**
    - **Alms (zakat). ...**
    - **Fasting (sawm). ...**
    - **Pilgrimage (hajj).**

Where Are We Going In Words

·The fundamental entities in these subspaces consist of **quantized space compartments** whose walls consist of information (and which has its own quantization rules) that define the boundary between subspaces

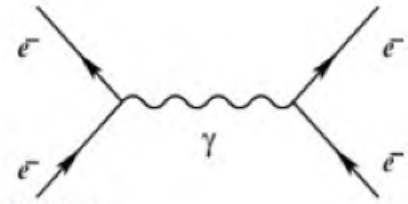
·**matter neutrinos** that make up ten closed strings inside a subquark with each quark consisting of three subquarks plus a **matter Higgs boson** and **an electron torus** with a surface of information

·**dark matter neutrinos** that make up five closed strings inside a dark matter subquark which is the fundamental building block of dark matter, and a **Higgs dark matter boson**.

·Quantized space provides **an ether** for electromagnetic particle propagation: electromagnetism and strong force and weak force all arise from the same basic phenomena on different spatial scales

·**Information** consists of algorithms for processing data as well as data; fundamental particles regularly send out information scans that propagate apparently instantaneously in each of the three Calabi Yau six dimensional subspaces, and the response is governed by **the Lagrangian principle of least action** for all forces, i.e., the information algorithms evaluate the path integral for all possible paths and pick that path of least action; **information is fundamental, all forces are controlled by information. The equations that relate information and forces controlled by information are the equations of string theory.**

Two Electrons Interacting



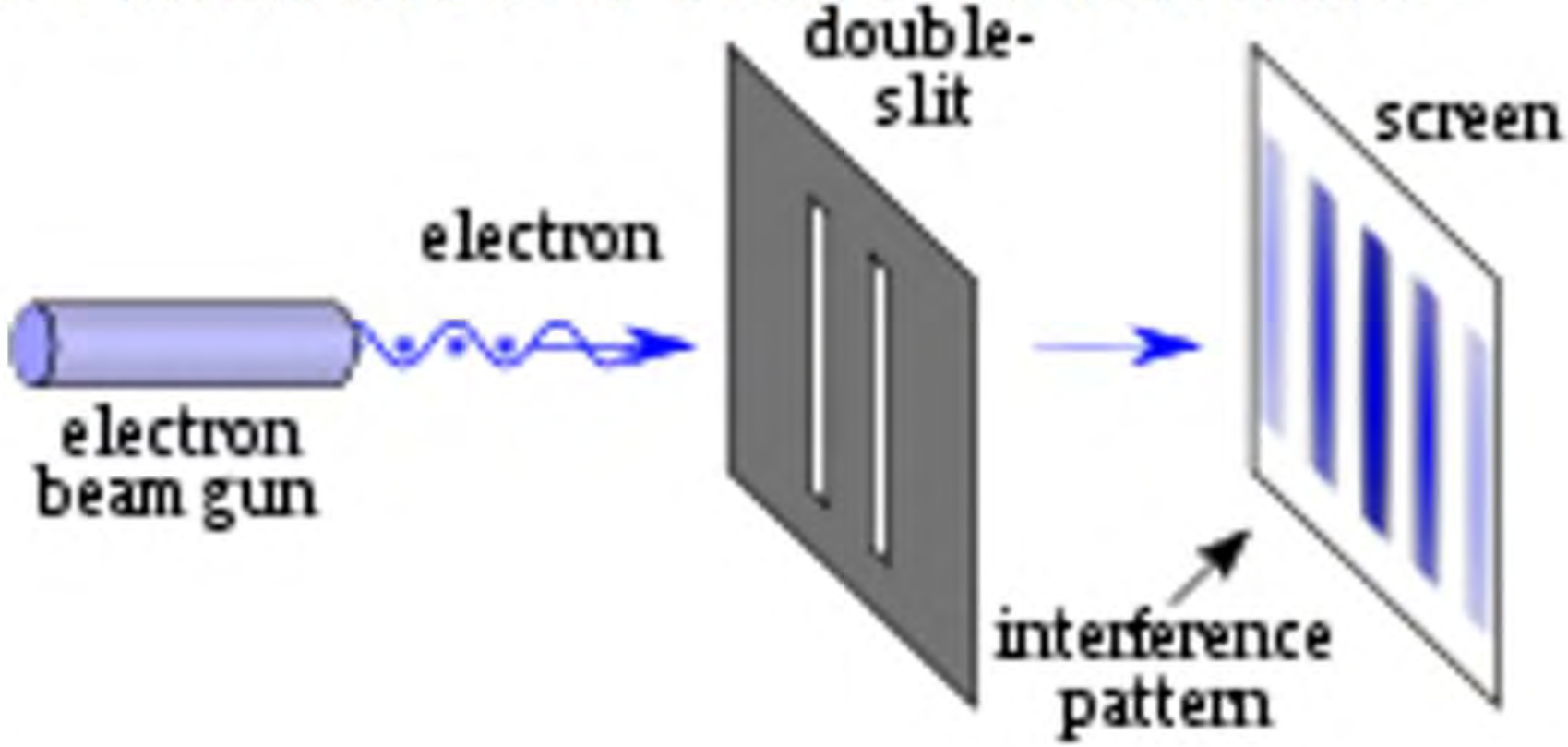
Two electrons with equal negative charge move toward one another. The two electrons repulse one another and move apart, never hitting one another.

- ***Maxwell and Faraday***: each electron generates a spherical electric field that interacts with the other electron electric field to repulse one another, and the path of the two electrons changes and they move apart.

- ***Feynman***: each electron generates a virtual boson that moves to the other electron and is absorbed; this happens repeatedly and the paths of the two electrons is changed and they move apart.

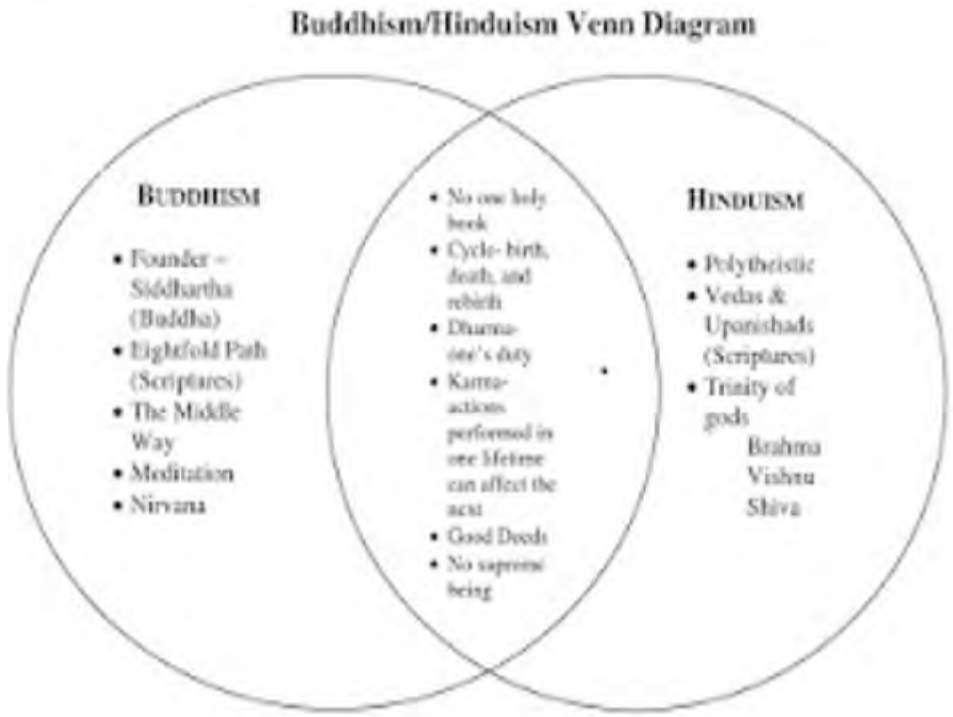
- ***Modern***: each electron torus contains information blocks and a ten strand necklace. Information in each electron emits a **scan** that detects the other electron; the **scan** is instantaneous; each electron emits a real boson/not virtual in the Calabi Yau subspace which moves toward the other electron, **stretching space compartments of quantized space**, driving the electrons apart simply by stretching space; the two bosons are absorbed by the opposite electron and the process repeats, until the two electrons move away from one another

Electron Double Slit Experiment
Scan Response of Electron Determines if the Electron is a Wave or Particle



Nothing New: Cycles of Discovery and Loss of These Concepts

- Australian Aborigines
- Native Shamen (Americas, Africa)
- Analects of Confucius
- Hinduism/Buddhism
- Jesus of Nazareth
- Prophet Mohammed
- Joseph Smith
- And on and on and on



Space and Time, Bhagavad-Gita

- An infinite, unchanging reality exists hidden behind the illusion of ceaseless change

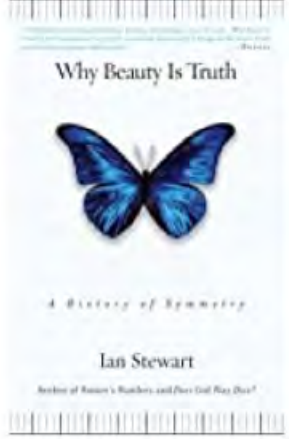
- This infinite, unchanging reality lies at the core of every being and is the substratum of the personality

- Life has one main purpose: to experience this one reality-to discover God while living on Earth

- The soul is eternal, not subject to life and death, traveling from body to body; just as death is certain for the living, rebirth is certain for the dead

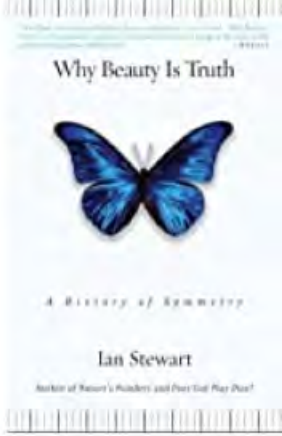
Prince Arjuna on the eve of combat talking to his charioteer Krishna, the source and final outcome of all things, Time itself, Bhagavad-Gita

Symmetry: A Diversion



- Symmetry is the recipe for transformation, not the dish
- Transformation
- Rotation of an equilateral triangle by 0, 120, 240 degrees
- Reflections about a straight line through any vertex perpendicular to base
- Structure
- Preservation
- A Primer on Symmetry and Group Theory
- Group theory and why I love 808,017,424,794,512,875,886,459,904,961,710,757,005,754,368,000,000,000
- https://www.youtube.com/watch?v=mH0oCDa74tE&t=13s
- https://www.quantamagazine.org/the-octonion-math-that-could-underpin-physics-20180720/

Symmetry or Group Theory

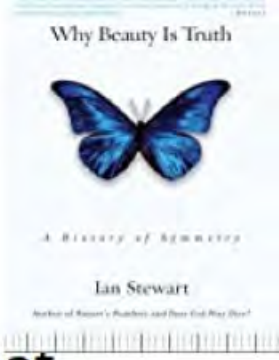


- Magic numbers: 1,2,4,8 (real, complex, quaternions, octonions)

	DISTRIBUTIVE	ASSOCIATIVE	COMMUTATIVE
Type	A*(B+C)=A*B+A*C	A*(B*C)=(A*B)*C	A*B=B*A
Real	YES	YES	YES
Complex	YES	YES	YES
Quaternion	YES	YES	NO
Octonion	YES	NO	NO

- Classical Killing/Lie Groups
- Special orthogonal (odd/even), unitary symplectic, special unitary
- Five exceptional Lie groups (dimension)
- G2(14), F4(52), E6(78), E7(133), E8(248)
- Modern Group Theory
- 18 Lie groups
- 8 sporadic (the Monster Family)

