



## Electricity: The Mother-Lode

“Water,” and the “water of life” are all, on our plane, the progeny; or as a modern physicist would say, the correlations of ELECTRICITY. Mighty word, and a still mightier symbol! Sacred generator of a no less sacred progeny; of fire — the creator, the preserver and the destroyer; of light — the essence of our divine ancestors; of flame—the Soul of things. Electricity, the ONE Life at the upper rung of Being, and Astral Fluid, the Athanor of the Alchemists, at its lowest; GOD and DEVIL, GOOD and EVIL. — SD I, 81

There is a revolution just beginning in astronomy/cosmology that will rival the one set off by Copernicus and Galileo. This revolution is based on the growing realization that the cosmos is highly electrical in nature. It is becoming clear that 99% of the universe is made up not of “invisible matter”, but rather, of matter in the plasma state. Electrodynamical forces in electric plasmas are much stronger than the gravitational force.

Mainstream astrophysicists are continually “surprised” by new data sent back by space probes and orbiting telescopes. New information always sends theoretical astrophysicists “back to the drawing board”. In light of this, it is curious that they have such “cock-sure” attitudes about the infallibility of their present models. Those models seem to require major “patching up” every time a new space probe sends back data.

Astrophysicists and astronomers do not study experimental plasma dynamics in graduate school. They rarely take any courses in electrodynamic field theory, and thus they try to explain every new discovery via gravity, magnetism, and fluid dynamics which is all they understand. It is no wonder

they cannot understand that 99% of all cosmic phenomena are due to plasma dynamics and not to gravity alone.

When confronted by observations that cast doubt on the validity of their theories, astrophysicists have conjured up pseudo-scientific invisible entities such as neutron stars, weakly interacting massive particles, strange energy, and black holes. When confronted by solid evidence such as Halton Arp’s photographs that contradict the Big Bang Theory, their response is to refuse him access to any major telescope in the U.S.

Instead of wasting time in a futile battle trying to convince entrenched mainstream astronomers to seriously investigate the Electric/Plasma Universe ideas, a growing band of plasma scientists and engineers are simply bypassing them. A new electric plasma-based paradigm that does not find new discoveries to be “enigmatic and puzzling”, but rather to be predictable and consistent with an electrical point of view, is slowly but surely replacing the old paradigm wherein all electrical mechanisms are ignored.

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This web ( <http://www.electric-cosmos.org/electricplasma.htm> ) site is dedicated to explaining the basis of this ongoing scientific shift. It also presents links to other sites where you can investigate the details of what is happening.

## ***Plasma,***

### ***The Fundamental State Of Matter***

On our planet, we inhabit a calm little oasis of ordinary solids, liquids and gases that is immersed in a perpetually blowing, roiling, flaring erupting substance of a very different kind, called plasma. Sometimes called the fundamental state of matter to distinguish it from its tamer cousins, plasma makes up more than 99 percent of the visible universe. The plasma side of the cosmic ledger includes the seething atmospheres and interiors of stars, the wind of particles that our sun flings outward into space, Earth's cocoon-like magnetosphere, the tenuous wasteland between stars and galaxies, and fantastically energetic displays such as quasars, supernovas and parts of the compact spinning stars that spray out beams of x-rays like some kind of hellish fire hose.

When they are artificially produced and bottled up here on Earth, plasmas turn out to be extremely useful. We create plasmas each time we flip on a fluorescent light or a neon sign. Plasmas etch the tiniest circuit features on the microprocessor chips that are at the heart of our desktop computers. Carefully controlled clouds of plasma can "rain", or deposit, thin layers of materials onto surfaces as a crucial step in manufacturing industrial diamonds and superconducting films. Particle accelerators much more compact and powerful than any now in existence could emerge from experiments that are using intense plasma waves to push electrons up to relativistic speeds. Jets of plasma spin and maneuver

orbiting satellites. Even without leaving Earth's surface, however, laboratory experiments can shed light on the wider universe of plasma phenomena, as when the shock waves produced by laser beams striking a small spec of plasma help unravel the dynamics of an exploding star.

But no matter how cleverly we try to harness them, plasma sometimes revert to their unruly nature: Only after decades of research have physicists learned, by fits and starts, how to confine a plasma that is hotter than the sun's core, with the goal of producing large power plants using the same processes that causes the sun and stars to shine — a phenomena called thermonuclear fusion. The long struggle to make practical fusion devices partly reflects the challenge inherent in understanding plasma theoretically. Plasmas are so complex — equally rich in physics and frustration — that they often beggar all description, even by the most sophisticated theories and the most powerful supercomputers. (Adapted from James Glanz, *The Pervasive State of Matter*, <http://public.lanl.gov/alp/plasma/universe.html> )

## ***Electrical Plasma***

### **Definitions**

When one or more of the outer (valence) electrons are stripped away from an atom we say the atom has become "ionized". It then exhibits a net positive electrical charge, and is called a "positive ion". On the other hand, if an extra electron is added onto a neutral atom, the combination then carries a net negative charge and is referred to as a "negative ion". The electrical forces between dissimilar ions are orders of magnitude stronger than any mechanical force such as that produced by gravity. An electrical "plasma" is a cloud of ions and electrons that, under the excitation of applied electrical and magnetic fields, can sometimes light up and behave in some unusual ways. The most familiar examples

of electrical plasmas are the neon sign, lightning, and the electric arc welding machine. The ionosphere of Earth is an example of a plasma that does not emit visible light. Plasma permeates the space that contains our solar system. The cloud of particles that constitutes the solar “wind” is a plasma. Our entire “Milky Way” galaxy consists mainly of plasma. In fact 99% of the entire universe is plasma!

### History

During the late 1800's in Norway, physicist Kristian Birkeland explained that the reason we could see the auroras was that they were plasmas. Birkeland also discovered the twisted corkscrew shaped paths taken by electric currents when they exist in plasmas. Sometimes those twisted shapes are visible and sometimes not — it depends on the strength of the current density being carried by the plasma. Today these streams of ions and electrons are called “Birkeland Currents”. The mysterious “sprites”, “elves”, and “blue jets” associated with electrical storms on Earth are examples of Birkeland currents in the plasma of our upper atmosphere.

In the early 20<sup>th</sup> century, Nobel laureat Irving Langmuir studied electric plasmas in his laboratory at General Electric; he further developed the body of knowledge Birkeland had initiated. In fact it was he who first used the name “plasma” to describe the almost lifelike, self-organizing behavior of these ionized gas clouds in the presence of electrical currents and magnetic fields.

## Basic Properties

### Modes of Operation

There are three distinctly different steady state modes in which a plasma can operate:

#### Dark Current Mode

The strength of the electrical current (flow of charged particles) within the plasma is very low. The plasma does not glow. It is essentially invisible. We would not know a

plasma was there at all unless we measured its electrical activity with sensitive instruments. The present day magnetospheres of the planets are examples of plasmas operating in the dark current mode.

#### Normal Glow Mode

The strength of the electrical current (flow of charged particles) is significant. The entire plasma glows. The brightness of the glow depends on the intensity of the current in the plasma. Examples: Any neon sign. Emission nebulae. The Sun's corona.

#### Arc Mode

The strength of the electrical current in the plasma is very high. The plasma radiates brilliantly over a wide spectrum. Current tends to form twisting filaments. Examples of this mode of operation are: An electric arc welding machine. Lightning. The Sun's photosphere.

In all three modes of operation, plasmas emit measurable electromagnetic radiation (radio frequency noise). At any given time, the current density (Amps per square meter) existing in the plasma, determines which particular mode a plasma is operating in. The atomic structure of the gas that became ionized to form the plasma in the first place also is a factor in this.

#### Double Layers

One of the most important properties of any electrical plasma is its ability to “self-organize” — that is, to electrically isolate one section of itself from another. The isolating wall is called a double layer (**DL**). When a plasma is studied in the lab, it is usually contained in a closed cylindrical glass tube. Electrodes are inserted into the ends of the tube — one electrode (called the anode) is maintained at a higher voltage than the electrode at the other end (the cathode). If such a voltage difference is applied, then ionization will be initiated and current will start to flow through the plasma. Positive ions (atoms with one or more electrons stripped off) will migrate away from the anode, and negative ions (atoms carrying

one or more extra electrons) will move toward the anode. The mathematical sum of these two oppositely directed flows constitutes the total current in the plasma.

If the voltage difference from one electrode to the other becomes large enough, a **DL** will form in a narrow cross-section somewhere in the middle of the tube. Almost all the voltage drop that is applied across the electrodes will fall across this DL. The plasma on one side of the DL (the side toward the anode) will have approximately the same voltage as the anode. The plasma on the cathode side of the DL will have essentially the same voltage as the cathode. The two halves of the plasma are then electrically isolated from one another by the DL. No electrostatic force is felt by particles on one side of the DL due to charges on the other side of the DL. The total electric current, however, is the same throughout the plasma (on both sides of the DL). Plasmas are excellent conductors and, therefore, there will not be a significant voltage drop across them while they are carrying current — thus the need for the presence of the DL that “takes” most of any externally applied voltage. In other words, the DL is where the strongest electric fields in the plasma will be found.

If a foreign object is inserted into a plasma, a DL will form around it, shielding it from the main plasma. This effect makes it difficult to insert voltage sensing probes into a plasma in order to measure the electric potential at a specific location. This is a well known property of plasmas. Various methods have been developed in the laboratory to overcome it.

In space, it is impossible to “send a spacecraft to measure the voltage of the solar plasma at some point”. Voltage is a relative measure (like velocity, for example); it must be measured with respect to some datum. A spacecraft will start out having the same voltage as the surface of Earth. As it penetrates the plasmasphere and

enters the solar plasma it will slowly accumulate charge and thus alter its voltage. The strength of an electric field, however, can be measured in space.

#### **The Z-Pinch**

Electric current, passing through a plasma, will take on the corkscrew (spiral) shape discovered by Birkeland. These Birkeland currents most often occur in pairs. There is a tendency for these pairs to compress between them any material (ionized or not) in the plasma. This is called the “z-pinch” effect. The ability of Birkeland currents to accrete and compress even non-ionized material is called “Marklund convection”.

#### **Hannes Alfvén and the “Frozen-in Magnetic Fields”**

For years it was assumed that plasmas were perfect conductors and, as such, a magnetic field in any plasma would have to be “frozen” inside it.

The technical explanation is as follows: One of Maxwell’s equations is that the curl of  $E$  is equal to  $-dB/dt$ . Consequently, if the electric field,  $E$ , in a region is everywhere zero valued, then any magnetic field in that region must be time invariant (have a constant value). So if all plasmas are ideal conductors (and so cannot have electric fields — that is to say, voltage differences — inside them), then any magnetic fields inside a plasma must be “frozen” — i.e., cannot move or change in any way.

