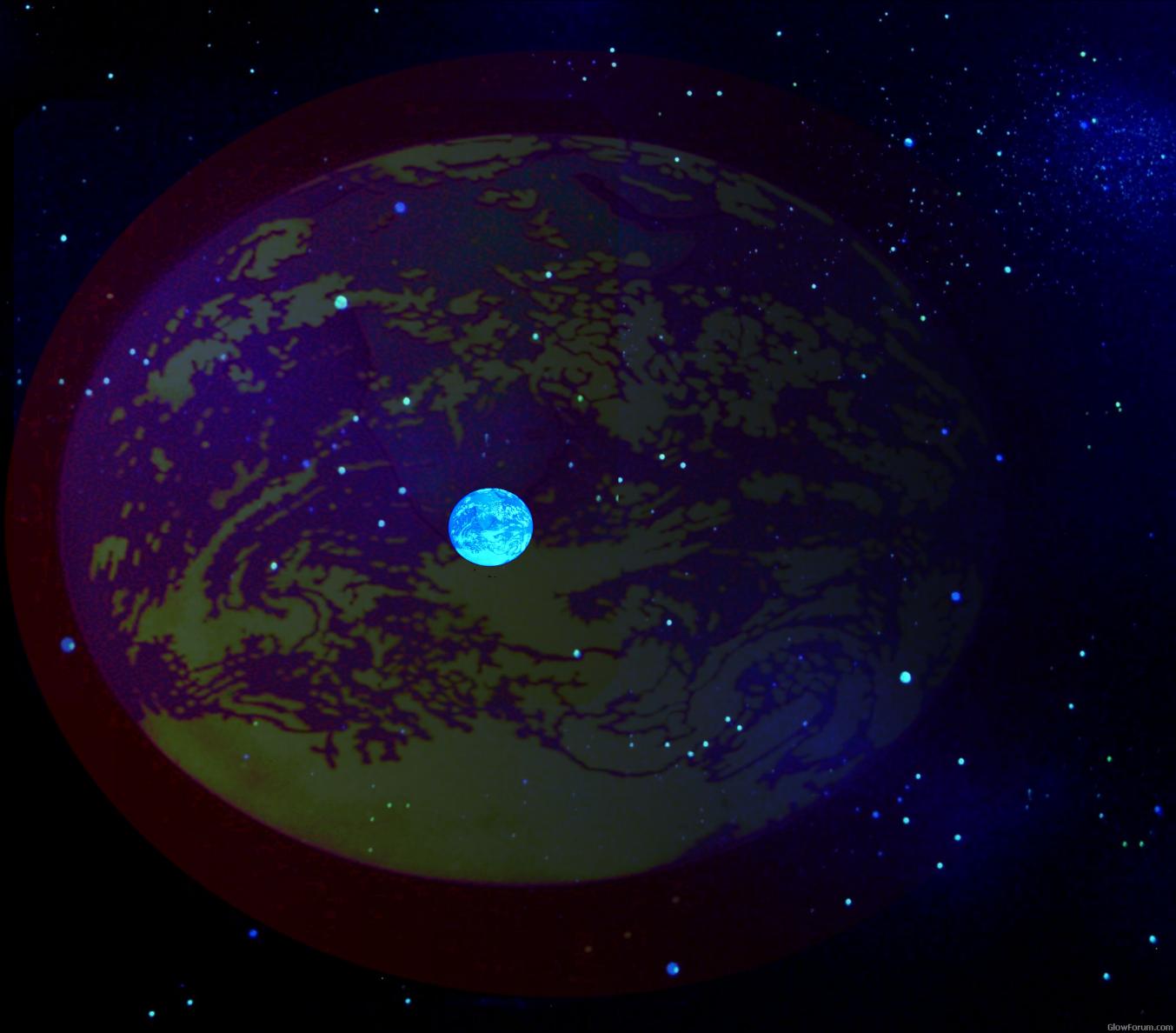


Dark Earth



GlowForum.com

A Compilation of Essays on

Dark Plasma Theory

by Jay Alfred

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Cover photograph: This shows the visible Earth sitting inside an invisible halo of dark matter particles. The halo has been given false colours and is not drawn to scale. It serves only for general illustrative purposes and does not represent the actual halo except in a general way.

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Preface

The matter that is visible and currently directly measurable is composed of particles that have been identified in the physicists' "Standard Model". However, the majority of scientists now believe that this "ordinary matter" makes up less than 5% of the universe. In fact, it makes up less than 20% of all the matter in the universe. The other more than 80% is composed of invisible matter that has been dubbed "dark matter" by scientists.

Dark Plasma Theory, published in 2006 by Jay Alfred, argues that dark matter is present in the Solar System, including on Earth. Evidence shows that the Sun and the Solar System are under the gravitational influence of invisible dark matter in our galaxy. The embryonic Solar System contained dark matter. Furthermore, the dark matter particles that have been raining down on Earth every day and night for the past 4.6 billion years are captured by Earth's gravitational field. There are therefore many reasons to infer that there are low-density halos of dark matter particles interpenetrating all the planets, including the Earth - effectively forming, in the case of Earth, (currently) invisible "counterpart-Earths" that co-rotate and share the same gravitational field as the visible Earth.

The *Theory* questioned in 2007 if the density of dark matter around Earth was underestimated. Computations in late 2008, by Stephen Adler of Princeton University and Xu and Siegel from the University of Arizona, suggest that dark matter density in the Solar System and around Earth exceeds the galactic halo density significantly and is much higher than previously thought. According to the *Theory*'s estimate, the visible Earth is gravitationally coupled to a Jupiter-sized dark matter halo.

The *Theory* argues that dark matter is largely in the form of plasmas of exotic particles (including supersymmetric particles such as charginos and neutralinos). It therefore posits a halo composed of dark plasma (i.e. a plasma of dark matter particles). As dark matter clumped, it created conditions for a dark biosphere to form.

It has been shown in laboratory experiments over the past ten years that minimal ordinary plasma cell-systems can be generated in the laboratory. The *Theory* therefore suggests that minimal dark plasma cell-systems were generated within the dark halo/biosphere in the early Earth and predicts the existence of terrestrial dark plasma life forms which evolved from these minimal plasma cell systems. This dark biosphere was the birthplace of trillions of conscious dark matter life forms over millions of years. Unlike chemical-based life forms, dark plasma life forms are compatible with life in a supersymmetric universe.

These life forms would be as varied in scale, structure and intelligence as carbon-based life forms - as different as a microbe from a whale; a mosquito from a tiger; a giraffe from a crocodile; an ant from a human being. Their degrees of intelligence and awareness would be as different as a centipede's awareness from the awareness and intelligence of human beings. The taxonomy of these plasma life forms is wide and varied. Some of these plasma life forms have interacted with us in the past (intentionally or unintentionally).

The entities that we have loosely identified as ghosts, angels, jinns, demons, deities (for example the Marian apparitions in the atmosphere), aliens, biological UFOs, fairies and sightings of the recently

deceased (on the surface of the Earth) are characteristic of these predicted exotic plasma life forms from interpenetrating dark plasmaspheres or counterpart Earths.

They constitute an ecology of plasma life forms that evolved throughout Earth's history and sometimes formed symbiotic relationships with the visible carbon-based life forms that we are more familiar with. *Homo sapiens* are the products of carbon-based bodies that formed symbiotic relationships with some of these plasma life forms (i.e. the result of a symbio-genesis) and co-evolved with them. When the carbon-based bodies died, the bioplasma bodies continued their existence in counterpart Earths.