Group Theory Is Equivalent to Geometry



- The group that corresponds to any given geometry is the symmetry group of that geometry

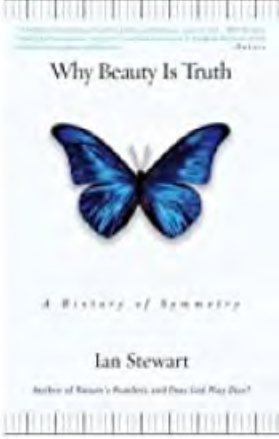
- The geometry corresponding to any group is whatever object is is the symmetry group of: geometry is defined by those things that are invariant under the group

- Example: Two Dimensional Plane of Euclid

- Symmetries of Euclidean geometry are those transformations fo the plane that preserve lengths, angles, lines, and circles. This is the group of all rigid motions of the plane

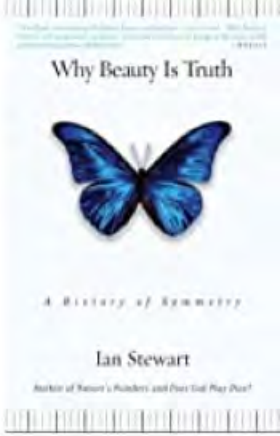
- Conversely anything invariant under rigid motions falls within the purview of Euclidean geometry

Octonion Ties to the Five Exceptional Lie Groups



- Octonions tell us there is something very strange about the number 8
- 1914: G2 is the symmetry group of octonions
- 1950: F4 is the symmetry group of the octonionic projective plane
- 1959: E6, E7, E8 are all related to other octonionic geometries
  - E6 is built from complex numbers and octonions
  - E7 is built from quaternions and octonions
  - E8 is built from octonions and octonions
- Exceptional Lie groups exist because of the wisdom of the deity in permitting octonions to exist
- We should have known: The Lord is subtle but not malicious: Albert Einstein

An Observation



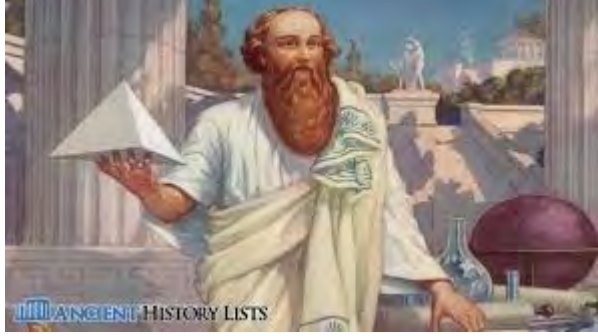
- Vectors (directed lengths) and spinors (algebraic gadgets created by Dirac to quantify electron spin) have nice relationships in space-times of 3,4,6, and 10 dimensions

- These relationships hold when the dimension of space-time is 2 greater than that of a normed division algebra

- Subtract 2 from 3, 4, 6 and 10 and you get 1, 2, 4, and 8

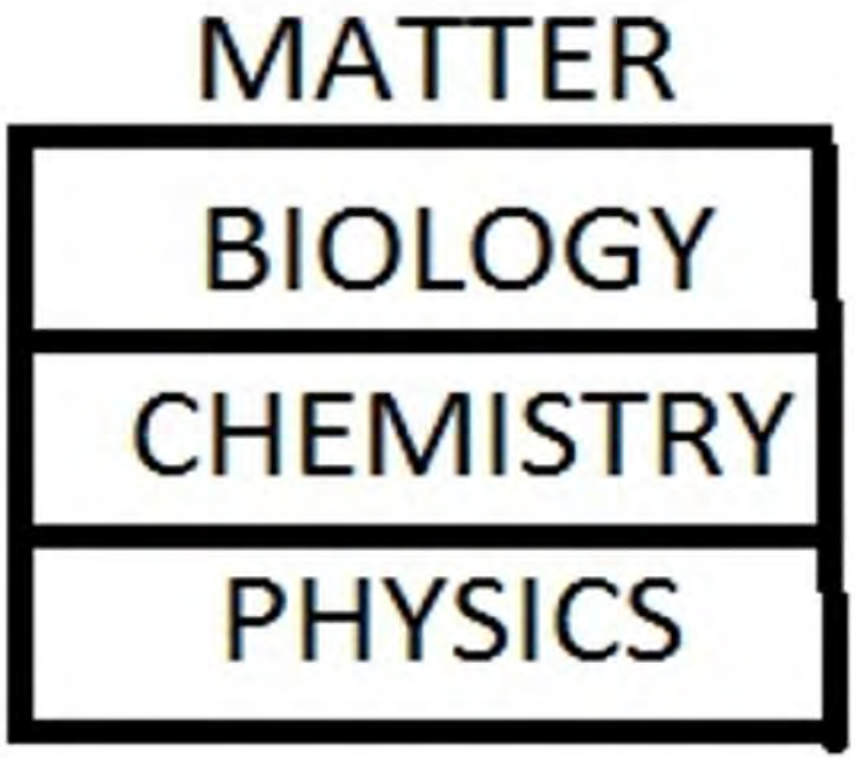
- 10 dimensional space-time is specified by octonions

Science and Art/Music



The likelihood that the ancient Egyptians passed on their knowledge of the seven types of musical scales to Pythagoras, Plato and others who studied with them makes the currently accepted view that the musical modes of ancient Greece were keys rather than octave species highly implausible.
The ten Hebrew Godnames known to Kabbalah are found to prescribe the interval composition of these scales.
Both Plato's Lambda and the first four polygons enfolded in the inner form of the Tree of Life embody the minimum number of different intervals between the notes of the seven modes.
Remarkable parallels between the interval composition of the latter and the tetrahedral generalisation of the Lambda are demonstrated.
There is similar correspondence with the oscillatory form of the superstring. This is because superstring theory is connected to the mathematics of octonions, whose properties are analogous to musical intervals. Remarkable correspondence exists between the 168 permutations of the seven 3-tuples of octonions, the 168 automorphisms of the Klein Quartic, the 168 repetitions of the Pythagorean intervals of the seven octave species and the superstring structural parameter 168. They indicate that the oscillations performed by superstrings are akin to music played with the notes of the seven musical scales.

What Is Science



Matter and Forces: Modern Science Evolution

- **Matter** is earth, air, water, fire (Aristotle)

- **Matter** is made up of atoms (Democritus, Dalton, Mendelev)

- **Gravity:** Newton, Einstein

- **Mathematics:** Pythagoras, Euclid, Aryabhata, Al-Khwarzimi, Descartes, Newton, Euler, Leibniz, Lagrange, Laplace, Gauss, Galois (Group Theory), Grassmann (vector spaces, exterior calculus), Riemann, Hilbert, Poincare, Atiyah, Penrose

- **Electromagnetism**: Faraday, Maxwell, Lorentz, Feynman, Schwinger, Tomonaga, Dyson

- **J J Thomson** discovery of electron

- **Rutherford:** Atom is a cloud of electrons which accounts for most of the space of an atom, most of the mass in nucleus

- **Quantum mechanics**: Planck, Einstein, Heisenberg, Schroedinger, Bohr, Dirac, Feynman

Matter and Forces: Modern Science Evolution

Neutron

- •Chadwick measured mass of neutron,Wigner suggested strong force to bind nuclear particles in nucleus
- •Weinberg, Glashow, Abdus Salaam: weak force predicted (1960s), measured at CERN (1983)

•**Information:** Goedel, Turing, Shannon, von Neumann

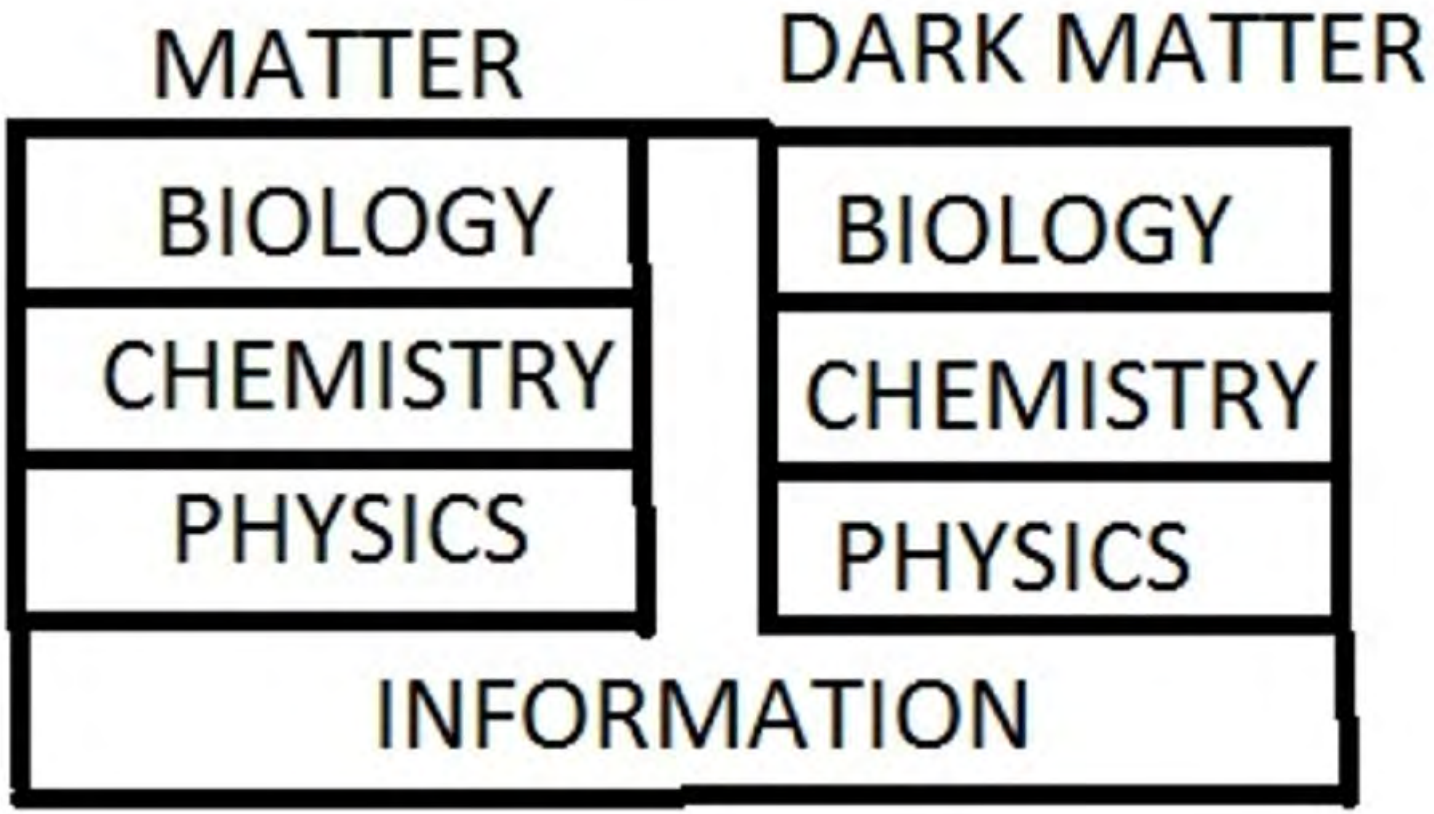
•**Biology:** iChing, Mendel, Darwin, de Morgan, Watson, Crick