Now we know that there can be slight voltage differences between different points in plasmas. Plasma engineer [Hannes Alfvén](#) pointed out this fact in his acceptance speech while receiving the Nobel Prize for physics in 1970. The electrical conductivity of any material, including plasma, is determined by two factors: the density of the population of available charge carriers (the ions) in the material, and the mobility of these carriers. In any plasma, the mobility of the ions is extremely high. Electrons and

ions can move around very freely in space. But the concentration (number per unit volume) of ions available to carry charge may not be at all high if the plasma is a very low pressure (diffuse) one. So, although plasmas are excellent conductors, they are not perfect conductors. Weak electric fields can exist inside plasmas. Therefore, magnetic fields are not frozen inside them.

#### **Currents in Cosmic Sized Plasmas**

Because plasmas are good (but not perfect) conductors, they are equivalent to wires in their ability to carry electrical current. It is well known that if any conductor cuts through a magnetic field, a current will be caused to flow in that conductor. This is how electric generators and alternators work. Therefore, if there is any relative motion between a cosmic plasma, say in the arm of a galaxy, and a magnetic field in that same location, Birkeland currents will flow in the plasma. These currents will, in turn, produce their own magnetic fields.

Plasma phenomena are scalable. That is to say, their electrical and physical properties remain the same, independent of the size of the plasma. Of course dynamic phenomena take much less time to occur in a small laboratory plasma than they do in a plasma the size, say, of a galaxy. But the phenomena are identical in that they obey the same laws of physics. So we can make accurate models of cosmic sized plasmas in the lab - and generate effects exactly like those seen in space. In fact, electric currents, flowing in plasmas, have been shown to produce most of the observed astronomical phenomena that are inexplicable if we assume that the only forces at work in the cosmos are magnetism and gravity.

#### **The Formation of Galaxies in a Cosmic Sized Plasma**

Dr. Anthony Peratt is a former Scientific Advisor to the United States Department of Energy, Washington DC and a member of the Associate Laboratory

Directorate of the Los Alamos National Laboratory. He was a graduate student of Nobel Prize winner Hannes Alfvén. He is a world renowned electrical engineer who first received notice among the general public through the publication of his work involving computer simulation of galaxy formation in E. J. Lerner's 1991 book, *The Big Bang Never Happened*. Peratt had worked on those simulations for several years prior to that time. By 1986 he had achieved sufficient professional stature to be asked to serve as Guest Editor of the Dec. 1986 IEEE<sup>1</sup> *Transactions on Plasma Science* (Vol. PS-14 No. 6). In that issue he published two articles: "Evolution of the Plasma Universe: I. "Double Radio Galaxies, Quasars, and Extragalactic Jets"; II. "The Formation of Systems of Galaxies." He has served on the Administrative Committee of the Institute of Electrical and Electronic Engineers. In the issue of the IEEE Transactions that Peratt edited there were two articles by his mentor, Hannes Alfvén. There were other articles by the astronomer Halton Arp as well as many top plasma scientists and engineers. It is a seminal publication that sets out the fundamental basis of the Electrical/Plasma Universe. It is, for the most part, readable by any reasonably informed lay person interested in astronomy. It should be available in the library of any good college of engineering.

Peratt used an extremely large computer to apply the Maxwell-Lorentz equations (the basic laws governing the forces produced by, and the interactions between, electric and magnetic fields) to

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<sup>1</sup> The IEEE (Eye-triple-E) is a non-profit, technical professional association of more than 380,000 individual members in 150 countries. The full name is the **Institute of Electrical and Electronics Engineers**, Inc., although the organization is popularly known and referred to by the letters I-E-E-E.

Through its members, the IEEE is a leading authority in technical areas ranging from computer engineering, biomedical technology and telecommunications, to electric power, aerospace and consumer electronics, among others.

each of a huge ensemble of charged particles. He calls this Particle in Cell (PIC) simulation. His results are almost indistinguishable from astro-images of actual galaxies.

Peratt went on to publish the text: “The Physics of the Plasma Universe” (Springer-Verlag, ‘92). It is an up-to-date presentation of the mathematical laws of physics that govern the behavior of plasmas. It provides the fundamental argument for why electrical effects cannot be ignored in any modern study of the cosmos.

#### The Peratt Instabilities

One of Peratt’s latest and most important discoveries are called the Peratt Instabilities. These are observed dynamic effects that occur in intense Birkeland currents or arc discharges found in plasma torches, z-pinch plasma filaments, or in high energy density electrical discharges. The instability takes on the shape of a column of axially symmetric toroids<sup>1</sup> or spheroids that remain in a semi-stable state until disruption. During this state the column may be a source of intense x-rays whose intensity is greatly enhanced if two current filaments are in interaction. The instability can also take on a sawtooth structure with a violent snaking motion as found between the anode and cathode of a high power plasma torch or in high energy density plasmas. (Reference: *Evolution of Colliding Plasmas*, A. Peratt, J. Green, and D. Nielsen, Physical Review Letters, 44, pp. 1767-1770, 1980.)

Peratt has an extensive website containing information for both the novice who wants to learn about the Plasma Universe and the experienced investigator who wants to download the seminal scientific papers that underpin all these ideas. It is a treasure trove of

<sup>1</sup> Toroids come in two types, powdered iron toroids or ferrite toroids. Both introduce permeability. Toroids look exactly like doughnuts and come in various diameters, thicknesses, permeabilities and types depending upon the frequency range of interest.

interesting information about the electrical nature of our Universe.

<http://public.lanl.gov/alp/plasma/universe.html>

#### Why Do Astrophysicists Ignore Electrical Phenomena?

When such a firm foundation has been laid for continued work in the electrical properties of the universe, why do “mainstream” astrophysicists continue to ignore this field of study and, instead, patch up their failing “gravity only” models with more and more arcane, invented theoretical fictions? Why do conventional astronomers and cosmologists systematically exclude electric fields and currents from not only their consideration, but from their curricula? Why do they intentionally ignore the fact that many here-to-fore “unexplained” phenomena are quite simply explained by recognizing the existence of electric fields and currents in solar and galactic plasma?

#### The answer is this:

Magnetism was known to exist in the middle ages. They knew, even back then, that a piece of iron could act on another — at a distance.

But, the early astronomers (like their modern brethren) were simply unaware of electrical phenomena. Johannes Kepler (1571-1630) had already mathematically explained the shape of the orbits of the planets when Isaac Newton published his treatise on gravity in 1687. Once that occurred, nothing more was needed to explain and predict the planetary motions that could be observed in those days. Everything was solved.

This, of course, was all long before Benjamin Franklin (1706-1790) flew his kite in a thunder storm or James Clerk Maxwell (1831-1879) developed his equations relating magnetic and electric fields. But, electric fields were difficult to measure. And astronomers didn’t know they needed to know about them. So, they never got

included in the “accepted” model of how the solar system or the cosmos works.

That is why, to this day, most astrophysicists have never taken courses in electromagnetic field theory or experimental plasma discharges. They attempt to describe the actions of plasma by means of equations that are applicable only to fluids like water — and magnetic effects. This is what Alfven called “magneto-hydrodynamics”. They do not realize, as he did, that the prefix “magneto” implies “electro”. And that, in turn, explains why astrophysicists blithely talk about stellar “winds”, “vortex trails”, and “bow shocks” instead of electrical currents in plasmas, electrical fields, z-pinches, and double layers. It also explains why they make wrong claims about how magnetic fields must “pile-up”, “merge”, and “recombine” — they are simply uneducated in, and therefore “mystified” by, this now well known area of engineering science.

#### RECENT DEVELOPMENT!

The American Institute of Physics has just recently announced that they will now officially recognize the Plasma Universe as an official field of study in physics! Eighty years late! But better late than never.



### *Plasma*

#### *Viewed in the Light of Occultism*

When an Occultist speaks of Fohat—the energising and guiding intelligence in the Universal Electric or *Vital Fluid*,—he is laughed at. Withal, as now shown, neither the nature of electricity, nor of Life nor even of Light, are to this day understood. The Occultist sees in the manifestation of every force in Nature, the action of the quality, or the special characteristic of its noumenon; which

*noumenon* is a distinct and intelligent Individuality on the other side of the manifested mechanical Universe. Now the Occultist does not deny—on the contrary he will support the claim—that light, heat, electricity and so on are *affections* (not properties or qualities) of matter. To put it more clearly: matter is the condition—the necessary basis or vehicle, a *sine quâ non*—for the manifestation of these forces, or agents, on this plane. SDI 493



Shall we say that Force is “moving matter,” or “matter in motion,” and a manifestation of energy; or that matter and force are the phenomenal differentiated aspects of the one primary, undifferentiated Cosmic Substance?

This query is made with regard to that Stanza which treats of FOHAT and his “Seven brothers or *Sons*,” in other words, of the *cause* and the *effects* of Cosmic Electricity, the latter called, in Occult parlance, *the seven primary forces of Electricity*, whose purely phenomenal, and hence *grossest* effects are alone cognizable by physicists on the cosmic and especially on the terrestrial plane. These include, among other things, Sound, Light, Colour, etc., etc. SDI 554

Electricity, magnetism, heat, light, and chemical action are so little understood even now that fresh facts are constantly widening the range of our knowledge. Who knows where ends the power of this protean giant—Æther; or whence its mysterious origin? Who, we mean, that denies the spirit that works in it, and evolves out of it all visible forms? SDI 332



KUNDALINI SAKTI. The power or Force which moves in a curved

path. It is the Universal life-Principle manifesting everywhere in nature. This force includes the two great forces of attraction and repulsion. Electricity and magnetism are but manifestations of it. SDI 293



What several rather mystical Scientists taught was that light, heat, magnetism, electricity and gravity, etc., were not the final *causes* of the visible phenomena, including planetary motion, but themselves the *Secondary effects of other Causes*, for which Science in our day cares very little, but in which Occultism believes, for the Occultists have exhibited proofs of the validity of their claims in every age. And in what age were there no *Occultists* and no *ADEPTS*? SDI 484



The tendency of modern thought is to recur to the archaic idea of a homogeneous basis for apparently widely different things—heterogeneity developed from homogeneity. Biologists are now searching for their homogeneous protoplasm and chemists for their protyle, while science is looking for the force of which electricity, magnetism, heat, and so forth, are the differentiations. The Secret Doctrine carries this idea into the region of metaphysics and postulates a “One Form of Existence” as the basis and source of all things. SDI 46



At the risk of being laughed at by the whole world of physicists, the Occultists maintain that all the “Forces” of the Scientists have their origin in the *Vital Principle*, the ONE

LIFE collectively of our Solar system—that “*life*” being a portion, or rather one of the *aspects* of the One Universal LIFE. SDI 591



With the Esotericists, from the remotest times the Universal Soul or *anima mundi*, the material reflection of the Immaterial Ideal, was the Source of Life of all beings and of the life principle of the three kingdoms; and it was *Septenary* with the Hermetic philosophers, as with all ancients. For it is represented as a Sevenfold cross, whose branches are respectively, *light, heat, electricity, terrestrial magnetism, astral radiation, motion, and Intelligence*, or what some call self-consciousness. SDII 562



Hence Cupid or Love in his primitive sense is Eros, the Divine Will, or *Desire of manifesting itself through visible creation*. Thence Fohat, the prototype of Eros, becomes on Earth the great power “Life-electricity,” SDII, 65



Let us close by reminding the reader that, without the smallest shadow of superstition, one may believe in the dual nature of every object on Earth—in the spiritual and the material, the visible and the invisible nature, and that science virtually proves this, while denying its own demonstration. For if, as Sir William Grove has it, the electricity we handle is but the *result* of ordinary matter affected by something *invisible*, the “*ultimate generating power*” of every Force, the “*one omnipresent influence*,” then it only becomes

natural that one should believe as the ancients did; namely, that every Element is *dual* in its nature. “ETHEREAL fire is the emanation of the KABIR proper; the *ærial* is but the union (correlation) of the former with *terrestrial fire*, and its guidance and application on our earthly plane belongs to a *Kabir* of a lesser dignity”—an Elemental, perhaps, as an Occultist would call it; and the same may be said of every Cosmic Element. SDI 469



### Summary of the Electric Cosmos Theory

A complete summary of all the aspects of the Electric Cosmos is too extensive to give more than a cursory introduction to the vast implications of these ideas. Therefore, this summary page can only list a few of the points that should be remembered by anyone who is trying to learn about the view of the Universe that is emerging.