The Theory was initially described as 'plasma metaphysics' but was restated as ***Dark Plasma Theory*** in 2008, following the publication of scientific papers by others that supported the Theory's predictions of a dark halo around the Earth and the description of dark matter as consisting of plasmas of superparticles. In 2007, the Theory also predicted the existence of dark radiation and argued that this radiation, emitted by dark matter, would be invisible to our eyes and scientific instruments.

This booklet is a compilation of articles written by Jay Alfred after 2006. One of the more interesting developments in the *Theory* during this period was the formulation of the *Dark Ionization Process*. This provided a mechanism for invisible dark plasma life forms to generate ordinary plasma which could be measured by scientific instruments and be visible when certain conditions prevailed.

Jay Alfred

September 2011

Aliens from Dark Earth

Evolution of Dark Plasma Life Forms on Earth

© By JAY ALFRED

When reading the UFO literature, have you ever wondered why aliens would express so much concern about the Earth and what humans are doing to it? These aliens are normally assumed to be from some distant galactic system within our visible universe who can undertake journeys at incredible speeds.

This assumption begs the question: Why would a distant extra-terrestrial civilisation be so concerned about our planet, a tiny rock in an obscure part of the galaxy? Wouldn't it be more probable for a co-inhabitant of Earth, who would suffer the real consequences of a devastated Earth, to get nervous and fearful about human activities on this planet? Perhaps these aliens are not extra-terrestrial, but intra-terrestrial co-inhabitants of this planet.

The author's *Dark Plasma Theory* (published in 2006) holds that the physical-dense Earth is gravitationally coupled to a counterpart dark matter Earth. Dark matter is invisible matter which

is five times more abundant in the universe than ordinary matter. The bulk of this matter is believed to be composed of particles outside the physicist's "Standard Model" (in a sense we could describe them as "non-standard" particles).

This "sister" Earth was co-accreted with the physical-dense Earth about 4.6 billion years ago from dark matter components in the embryonic Solar System and underwent further transformation when the planet that later created our Moon (which came with its own dark matter halo) collided into Earth. Through the further influx of dark matter particles from the galactic halo (including asteroids, meteorites and comets harbouring dark matter particles which have been plunging into the Earth for billions of years) this halo

This "sister" Earth was co-accreted with the physical-dense Earth about 4.6 billion years ago from dark matter components in the embryonic Solar System...

bloated to form a dark counter-Earth more than a thousand times the volume of the visible Earth.

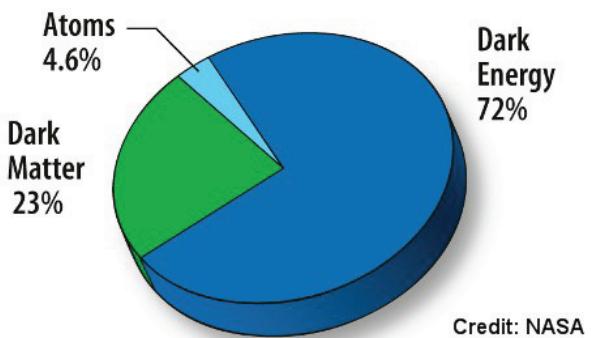
The average density of the dark matter particles in this counterpart Earth is very low. Could tangible dark matter objects form in this invisible Earth? To answer this question we only need to consider that the universal average density of ordinary matter is lower than dark matter. Nevertheless, dense ordinary matter objects are seen all around us. The average dark matter density in the galaxy is very low. Nevertheless, dark matter clumps in the galaxy do form dark matter clouds. Similarly, dark matter within the dark Earth

clumps to form denser blobs with very little dark matter in between the blobs.

The density of dark matter particles in these blobs are therefore many times greater than the average density of dark matter around the visible Earth (which itself had been computed by scientists at the end of 2008 to be many times greater than the average density in the Milky Way). However, in comparison with ordinary matter objects the densities of these blobs are very much lower.

According to the author's Dark Plasma Theory a substantial amount of dark matter in the universe is composed of plasmas of dark matter particles. A scientific paper at the end of 2008 by Caltech (California Institute of Technology) scientists upholds this view. Hence, these blobs are plasma blobs formed through self-organisation as explained by plasma physics (including magnetohydrodynamics) and non-linear dynamics.

The blobs which found themselves in more favourable conditions developed into primitive dark plasma cells in the early dark Earth which effectively became a dark biosphere. (Minimal plasma cell systems with life-like qualities were produced in the laboratory by scientists Lozneanu and Sanduloviciu. Their experiments were reported in 2003.) After many millions of years, these cells evolved into a variety of more complex plasma life forms and continued to evolve so



that plasma life forms which existed hundreds of millions of years may no longer be evident now.

These dark plasma life forms are dissipative structures which were far from equilibrium. They were as varied in scale, structure and intelligence as carbon-based life forms on the visible Earth – as different as a microbe from a whale; a mosquito from a tiger; a giraffe from a crocodile; an ant from a human being. Their degrees of intelligence and awareness were as different as a centipede's awareness to the awareness and intelligence of *Homo sapiens*.

Some of these dark plasma life forms have interacted with us in the past (intentionally or unintentionally). The entities that we have identified as ghosts, angels, demons, deities (for example the Marian apparitions in the atmosphere), biological UFOs (associated with UFO sightings in the atmosphere), aliens, fairies, sightings of the recently deceased (on the surface of the Earth) and orbs of light which appear to go through physical barriers (without contracting) are all exotic plasma life forms from the dark biosphere of this counterpart Earth.

The primitive dark plasma cells provided the scaffolding for ordinary biological cells to form in the early Earth. Hence, primitive biological cells evolved with an envelope of dark plasma around them. The dark plasma envelope around humans and other ordinary life forms caused dark matter in Earth's environment to clump around them to form dark bioplasma bodies which coupled to the visible carbon-based bodies. When the carbon-based bodies died, the bioplasma bodies decoupled and continued to survive, retaining their awareness in Earth's dark biosphere. These surviving plasma life forms then formed symbiotic relationships with other carbon-based bodies on Earth, including with humans. The symbiosis allowed shared cognitive systems to develop which gave continuity to the identities (i.e. autobiographical memories) of sentient individuals.

PARALLEL PLASMA EARTH – THE HABITAT OF PLASMA LIFE FORMS

The counterpart dark matter Earth, composed of low density plasma and co-rotating with our visible Earth, can effectively be considered another planet. The sporadic interactions with plasma-based beings, who may appropriately be called "aliens" (since they are, strictly speaking, from another planet – although a counterpart Earth), can be studied in a more rigorous scientific framework once our current

technology improves to take into account particles beyond the physicist's Standard Model. All human beings are the symbiotic products of carbon-based bodies and (alien) plasma-based bodies.

Near-death experiences, astral travelling, (genuine) alien encounters, angelic visitations, apparitions of saints or deities – both privately to individuals and to the public at large leading to mass sightings (such as the Marian apparitions or swarms of UFOs in the atmosphere) occur in this dark matter counterpart of Earth and are sometimes superimposed on our more familiar Earth environment (depending on the type of encounter, see below). The relative dimensions of the invisible dark Earth to the visible rocky Earth may be very similar to the relationship of Jupiter's gas envelope (which is about 142,000 km in diameter) to its small rocky core (which, based on late-2008 computations, is about the diameter of the visible Earth). Dark Earth is therefore as large as Jupiter, which can comfortably fit more than 1,000 visible Earths inside itself.