•**Quarks**: Gell-Mann

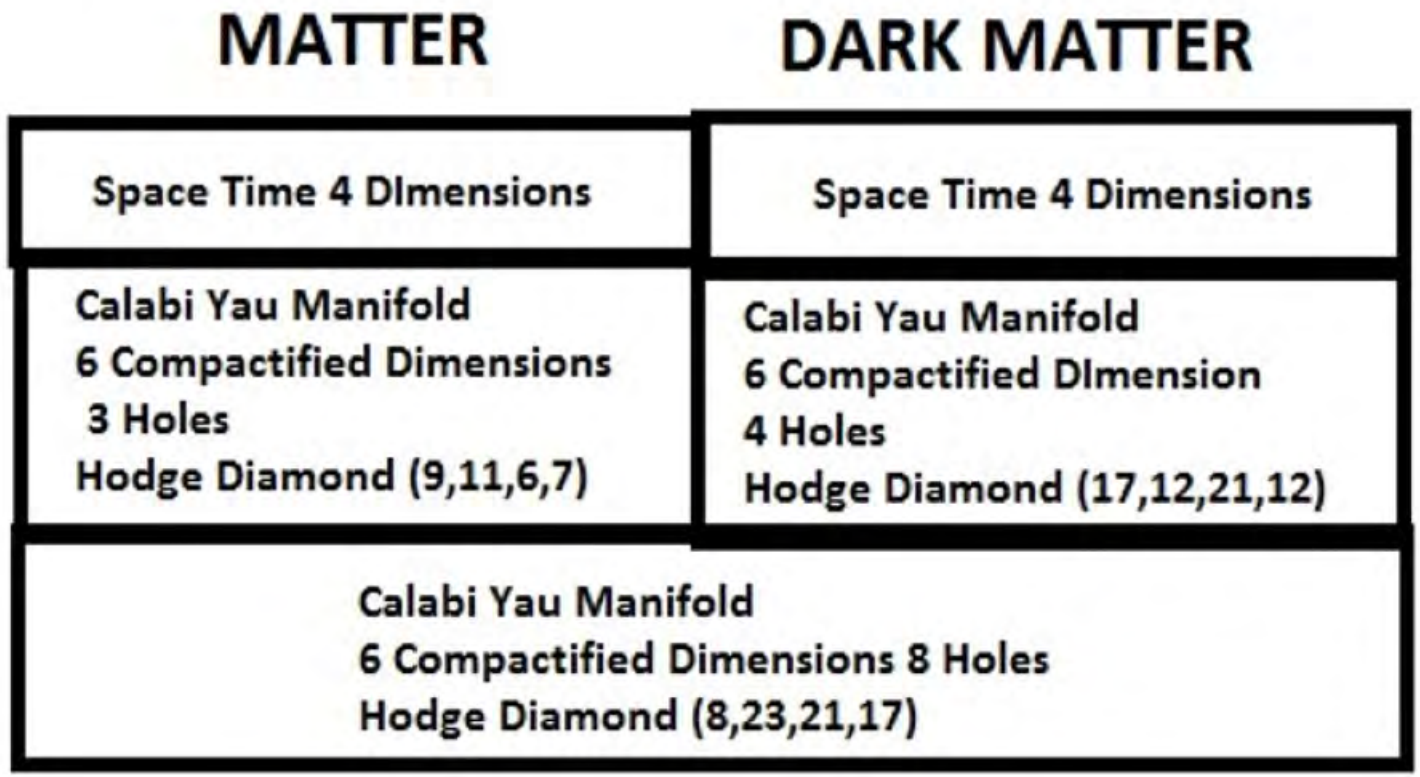
•**Standard Mode**l of Electromagnetism (1970s), Strong, Weak Force: 16 particles plus Higgs Boson

•**String Theory**: Lovelace, Schwarz, Scherk, Witten

Hypothesis: What Is Science



Hypothesis: The Structure of the Universe



Lagrange Principle of Least Action: Dynamical Equations

- **Newtonian mechanics** follows the path of least action that satisfies the rate of change of momentum equals the net forces

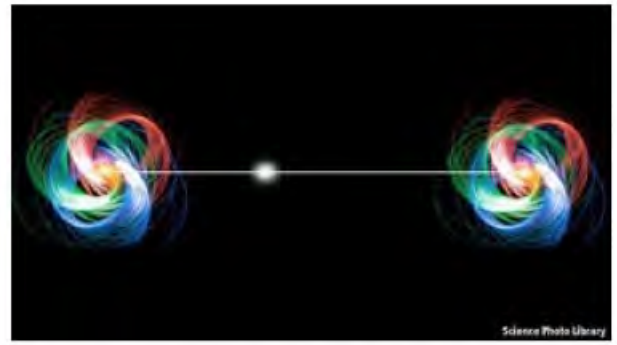
- **Fluid mechanics** follows the path of least action that satisfies the Euler equations or Navier Stokes equations et alas appropriate

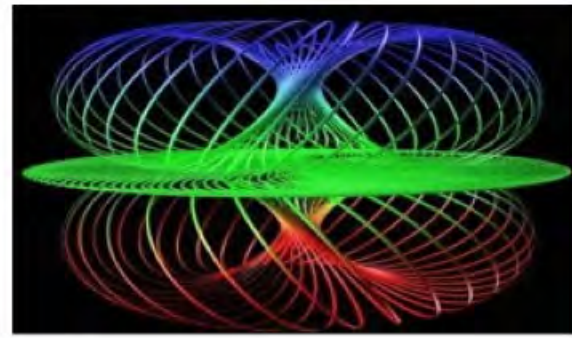
- **Electromagnetism** follows the path of least action such that the potentials, fields, current densities and charge density satisfy Grassmann/Maxwell equations

- **Etheric electromagnetism** follows the path of least action such that the potentials, fields, current densities and charge density satisfies etheric (space is the ether) equations of electromagnetism (perturbation analysis using ether density adds strong, weak force, and gravity to these equations)

- **String theory** follows the path of least action such that the equations satify vibrations of heterotic neutrino strings, interacting with information (that is constantly doing a scan and response), in quantized space, with information controlling all forces

How Do Things Interact?





- **Action at a distance**

- Newton said I do know what causes gravity, but my mathematics describe how gravity works by an action at a distance

- If gravity ended instantly, all the planets would go flying on straight lines off into space

- Information flow in compactified dimensions is action at a distance

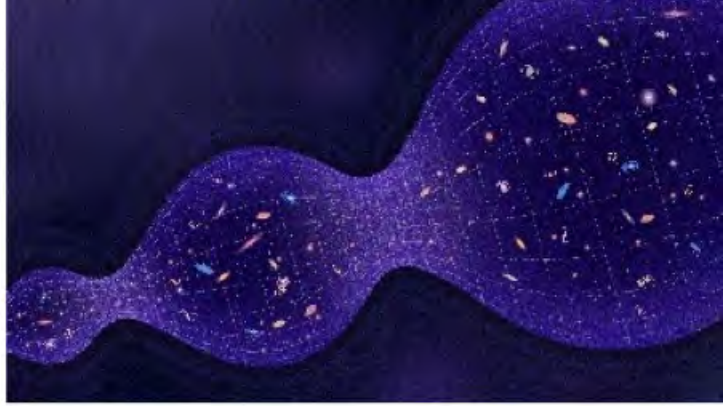
- **Fields**

- Faraday: at each point in space a physical quantity is assigned

- Gravity and electromagnetism are examples of field theory

- Information flow according to Lagrange principle of least action

The Big Bang->The Big Bounce

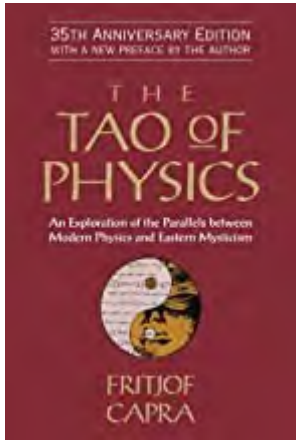


- **Big Bang Inflation Model**
  - Proto universe expands via inflation 30 orders of magnitude, stops
  - Dark Energy is Residual Energy from Bounce
  - Inflation: Ad hoc gluing together of different phenomena to fix problems
- **Big Bounce Cyclic Model Ingredients**
  - Collision between two worlds/branes
  - All matter has been converted to dark matter (Asimov!)
  - Big bounce is not one time occurrence but is cyclic
  - Past cycles can influence future cycles
  - Based on string theory

Where Are We Going: A Picture

MATTER	DARK MATTER
Space Time 4 DImensions	Space Time 4 Dimensions
Calabi Yau Manifold 6 Compactified Dimensions 3 Holes Hodge Diamond (9,11,6,7)	Calabi Yau Manifold 6 Compactified DImension 4 Holes Hodge Diamond (17,12,21,12)
Calabi Yau Manifold 6 Compactified Dimensions 8 Holes Hodge Diamond (8,23,21,17)	

Part III: Occult Chemistry
Annie Besant and Charles Leadbeater

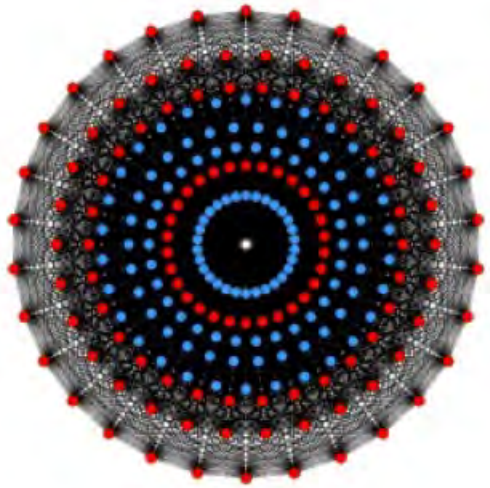


Yoga Sutras of Patanjali: Clairvoyance Siddhi
MicroPsi Predictions vs Modern Physics
Levitation
Subquarks as Fundamental Building Blocks with Strings
Periodic Table of Elements
Ronald Cowen
Stephen M Phillips

- **Sacred Geometry**
- **Tree of Life and E8/Exceptional Lie Group**
- **First Four Platonic Solids and E8**
- **Three Torus and E8**

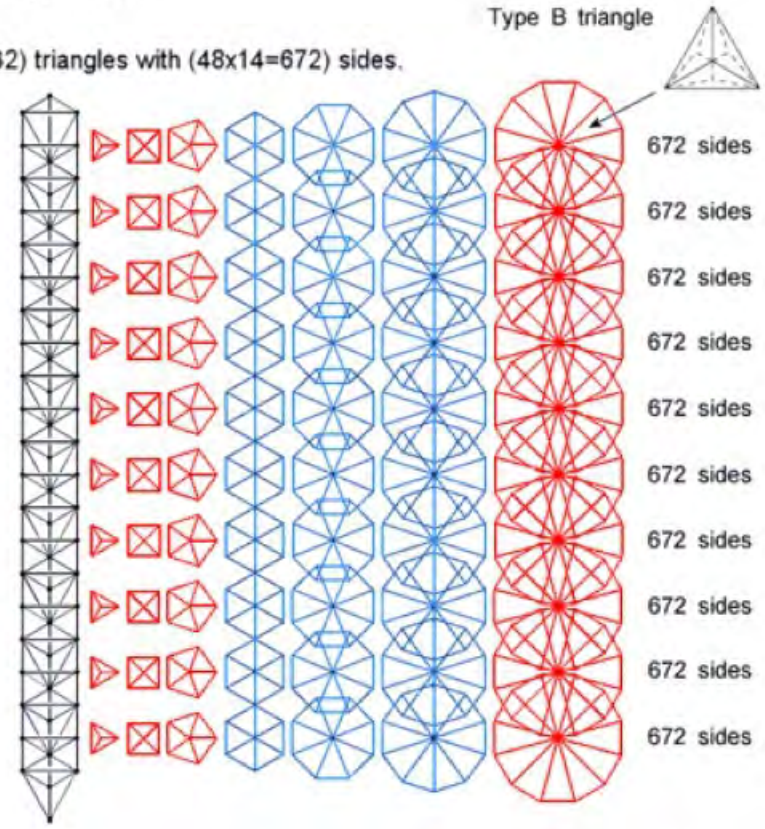
Tree of Life Sacred Geometry

A Type C polygon has 14 sides of 9 triangles per Type B sector.
7 separate polygons have 48 sectors.
The 7 separate Type C polygons have (48x9=432) triangles with (48x14=672) sides.