The entire cosmos is permeated with plasma. In some regions (within a galaxy, within a solar system) the plasma is denser than it is in others. In some cases the plasma is visible, in some, not. But everywhere our spacecraft have gone - they have found it.

1. The electrical properties of plasma vastly outweigh its mechanical (gravitational) properties.
2. There is nothing mysterious about magnetic fields. They do not “get tangled up”, “break”, “merge”, or “reconnect”. They require electric currents in order to exist.
3. The relative distances between even the most densely packed stars are vast in comparison to the stars’ diameters.

4. The homopolar motor - generator shape seems to be ubiquitous. Stars, pulsars, and galaxies are organized in this morphology.
5. The z-pinch effect that occurs in Birkeland currents (electrical currents that flow through plasmas) is responsible for the accretion of stars, planets, and galaxies.
6. It is highly likely that the solar system started out as a collinear array of “Herbig - Haro” type objects formed by a z-pinch.

So-called educated lay-people have abdicated their responsibility to think actively and ask the questions that will keep science honest. It seems we would rather just believe whatever we read in “Discover” magazine. If “they” tell us black-holes and dark matter exist — so be it. The public is enthralled by the magic show that astronomy, particle physics, and some other sciences have become.

The ship of science, captained by astronomy and astrophysics, is not just steering a wobbling course — it is miles off track and it is intentionally laying down a smoke screen. The world badly needs a “reality check.”

The present day “peer review system” determines which proposed research projects get funded and which do not. It also determines what results get published and which do not. At first it seems very sensible that any scientific field should be able to keep “quacks” and “crack pots” from being funded and published. However, when any given area becomes controlled by “experts” who have “accepted” a deductively arrived at theory, they tend to see any alternative data or proposed hypotheses as “crack pot”. When those who steer the ship of science refuse to allow alternative hypotheses from *even being investigated, let alone published*, it is little wonder we are wildly

off course. The general public thinks of science as always “looking for new ideas”. The sad truth is: it does not, certainly not in astronomy / cosmology. What it *does* do is constantly seek funding from friendly peer reviewers.

Perhaps one way to break the cycle of the peer review system awarding all (government) funding to only those scientists who “accept” the dominant theory, is to return to the practice of wealthy patrons supporting new scientific ideas — as the Medici family did for Galileo.

When we think about the travesty the Roman Catholic Church perpetrated against Galileo (waiting until late in the 20<sup>th</sup> century to admit it) we feel superior. **WE** modern folk would never ignore and suppress a scientist in that way! No? Then how about astronomer Halton Arp who was denied access to Mt. Palomar and refused publication of his work because the present day high priests (of science) found the publication of his photographs embarrassingly contradictory to their well funded dogma? Would it not be educational to realize that we have just screwed up again — big time!

If the Electric Star hypothesis is even partially correct, there is no guarantee that the Sun<sup>1</sup> will continue to shine for millions

<sup>1</sup> The universal Deity is darkness, and from this Darkness issues the Logos in the following aspects: [1] Weight [Chaos which becomes aether in its primordial state]; [2] Light; [3] Heat; [4] Fire.

*Q. In what relation does the Sun, the highest form of Fire we can recognise, stand to Fire as you have explained it?*

**A.** The Sun, as on our plane, is not even “Solar” fire. The Sun we see, gives nothing of itself, because it is a reflection; a bundle of electro-magnetic forces, one of the countless millions of “Knots of Fohat.” Fohat is called the “Thread of primeval Light,” the “Ball of thread” of Ariadne, indeed, in this labyrinth of chaotic matter. This thread runs through the seven planes tying itself into knots. Every plane being septenary, there are thus forty-nine mystical and physical forces, [the] larger knots forming stars, suns and systems, the smaller, planets, and so on.

*Q. In what respect is the Sun an illusion?*

of years as we have been assured by the experts. What anxieties will this realization engender in a scientifically semi-literate public? But, it may be reassuring for them to know that Earth has much less to fear from a near collision with an asteroid or comet than they now think. Why have *billions* of tax payer dollars been used to support “accepted” solar fusion models and *none* invested in any alternative ideas, however worthwhile they may be?

**A.** The electro-magnetic knot of our Sun is neither tangible nor dimensional, nor even as molecular as the electricity we know. The Sun absorbs, “psychizes” and vampirizes its subjects within its system. Further than this it gives out nothing of itself. It is an absurdity, therefore, to say that the solar fires are being consumed and gradually extinguished. The Sun has but one distinct function; it gives the impulse of life to all that breathes and lives under its light. The sun is the throbbing heart of the system; each throb being an impulse. But this heart is invisible: no astronomer will ever see it. That which is concealed in this heart and that which we feel and see, its apparent flame and fires, to use a simile, are the nerves governing the muscles of the solar system, and nerves, moreover, outside of the body. This impulse is not mechanical but a purely spiritual, nervous impulse. (*Transactions*, 116-117)



## POINT OUT THE WAY

### XXXIX

#### Chapter VIII

##### I. — Reincarnation and “New Thinkers”

**QUESTION:** — If all this is true, then there must be a beginning to man?

**ANSWER:** — How could there be a beginning to anything? If there is some thing that once was not and now is, we are confronted with a miracle. All religious people believe in miracles but none of them are able to produce any!

**QUESTION:** — What do you mean by the expression, a “new Thinker”?

**ANSWER:** — We haven’t produced anything new when we wake up a sleeping man; we have produced a change of state in the same man. We haven’t produced anything new when we put a waking man to sleep; what we have done is to produce a change of state in Mr. Man. The sleeping state always is, but not all beings are in it at the same time. The waking state always is, but not all beings are awake at the same time. The thinking state always is, but not all beings are in the thinking state.

For example, when a man is in the state called in the books “concentration,” he isn’t thinking; he can’t think, because he is beyond the state called thought. When a man is in the state called in our books “meditation,” he can’t think—he is beyond the state called thought. He has risen beyond the native habitat of the human race,

and when a man is in the state pure and simple, the highest of all, that the books call Atman—that is, the Knower, the Perceiver—then he is outside of the circle of manifested existence, which is in him, but he is not in it.

Every one of us is a Perceiver, just as much a Perceiver as we ever were or ever will be. So is every atom of our body the perceiver. But we look directly upon ideas; the lives below man look directly upon sensation. We say, waking, dreaming, sleeping because our attention has not been directed to the state of nature beyond life or man as immortal. But there are other names for these states of consciousness. Think of the mineral kingdom as a state of consciousness. Just as with us, we know that sleeping is a state, or dreaming is a state, or waking is a state. Think of the vegetable kingdom as meaning life in a given state of consciousness, and the forms built in that state. Think of the animal kingdom as life in a given state of consciousness with the appropriate forms built in them.

Now we—in the state called the Thinker, which is our natural state—are not any the less the Perceiver, because we are also at the same time the Thinker, and the being which feels. But neither are we the Thinker pure and simple, nor are we the creature that is the experiencer of effects pure and simple—nor are we the Perceiver pure and simple. It is impossible to dissociate the three. If a man were in the state called the Perceiver, and if he were in that state pure and simple, all this that is a mystery to us would be just as objective in the spiritual sense as we here and now are objective to each other in the “sense use” of the term.

**QUESTION:** — Could not the question of the “new Thinker” be answered by the statement on p. 58 (2<sup>nd</sup> Indian ed.) (p.54 Am. Ed.), that these Elder Brothers set fire to our minds, the lower principles and the Monad,

thus lighting up Manas? Is that just what you are trying to say in other words?

**ANSWER:** — In the chapter on Manas, speaking of the lighting up of Manas, it says the Elder Brothers set fire to the Monad and the combined lower principles and thus initiated a new hierarchy of self-conscious thinkers. Is that the same as has been said? Surely. What is the Monad in any sense and in every sense? It is Life regarded as a unit. What are the combined lower principles? The mineral monad's life knows one state and one only—which, from the point of view of consciousness, would correspond to dreamless sleep, utterly unconscious of everything external. So, it is a one—principled life.

Take the same Life and, should there be the incipient dawning of an other kind of consciousness, that of contact and touch, we have the vegetable kingdom. It is the same Monad; that is, Life with two principles partially awakened. Take that identical Monad or Life which already is responsive to two states; let it develop, however incipiently, another degree of consciousness—not the sense of contact but the sense of externality which is the opposite of the sense of contact—and we have the animal kingdom. Remember all the time that growth in ability to receive impressions means the development of a higher faculty.

The Monad or Life has reached the point where it is saturated, not merely with impressions from these three states but also with what Leibnitz called the “apperception” of the higher state—due to a partial waking of the higher nature—that is, the waking up of the impressions gained through aeons of experience in the lower state. Then, what happens? The Elder Brothers set fire to the Monad and the combined lower principles. Who are those Elder Brothers? We are—who else?

How do we “set fire”? Use your imagination. Here is a candle; it went

through an infinity of forms and experiences before a force unknown to it pressed that suet and that tallow into the shape we call a candle. Then there is all the experience gained in invisible impressions, moulded to the form that we call a candle. Observe it still more closely. In the centre of the candle is another kind of form and shape which also has been through an infinity of transformations, and that accumulation of impressions we call a wick. There is matter sleeping—Life which has been through an infinity of transmigrations and knows nothing about it, loaded with impressions which aren't alive. Along comes somebody and touches a match to the wick; you light up that candle. What has entered? Fire, and as the fire burns, what does it do to the wick and the candle? It consumes them. The fire is there all the time, but an intentional intelligence had to come into play to unite invisible fire with fireless elements—then you have the lighted candle.