Some plasma life forms in our atmosphere would be similar to those proposed by Carl Sagan. In a 1976 paper, Sagan and Edwin Salpeter proposed that creatures resembling hot air balloons could exist in Jupiter's atmosphere. They based their hypothesis on the ecology of our oceans where different life forms exist at different levels: simple life forms, such as plankton, thrive at the top level; at a lower level fish exist which feed on these plankton; below this are marine predators which feed on the fish. The Jovian equivalents of these were the "sinkers," "floaters," and "hunters." The "floaters" were giant gas bags which generated heat through their own metabolism, feeding off sunlight and free molecules. They moved by pumping out helium. The "hunters" were squid-like creatures which used jets of gas to propel themselves. The scientists calculated that the "hunter" variety could grow to be many kilometres across. Arthur C. Clarke imagined similar types of life forms in Jupiter's atmosphere.

Just like Jupiter, Earth's equally large dark plasma halo

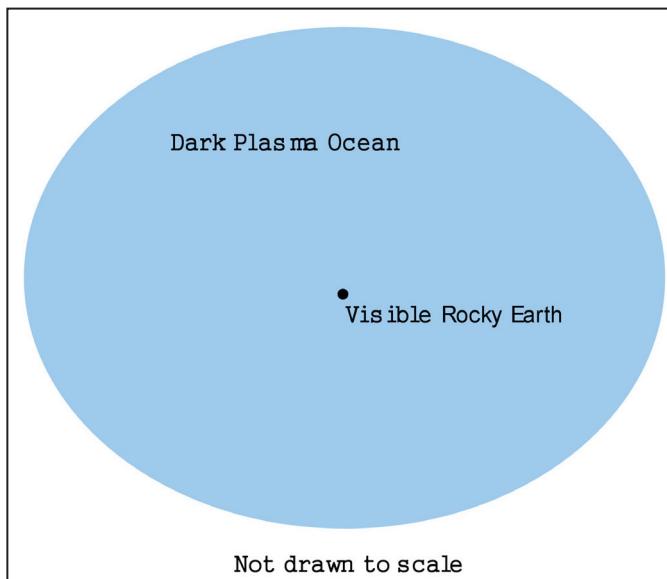


This NASA graphic illustrates the way dark matter blobs might look in space.

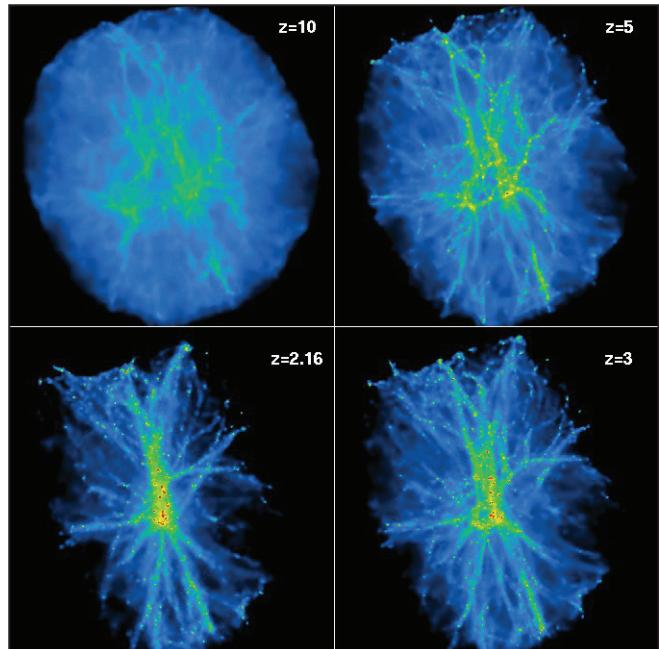
would not have any hard surface. Hence, plasma life forms would essentially float in an oceanic type atmosphere of tenuous cold dark plasma. While the biosphere of the physical-dense Earth occupies only a small volume of the Earth, i.e. largely confined to plus or minus 10km from sea level (which is less than 1% of the volume of the Earth), the plasma Earth is composed wholly of plasma making it more like a gigantic plasma ocean habitable to dark plasma life forms.

Like our visible oceans, this generally invisible plasma ocean is subject to tides because of the gravitational interactions with the Earth-Moon-Sun system. In addition, it is also buffeted by the dark solar wind and other dark matter winds emanating from other parts of the galaxy which generate a “tail,” parallel to the direction of the winds, which can reach the Moon in certain situations. Since particle density can also change due to these influences, the size of the plasma bubble also undergoes changes (just like Earth’s visible atmosphere). The shape and size of this dark plasma Earth is therefore dynamical and is constantly size and shape-shifting like a dancing candle flame. Furthermore, just like the Sun (which is a ball of plasma), it experiences differential rotation; the rate of rotation in the equatorial region slows down as it approaches the poles. The length of day and night will therefore vary in different parts of dark Earth.

Life forms often move in all three dimensions quite extensively (i.e. like fishes in the sea, not like human beings walking on the surface of the Earth) in this extensive plasma ocean. There is enormous biodiversity in this plasma planet which teems with life. Life-like plasma objects that sporadically appear in our atmosphere are actually floating or swimming in this ocean. They are therefore able to dart back and forth (like squid, cuttlefish and octopuses) or swim majestically (like manta rays). They may be as



The relative dimensions of the invisible dark Earth to the visible rocky Earth may be very similar to the relationship of Jupiter’s gas envelope to its small rocky core. Dark Earth is therefore as large as Jupiter, which can comfortably fit more than 1,000 visible Earths inside itself.



*Simulation of dark matter evolution.
(Source: Rob Thacker, Queens University)*

large as whales. There is hardly any “sonic boom” when they zip-off because of their extremely low mass which is largely composed of collisionless plasma. Plasma life forms in the atmosphere have been seen at Marian apparitions, in Chinese history as dragons, and UFO sightings. They also include what the Qur'an refers to as “jinns.”

The famous Islamic cosmographer and Persian physician who lived in the thirteenth century, Zakariya ibn Muhammad ibn Mahmud Abu Yahya al-Qazwini, states that jinns “are aerial animals, with transparent bodies which can assume various forms.” This description could also fit Trevor Constable’s plasma-based “sky creatures.” Some writers have already argued that jinns are in fact plasma life forms, for example, Dr. Ibrahim B Syed, a Clinical Professor of Medicine at the University of Louisville, School of Medicine. Gordon Creighton and Chris Line, as far back as 1989, have argued that UFOs are in reality jinns in different issues of the *Flying Saucer Review*. Nevertheless, aerial jinns comprise only one category of plasma life forms in Earth’s dark biosphere.

The idea that Earth’s atmosphere could be the habitat of living aerial creatures which manifest as “biological UFOs” has been put forth before. Charles Fort held this belief; Kenneth Arnold, who kick-started modern Ufology in 1947, also believed UFOs were living creatures. He held that these biological UFOs were space animals with the ability to change their density allowing them to apparently appear or disappear. Constable has photographed many different types of “plasmatic creatures” in the atmosphere using fast infrared film and has been researching these life forms for several decades.

The British Ministry of Defense (MOD) recently completed a four year study (1996 to 2000) on “Unidentified Aerial Phenomena (UAP)” which looked at data compiled

from reports of UAPs received by the MOD over a 10 year period (1987 to 1997). The report concludes that most of these sightings were due to ordinary plasma bodies generated by incompletely burnt-out meteors entering Earth's atmosphere during meteor showers, although with certain reservations. The researchers concluded that: "It is not certain that the radiation/fields are conventional and electromagnetic in nature... any pursuit of this process of identification or elimination is pointless if it turns out that UAP radiation is other than EM [electromagnetic] radiation as we currently understand it."

Indeed, dark plasma life forms radiate dark (not ordinary) electromagnetic waves. The author believes that the MOD detection data provides evidence of clumps or blobs of dark plasma that populate the atmosphere and are detected when particles in the dark plasma blobs interact with standard particles through nuclear and electron recoils; generating light, heat and electrical phenomena that can be detected temporarily or intermittently. The MOD report also alluded to the possible existence of plasma life forms due to the reported intelligent life-like behaviour of observed UAPs in the reports they received.