The 4_{21} polytope has 6720 edges

The 4_{21} polytope is the polytopic version of the inner form of 10 Trees of Life



Where Are We Going: A Picture

MATTER	DARK MATTER
Space Time 4 DImensions	Space Time 4 Dimensions
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Calabi Yau Manifold 6 Compactified Dimensions 8 Holes Hodge Diamond (8,23,21,17)	

Yoga Sutras of Patanjali: Book Three

An individual has two parts

- Inner most part called the seer or true self
- Outer or surface part called the ego mind or illusory self
- Mind
- Intelligence
- Ego

Mastering the ways of the ego mind or knowledge of true self makes pure soul awareness possible

Illusory self manifests through

- Valid knowledge (Western science)
- Parody or invalid knowledge (e.g., prejudice, romance, fantasy)

Clairvoyance

·Book III, Yoga Sutras of Patanjali (written c450 BC, oral far earlier)

·Sutra 25: By directing the light of cognition, one obtains knowledge of subtle, concealed, and remote things

·Sutra 26: By performing saṁyama on the sun arises knowledge of the different realms in the universe.

·Sutra 27:[By saṁyama] on the moon, knowledge of the solar system

·Sutra 45: : **(1) The earth does not obstruct the yogī by its quality of solidness, such that the yogī can enter even a stone. (2) Water, though moist, does not wet the yogī. (3) Fire, though hot, does not burn the yogī. (4) Wind, though moving, does not budge the yogī. (5) Ether, which normally does not cover anything, covers the yogī such that he or she remains invisible even to the siddhas, or those who have attained these very powers.**

·Sutra 50: [By samyama] supreme liberation

·John Keely (https://en.wikipedia.org/wiki/John_Ernst_Worrell_Keely), 1872

·Edwin Babbitt, **The Principles of Light and Color**, 1878

Clairvoyance

२६. प्रवृत्त्यालोकन्यासाद् सूक्ष्मव्यवहितविप्रकृष्टज्ञानम् ।

26. "Knowledge of the small, the hidden or the distant"

Yoga Sutras, Pantanjali

Verse 44 of the Uttara Tantra

"The essence of Buddhahood at fruition has the qualities of clear cognition, jnana, and freedom from impurities. The quality of clear cognition has five powers relating to the variety of phenomena. The first power of cognition is 'divine vision,' which is the ability to see extremely distant and small things ..."

Clairvoyance: Besant and Leadbeater

The method consists of focusing the consciousness, through sheer will, in the etheric part of the eye and willing to see through that. By sympathetic vibration the impressions are then transmitted either to the rods and cones of the denser physical part and thus things are seen, or it may be that not only the etheric part of the eye, but also the etheric part of the brain is stimulated into activity, so that the ego can receive impressions from it. The impacts made upon the grey matter of the brain in ordinary life must be conveyed from that dense matter to etheric, from etheric to astral, and from astral to mental, before they can reach the true man within. When impressions are made directly upon the etheric or astral or mental matter we are merely tapping this telegraph-wire at an intermediate point.

Clairvoyance: Besant and Leadbeater

The chakram of the causal body corresponding to the place between the eyebrows in the physical, is when in a state of rest a mere vortex, but when magnification is desired a special sort of current is directed through it so that part of it can be projected outwards, and under such conditions it spatially resembles a tiny snake projecting from between the eyebrows - invisible of course to physical eyes. This snake-like arrangement narrows down to a mere point and acts as an organ of transmission for visual impressions, and at the same time as a sort of holder, able to grasp and contain a minute lens. Occultists are taught to construct such a lens from a single ultimate atom of any of the lower planes - physical, astral, or mental (causal) planes, or from a mental unit (on the fourth sub-plane of the mental). This is done by opening up all spirillae of such an atom (as if making it ready for a seventh-round body), by then inserting it in the living snake-like holder and by letting the vibrations it receives in that way be recorded and translated in the causal body.

Clairvoyance

- Helena Blavatsky, **A New Era of Thought,** 1888

- Nikola Tesla (https://en.wikipedia.org/wiki/Nikola_Tesla), 1893

- Charles Leadbeater, 1903, In his **The Other Side of Death** wrote: "In effect, in our physical world we know only of three dimensions. It is not that only these three dimensions exist, but that they alone can be understood by the physical brain. In reality, we live in a space possessing a quantity of dimensions. The limits that are imposed on us for comprehending them in different states always exist only in our consciousness and consequently are truly subjective. We see only what we are susceptible to see, but there is much more to see"

Human Levitation

- It is recounted as one of the Miracles of Buddha that Gautama Buddha *walked on water* levitating (crossed legs) over a stream in order to convert a brahmin to Buddhism

- Jesus of Nazareth walks on the water to meet his disciples who are in a boat. Initially they are afraid, thinking he is a "spirit", but he quells their fears (Matthew 14:22-33)

- Saint Francis of Assisi is recorded as having been "suspended above the earth, often to a height of three, and often to a height of four cubits" (about 1.3 to 1.8 meters)

- Marco Polo, the first Westerner to formally record an encounter with the Tibetan lamas, reported witnessing the phenomenon over seven hundred years ago.

- The well documented historical case of Saint Joseph of Copertino (1603-1663). The priest was said to have such a spiritual connection with the divine that his altered state allowed him to fly. The Saint often simply hovered slightly above the ground while other times he soared over crowds throughout Italy for over 35 years

- The modern adventurer Madame Alexander David Neil also wrote of her sightings of lamas on the wing.

Occult Chemistry

- Annie Besant, Charles Leadbeater, **Occult Chemistry**, 1908

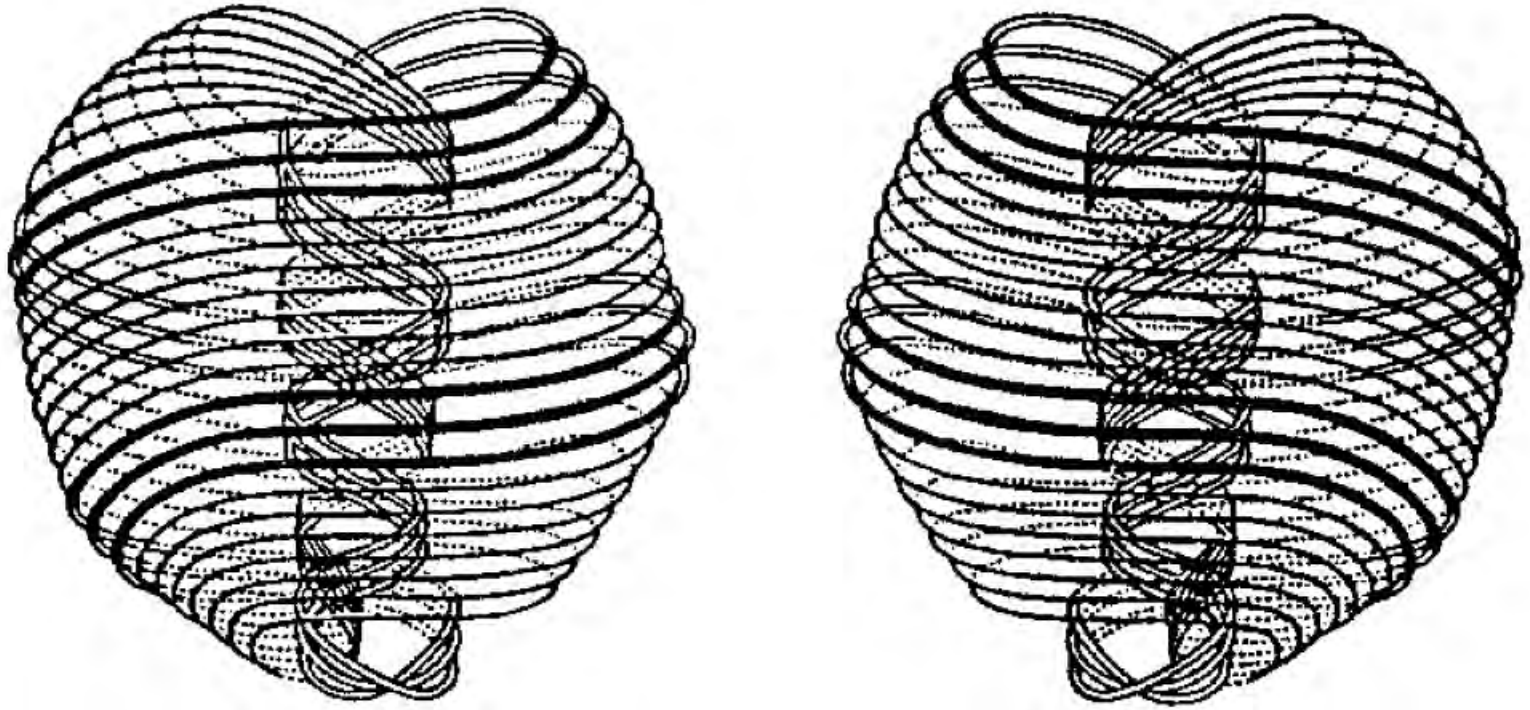
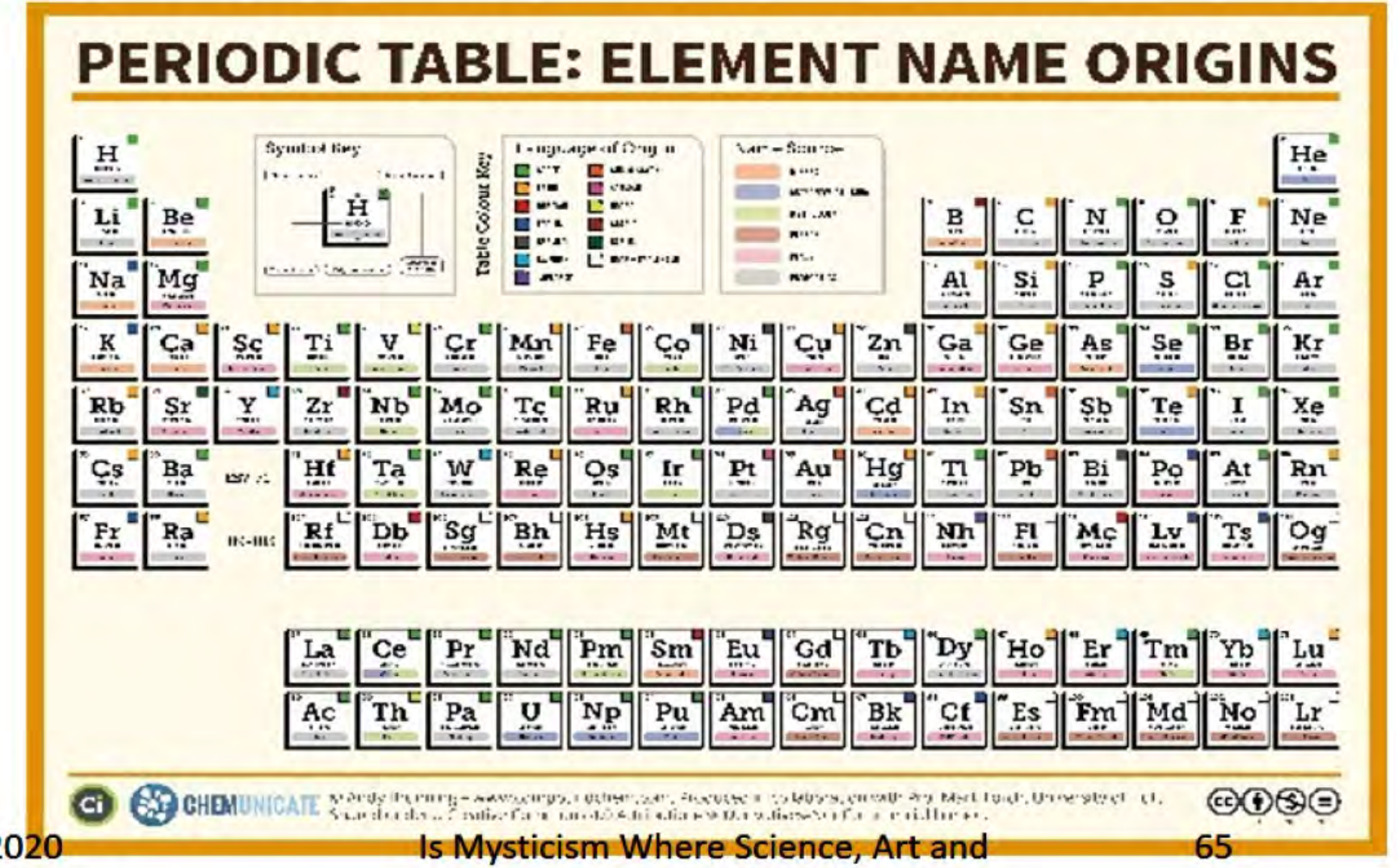