Now, what are we? Are we a candle? No. Are we a wick? No. Are we the fire? In one sense, yes. What we have done is to set fire to this candle called the body by entering into it and giving it the fire of our self-conscious intelligence.

It is a miracle when you come to think about it — one of the profoundest miracles in the world. In the first place, what is fire, and how is it that fire is the Monad, because fire is eternally one? In the second, it does not make a bit of difference what the fuel is — fire is one though the fuels be many: Why? What is the third miracle? It is the very thing we are talking about. Watch that candle, and pretty soon there will be no tallow; there will be no suet; there will be no wick; there will not be anything physical — it will all have been transformed into fire. There is the return from matter to spirit.

[to be continued]

## Commentaries of Proclus<sup>1</sup>

### *Book 1 Chapter 1*

- (44) "On the Middle Nature of the Mathematical Essence."  
 (48) "Concerning the Common Principle of Beings, and of the Mathematical Essence, bound and infinite."<sup>2</sup>

<sup>1</sup> The Philosophical and Mathematical Commentaries of Proclus (surnamed Plato's Successor), Vol. 1 *On the First Book of Euclid's Elements and his Life by Marinus*. Translated from the Greek with a Preliminary Dissertation on the Platonic Doctrine of Ideas &c., by Thomas Taylor. Volume I printed in London for the author: and sold by T. Payne and Son; B. White and Son; L. Davis; J. Robson; T. Cadell; Leight & Co., G. Nicol; R. Faulder; and T. and J. Egerton. MDCCLXXVIII [1778]. "A little learning is a dangerous thing, Drink deep, or taste not the Platonic Spring: These shallow draughts intoxicate the brain, and drinking largely, sober us again. Page 1 begins:

*TO THE SACRED MAJESTY OF TRUTH*

*Preface*

*A Dissertation on the Platonic Doctrine of Ideas, &c.*

*Section I*

*Section II Demonstrative Syllogism.* [The present section contains an illustration of almost all the first book of Aristotles last *Analytics*. I have for the most part followed the accurate and elegant paraphrase of Themistius, in the execution of this design, as the learned reader will perceive; but I have likewise every where added elucidations of my own, and endeavored to render this valuable work intelligible to the thinking mathematical readers.]

<sup>2</sup> These two principles *bound* and *infinite*, will doubtless be considered by the unthinking part of mankind, as nothing more than general terms, and not at the most real of beings. However, an accurate contemplation of the universe, will convince every *truly* philosophica mind of their reality. For the heavens themselves, by the coherence and order of their parts evince their participation of bound. But by their prolific powers, and the unceasing revolutions of the orbs they contain, they demonstrate their participation of *infinity*. And the finite and the perpetually abiding forms with which the world is replete, bear a similitude *to bound*: while, on the contrary, the variety of particulars, their never-ceasing mutation, and the connection of more or less in the communion of forms, represents an image of *infinity*. Add too, that every natural species, by its *form* is similar to *bound*; but by its matter, to infinity. For these two form and matter, depend on *bound* and *infinity*, and are their ultimate progressions. And each of these indeed, participates of unity; but form is the measure and bound of matter, and is now *one*. But matter is in capacity all things, because it subsists by an emanation from the first capacity, or the *infinite itself*.

But it is necessary that, considering the principles of the whole mathematical essence, we should return to those general principles, which pervade through and produce all things from themselves, I mean *bound* and *infinite*. For from these two after that cause of *one*, which can neither be explained, nor entirely comprehended, every other thing, as well as the nature of the mathematical disciplines, is constituted. In the former indeed, producing all things collectively and separately; but in these proceeding in a convenient measure and receiving a progression in a becoming order; and in some, subsisting among primary, but in others among middle, and in others again among posterior natures. For intelligible genera, by their simplicity of powers, are the first participants of *bound* and *infinite*: because, on account of their union and identity, and their firm and stable existence, they are perfected by *bound*: but on account of their division into multitude, their copious power of generation, and their divine diversity and the progression, they obtain the nature of infinite. But mathematical genera originate, indeed from bound and infinite, yet not from primary, intelligible, and occult principles only; but also from those principles which proceed from the first to the secondary order, and which are sufficient to produce the middle ornaments of beings and the variety which is alternately found in their natures. Hence, in these also, the reasons and proportions advance to infinity, but are restrained and confined by that which is the cause of bound. For number rising from the retreats of unity, receives an incessant increase, but that which is received as it stops in its progression, is always finite. Magnitude also suffers an infinite division, yet all the parts which are divided are bounded, and the particles of the whole exist finite in energy. So that without the being of infinity, all magnitude would be commensurable, and no one would be found but what might either be explained by words, or comprehended by reason (in which indeed geometrical

subjects appear to differ from such as are arithmetical;) and numbers would be very little able evince the prolific power of unity, and all the multiplex and super-particular proportions which they contain. For every number changes its proportion, looking back upon, and diligently enquiring after unity, and a reason prior to itself. But *bound* being taken away, the commensurability and communication of reasons, and one and the same perpetual essence of forms, together with equality, and whatever regards a better co-ordination, would never appear in mathematical anticipations: nor would there be any science of these; nor any form and certain comprehensions. Hence then, as all other genera of beings require these two principles, so likewise the mathematical essences. But such things as are last in the order of beings, which subsist in matter, and are formed by the plastic hand of nature, are manifestly seen to enjoy these two principles essentially. Infinite as the subject seat of their forms; but bound as that which invests them with reasons, figures, and forms. And hence it is manifest that mathematical essences have the same pre-existent principles with all other genera of beings.



## HARRY BINGHAM

A few months ago, the Secretary of State, Colin Powell, gave a posthumous award for “constructive dissent” to Hiram (or Harry) Bingham, IV.

For over fifty years, the State Department resisted any attempt to honor Bingham. For them he was an insubordinate member of the US diplomatic service, a dangerous maverick who was eventually demoted.

Now, after his death, he has been officially recognized as a hero. Bingham came from an illustrious family. His father

(on whom the fictional character Indiana Jones was based) was the archeologist who unearthed the Inca city of Machu Piccu, Peru in 1911.

Harry entered the US diplomatic service and, in 1939, was posted to Marseilles, France as American vice-consul. The USA was then neutral and, not wishing to annoy Marshal Petain’s puppet Vichy regime, President Roosevelt’s government ordered its representatives in Marseilles not to grant visas to any Jews. American consular officials abroad were under instructions from the State Department to “postpone and postpone and postpone” when they received requests for immigration visas from desperate refugees seeking to flee the Nazis. Anti-foreigner and anti-Jewish prejudice was rife among State Department officials of that era, and the department worked to restrict issuing immigration visas. Harry Bingham’s conscience could not accept the policy.

In summer 1940, American author and editor Varian Fry arrived in France to rescue artists and intellectuals, most of them Jews, from the pro-Nazi Vichy government. Defying his superiors, Harry Bingham secretly worked with Fry. They managed to issue visas and travel documents that saved 2,500 refugees, among them painter Marc Chagall, Nobel Laureate Otto Meyerhof and philosopher Hannah Arendt.

Bingham arranged for the famous German Jewish novelist, Lion Feuchtwanger, to be smuggled out of an internment camp disguised in women’s clothing, then hid Feuchtwanger in his home until he could secret him out of the country. Other French victims of Nazi terror went to Marseilles, seeking Harry Bingham as a last chance.

### Nazis were furious

Anxious to avoid irritating American-German relations, the State Department revoked Fry’s passport and transferred

Bingham, first to Lisbon and then to the U.S. embassy in Argentina. There Bingham challenged State Department indifference to Argentinean harboring of Nazi war criminals.

But Bingham's superiors had their revenge. He was barred from advancing to the rank of ambassador. Discouraged, Harry resigned from the foreign service. Bingham died almost penniless in 1988.

Harry Bingham never told his 11 children the full story of his Holocaust rescue activities. Several years after his death, his youngest son, William, found letters and documents in a cupboard behind a fireplace in the family home. The papers revealed the story of Harry Bingham. He has since been honored by many groups and organizations including the United Nations and the State of Israel.



## DNYANESHVARI

### XXXVIII

[The *Dnyaneshvari* is mentioned many times by Madame Blavatsky, always in glowing terms. The following rendition is extracted from Manu Subedar's translation. The great Sage, Dnaneshwara Maharaj sang this work to his people when he was quite young. He did it in their native language, Marathi, about 700 years ago. It is his commentary on the *Bhagavad Gita*.]

#### CHAPTER ELEVEN

**Arjuna says to Shri Krishna:** O Lord, through Your great favor, I, who am a common person, have been enabled to see

Your universal form (Vishwarupa). You have done a great thing for me in making me realize that of this universe, You are the one support. Like herds of wild animals seen at various places on the Mandara Mountain, I see different worlds in your body. Like constellations of stars in the sky and shoals of birds on large trees, I see in Your body the heaven inhabited by the gods (Devas). I see here the five elements and all the living beings produced therefrom. I see the spiritual world and Brahmadev, the great Creator, residing on one side of it, and Mahadev, the great Destroyer, residing on the other side. O Lord, I find the families of all sages, and I see not only the upper but the lower worlds. I visualize Your limbs as walls on which all the fourteen worlds have been drawn out. I see on that picture the dwellers of all these worlds. It is a matter to me of unfathomable wonder.

By means of the spiritual insight given by You, I discern that the whole sky is like a small sprout springing from Your hands. I have seen that all the operations of the universe are being performed at the same moment by You, by means of only one of Your limbs. Like fruits on the tree of Para-Brahma, I see innumerable faces on innumerable heads and endless rows of eyes. I see everything in heaven and on earth and in the lower worlds. I see You containing all the space. I do not know where You have come from, where You are standing or sitting, which mother has given birth to You, and what kind of dwelling place You have. When I think of Your appearance and age of what is beyond You, or what is Your means of locomotion, I find only one answer, viz. Yourself. You are without origin, neither standing nor sitting, neither tall nor short, neither in heaven nor in the lower world. Your forms are only comparable to yourself, O Lord. Your age, Your back and front, everything pertaining to Yourself is Yourself. After repeated search, I find only this answer. I find many forms in Your form, just as there are rolling waves in the

ocean, You are the tree and the different forms are the overhanging fruits. You are the earth and the different forms are like the articles which the earth supports. You are the sky and the different forms are like the stars suspended therefrom. In each individual form, I find further, the three worlds produced and destroyed. These numerous entities are in Your universal form like hair on an ordinary human body. You, who maintain this entire universe in this manner, who are You and to whom do You belong? The moment I ask this, I find You to be my charioteer. Though all pervading, You assume different shapes as a matter of favor to Your devotees. Out of kindness to me, You have assumed Your small human form, which I can embrace with my two hands, but it is through the defect of my vision that I have hitherto regarded it as common. With my spiritual sight, I now see things as they are. I see Your real greatness. I see You assuming the universal form. The crown that You were wearing then, is the same crown You are wearing now, but I did not see its luster before. You have the same implements in Your hand, and I can identify everything else about You. I am not worthy of the great mystery, to see which You have given me the privilege, and I am surprised at my own temerity in seeking what You have disclosed to me. I am unable to determine whether what I see before me is the universal form. I am immersed in the wonder of the sight, before whose luster the light of fire pales, and the sun is like a glow-worm. The brilliance of Your universal form could only be gauged (standard of measure), if an ocean of great light were to overflow the world, or if the sky were to be covered all over by lightning. I am appalled in spite of the spiritual sight. I am afraid in spite of the eyes of wisdom.