Recent scientific papers at the end of 2008, which studied acceleration anomalies in space crafts and satellites orbiting the Earth and more detailed calculations of dark matter density in the Solar System and around the Earth, also pointed to the possible existence of blobs of dark matter in our atmosphere.

Within the context of Dark Plasma Theory, these point to dark plasma blobs within the Earth environment.

Meteors, according to Dark Plasma Theory, contain an envelope of dark plasma. Persons using "dark sight" will be able to see a much larger halo of light around the meteor which would emit dark light. While the ordinary matter component of the meteor is easily explained, the dark component is evident when studying UAPs in more detail, including their peculiar ability to transform UFO sightings into experiences which are normally associated with the paranormal. The idea of a dark plasma envelope around a meteor, asteroid or comet allows the development of a theory of "dark panspermia" which has been explored in another article by this author.



There is enormous diversity of life forms on our dark matter "sister" Earth, which is theorised to be like an extensive plasma ocean. Life-like plasma objects that sporadically appear in our atmosphere are actually floating or swimming in this ocean. Some of them would move about in a similar manner to certain sea creatures including jellyfish (above).

DETECTING DARK PLASMA LIFE FORMS

Generally, dark plasma is collisionless. However, during certain events when particle density increases, some dark matter particles that oscillate within the dark plasma collide with the nuclei and electrons of ordinary matter atoms. This generates light (as a result of scintillations), heat (due to the transfer of momentum) and electricity (when electrons get kicked-out of their orbitals during the ionization process, generating currents). The ionization process also generates short-lived ordinary plasma (i.e. composed of ordinary matter particles). When this ordinary plasma is sufficiently dense it can reflect-off microwaves from radars and be detected by them temporarily and/or intermittently. The heat can be detected with infrared cameras (such as the one used by Constable) and calorimeters. The light can be detected by cameras (if visible) and analysed using spectrometers and bolometers.

The frequencies generated by the ordinary plasma are expected to be mostly in the microwave segment of the electromagnetic spectrum, which is associated with electron oscillations in the ordinary plasma. These microwaves can generate heat in living tissue and anomalous sounds within the head. The plasma life form has therefore both a dark plasma component and an ordinary plasma component. The ordinary plasma increases in density and frequency as the plasma frequency of the dark component increases.

As the plasma frequency of the dark plasma increases, the frequency of the electromagnetic waves radiated by the ordinary plasma can move up into the visible segment of the electromagnetic spectrum temporarily and/or intermittently. These can be detected using cameras (so long as it is above the plasma frequency of the ordinary plasma) – as seen in various recorded cases, even public apparitions such as "Mary's" appearance at the top of a Church in Zeitoun between 1968 and 1971, which was broadcast on TV to millions. No doubt, the British MOD reports of UAPs also record instances when dark plasma betrays its presence when ordinary plasma is generated around it causing it to become temporarily visible. This is a Type 1 encounter (as explained below).

Since the density of dark matter particles within the

dark plasma blobs is much higher than the spaces between the blobs, extremely small amounts of radiation (which fall below normal detection levels) will emanate from these spaces. A low level of microwave radiation will, however, emanate from invisible (generally fast) moving point sources (i.e. the plasma life forms) which would be spread out over a very wide area (remember that the dark biosphere is more than a thousand times larger than the visible Earth). Furthermore, most of these life forms do not have to be restricted to the surface of the Earth or the thin biosphere where most ordinary matter life forms exist. Hence, encounters with humans are generally rare.

PROPERTIES OF BIOPLASMA BODIES

Bioplasma bodies, composed of plasmas of dark matter particles, generate (dark) electromagnetic fields and radiate (dark) electromagnetic waves. Embedded in these bioplasma bodies are cells that function as “plasma antennae” which can tune-in and receive dark electromagnetic waves generated by other bioplasma bodies. (Plasma antennae are actually used today in some scientific laboratories.)

According to Dark Plasma Theory, the bodies of plasma life forms that we encounter are molded by our expectations which radiate out from our own bioplasma bodies in the form of (dark) electromagnetic waves and are received by them through their embedded antennae. The nearer dark plasma life forms come to you the better they are able to tune-in to the thought waves (i.e. electromagnetic waves modulated by your thoughts) you are radiating out from your bioplasma body. For example, in the Marian apparitions at Fatima (Portugal) in 1917, the children saw a ball of light resolving into a man-like angel as it got nearer to them.

The total rest mass of a bioplasma body is very much lower than the physical-dense body. The extremely low rest mass can give the extremely tenuous bioplasma bodies a more pronounced macro-quantum effect and wave properties (compared to the more dense macroscopic objects in our visible universe) due to the well-known de Broglie relationship, particularly when they are not in motion or moving slowly.

The properties of dark plasma life forms include the following:

- They can emit light (i.e. they are “self-luminous” and generate colourful auras and halos), reflect light (having a shiny appearance), appear to be black and opaque or alternatively transparent or translucent (allowing them to apparently materialise or dematerialise), depending on the interaction between the plasma frequency of the life form and the frequency of electromagnetic waves in the vicinity or emanating from within the plasma.

**The nearer dark
plasma life forms
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bioplasma body.**

- They can generate ordinary plasma which produce electromagnetic fields and radiate electromagnetic waves when immersed in ordinary matter (e.g. when surrounded by air which is composed of atoms of ordinary matter).

- The ordinary plasma component is responsive to electromagnetic fields and waves. The dark plasma component is responsive to dark electromagnetic fields and waves.
- The denser body of the life form, which varies from one plasma life form to another, resides within an ovoid which is enclosed by a bi-layered plasma (Langmuir) sheath.

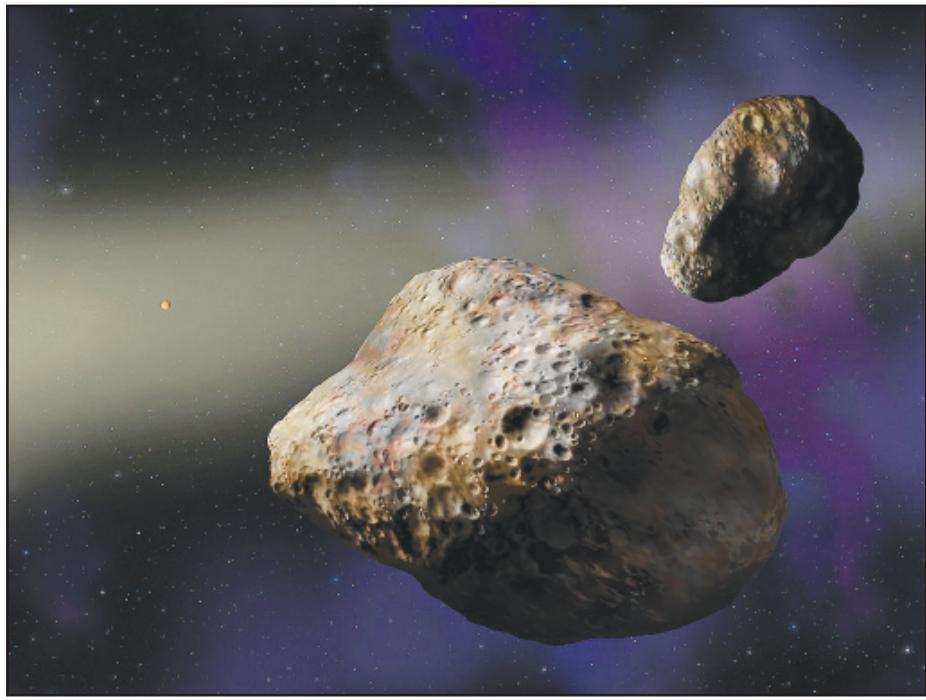
- Double helical currents, aligned with the longer axis of their bodies may be discerned. They also have networks of filamentary currents within their bodies.
- They possess rotating orifices (or plasma vortexes) that suck in or spew out dark matter particles. They can emit beams of dark matter particles from these orifices.