Figure 1.5 : The fundamental constituent of matter (UPA) revealed by micro-psi

Periodic Table of Elements

- Mendelev
- Elements arranged in seven columns based on atomic weight
- Noble gasses required an eighth column
- Modern Periodic Table
- Elements arranged in eight columns based on atomic number
- Atomic number is number of protons in a nucleus for primary isotope
- Leadbeater and Besant Periodic Table
- Ten columns based on seven subquark combinations

Current Periodic Table of Elements



Leadbeater and Besant: Hydrogen Nucleus

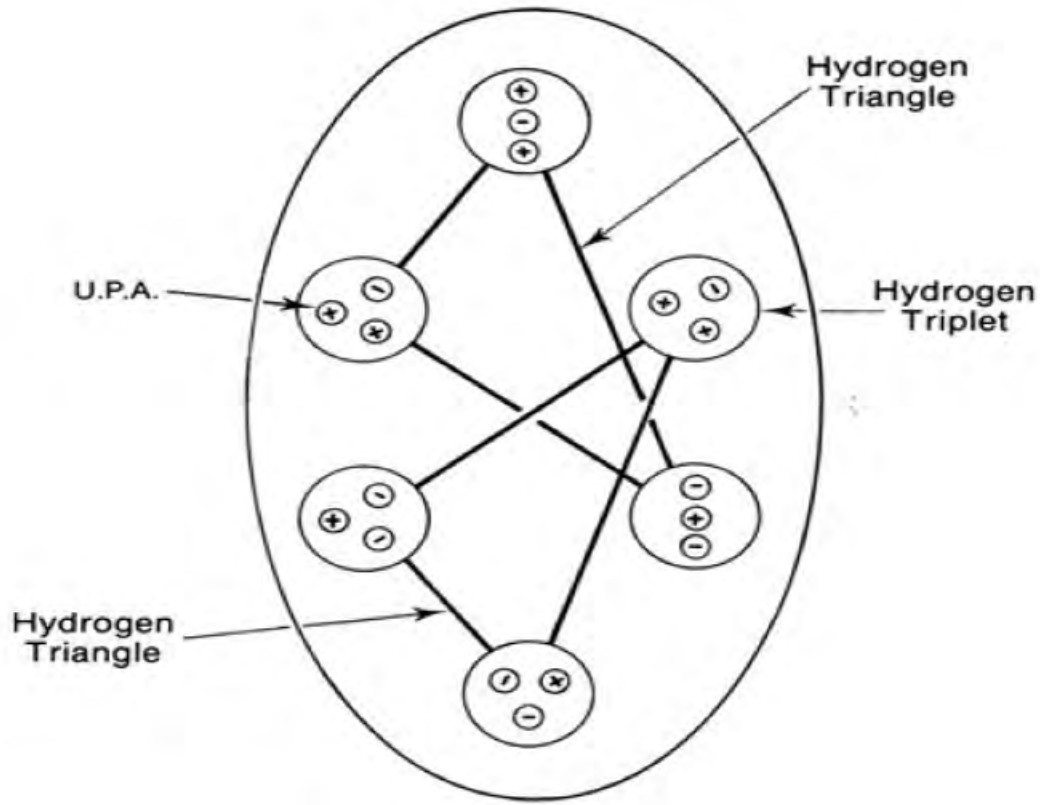


Fig. 4.1. The hydrogen M.P.A.

Besant and Leadbeater: Seven Subquark Aggregates

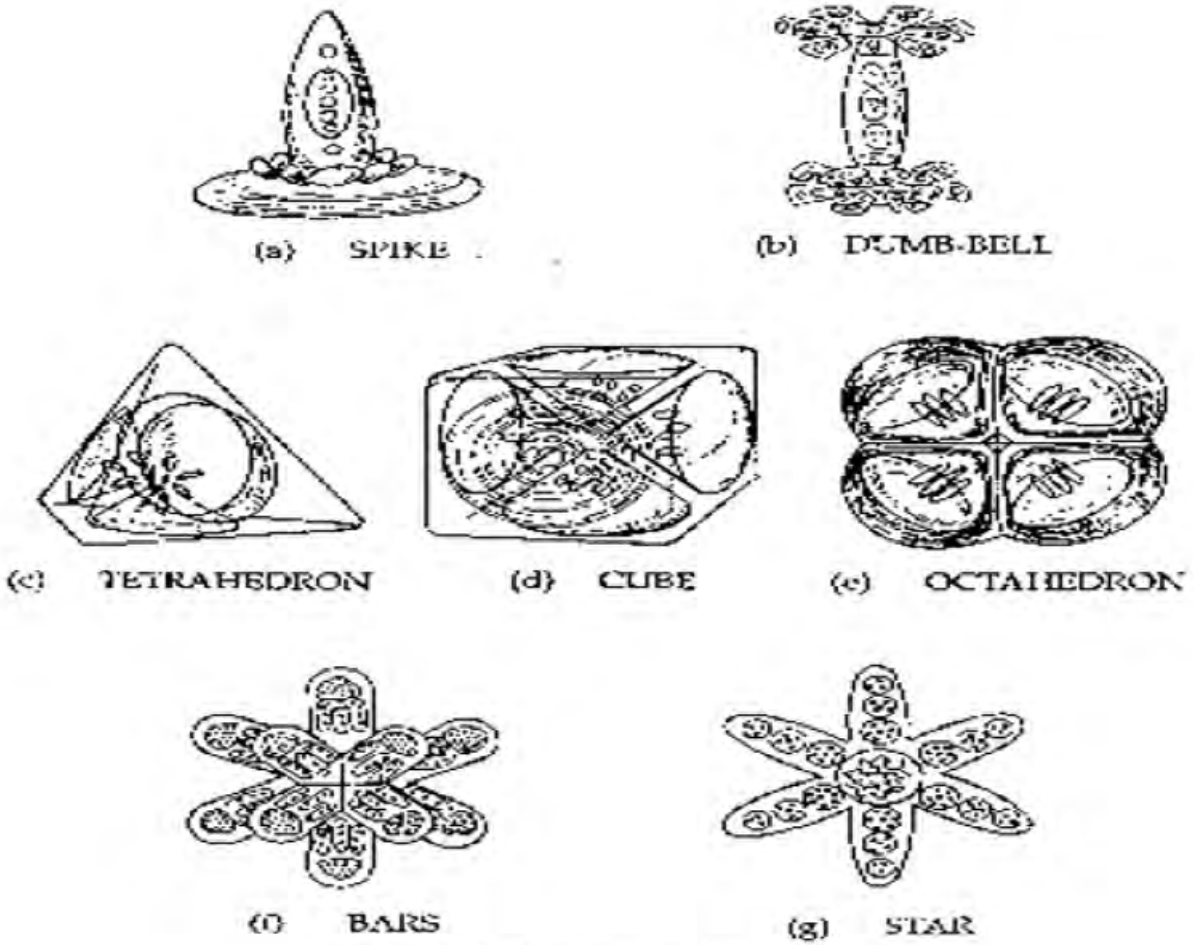
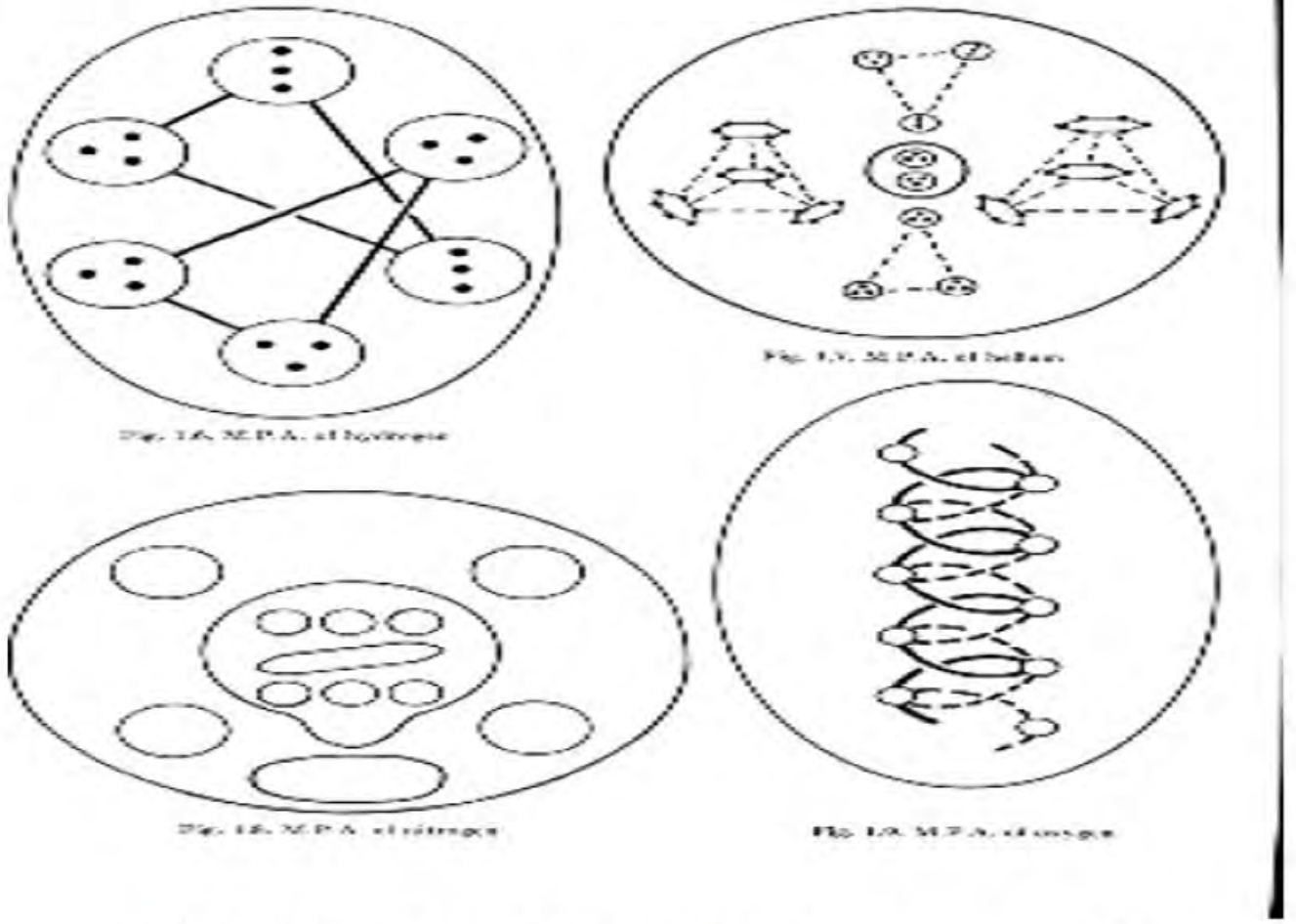


Figure 1.1. The seven classes of MPAs.