You are indestructible, O Lord. You are beyond the syllable "OM". You are the One whom the Vedas are searching. You are the root of everything, and You are the seat of all the treasures of this world. You

are immutable, You are unknowable, You are indestructible. You are the soul of religion. You are firm and without a beginning. You are ever the same outside of the thirty-six elements. You are the only independent entity, self-contained. Fortified in Your own power, You are limitless. In Yourself, You constitute the innumerable hands and feet that are found in this world. The sun and the moon merely signify Your glances, indicating the play of anger and triumph. You can be angry with one eye, and You can support, favor and nourish with the other. I see You like this. My feeling is like that of a bird about to fall in a fire when I look at some of the faces in which the tongues are licking the teeth and the jaws. I feel the warm breath emanating from your mouth and the luster of your splendid body. It seems to me that everything is about to come to an end. You have enveloped everything within Yourself, and I am filled with amazement that at any moment the whole thing might be sucked in. The universe might be drowned in a sea of light. I cannot keep looking on any more. I am already tired, and the expanse of the universal form seems to be limitless. Your luster is unbearable. I am not merely uncomfortable but I find it difficult to keep alive. Fear assails me like floods overflowing a region. Calamity seems to have gripped the three worlds. Realizing Your greatness I should have no fear, but I do secure joy from what is visible to me. When I had not seen this universal form I found the world attractive, but I am distressed now and my mind is agitated. I have seen You, but I am unhappy that I am unable to embrace You. If I were to turn back, there is the world with its endless troubles waiting for me, and if I were to go forward, I would not have the strength to put up with this unbearable sight. I find not only myself but the whole universe now troubled and agitated by this dilemma. It is a difficult problem to face. A man who is scorched with fire must not be frightened at the waves of the ocean, towards which he

turns in order to get cooled, and yet this is the condition of myself and the whole world. Even those sages who have destroyed all the seeds of their actions and who are offering prayers now to You with deep devotion, seeking spontaneously to unite with You, are frightened at Your universal form. From the ocean of error and from the network of the pleasures of the senses, and even from the attraction of heaven, they seek release. They throw themselves at Your mercy and await Your favor. The Rishis, the Devas, and the other spiritual beings are offering prayers to You, saying 'Swasti,' 'Swasti.' There are the Rudras, Adityas, Vasus, the Devas, Sadhyas, Valu, Maruti, Pitras, Gandharvas, Yakshas and Rakshasas. There is Indra and there are the Siddhas. All of them have moved out of their respective planes, anxious to see Your universal form. They bend their heads and cry 'Jaya,' 'Jaya.' They fold their hands and touch their heads. This sight is the final fulfillment of eyesight. It is the dawn of happiness for the mind. On every side where one turns, one finds your universal form, concentrating upon all essentially destructive phenomena. On some of these faces, the teeth appear like lions peeping out of their caves, or like evil spirits dancing with joy in the darkness of the night of destruction. Time, the great destroyer, and death itself are, as it were, out on a campaign. Creation itself is like a struggling plant on the shores of the river of destruction, which is in flood. The destructive energy of the cyclone seems to be multiplied a thousand fold, and death itself is stalking abroad in anger. I am referring to the fear in the hearts of other people, but, to tell you the truth, I am myself afraid. I, the brave Arjuna, who did not know what fear was, am trembling all over. I find in this terrible Vishwarupa, which would frighten fright itself, indescribable destruction. Some of the faces that are of different sizes and colors would eat away the sky and the wind in one mouthful. The great destruction has begun. I see the paralysis of the wind, sucking in of the

ocean and the fire of the forest. If death tried to destroy death, it would not be worse. I find the great tongues in the mouth idle at the moment, but capable of consuming instantaneously the whole universe. I see in the same manner all the other terrible limbs. I am in terror. I wanted to see the universal form, but I can bear nothing more. Why have you created this? I am not worried about my body, but I am worried about the life inside. I feel humble. Nothing is left of my pride, and my intelligence is wandering. This fear has penetrated deeper to that which is separate from all these physical things, viz., the immutable inner soul, which ought to be nothing but an embodiment of pure joy. I did not anticipate this extraordinary effect. I did not expect that this sight would be so terrible as to frighten wisdom itself. I am so afraid that I cannot now be your pupil. Though I am trying, I have lost my fortitude and I am abject (cast down). Instead of clearing my mind, You have actually created a greater puzzle. My poor soul, which was in search of peace everywhere, has not now any resting place left. The destruction that was rampant in the universal form has in its grip all living things. I see a flood of anger pouring out of those faces. I have lost my sense of direction and I have forgotten myself. I feel unhappy. Kindly hold back this terrible form from me. Had I known this earlier, I would have avoided the very topic. Please protect me, O Lord. You are indestructible and protector of everything. Save my life by withdrawing this destructive form and make it invisible to me. You are the Lord of all life and the universe. O Supreme One, be pleased to withdraw Your Maya and save me from this frightfulness. This is my devout prayer. I have faced death on previous occasions but this is far more terrible than death. If the protector were to destroy, where will life be? It is not an irony of fate that, in seeking peace, I have reaped trouble? I see one of these terrible mouths about to swallow the world, including all the armies and the heroes of the family of the Kauravas. It does not appear

as if anyone will survive to tell the story. I find battalions of artillery, infantry and elephants being dragged in and crushed. I find millions of weapons being swallowed up. The truth-loving Bhishma and the great sage Drona, I see walking into the mouth of death. I also see the great warrior Karna doing the same. Alas, how mysterious is the action of Providence that harm should result from the favor of the Lord! It appears that the mind runs after that which is going to happen, and I cannot avert the infamy of being the cause of the death of these.

[Arjuna said this, not knowing the intention of the Lord to destroy his illusion. Arjuna did not realize that nobody could destroy anybody, and was, therefore, afraid of the phenomenon of continuous universal destruction.]

[To Be Continued]



**Deborah S. Jin**  
**NIST physicist, JILA Fellow, and CU**  
**adjoint associate professor**  
**Opening Statement**  
**Press conference on Fermionic**  
**Condensates, Jan. 28, 2004**

Good morning. I am delighted to be here today to tell you about some exciting new results from our lab. I will start with a brief description of what we see in these experiments after which I will be happy to answer questions. Also, before we get started, I'd like to introduce my co-authors on this paper published today. This is Cindy Regal, a CU graduate student in physics, and Markus Greiner, a CU postdoctoral researcher.

What we report in this paper is the first observation of a fermionic condensate in an ultracold gas of atoms. This is a new form of matter that is related to a Bose-Einstein condensate and related to superconductivity. But our fermionic condensate is not a Bose-Einstein

condensate and not a superconductor but really something new that may link these two behaviors. Let me try to explain further.

First of all, what we actually do in the lab is to cool a small amount of gas down to temperatures very near absolute zero. This gas is confined inside an ultrahigh vacuum chamber and we manipulate and study it using magnetic fields and laser light. Now this gas happens to be made up of potassium atoms that are fermions.

Let me remind you that all particles, including atoms, can be classified as fermions or bosons. (This is basic quantum mechanics). Bosons by their nature are copy cats; this can lead to Bose-Einstein condensation where all the bosons do exactly the same thing. Fermions, which by the way are the building blocks of all visible matter, are instead by their nature independent thinkers. They never do the same thing.

Yet we report today a condensate in a gas of fermionic atoms. How is this possible? It is possible through pairing of fermions to make bosons. This is similar to what happens to electrons in superconductivity. To explain this I will use an analogy illustrated in this poster. The dancers in the top picture are our individualistic fermionic atoms. They look like they are moving quite independent of one another, and yet if we look more closely there are pairs in this gas. It is subtle but you can identify the pairs by the dancers' eye contact and body language. These pairs are bosons and can undergo condensation.

But how can we see this condensation of pairs of fermions? We suddenly bring together the two atoms (or dancers here) in each of these subtle pairs, as in the bottom picture. When we look at the motion of these bound pairs, the condensation becomes apparent.

It is this condensation of pairs of fermions that we created and observed in our very cold potassium gas. In this poster are three images of the fermionic condensate, taken for different strengths of the attraction that causes the pairing. The fermionic condensate appears in these images as the large central spike, which corresponds to pairs of atoms that have near zero velocity.

This fermionic condensate is closely related to what happens in a superconductor. However, in order to compare to a superconductor, you have to realize that our atoms are much heavier than electrons and our gas is much less dense than a solid. When you account for these differences, our atoms are more strongly attracted to each other. And if you could make electrons in a superconductor do this, you would get a room temperature superconductor.

To sum it up, our work, creating this exotic form of matter — a Fermi condensate in an ultracold gas — provides a new example of a dramatic quantum behavior. This work gives the scientific community a new tool for understanding the basic physics behind superconductivity.



*Guest Editorial from Brazil*

### A Mind that Learns

While our world is undergoing yet more unparalleled conflicts, and the media seems to divide world history into before and after September the 11<sup>th</sup> 2001, or before and after the overthrow of some dreadful dictator; while religious thought is greatly misused, causing revolting monstrosities in many parts of the globe; while an entire new generation of world citizens is brought up egocentrically in front of a one-eyed apparatus called the computer, being their only through companion; while new expressions added to the world's vocabulary talk of 'hijacking a religion', 'world

crusades against terrorism' or 'retaliation for the sake of retaliation'; while many have forgotten that profound listening is an art and therefore all they do is orate or, what is worse, simply close their eyes in boredom and fall asleep when a brilliant mind talks about love and timeless virtues; while all this and much more is happening, students of theosophy gather at times in various places on this globe, to talk to each other about how to prepare oneself and about a mind that learns.

In order to deepen ourselves, what is it that we have to learn, why and how do we learn, do we ever learn? Why cannot we be just contented as we are, is there a need for a renewal, a transformation; do we have to learn to master certain things, to make progress, and where or what is our starting point? We simply could consult some website on a computer and look for the answers there or listen to a speaker who understands it all so much better than we do and finally, yet importantly, what does our mind have to do with that inescapable learning process?