- Their shapes can vary (hence they can shape-shift) but the most stable shape is the ball or ovoid of light. Shapes between a spheroid and a cylinder, or lenticular, are also possible as the plasma membrane is resilient and elastic and can be stretched by the denser matter inside. Just like amoeba they can generate temporary limbs (i.e. pseudopods).

- They can expand and contract quite significantly (i.e. size-shift) as they are tenuous (i.e. the particles are far and wide enabling significant changes in size by increasing or decreasing inter-particle distance).

- They are able to pass through each other in the same way that objects composed of collisionless plasma or dark matter do.
- They have very low total rest mass which results in significant wave properties.
- Misty irregularly formed primitive plasma life forms also exist.

Some ancient cultures have described bioplasma bodies which are coupled to our carbon-based bodies as “souls.” This is not surprising due to their quasi-quantum behaviour, their unusual methods of transport, apparent ability to effect action at a distance, and decoupling on the death of the carbon-based body. In this connection, we should note that the concept of plasma is a relatively modern one. The term “plasma” was coined by Irving Langmuir around 1929 and modern plasma physics only began in the twentieth century. A thousand years ago the concept of plasma did not exist, except perhaps in the notion of the “fire element.”



According to Dark Plasma Theory, meteors and asteroids contain an envelope of dark plasma. Persons using “dark sight” should see a much larger halo of light around meteors that emit dark light.

TYPES OF ENCOUNTERS WITH PLASMA LIFE FORMS

Encounters with plasma life forms can be classified as follows:

- Type 1 (Ordinary) Encounter: This is an encounter with the ordinary plasma component of the life form using the cognitive-sensory system of our carbon-based body in our familiar ordinarily visible Earth and using “ordinary sight.”
- Type 2 (Dark) Encounter: This is an encounter with a dark plasma component of the life form using the cognitive-sensory system of our biplasma body in Earth’s dark biosphere and using “dark sight.”
- Type 3 (Superposed) Encounter: This is an encounter where there is dual awareness – both the cognitive-sensory systems of the carbon-based body and biplasma body are operating. In this case, the dark component of the plasma life form in the counterpart Earth is superimposed on its ordinary plasma component; against the backdrop of both our ordinarily visible Earth and segments of Earth’s dark biosphere which are partially visible with our dark sight.

BEHAVIOUR OF PLASMA LIFE FORMS

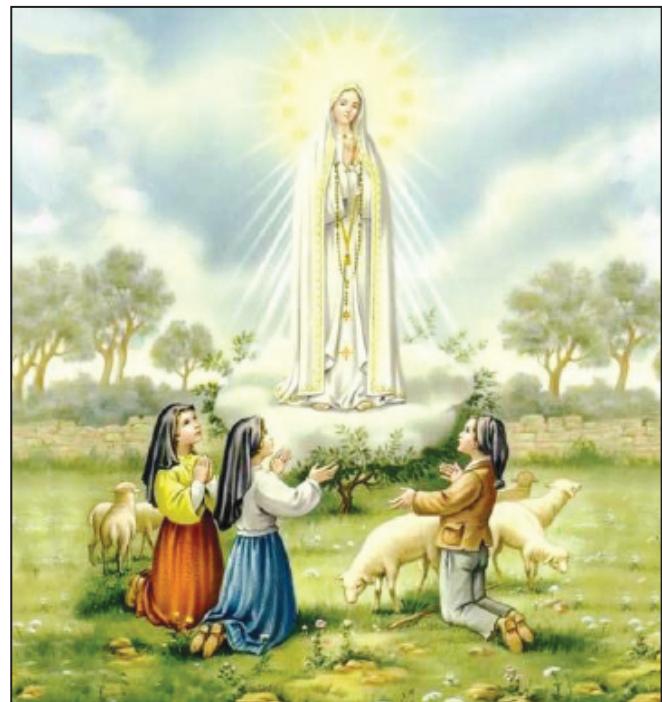
Behaviour can vary due to the diversity of plasma life forms. Plasma life (let’s say with intelligence equivalent to octopuses) may express their curiosity by coming near to see or feel objects that seem strange to them from their frame of reference. More intelligent life forms (equivalent to the intellectual capacity of Homo sapiens or higher) may actually conduct experiments. Groups of plasma life forms

may exhibit swarm behaviour (similar to bats, birds and fishes) with synchronised movements.

BIOMECHANICS OF PLASMA LIFE FORMS

Dark plasma life forms move generally by neutralising or reversing their electric charge and/or redistributing the electric charges in their bodies relative to the background (dark) electric field of the Earth. They may also move by changing their density. Another method of active transport is by sucking in particles through their orifices in the direction of the motion and/or spewing out particles from the opposite orifice. The suction generates a drift and the spewing out a thrust.

They may also use Birkeland currents (often described as “ley lines”) within the counterpart dark plasma Earth to zip from one location to another like maglev trains. Hence, there are many methods of locomotion for the huge variety of plasma life forms



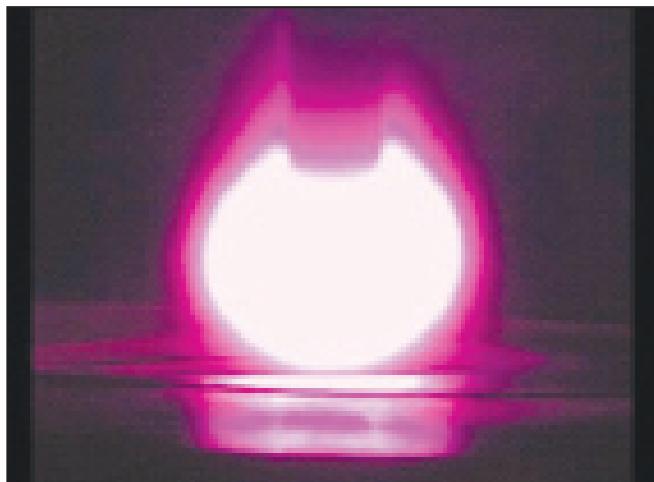
Dark Plasma Theory holds that the bodies of plasma life forms that we encounter are molded by our expectations which radiate out from our own biplasma bodies. The nearer dark plasma life forms come to you the better they tune-in to thought waves radiating from your biplasma body. For example, in the Marian apparitions at Fatima (Portugal) in 1917, the children saw a ball of light resolving into a man-like angel as it got nearer to them. Later, as this illustration depicts, the apparition was interpreted to be “Our Lady of Fatima” or the “Blessed Virgin Mary.”

and this may be true even for a single plasma life form – just as seagulls can walk, swim or fly using different biomechanical manoeuvres. The victim's body participating in an “alien abduction” is the dark bioplasma body – not the carbon-based body which undergoes sleep paralysis during these episodes. The body can be transported through electromagnetic guides (analogous to transportation via “ley lines”).

Why do some people see them and some don't?

Dark plasma life forms emit dark electromagnetic waves. Humans who can activate the sensory systems of their dark bioplasma bodies can use their “dark sight” to view these life forms. By switching-off relevant (and specific) brain circuits, a person may transfer his or her locus of awareness to a bioplasma body with the relevant sensory apparatus (which is sensitive to the right frequencies) to be able to view the plasma life forms currently inhabiting our counterpart Earth. When the bioplasma body's sensory systems are activated, the body becomes partially or wholly visible to the inhabitants in the dark biosphere – thus inviting interactions from nearby observers (if any).