Leadbeater and Besant: Four Atomic Nuclei

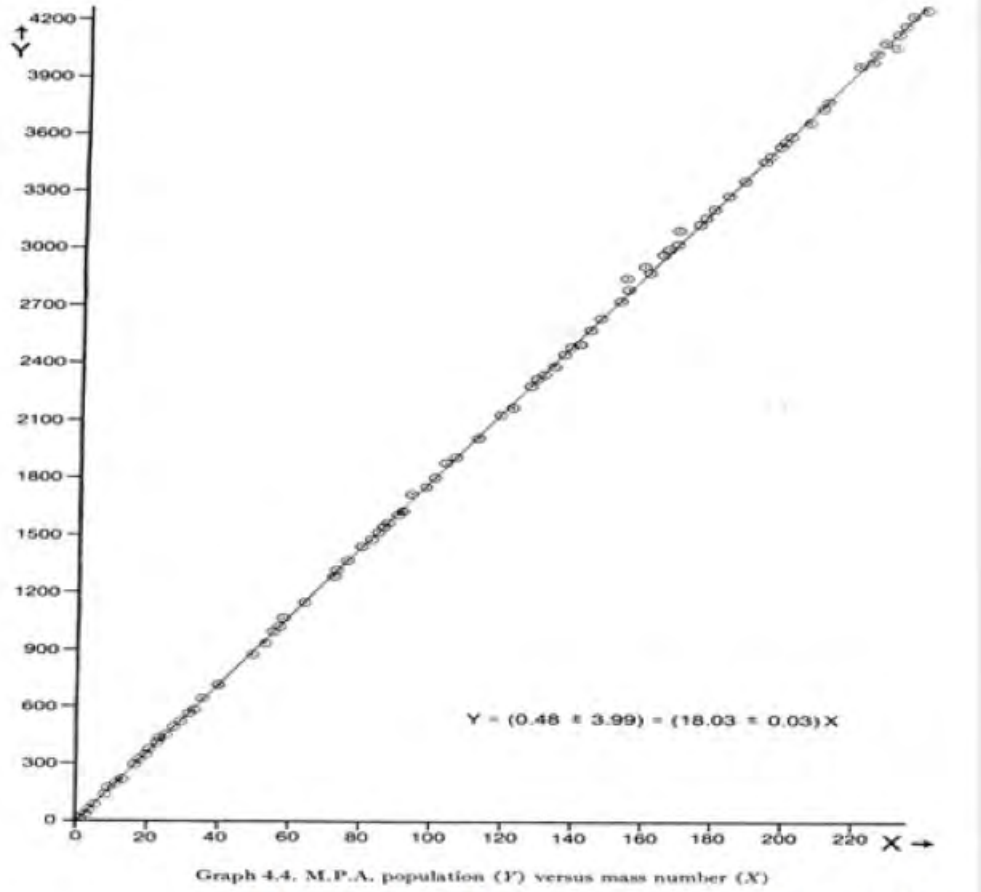


Besant and Leadbeater (92 Elements 1894)

TABLE 7.3—MICRO-PSI CLASSIFICATION OF THE ELEMENTS

SPIKE GROUP	DUMB-BELL GROUP	TETRAHEDRON GROUP		CUBE GROUP		OCTAHEDRON GROUP		BARS GROUP	STAR GROUP
		A	B	A	B	A	B		
IA Lithium	IA Sodium	IIA Beryllium	IIA Magnesium	IIIB Boron	IIIB Aluminium	IVB Carbon	IVB Silicon	VIII Iron	0 Neon
VIIB Fluorine	VIIB Chlorine	VIB (Oxygen)	VIB Sulphur	VB (Nitrogen)	VB Phosphorus	IVB Titanium	IVB Germanium	VIII Cobalt	0 Argon
IA Potassium	IB Copper	IIA Calcium	IIB Zinc	IIIA Scandium	IIIB Gallium	IVA Zirconium	IVB Tin	VIII Nickel	0 Krypton
VIIA Manganese	VIIB Bromine	VIA Chromium	VIB Selenium	VA Vanadium	VB Arsenic	Ln Cerium	Ln Terbium	VIII Ruthenium	0 Xenon
IA Rubidium	IB Silver	IIA Strontium	IIB Cadmium	IIIA Yttrium	IIIB Indium	IVB Hafnium	IVB Lead	VIII Rhodium	"Kalon"
VIIA Technetium ("Masurium")	VIIB Iodine	VIA Molybdenum	VIB Tellurium	VA Niobium	VB Antimony	IVA Thorium		VIII Palladium	0 Radon
IA Caesium	Ln Samarium	IIA Barium	Ln Europium	IIIA Lanthanum	Ln Gadolinium			Elements "X," "Y," and "Z"	
Ln Promethium ("Illinium")	Ln Erbium	Ln Neodymium	Ln Holmium	Ln Praseodymium	Ln Dysprosium			VIII Osmium	
Ln Thulium	IB Gold	Ln Ytterbium	IIB Mercury	Ln Lutecium	IIIB Thallium			VIII Iridium	
VIIA Rhenium	VIIB Astatine ("85")	VIA Tungsten	VIB Polonium	VA Tantalum	VB Bismuth			VIII Platinum	
IA Francium ("87")		IIA Radium		IIIA Actinium					
		VIA Uranium		V Protactinium					

Leadbeater and Besant: Subquark/UPAs vs Atomic Number

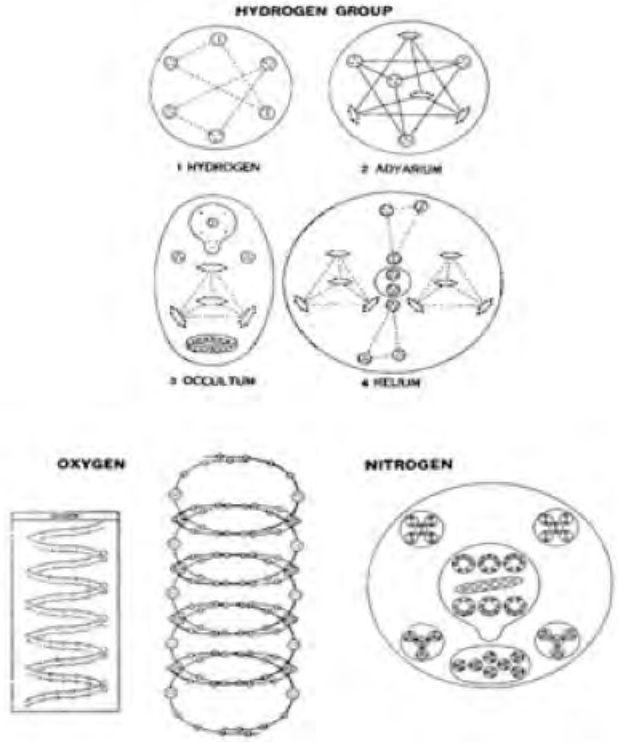


Graph 4.4. M.P.A. population (Y) versus mass number (X)

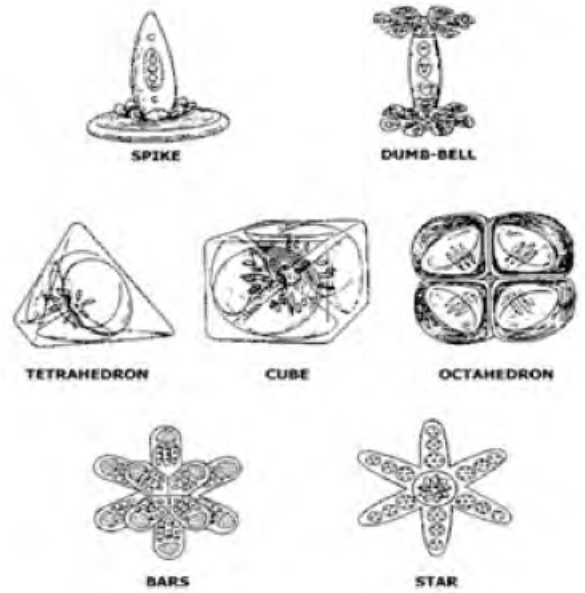
MicroPsi Observations

- Illustrative Individual Observers
- John Wilford Keely, 1872-1890
- Edwin Babbitt, 1878
- Nikola Tesla, 1891-1943
- Charles Leadbeater and Annie Besant, 1894-1932
- Geoffrey Hodson, 1958-1959
- Ronald Cowen, 2000-2019
- Common Traits of Subquark Observations
- Spin like a top, regular pulsation, changing colors
- Wobbling when magnetic field turned on
- String theory description of strings