H. P. Blavatsky gave us a worthy suggestion when she wrote:

“Higher and lower Manas are figured allegorically as the two inseparable companions of man through life, the one his Guardian Angel, the other his evil Demon.” (*Theosophical Glossary*<sup>1</sup>)

Hence, Man is a Manasic being, who, besides his other principles, has to learn to live with, and is influenced through, Buddhi Manas and Kama Manas, both of which keep him constantly busy and hopefully attentive: his higher and lower mind, making that mind dual in its potentiality. During a lifetime, and most certainly long

<sup>1</sup> Double Image: The name among the Jewish Kabbalists for the *Dual Ego*, called respectively: the Higher, *Metatron*, and the Lower, *Samael*. They are figured allegorically as the two inseparable companions of man through life, the one his Guardian Angel, the other his Evil Demon. (p. 104)

before and after it, the process of learning is unremitting,<sup>1</sup> never ending and always crucial. One never finishes learning, irrespective of one's age, experiences, intellectual background or interests. It is said that the comprehension of our place in this universe is a first step towards the realization of a higher consciousness, which is within each one of us, and thus theosophy gives us seven keys, through which it is possible to learn about our origin, present state, our future and our destiny. Via those seven keys we learn of Reincarnation, Karma, Hierarchies, Self-Generation/Self-Becoming, Evolution and Involution, the Path of Immortality and the Path Each One for Himself, dealing with the individuality and the personality, and finally Atma Vidya, meaning the Knowledge of the Essential Self.

Theosophy—a consistent thought system, a worldview, a philosophy that enables us to investigate ourselves, the world around us, the universe—it confronts us with who we really are. The Cis- or Trans-Himalayan teachings are there for guidance, waiting for those who are ready and willing to learn.

The Masters of Wisdom have declared that They cannot be known unless we study their philosophy, their teachings, explaining that Man in his essence is a spark of the central kosmic fire, standing at the midway point of the evolutionary ladder.

Why do these Teachings have to be studied? For many of us they seem to be very abstract. Some often remark that they don't quite understand what the study of the more complex teachings of Theosophy could possibly contribute to the welfare of this planet. Many are convinced that one

can certainly live the Life without all that excessive knowledge, so why study it?

H. P. Blavatsky wrote:

“He who studies Theosophy, studies the highest transcendental philosophy.” (CW XI, page 346) Perhaps that question arises again: Is it true then, that this “highest transcendental philosophy” can play a role in world politics, in our struggle against war, hunger and corruption? Will it solve environment related problems? Will it stop the alarming spreading of the HIV virus, and can it play a significant role in our search for Truth?

If indeed the Old Wisdom is studied and explored profoundly, one cannot but conclude that, to begin with, the teachings direct us to the here and now. Additionally and very unmistakably, we are faced with the reality that no one can live just for him- or herself. One will see that it is Nature's attribute, Nature being the aggregate of all that exists, that each living being on this planet has to carry incalculable other beings with it on the Path that leads down or upwards; there is simply no room for self-centredness.

Self-centredness is a poor dissonant in Nature's symphony. When the learning process becomes an integral part of our daily discipline, it will become clear that, through impartial observation and reason, the individuality will reach a state whereby it is understood that it is the spiritual-intellectual, the immortal part of us, it is our very embodiment.

In some of the mystic theosophical literature this process is described as entering the Hall of Learning, and the disciple may enter when he or she is able to stand, able to hear, able to see, able to speak, when desire is conquered and Self knowledge attained, realizing that awareness has to be the keynote. The state of mind is of overriding importance here; it cannot be

<sup>1</sup> At present, the “causal” learning is done on earth. Devachan is the digesting of the meal *eaten* on earth. Kama Loka is the reduction to karmic seeds of those things we must meet in a future life, items to self-centered for the Higher Ego. — Ed., AT

stubborn, it has to be freed of all disbeliefs or prejudices and it has to be open and honest in the broadest sense.

Tolerance and compassion towards those who live, think or behave in a different manner; a true interest in the philosophies and all the religions of the world, finding fundamental truths in every one of them; a deep concern for the state our planet is in, realizing that our globe is a living entity and that its natural environment is in great danger due to man's misconduct; an awareness that animals are kin to us because they are sentient and a part of the same Creation with a basic DNA structure of their genes that is absolutely identical to ours, and the certainty that the Esoteric Doctrine is the common possession of Mankind—all this will come about when this body of mystical and sacred teaching is truly assimilated.

In spite of its duality, the mind definitely recognizes virtues, but we have to be cautious.

In the *Voice of the Silence*, we read about Shin Sien's Doctrine, who teaches us that the human mind is like a mirror that attracts every atom of dust, and has to be, like that mirror, watched over and dusted every day, especially when we start to explore the terrain of morals and ethics. An occultist knows that a life without ethics is an unnatural life wherein the basic rules that reign in the Universe are violated. One builds a castle in the air when one thinks that the wisdom-religion can be comprehended without a wholehearted recognition that ethics are an inseparable part of it. Ethics in the theosophical philosophy are not merely the product of human thought. They are founded on the very structure and character of the universe itself. The heart of the universe is wisdom-love, and these are intrinsically ethical, for there can be no wisdom without ethics, nor can there be ethics deprived of either love or wisdom.

A mind that learns, and, as stated earlier, a mind freed from all disbeliefs and prejudices, a mind that is not occupied, makes many discoveries when it deeply ponders on ethics or morals. It will ascertain that these universal rules are literally universal. Thus, they also apply to each one of us, wherever we might be on this planet. Consequently, the ethics in northern Finland or Keflavik-Iceland are identical to those in Varanasi, Hobart-Tasmania, or Porto-Alegre in Southern Brazil. When the mind discovers that man is embodied consciousness, one with all, from what the eye perceives to the intuitive awareness of the fusion of all atoms in his body, composing an everlasting spiritual totality, then it starts to grasp that Truth *is* all that *is*.

However, when the mind functions with logic and mathematics only, when it measures, calculates, when it is constantly on the alert and pragmatic, then it is what some people call a sharp mind. It will measure with great eagerness even those things that are immeasurable. In this instance, the mind as an instrument is taken to an area where measurement is impossible, and it might have to accept that logical propositions cannot explain everything. Therefore, it must learn to use logic only where logic can be applied. The eager-mind undoubtedly is very much able to absorb the Esoteric Doctrine, primarily in schemes, technicalities and purely intellectual aspects. It will remember texts, theses and authors, it will know of wise people and their quotations, and it may even convey their message, but inwardly it cannot distinguish, it is highly incompetent and caught in an illusion. When the mind is used as an instrument and led by the desire for supremacy and cleverness, then there is only 'so-called' spirituality. The level it reaches is superficial and acquisitive. There is one one-way communication with others and no dialogue. The immense knowledge contained in the Teachings is used as a

hunting ground. Here the mind is searching for self-perpetuation and self-expansion, and it is in need of an audience to relate to, in order to demonstrate its technical skills. The result is a career-mind, soaked in spiritual materialism aiming for material results only and a high-ranked position in any vehicle that promulgates certain objects and ideas. It flourishes through recognition, appreciation, and what makes it worse, it demands to be pleased.

The mind, when controlled by Kama, has no true connection with the higher faculties, and it will not really learn at all, since it is a hostage in its own house of thought. It has to break out of it, to liberate itself, restructure itself drastically. Man is both his own creation and creator, his destiny lies within himself.

Theosophical literature often refers to human beings as one class of "young gods" incarnated in bodies of flesh at the present stage of their particular evolutionary journey. Therefore, the breaking down of the walls of the old house is a part of that process. Mind, in this undertaking, is the key to regeneration, which results in the birth of a New Man. To get out of the impasse and in order to allow the mind to be a mechanism whereby the inexhaustible learning process is practically implied in order to come to a state whereby self-centeredness is eliminated and substituted by altruism, many steps have to be taken.

Like a pioneer cultivating the wilderness, the New Man will create other landscapes and horizons. Man the thinker has to find a silent place where the racing-mind is brought to rest. When it is not after an immediate outcome, in quietness and serenity, it will observe and discover its latent strength. Not through suppression, but through real insight and love, the lower levels will be abandoned and awareness will arise.

The world's chaos lies in man himself. This awakening of intelligence, which cares for wisdom and not for personal gain or short-term advantages, is a holistic experience.

It will not only intensify the bond that man has with all that surrounds him, but also the union he is bound to have with himself, since all that exists in the outer world is present in every particle of his body.

A mind that learns will find that dealing with symptoms often ends in a pointless struggle, so it patiently, thoroughly and freely commences a discriminative search for causes. Once a cause is found, it will deal with it, if necessary do away with it, not in condemnation or in rigidity, but in a frank openness, because it does not allow itself to compromise when Truth is involved. The higher Self will act as a counsellor, since the personality is unable to unravel the entire knot that obstructs growth, and as a result forms a formidable opponent. Commitment, devotion, broad-mindedness, a willingness to stand up and speak out against falsehood, oppression or corruption, and the sincere desire to learn from past mistakes, it all will unfold.

Along this Path of unfoldment, disappointments and failures are bound to happen. To think on a higher plane and act in the spirit of Brotherhood, to go out into the world and courageously turn inwardly in search for Truth is neither an easy nor a safe task. Yet a mind that learns is aware of this, although it seems at times that the impediments are insurmountable.

The whole process eventually will reveal that it is not only for the purification of the higher Self that the mind learns. Ultimately, it will induce the teacher that dwells within each individual how to teach, since one of the main purposes of learning is that in due course one is able to share, to pass on that which one has learned, to others.

Every day offers countless opportunities to learn. Looking around with an eye for detail, amazed and always in intense admiration, man will build a basis for unending growth.

A mind that learns has but one aim: to model the Divine in daily life.

*Jan Nicolaas Kind  
Brasilia-Brazil*



## **DNA: A BIOLOGICAL INTERNET**

DNA The human DNA is a biological Internet and superior in many aspects to the artificial one. The latest Russian scientific research directly or indirectly explains phenomena such as clairvoyance, intuition, spontaneous and remote acts of healing, self healing, affirmation techniques, unusual light-auras around people (namely spiritual masters), mind's influence on weather-patterns and much more. In addition, there is evidence for a whole new type of medicine in which DNA can be influenced and reprogrammed by words and frequencies WITHOUT cutting out and replacing single genes.

Only 10% of our DNA is being used for building proteins. It is this subset of DNA that is of interest to western researchers and is being examined and categorized. The other 90% are considered "junk DNA". The Russian researchers, however, convinced that nature was not dumb, joined linguists and geneticists in a venture to explore those 90% of "junk DNA". Their results, findings and conclusions are simply revolutionary! According to them, our DNA is not only responsible for the construction of our body, but also serves as data storage and in communication. The Russian linguists found that the genetic code, especially in the apparently useless 90%, follows the same rules as all our human languages. To this end they compared the rules of syntax (the way in which words are put together to form phrases and sentences), semantics (the study of meaning in language forms) and the basic rules of grammar.

They found that the alkalines of our DNA follow a regular grammar and do have set rules just like our languages. So human languages did not appear coincidentally but are a reflection of our inherent DNA.