UFO sightings often occur when a person is taking a long car ride in a featureless area (like a desert). This provides the ideal conditions for a person to go into a meditative state and cause the transfer of the locus of awareness to parallel bodies with different cognitive-sensory systems – landing them in our plasma-based counterpart Earth. In



Embedded in bioplasma bodies are cells that function as “plasma antennae” that tune-in and receive dark electromagnetic waves generated by other bioplasma bodies. The above photo is of an actual microwave plasma antenna. (Source: Angstrom Laboratory, Uppsala Universitet)



This image shows NASA's rendition of gigantic halos of dark matter in galaxies passing right through each other in the Bullet Cluster.

this type of encounter, it is not so much a case of the aliens visiting our visible Earth but it is we who are dropping-by, uninvited, into an alien Earth environment. This is a Type 2 encounter if the ordinary Earth environment completely disappears and you find yourself in a completely new environment. To a dark plasma life form living in the dark biosphere, you will be viewed as an alien and it would be justifiably curious or frightened.

However, witnesses of alien abductions and Marian apparitions (such as at Fatima) often view the counterpart dark Earth environment superimposed on the ordinarily visible physical dense Earth (i.e. a Type 3 encounter). In this scenario, it can get somewhat confusing when our locus of awareness oscillates between the two bodies (and their corresponding sensory-cognitive systems) as the two Earth environments (i.e. the ordinarily visible Earth and the dark biosphere) become layered on top of each other. This superimposition explains why we may see dark plasma objects against an ordinary matter background. For example, we may see dark plasma blood (projected by the thought waves of the observer) on an ordinary matter wall.

How do they go through walls?

The bioplasma body is composed of collisionless dark plasma. This allows it to pass through walls just as billions of dark matter particles are right now passing through your room and your body. The image above is NASA's rendition showing gigantic halos of dark matter in galaxies passing right through each other in the Bullet Cluster.

If for some reason, the density increases in the bioplasma body, the body may have difficulty in penetrating walls (this phenomenon has been witnessed by Robert Monroe in his

Out-of-Body Experiences and recorded in his book *Journeys Out of the Body*).

What about the marks on the body?

It has been documented in the metaphysical literature that marks on the carbon-based body may be caused by impacts to the dark “physical-etheric” bioplasma body. This is often referred to as “repercussions” in the general metaphysical literature. The body of a human being which participates in an “alien abduction” is not the carbon-based body but the counterpart bioplasma body. Nevertheless, if this bioplasma body is impacted, the carbon-based body can be impacted – similar to what happens in certain reported reincarnation cases. This may be due to the responses of biochemical fields within the carbon-based body to ordinary electromagnetic fields caused by the ordinary plasma generated by the dark bioplasma body when its density increases.

Where did the aliens go after I took the medication?

Medication cuts-off awareness of alien attacks on our bioplasma bodies because it normalises brain functions. Certain brain circuits that were “switched-off” allowed the locus of awareness to be transferred to the bioplasma body which had the necessary sensory systems to view the relevant plasma life forms. But when medication is taken, these circuits are restored and “switched-on” again in the carbon based biochemical body. This cuts-off conscious contact with the counterpart Earth environment (and thereby also deactivates the bioplasma body causing it to become invisible to the attacker and free from attacks).

The relevant brain circuits (particularly in the parietal and temporal lobes) may be switched-off physically through surgery, accidents like brain injuries, transcranial magnetic stimulation and ambient electromagnetic fields which simulates brain lesions; chemically through psychoactive or spiritual drugs; psychologically through meditation or hypnosis or during sleep.

AN ADVANCED PARALLEL CIVILISATION

The SETI (Search for Extra-Terrestrial Intelligence) Institute's program objective in trying to find intelligent life outside Earth is to some laudable. However, there is much research that can be done on alien life right here on Earth. The aliens that are most frequently encountered and that can be considered “intelligent life” do not travel at light speed within our low energy physical universe nor do they have any technology to undertake intergalactic or interstellar travel. They are co-inhabitants of the Earth system – which

includes the visible Earth and its dark matter counterpart.

Although they co-evolved with us, plasma life forms in Earth's dark biosphere are likely to have evolved at a faster rate. V.N. Tsytovich of the Russian Academy of Sciences argues that helical dust structures in plasma would have a “faster evolutionary rate” in his 2007 paper on plasma life forms. This is also supported by the author's concept of “accelerated morphogenesis” of bioplasma bodies which was published in 2006. Hence, this plasma-based civilisation, having a headstart in evolution, could be expected to be more advanced than us.

As a civilisation they would have government, political and social structures, as well as culture. They are likely to be superior in communications technology using bioplasma bodies since they would obviously be more familiar with these types of bodies compared to us. This may allow them to communicate with our bioplasma bodies directly (we may interpret this as telepathy or messages from unspecified entities). They may even fear that we will harm them with our growing technological sophistication. It may very well be appropriate now to embark on a SITI (Search for Intra-Terrestrial Intelligence) project which will bring us closer to our exotic neighbours in Earth's dark biosphere.

CONCLUSION

Dark Plasma Theory explains a wide variety of phenomena associated with genuine sightings of aliens, ghosts, deities, jinns and angels by both individuals and groups – using an internally consistent scientific framework. These sightings betray the presence of plasma-based life forms originating from a counterpart sister Earth gravitationally coupled to the visible Earth. These terrestrial aliens (whether they be ghosts, fairies, grays, deities or angels) share common properties and may even shed light on the evolution of carbon-based life and consciousness on the Earth that we are most familiar with. The history and evolution of plasma life forms and humans have indeed become intertwined – a symbiosis which is likely to continue into the future.

To understand the origins and evolution of human beings, we will therefore have to study plasma life forms within a scientific framework, using the latest scientific research to extend the initial understanding gleaned from religious and metaphysical sources. We may inevitably find that the Darwinian tree of life, identified on Earth only recently, both originates and extends into parallel Earths.

For further information, read the author's books Our Invisible Bodies, Between the Moon and Earth and Brains and Realities, all available via bookstores on the Internet.



JAY ALFRED is the author of Dark Plasma Theory (formerly described as “plasma metaphysics”). Jay has been researching dark plasma life forms since 2001. He is the author of three books on the Dark Plasma Theory: *Our Invisible Bodies* (2006), *Between the Moon and Earth* (2007) and *Brains and Realities* (2006), which are available on all Amazon, Borders and other online bookshops. He is the Research Director of Dark Plasma Life Research Organization and a Consultant at ARPAST (Arkansas Paranormal and Anomalous Studies Team), a science-based research group that studies anomalous and currently unexplained phenomena. His organisation's website is www.dapla.org.

Dark Plasma and the Origin of Angels, Aliens, Deities and Ghosts

— © BY JAY ALFRED —

Have you wondered why angels appear to shine with an inner light or why ghosts glow? Why do subtle bodies, as described in the metaphysical literature, have structures such as vortexes (or "chakras") or filamentary currents (or "meridians")? The appearance and anatomy of our subtle bodies, the bodies of angels, aliens (including "biological UFOs"), deities, ghosts and what the Qur'an calls "jinns" show marked similarities and suggest that they are composed of the same substance - magnetic plasma. Magnetic plasma naturally gives rise to such structures as vortexes and filaments and can be self-luminous. The sheets of aurora light, a filamentary bolt of lightning and the dazzling Sun are all composed of plasma.

But isn't plasma very hot and short-lived? Yes, if you are talking about plasma composed of ordinary matter particles. However, exotic life forms such as angels, aliens, deities, ghosts and jinns are composed not of ordinary plasma but "dark plasma" - this is plasma composed of dark matter particles. Science discovered that there is five times more dark (i.e. invisible) matter composed of exotic particles in the universe than ordinary matter decades ago but many are still unaware of this fact which is only beginning to be taught in schools.