Besant and Leadbeater MicroPsi Observations

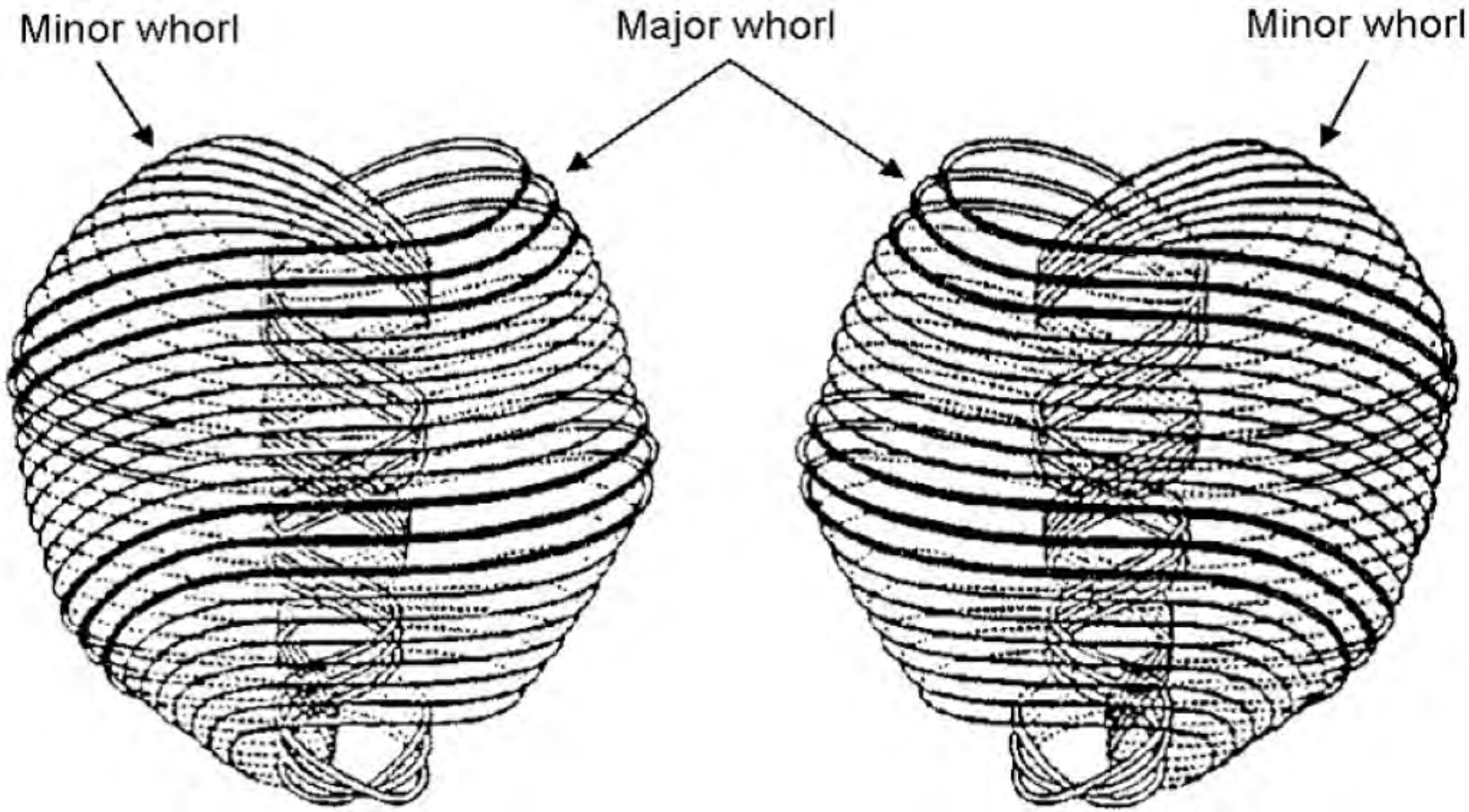


Exceptions



The seven types of 'atoms' observed by Besant & Leadbeater

Besant and Leadbeater: Subquark



Positive **Negative**

Comparison of UPA and Subquarks

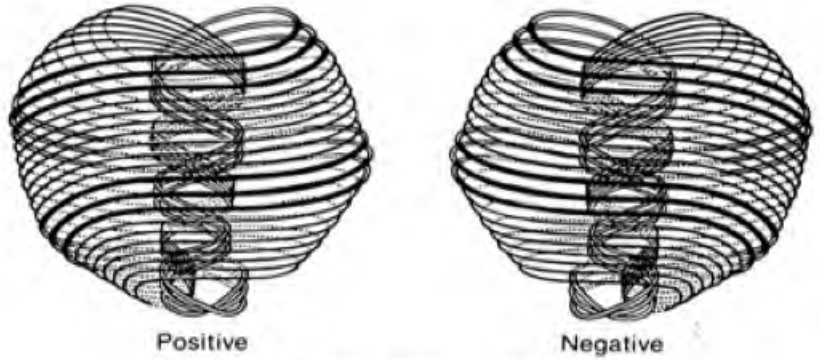


Fig. 6.2. The two chiral types of U.P.A.'s

U.P.A.'s	OMEGONS
1. (+) variety is one "from which force comes out"; (−) variety is one "through which it disappears."	1. Positive and negative magnetic monopoles are, respectively, sources and sinks of flux lines.
2. "Force pours into the heart-shaped depression at the top of the Anu, and issues from the point."	2. Magnetic monopoles can be joint endpoints of two or more strings.
3. Are bound to one another by a "very thin line of lighted force."	3. Are confined by flux lines in vortices of the Higgs field.
4. "The changing shades of colour that flash out from the rapidly revolving and vibrating Anu depend on the several activities of the spirals; . . . with the change of activity from one spiral to another the colour changes."	4. Change their nine colour-shades by emitting or by absorbing gluons.*
5. "It turns incessantly upon its own axis, spinning like a top."	5. Are spin-1/2 fermions.
6. "An electric current brought to bear upon the Anu checks their proper motions, i.e., renders them slower; the Anu exposed to it arrange themselves in parallel lines."	6. As Dirac magnetic monopoles, they possess an electric dipole moment that is orientable in an external electric field.
7. Bound groups are surrounded by a "sphere-wall"; "its 'wall' is the pressed back 'space.'"	7. Are trapped in "bags," "bubbles," or "domains" of the Higgs field superfluid of hadronic vacuum.

* No literal interpretation of "shades of colour" in terms of omegon colour-shade states is implied.

Reasons why MicroPsi Claims Are Genuine

Main reasons why the micro-psi claims of Besant and Leadbeater are genuine

1. UPA populations more accurately match mass numbers of nuclides than chemical atomic weights, so they were not concocted from the latter. These mass numbers did not become scientifically known until at least 25 years after they finished most of their study of the elements.
2. They reported different versions of MPAs years before isotopes were conceived and detected by scientists. Technetium & promethium were described several decades before their scientific discovery. Astatine & francium were described nearly a decade before their detection.
3. Their description of the lines of force binding UPAs and some of their configurations matches that of the QCD string/flux tube model of quark confinement.
4. **The level of quantitative and qualitative correlation between their observations of MPAs, facts of nuclear physics and experimentally established features of the quark model is far too high to be due to coincidence.**
5. UPAs *as closed curves* are consistent with heterotic superstring theory.
6. *Six* higher orders of circular spirillae match the 6-dimensional torus model that string theorists have considered for the 6-dimensional, compactified space predicted by superstring theory.

Besant and Leadbeater: Strings and Subquarks

- A whorl is a closed, 1-dimensional curve. It appeared to Leadbeater to be, ultimately, a string of empty, spherical bubbles;

- The 2nd−7th orders of spirillae are the winding of a curve about the six circular dimensions of a 6-dimensional torus, the winding number Nn = 7 (minor whorl) or 7.04 (major whorl) for the nth circular dimension being independent of n;

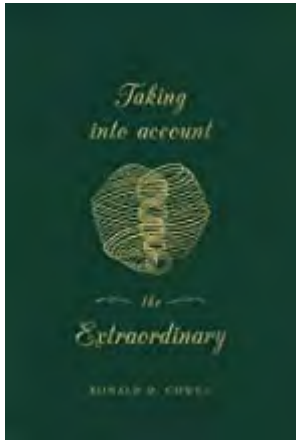
- The reported existence of spherical, i.e., 3-dimensional, bubbles in koilon spaced along circular 7th-order spirillae implies that whorls are projections of *surfaces* that extend beyond the sixth compactified, superstring dimension in at least two more dimensions. This means that space-time is neither 10-dimensional nor 11-dimensional, as predicted by M-theory, but 26-dimensional, as predicted by quantum mechanics for bosonic strings;

- The UPA is the subquark state of a closed (therefore heterotic) superstring. However, instead of this being a single closed curve, it consists of a bundle of *ten* such curves, none of which touch or intersect another one.

Ronald Cowen

- Ronald Cowen (deceased 14 August 2019): Buddhist monk
- **The Path of Love: The Future of Buddhism as Science** 2015
- **Mindfulness Meditation**, 2016
- Re: The Strengths and Limitations of My Micro-Psi Perception
- The observer does not disturb the object under study
- If the observer does disturb the object in view, major change can occur
- There is a need to zoom in and zoom out to capture significant features
- The vision has a sweet spot in the center for viewing detail

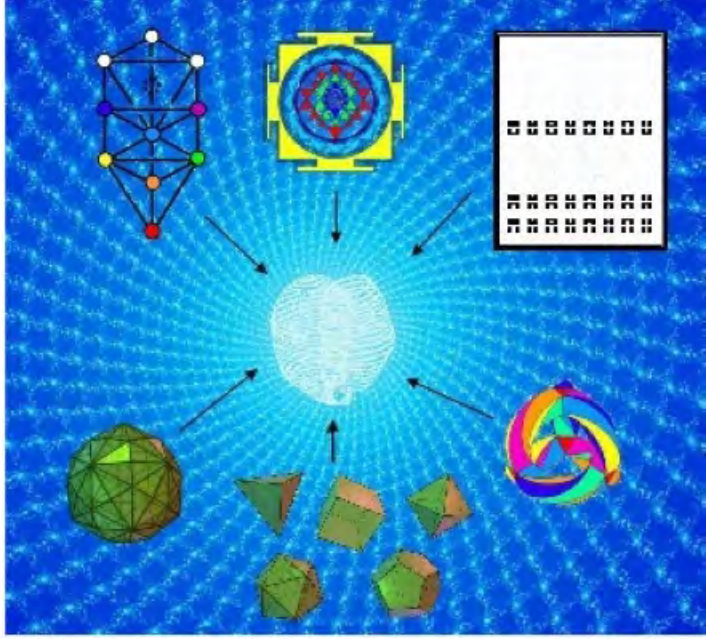
String Threaded Through a Subquark



Cover of Book

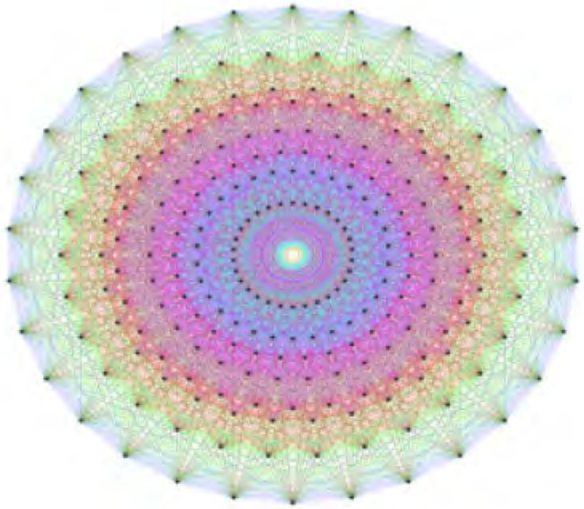
This sketch shows a string (rope) entering and exiting a UPA. It is this string that threads together three UPAs into a quark. Source: Cowen, Ronald D.. The Path of Love: The Future Of Buddhism as a Science (p. 76). FriesenPress. Kindle Edition.

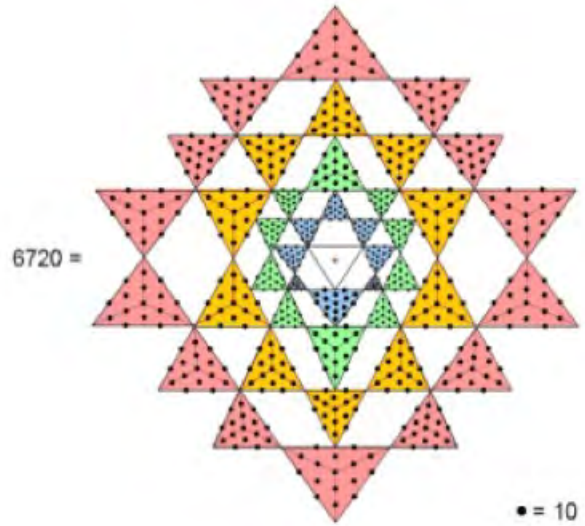
Stephen M Phillips



- Stephen M Phillips
- **Extrasensory Perception of Quarks**, 1980
- **ESP of Quarks and Superstrings**, 1999
- **The Mathematical Connection Between Religion and Science,** 2015

Sacred Geometry





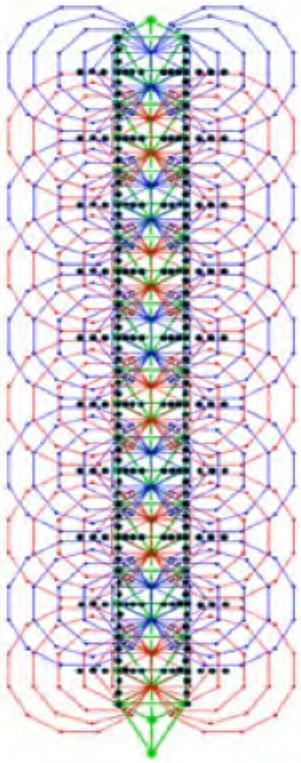
- The 421 polytope has 6720 edges (left)
- The Sri Yantra has 672 Yods other than corners of triangles (right)

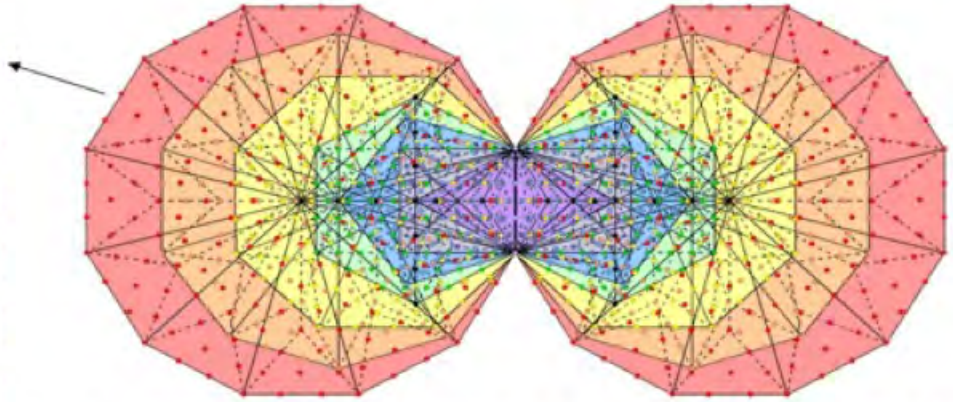
Weighted with the number 10, the 672 yods other than corners of triangles in the Sri Yantra constructed from tetractyses denote the 6720 edges of the 421 polytope. The 240 corners, sides & triangles surrounding the centre of the Sri Yantra correspond to the 240 vertices of the 421 polytope, which represent the 240 roots of E8, the rank-8, exceptional Lie group associated with E8 ×E8 heterotic superstring forces.