The Russian biophysicist and molecular biologist Pjotr Garjajev and his colleagues also explored the vibrational behaviour of the DNA. [For the sake of brevity I will give only a summary here. For further exploration please refer to the appendix at the end of this article.] The bottom line was: "Living chromosomes function just like solitonic-holographic computers using the endogenous DNA laser radiation." This means that they managed for example to modulate certain frequency patterns onto a laser ray and with it influenced the DNA frequency and thus the genetic information itself. Since the basic structure of DNA-alkaline pairs and of language (as explained earlier) are of the same structure, no DNA decoding is necessary. One can simply use words and sentences of the human language! This, too, was experimentally proven! Living DNA substance (in living tissue, not in vitro) will always react to language-modulated laser rays and even to radio waves, if the proper frequencies are being used. This finally and scientifically explains why affirmations, autogenous training, hypnosis and the like can have such strong effects on humans and their bodies. It is entirely normal and natural for our DNA to react to language.

While western researchers cut single genes from the DNA strands and insert them elsewhere, the Russians enthusiastically worked on devices that can influence the cellular metabolism through suitable modulated radio and light frequencies and thus repair genetic defects. Garjajev's research group succeeded in proving that with this method chromosomes damaged by x-rays for example can be repaired. They even captured information patterns of a particular DNA and transmitted it onto another, thus reprogramming cells to another genome. So they successfully transformed, for example, frog embryos to salamander embryos simply by transmitting the DNA information patterns! This way the entire information was transmitted without any of the side effects or disharmonies encountered when cutting out and re-introducing single genes from the DNA.

This represents an unbelievable, world-transforming revolution and sensation! All this by simply applying vibration and language instead of the archaic cutting-out procedure! This experiment points to the immense power of wave genetics, which obviously has a greater influence on the formation of organisms than the biochemical processes of alkaline sequences. Esoteric and spiritual teachers have known for ages that our body is programmable by language, words and thought. This has now been scientifically proven and explained. Of course the frequency has to be correct. And this is why not everybody is equally successful or can do it with always the same strength. The individual person must work on the inner processes and maturity in order to establish a conscious communication with the DNA. The Russian researchers work on a method that is not dependent on these factors but will ALWAYS work, provided one uses the correct frequency.

But the higher developed an individual's consciousness is, the less need is there for any type of device! One can achieve these results by oneself, and science will finally stop to laugh at such ideas and will confirm and explain the results. And it doesn't end there. The Russian scientists also found out that our DNA can cause disturbing patterns in the vacuum, thus producing magnetized wormholes! Wormholes are the microscopic equivalents of the so-called Einstein-Rosen bridges in the vicinity of black holes (left by burned-out stars). These are tunnel connections between entirely different areas in the universe through which information can be transmitted outside of space and time. The DNA attracts these bits of information and passes them on to our consciousness. This process of hypercommunication is most effective in a state of relaxation. Stress, worries or a hyperactive intellect prevent successful hypercommunication or the information will be totally distorted and useless. In nature hypercommunication has been successfully applied for millions of years. The organized flow of life in insect states proves this dramatically.

Modern man knows it only on a much more subtle level, as "intuition". But we, too, can regain full use of it. An example from Nature: When a queen ant is spatially separated from her colony, building still continues

ferently and according to plan. If the queen is killed, however, all work in the colony stops. No ant knows what to do. Apparently the queen sends the "building plans" also from far away via the group consciousness of her subjects. She can be as far away as she wants, as long as she is alive. In man hypercommunication is most often encountered when one suddenly gains access to information that is outside one's knowledge base. Such hypercommunication is then experienced as inspiration or intuition.

The Italian composer Giuseppe Tartini for instance dreamt one night that a devil sat at his bedside playing the violin. The next morning Tartini was able to note down the piece exactly from memory, he called it the Devil's Trill Sonata. For years, a 42-year old male nurse dreamt of a situation in which he was hooked up to a kind of knowledge CD-ROM. Verifiable knowledge from all imaginable fields was then transmitted to him that he was able to recall in the morning. There was such a flood of information that it seemed a whole encyclopedia was transmitted at night. The majority of facts were outside his personal knowledge base and reached technical details about which he knew absolutely nothing.

When hypercommunication occurs, one can observe in the DNA as well as in the human being special phenomena. The Russian scientists irradiated DNA samples with laser light. On screen a typical wave pattern was formed. When they removed the DNA sample, the wave pattern did not disappear, it remained. Many control experiments showed that the pattern still came from the removed sample, whose energy field apparently remained by itself. This effect is now called phantom DNA effect. It is surmised that energy from outside of space and time still flows through the activated wormholes after the DNA was removed. The side effect encountered most often in hypercommunication also in human beings are inexplicable electromagnetic fields in the vicinity of the persons concerned. Electronic devices like CD players and the like can be irritated and cease to function for hours. When the electromagnetic field slowly dissipates, the devices function normally again.

Many healers and psychics know this effect from their work. The better the

atmosphere and the energy, the more frustrating it is that the recording device stops functioning and recording exactly at that moment. And repeated switching on and off after the session does not restore function yet, but next morning all is back to normal. Perhaps this is reassuring to read for many, as it has nothing to do with them being technically inept, it means they are good at hypercommunication.

In their book *Vernetzte Intelligenz* (Networked Intelligence), Grazyna Gosar and Franz Bludorf explain these connections precisely and clearly. The authors also quote sources presuming that in earlier times humanity had been, just like the animals, very strongly connected to the group consciousness and acted as a group. To develop and experience individuality we humans however had to forget hypercommunication almost completely. Now that we are fairly stable in our individual consciousness, we can create a new form of group consciousness, namely one, in which we attain access to all information via our DNA, without being forced or remotely controlled about what to do with that information.

We now know that just as on the internet, our DNA can feed its proper data into the network, can call up data from the network and can establish contact with other participants in the network. Remote healing, telepathy or "remote sensing" about the state of relatives etc., can thus be explained. Some animals know also from afar when their owners plan to return home. That can be freshly interpreted and explained via the concepts of group consciousness and hypercommunication.

Any collective consciousness cannot be sensibly used over any period of time without a distinctive individuality. Otherwise we would revert to a primitive herd instinct that is easily manipulated. Hypercommunication in the new millennium means something quite different: Researchers think that if humans with full individuality would regain group consciousness, they would have a god-like power to create, alter and shape things on Earth! [I am overjoyed. Finally orders from the Universe are scientifically explained!] AND humanity is collectively moving toward such a group consciousness of the new kind.

Fifty percent of today's children will be problem children as soon as they go to school. The system lumps everyone together and demands adjustment. But the individuality of today's children is so strong that that they refuse this adjustment and giving up their idiosyncrasies in the most diverse ways. At the same time more and more clairvoyant children are born [see the book *Chinas Indigo Children* by Paul Dong or the chapter about Indigos in my book *Nutze die taeglichen Wunder* (Make Use of the Daily Wonders)]. Something in those children is striving more and more towards the group consciousness of the new kind, and it will no longer be suppressed.

As a rule, weather for example is rather difficult to influence by a single individual. But it may be influenced by a group consciousness (nothing new to some tribes doing it in their rain dances). Weather is strongly influenced by Earth resonance frequencies, the so-called Schumann frequencies. But those same frequencies are also produced in our brains, and when many people synchronise their thinking, or individuals (spiritual masters, for instance) focus their thoughts in a laser-like fashion, then it is scientifically speaking not at all surprising if they can thus influence weather.

Researchers in group consciousness have formulated the theory of Type I civilisations. A humanity that developed a group consciousness of the new kind would have neither environmental problems nor scarcity of energy. For if it were to use its mental power as a unified civilisation, it would have control of the energies of its home planet as a natural consequence. And that includes all natural catastrophes! A theoretical Type II civilisation would even be able to control all energies of their home galaxy.

In my book *Nutze die taeglichen Wunder* I have described an example of this: Whenever a great many people focus their attention or consciousness on something similar like Christmas time, football world championship or the funeral of Lady Diana in England then certain random number generators in computers start to deliver ordered numbers instead of the random ones. An ordered group consciousness creates order in its whole surroundings!

When a great number of people get together very closely, potentials of violence also dissolve. It looks as if here, too, a kind of humanitarian consciousness of all humanity is created. At the Love Parade, for example, where every year about one million of young people congregate, there have never been any brutal riots as occur, for instance, at sports events. The name of the event alone is not seen as the cause here. The result of an analysis indicated rather that the number of people was TOO GREAT to allow a tipping over to violence.

To come back to the DNA: It apparently is also an organic superconductor that can work at normal body temperature. Artificial superconductors require extremely low temperatures of between 200 and 140°C to function. As one recently learned, all superconductors are able to store light and thus information. This is a further explanation of how the DNA can store information. There is another phenomenon linked to DNA and wormholes. Normally, these super-small wormholes are highly unstable and are maintained only for the tiniest fractions of a second. Under certain conditions (read about it in the Fosar/Bludorf book above) stable wormholes can organize themselves which then form distinctive vacuum domains in which for example gravity can transform into electricity.

Vacuum domains are self-radiant balls of ionised gas that contain considerable amounts of energy. There are regions in Russia where such radiant balls appear very often. Following the ensuing confusion the Russians started massive research programmes leading finally to some of the discoveries mentioned above. Many people know vacuum domains as shiny balls in the sky. The attentive look at them in wonder and ask themselves, what they could be. I thought once: "Hello up there. If you happen to be a UFO, fly in a triangle." And suddenly, the light balls moved in a triangle. Or they shot across the sky like ice hockey pucks. They accelerated from zero to crazy speeds while sliding gently across the sky.

One is left gawking and I have, as many others, too, thought them to be UFOs. Friendly ones, apparently, as they flew in triangles just to please me. Now the Russians found in the regions, where vacuum domains appear often

that sometimes fly as balls of light from the ground upwards into the sky, that these balls can be guided by thought. One has found out since that vacuum domains emit waves of low frequency as they are also produced in our brains. And because of this similarity of waves they are able to react to our thoughts. To run excitedly into one that is on ground level might not be such a great idea, because those balls of light can contain immense energies and are able to mutate our genes. They can, they don't necessarily have to, one has to say. For many spiritual teachers also produce such visible balls or columns of light in deep meditation or during energy work which trigger decidedly pleasant feelings and do not cause any harm. Apparently this is also dependent on some inner order and on the quality and provenance of the vacuum domain.

There are some spiritual teachers (the young Englishman Ananda, for example) with whom nothing is seen at first, but when one tries to take a photograph while they sit and speak or meditate in hypercommunication, one gets only a picture of a white cloud on a chair. In some Earth healing projects such light effects also appear on photographs. Simply put, these phenomena have to do with gravity and anti-gravity forces that are also exactly described in the book and with ever more stable wormholes and hypercommunication and thus with energies from outside our time and space structure. Earlier generations that got in contact with such hypercommunication experiences and visible vacuum domains were convinced that an angel had appeared before them. And we cannot be too sure to what forms of consciousness we can get access when using hypercommunication.