The author's *Dark Plasma Theory*, published first in 2006, holds that a substantial amount of this dark matter is composed of plasma and radiates "dark light." A scientific paper at the end of 2008 by Caltech (California Institute of Technology) scientists upholds this view. The scientists went further and postulated that dark plasma should emit "dark photons" i.e. "dark light" and gives rise to "dark electromagnetism." Dark plasma, even if it is hot, generally does not interact with our carbon-based bodies composed of ordinary matter particles, except through gravitational and weak interactions. It is therefore subject to Earth's gravity and has weight, although it is generally invisible to most of us. By making reasonable assumptions about the masses of dark matter particles, *Dark Plasma Theory* finds that dark matter can remain in the plasma state even at room temperatures.

The term "plasma" was coined by Irving Langmuir

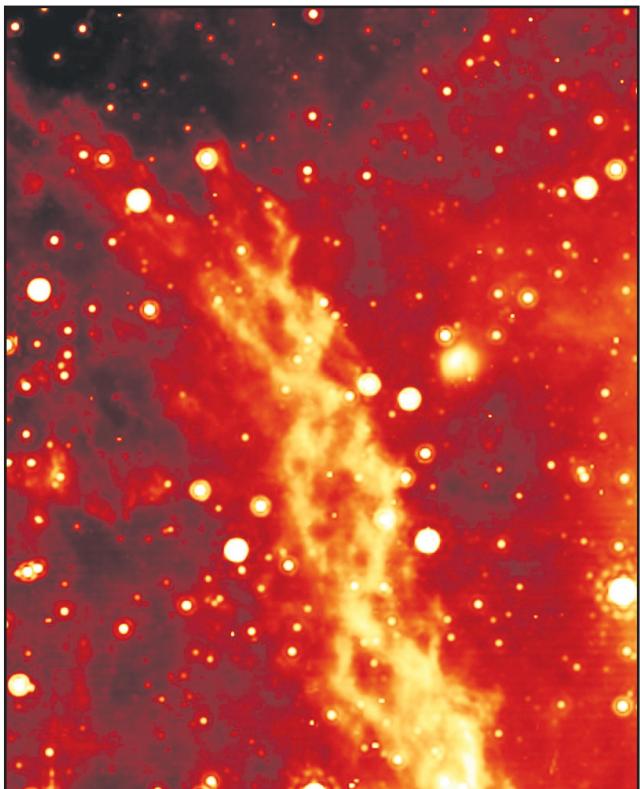
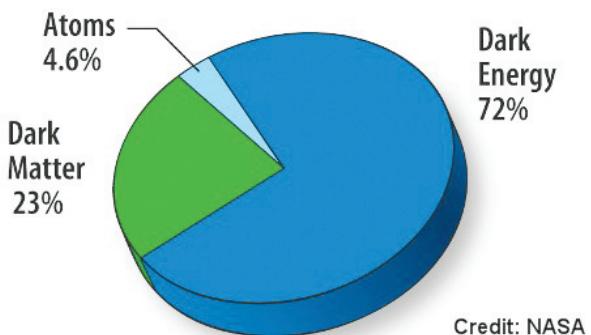


Image courtesy of the author

around 1929 and modern plasma physics only began in the twentieth century. A thousand years ago the concept of plasma did not exist. The fifty-fifth chapter "Ar-Rahman" of the Qur'an states that jinns are made of "smokeless fire" - which captures rather nicely an elementary notion of plasma. If we had fluorescent lamps and neon signs (which contain plasma) a thousand years ago, they would probably be described as "smokeless fire" or "fire without smoke." Even the Bible betrays the presence of plasma - from the "burning bush" that Moses encountered in the Old Testament (which paradoxically "does not burn" and probably glowed like a ball of neon light - a veritable "smokeless fire") and the bright "doves" that appear in the New Testament (during the baptism of Jesus and the Pentecost event) and more recently at Marian apparitions, which have all the characteristics of plasma.

Barbara Brennan, a research scientist and astrophys-



cist who previously worked for NASA and now a world-renowned subtle energy healer, is not the only one who says that our subtle bodies are composed of biplasma. Metaphysicist Charles Leadbeater said that on higher planes, everything is what down here we would call "luminous" (in other words it emits light – like plasma) and above a certain level everything may be said to be permeated by fire. "All astral matter is in itself luminous, though an astral body is a sphere of living fire," he says. Furthermore, he asks us to "Try to think of a fire which does not burn, but is in a liquid form, something like water." "A fire that does not burn" is reminiscent of the biblical "burning bush." A "liquid fire" describes plasma quite well. When Leadbeater wrote these descriptions of what he saw with his clairvoyant sight, the term "plasma" was not invented yet.

Furthermore, the notion of "dark light" and "dark electromagnetism" was certainly discussed by metaphysicists (although not using these terms). The electrical and magnetic properties of dark or subtle bodies have been reported by many experimental metaphysicists. Leadbeater warned us that we must not confuse this (dark) force with (standard) electricity, though in some ways it resembles it. "It has often been asked whether the 'Anu' is the electron. The answer is definitely, No. What it is remains to be determined," he said in the early twentieth century. Valerie Hunt, Professor Emeritus from the Department of Physiological Sciences at UCLA, does not believe that "subtle energy" is purely electromagnetic in nature, i.e. it is not the "standard" electromagnetism which most of us are familiar with. "We have a feeling that it is much more complex and without doubt composed of an as yet undiscovered energy," she said decades ago. Plasma can give rise to electromagnetic fields and radiation and is affected by electrical and magnetic fields.

Angels, aliens, ghosts, jinns and other exotic life forms also have subtle biplasma bodies – just as we do. Let us review the appearance, various signature features and behaviour that are often recorded or illustrated in the metaphysical and religious literature (and even the UFO literature), to confirm that these exotic life forms indeed have bodies composed of plasmas of dark matter particles.

EXTERNAL STRUCTURE & APPEARANCE

1. Emission of Light and Colourful Auras

Unlike our physical bodies which are visible to us because of reflected light, angels, ghosts and deities are self-luminous and emit their own light. This is why, as records and various illustrations show, they glow brightly. (Strictly speaking, this happens when they are in the "glow mode." Angels have often also appeared in the "arc mode" where extremely bright radiant dark light emanates (similar to lightning). Ghosts have also appeared in the "dark mode," i.e. as dark or "shadow" figures. These are all well-known modes of plasma – classified according to the intensity of radiation).

The aura that is radiated by these exotic life forms can be seen to be composed of ordinary light when the observer uses ordinary sight and "dark light" when using "dark sight." Hence, when the aura of a person is seen, two observers of a subject's aura can give different accounts. Most people, however, see only the aura composed of ordinary light (i.e. the "ordinary aura") emitted by the tenuous ordinary plasma which is generated by collisions between ordinary matter particles and dark matter particles within the dark plasma.

Dark plasma is generally collisionless. However, during certain events when particle densities increase, some dark matter particles in the dark biplasma bodies collide with sub-atomic particles of ordinary matter (in the air or other medium), causing them to recoil. These recoils generate light (due to scintillations), heat (due to the transfer of momentum) and electricity (when electrons get kicked-out of their orbitals during the ionization process causing a current to flow). The ionization process generates tenuous ordinary plasma (composed of ordinary matter particles) which is the stuff that makes up the ordinary aura.