It is implausible to attribute to coincidence both these properties of the Sri Yantra
Rather, they indicate that such superstrings exist and conform to this blueprint as its subatomic realization

Sacred Geometry

(70+70) polygons enfolded in 10 Trees of Life





The (7+7) enfolded Type B polygons have **26** (•) yods that are either their centres or yods shared with the outer Tree of Life. 240 such yods belong solely to the (70+70) polygons enfolded in 10 Trees of Life.

The (7+7) enfolded Type B polygons have 1370 yods. 1344 (2×672) yods intrinsic to them surround their centres.

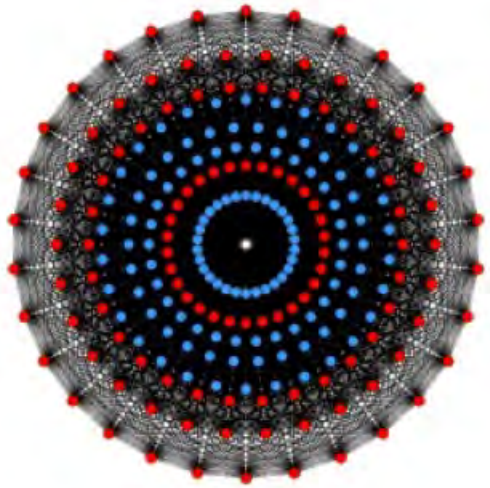
4_{21} polytope	Inner form of 10 Trees of Life
240 vertices	240 (•) centres or yods shared with the outer form of 10 Trees of Life when their triangles are tetractyses.
(240 + 2×6720 = 13680) yods line its 6720 edges with tetractyses as its faces.	13680 yods intrinsic to the (70+70) Type B polygons enfolded in 10 Trees of Life. They comprise 240 centres or shared yods and 2×6720 yods surrounding their centres.

The number of yods lining the 6720 edges of the 421 polytope that represents the 240 roots of E8 is equal to the number of yods in the inner form (with Type B polygons) of 10 overlapping Trees of Life. The analogous features listed above are convincing evidence that the 421 polytope conforms to the archetypal pattern embodied in sacred geometries because it is highly implausible that they arise by chance. The implication is inescapable and profound:

E8 ×E8 heterotic superstrings exist as the microscopic manifestation of the Tree of Life blueprint.

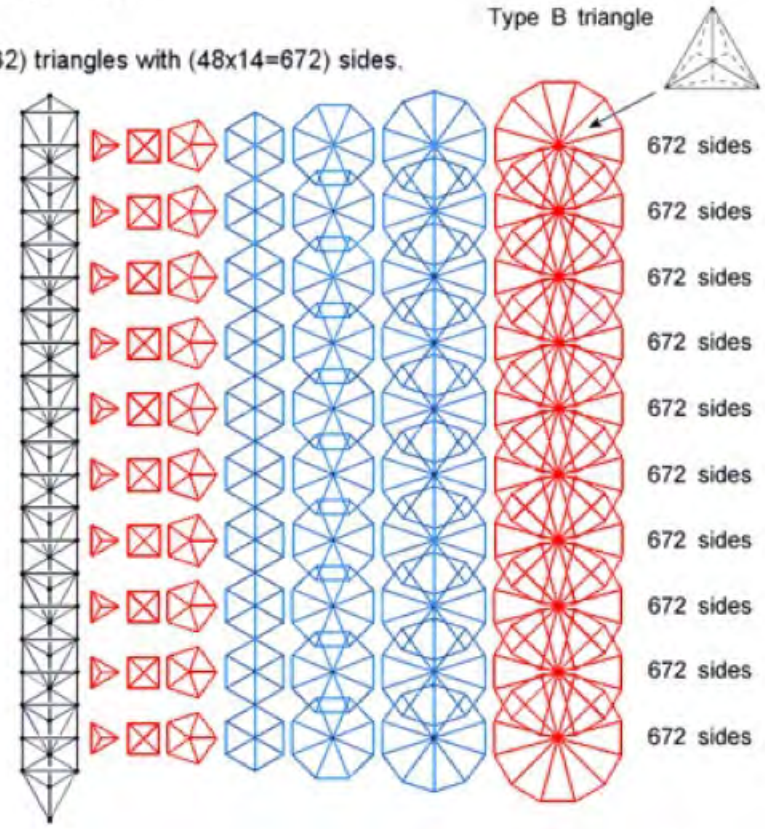
Tree of Life Sacred Geometry

A Type C polygon has 14 sides of 9 triangles per Type B sector.
7 separate polygons have 48 sectors.
The 7 separate Type C polygons have (48x9=432) triangles with (48x14=672) sides.



The 4_{21} polytope has 6720 edges

The 4_{21} polytope is the polytopic version of the inner form of 10 Trees of Life



Tree of Life and E8

·Sacred geometries, such as the five 3-dimensional, regular polyhedrons, embody the root structure of the E8 ×E8 heterotic superstring symmetry and various structural parameters of the UPA.

·This is the subatomic particle inside atoms that Theosophists Annie Besant & C.W. Leadbeater claimed to observe with ESP and which the author has interpreted as the subquark state of an E8 ×E8 heterotic superstring. This article will examine the composition of the six convex regular polychorons — the 4-dimensional counterparts of the Platonic solids — when they are constructed from triangles and tetractyses.

·The 600-cell (the polychoron with the most faces) is found to embody the superstring structural parameter 840, which has been shown to characterise various sacred geometries, being the number is the number of turns in half a helical whorl of the UPA.

·It also embodies the superstring structural parameter 8400, which is the number of turns in an outer or inner half of the UPA. The possession by the 600-cell of these and other structural parameters of holistic systems argues against such properties occurring by chance.

Tree of Life and E8

- *The 600-cell emerges uniquely from the analysis as the polychoron counterpart of the inner form of 10 overlapping Trees of Life*

- *It can be shown that the disdyakis triacontahedron is their polyhedral analogue. The Gosset 421 polytope, whose 240 vertices define the 240 root vectors of the Lie group E8, is a compound of two 600-cells.*

- *The construction of the 1200 faces of each 600-cell from triangles requires 8400 geometrical elements. The fact that 16800 geometrical elements are needed to construct the faces of both 600-cells making up the 421 is striking evidence that the UPA with 16800 turns in its 10 helices is an E8 ×E8 heterotic superstring.*

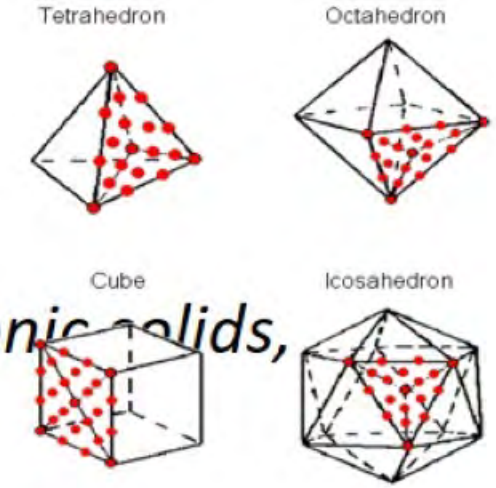
- *The five half-revolutions making up the inner half of the UPA and the five half-revolutions of its outer half would then correspond to the five 24-cells making up each 600-cell.*

- *The 120+120 and 10 ×24 patterns of vertices in this compound are found in several sacred geometries.*

- *It is further evidence of the archetypal nature of the 421 polytope as the polytope representation of the forces and 3-dimensional structure of the UPA, the subquark state of the E8 ×E8 heterotic superstring.*

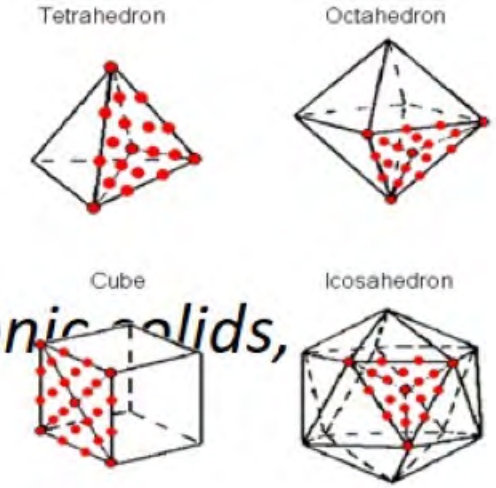
- *A vertex of each of the 10 24-cells denotes an E8 gauge charge. Its counterpart in the UPA is a set of 70 turns of the whorls.*

First Four Platonic Solids and E8



Weighted with the Decad (10), the 672 yods in the first 4 Platonic solids, the faces & interiors of which are constructed from tetractyses, generate the number (6720) of edges of the 421 polytope. On average, they are made up of 168 yods, generating the number 1680. This shows how these 4 regular polyhedra, thought by the ancient Greeks to be the shapes of the particles of the elements Earth, Water, Air & Fire, embody the basic numbers (168 & 1680) characterising the helical form of the E8 ×E8 heterotic superstring constituents of matter — the "UPAs" remote-viewed by Annie Besant & C.W. Leadbeater 123 years ago. It confirms the ancient intuition that the geometry of the first 4 Platonic solids determines the form of the basic constituents of physical matter.

First Four Platonic Solids and E8



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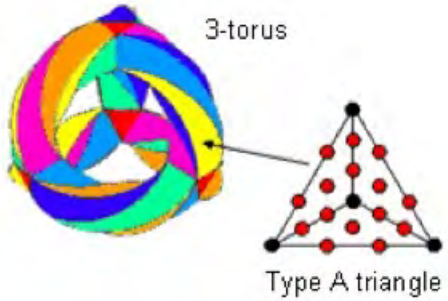
3-Torus and E8

6720 = 

Weighted with the Decad (10), the 672 hexagonal yods making up the 56 Type A triangles (168 tetractyses) in the {3,7} tessellation on the 3-torus of the 168 automorphisms of the Klein quartic generate the number (6720) of edges of the 421 polytope. The interior angle of the 8 triacontagons formed from its 240 vertices as Petrie polygons is 168°. This association between the numbers 672 & 168 establishes unequivocally the connection between the E8 ×E8 heterotic superstring structural parameter 168, determined through the remote-viewing of atoms, and the 421 polytope, whose 240 vertices represent the 240 roots of the rank-8 Lie group E8 appearing in E8 ×E8 heterotic superstring theory.