Not having scientific proof for their actual existence (people having had such experiences do NOT all suffer from hallucinations) does not mean that there is no metaphysical background to it. We have simply made another giant step towards understanding our reality. Official science also knows of gravity anomalies on Earth (that contribute to the formation of vacuum domains), but only of ones of below one percent. But recently gravity anomalies have been found of between three and four percent. One of these places is Rocca di Papa, south of Rome (exact location in the book *Vernetzte Intelligenz* plus several others). Round objects

of all kinds, from balls to full buses, roll uphill. But the stretch in Rocca di Papa is rather short, and defying logic skeptics still flee to the theory of optical illusion (which it cannot be due to several features of the location).

All information is from the book *Vernetzte Intelligenz* by Grazyna Fosar and Franz Bludorf - ISBN 3930243237, summarized and commented by Baerbel. The book is unfortunately only available in German so far. You can reach the authors here: <http://www.fosar-bludorf.com>



## AFRICAN MAGIC

BY TAU-TRIADELTA

### Article by H. P. Blavatsky

BEFORE we enter into the subject of the occult art as practised on the West Coast of Africa, it will be well to clear the ground by first considering for a moment what we mean by the much-abused term "Magic."

There are many definitions of this word; and, in bygone ages, it was simply used to designate anything and everything which was "not understood of the vulgar." It will be sufficient for our purpose to define it as the knowledge of certain natural laws which are not merely unknown but absolutely unsuspected by the scientists of Europe and America.

It is a recognized fact that no law of Nature can be--even for a single moment--abrogated. When, therefore, this appears to us to be the case--when, for instance, such a universally known law as that of the attraction of gravitation seems to be annihilated, we must recognize the fact that there may be other laws at present unknown to Western science which have the power of overriding and suspending for the time being the action of the known law.

The knowledge of these hidden laws is what we understand by the term occult science, or magic. *And there is no other magic than this*, and never has been, at any period of the world's history. All the so-called "miracles" of ancient times can be and are reproduced at the present day by magists when occasion requires. An act of magic is a pure scientific feat, and must not be confounded with legerdemain or trickery of any kind.

There are several schools of magic, all proceeding and operating on entirely different lines. The principal of these, and on whose philosophy all others are founded, are the Hindu; the Thibetan, the Egyptian (including the Arab) and the Obeeyan or Voodoo.

The last named is entirely and fundamentally opposed to the other three: it having its root and foundation in necromancy or "black magic," while the others all operate either by means of what is known to experts as "white magic," or in other cases by "psychologizing" the spectator. And, a whole crowd of spectators can be psychologized and made at the will of the operator to see and feel whatever things he chooses, all the time being in full possession of their ordinary faculties. Thus, perhaps a couple of travelling fakirs give their performance in your own compound or in the garden of your bungalow. They erect a small tent and tell you to choose any animal which you wish to see emerge therefrom. Many different animals are named in rotation by the bystanders, and in every case the desired quadruped, be he tiger or terrier dog, comes out of the opening in the canvas and slowly marches off until he disappears round some adjacent corner. Well, this is done simply by "psychologizing," as are all the other great Indian feats, such as "the basket trick" "the mango tree," throwing a rope in the air and climbing up it, pulling it up and disappearing in space, and the thousand and one other similar performances which are

"familiar as household words" to almost every Anglo-Indian.

The difference between these schools and that of the Voodoo or Obeeyah is very great, because in them there is a deception or want of reality in the performance. The spectator does not *really* see what he fancies he sees: his mind is simply impressed by the operator and the effect is produced. But in African magic, on the contrary, there is no will impression: the observer does really and actually see what is taking place. The force employed by the African necromancers is not psychological action but demonosophy.

White magists have frequently dominated and employed inferior spirits to do their bidding, as well as invoked the aid of powerful and beneficent ones to carry out their purposes. But this is an entirely different thing: The spirits which are naturally maleficent become the slaves of the magist, and he controls them and compels them to carry out his beneficent plans. The necromancer, or votary of black magic, is, on the contrary, the slave of the evil spirit to whom he has given himself up.

While the philosophy of the magist demands a life of the greatest purity and the practice of every virtue, while he must utterly subdue and have in perfect control all his desires and appetites, mental and physical, and must become simply an embodied intellect, absolutely purged from all human weakness and pusillanimity, the necromancer must outrage and degrade human nature in every way conceivable. The very least of the crimes necessary for him (or her) to commit to attain the power sought is actual murder, by which the human victim essential to the sacrifice is provided. The human mind can scarcely realise or even imagine one tithe of the horrors and atrocities actually performed by the Obeeyah women.

Yet, though the price is awful, horrible, unutterable, the power is real.

There is no possibility of mistake about that. Every petty king on the West Coast has his "rain-maker." It is the fashion among travellers, and the business of the missionaries, to ridicule and deny the powers of these people. But they do possess and do actually use the power of causing storms of rain, wind, and lightning. When one considers that however ignorant and brutal a savage may be, yet that he has an immense amount of natural cunning, and his very ignorance makes him believe nothing that cannot be proved to him, no "rain-maker" could live for one year unless he gave repeated instances of his powers when required by the king. Failure would simply mean death. And the hypothesis that they only work their conjurations when the weather is on the point of change is only an invention of the missionaries.

The native chiefs are, like all savages, able to detect an approaching change of weather many hours before it takes place. And is it at all likely that they would send for the rain-maker and give him sufficient cattle to last him for twelve months, besides wives and other luxuries, if there were the slightest appearance of approaching rain?

I remember well my first experience of these wizards. For weeks and weeks there had been no rain, although it was the rainy season. The mealies were all dying for want of water; the cattle were being slaughtered in all directions; women and children had died by scores, and the fighting men were beginning to do the same, being themselves scarcely more than skeletons. Day after day, the sun glared down on the parched earth, without one intervening cloud, like a globe of glowing copper, and all Nature languished in that awful furnace. Suddenly the king ordered the great war drum to be beaten, and the warriors all gathered hurriedly. He announced the arrival of two celebrated rain-makers, who would forthwith proceed to relieve the prevailing distress.

The elder of the two was a stunted, bow-legged little man, with wool which would have been white had it not been messed up with grease, filth and feathers. The second was rather a fine specimen of the Soosoo race, but with a very sinister expression. A large ring being formed by the squatting negroes, who came--for some unknown reason--all armed to the teeth, the king being in the centre, and the rain-makers in front of him, they commenced their incantations. The zenith and the horizon were eagerly examined from time to time, but not a vestige of a cloud appeared. Presently the elder man rolled on the ground in convulsions, apparently epileptic, and his comrade started to his feet pointing with both hands to the copper-colored sky. All eyes followed his gesture, and looked at the spot to which his hands pointed, but nothing was visible. Motionless as a stone statue he stood with gaze rivetted on the sky. In about the space of a minute a darker shade was observable in the copper tint, in another minute it grew darker and darker, and, in a few more seconds developed into a black cloud, which soon overspread the heavens. In a moment, a vivid flash was seen, and the deluge that fell from that cloud, which had now spread completely overhead, was something to be remembered. For two days and nights that torrent poured down, and seemed as if it would wash everything out of the ground.

After the king had dismissed the rain-makers, and they had deposited the cattle and presents under guard, I entered the hut in which they were lodged, and spent the night with them, discussing the magical art. The hut was about fourteen feet in diameter, strongly built of posts driven firmly into the ground, and having a strong thatched conical roof. I eventually persuaded them to give me one or two examples of their skill.

They began singing, or rather crooning, a long invocation, after a few minutes of which the younger man appeared to rise in the air about three feet from the

ground and remain there unsuspected, and floating about. There was a brilliant light in the hut from a large fire in the centre, so that the smallest detail could be distinctly observed. I got up and went to feel the man in the air, and there was no doubt about his levitation. He then floated close to the wall and passed through it to the outside. I made a dash for the doorway, which was on the opposite side of the hut, and looked round for him. I saw a luminous figure which appeared like a man rubbed with phosphorised oil; but I was glad to rapidly take shelter from the torrents of rain. When I re-entered the hut, there was only the old man present. I examined the logs carefully, but there was no aperture whatever. The old man continued his chant, and in another moment his comrade re-appeared floating in the air. He sat down on the ground, and I saw his black skin glistening with rain, and the few rags he wore were as wet as if he had been dipped in a river.

The next feat was performed by the old man, and consisted in several instantaneous disappearances and reappearances. The curious point about this was that the old man also was dripping wet.

Following this was a very interesting exhibition. By the old man's directions we arranged ourselves round the fire at the three points of an imaginary triangle. The men waved their hands over the fire in rhythm with their chant when dozens of tic-polongas, the most deadly serpent in Africa, slowly crawled out from the burning embers, and interlacing themselves together whirled in a mad dance on their tails round the fire, making all the while a continuous hissing. At the word of command they all sprang into the fire and disappeared. The young man then came round to me, and, kneeling down, opened his mouth, out of which the head of a tic-polonga was quickly protruded. He snatched it out, pulling a serpent nearly three feet long out of his throat, and threw it also into the fire. In rapid succession he drew seven serpents

from his throat, and consigned them all to the same fiery end.

But I wanted to know what they could do in the way of evocation of spirits. The incantation this time lasted nearly twenty minutes, when, rising slowly from the fire, appeared a human figure, a man of great age, a white man too, but absolutely nude. I put several questions to him, but obtained no reply. I arose and walked round the fire, and particularly noticed a livid scar on his back. I could get no satisfactory explanation of who he was, but they seemed rather afraid of him, and had evidently--from the remarks they interchanged--expected to see a black man.

After the appearance of this white man, I could not persuade them that night to attempt anything more, although the next night I had no difficulty with them. A most impressive feat, which they on a subsequent occasion performed, was the old custom of the priests of Baal. Commencing a lugubrious chant they slowly began circling around the fire (which said fire always is an essential part of the proceedings), keeping a certain amount of rhythm in both their movements and cadences. Presently, the movement grew faster and faster till they whirled round like dancing dervishes. There were two distinct movements; all the time during which they were gyrating round the circle, they were rapidly spinning on their own axes. With the rapidity of their evolutions their voices were raised higher and higher until the din was terrific. Then, by a simultaneous movement, each began slashing his naked body on arms, chest, and thighs, until they were streaming with blood and covered with deep gashes. Then the old man stopped his erratic course, and sitting down on the ground narrowly watched the younger one with apparent solicitude. The young man continued his frantic exertions until exhausted Nature could bear no more, and he fell panting and helpless on the ground. The old man took both the knives and anointed the blades with some evil

smelling grease from a calabash, and then stroked the young man's body all over with the blade which had done the injuries, and finished the operation by rubbing him vigorously with the palms of the hands smeared with the unguent.

In a few minutes time the young man arose, and there was not the slightest trace of wound or scar in his ebony skin. He then performed the same good offices on the old man with the same effect. Within ten minutes afterwards they were both laid on their mats in a sweet and quiet sleep. In this performance there were many invocations, gestures, the circular fire, and other things which satisfied me that some portion, at all events, of the magical processes of West Africa had been handed down from the days when Baal was an actual God, and mighty in the land.

*Lucifer*, November, 1890