It is not surprising that angels, ghosts and deities also have features associated with the Sun. The Sun is, after all, a big ball of magnetic plasma. Coronal auras and discharges, granulation and spicules are all features associated with the Sun and seen in numerous illustrations of the biplasma bodies of angels, deities and other exotic life forms throughout the centuries. The coronal aura is even more pronounced for angels and in apparitions of saints or deities. Spicules are short-lived phenomena, corresponding to rising jets of gas that move upward and last only a few minutes on the Sun. Spicules can also be seen in the coronas of angels, ghosts and deities. In addition, striations (which can also be associated with plasma and can be seen on gas giants like Jupiter and in laboratory plasmas) are also seen in our biplasma bodies (as reported by Leadbeater using his dark "clairvoyant" sight).

Continued on page 29...

Magnetosphere

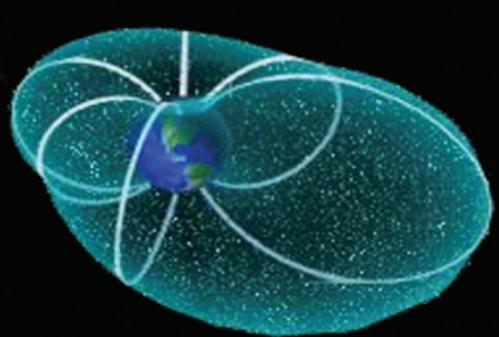
In Subtle Bodies
Literature



In the Lab



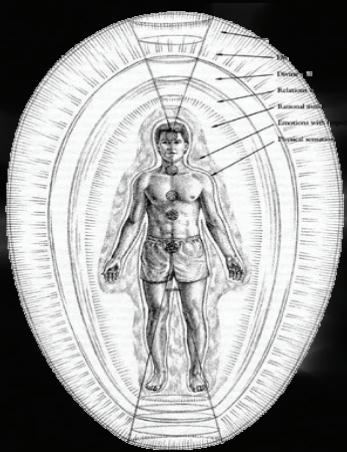
In Space



Earth's
Magnetosphere

CONCENTRIC SHELLS

In Subtle Bodies
Literature



In the Lab



In Space



IC418 Planetary Nebula

HOT SPOTS/PLASMOIDS

In Subtle Bodies
Literature



In the Lab

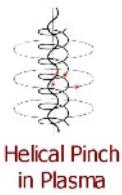
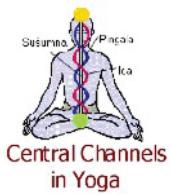


In Space



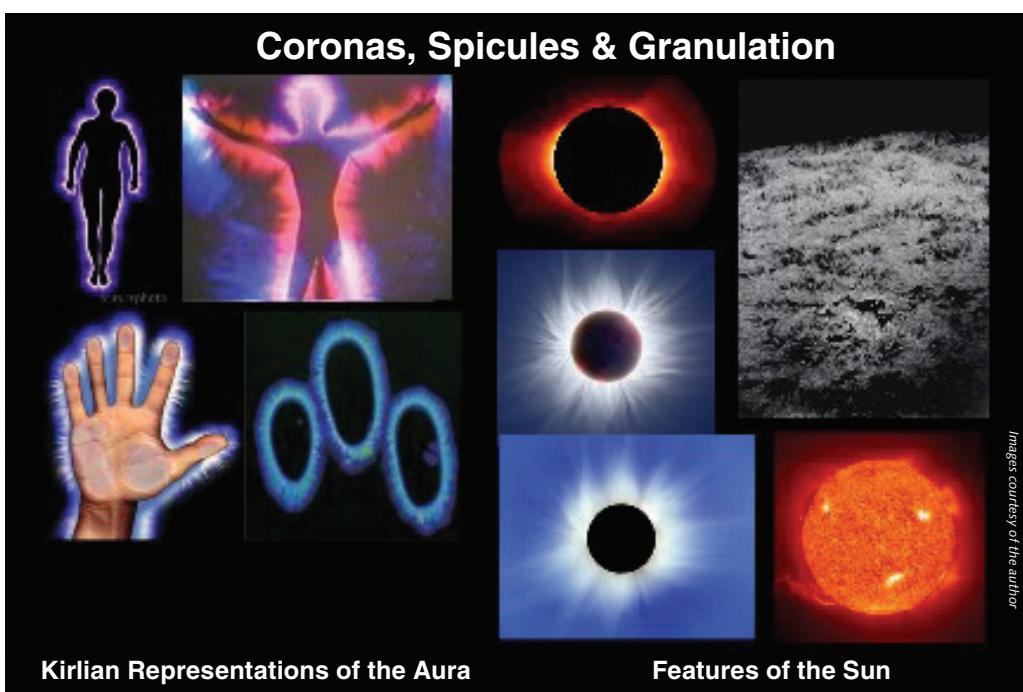
Images courtesy of the author

SN 1987A HST-Optical



Double Helix (Birkeland) Currents

Coronas, Spicules & Granulation



Kirlian Representations of the Aura

Features of the Sun

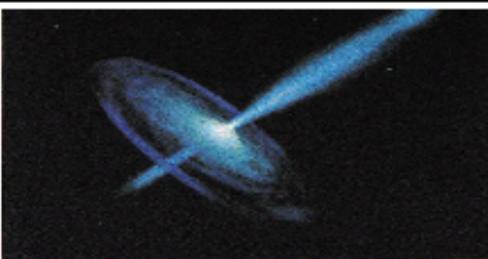
Religious Depictions



Note: Blue and red rays issuing out (right and bottom right)



Cosmic Jets



2. Balls of Light – Magnetospheres

On May 13, 1917 a strong wind suddenly started blowing on an otherwise calm day. This startled three peasant children out of a game they were playing and they saw across the valley a dazzling globe of light, like a miniature Sun, gliding slowly towards them. As it approached, the ball of light gradually resolved itself into a brilliantly shining young man. According to the children they saw “a light whiter than snow in the shape of a transparent young man, who was more brilliant than a crystal struck by the rays of the Sun.” (This incident later became part of what is known as the Fatima Apparitions).

The natural stable shape of magnetic plasma bodies is ovoid (or “prolate”). There is a sheath around the ovoid which is frequently identified by metaphysicists as the “auric sheath” or “auric shell” but by plasma physicists as a “double layer” or a “Langmuir sheath.” Within the ovoid, a 3-dimensional holographic thought-image may be generated, around which dark matter clumps forming a denser body aligned vertically with the longer axis of the ovoid. (In UFO encounters and Marian apparitions, this image has also been projected outside the ovoid). Lower density magnetic plasma fills the rest of the ovoid. The sheathed transparent ovoid functions similarly to Earth’s magnetosphere (which is composed of ordinary magnetic plasma) as it protects the dense biplasma body (inside the ovoid) from unwanted radiation, just as the Earth’s magnetosphere protects the physical-dense Earth from harmful solar radiation.

3. Transparent or Translucent Bodies

Particles oscillate within plasmas. The frequency of the oscillation is called the “plasma frequency.” For an electromagnetic wave to pass through or emanate from a biplasma body the frequency of the electromagnetic wave must be greater than the plasma frequency or else it gets “blocked.” Depending on whether the plasma frequency is greater, equal or less than the electromagnetic radiation, the biplasma body can have at least three different appearances: shiny like metal (i.e. reflecting all the waves from external sources), black (i.e. absorbing the waves and not re-emitting), translucent or transparent (i.e. allowing waves to pass through the plasma from external sources and/or light from within the plasma to emanate out from the plasma in the arc or glow modes). These biplasma bodies can therefore manipulate the degree of opacity and intensity of radiation of their bodies by changing their internal plasma frequencies (just as we can tense or relax our muscles) – allowing the bodies to apparently appear, disappear or fade away. Ghosts, angels and religious figures have frequently been reported and illustrated to be transparent or translucent and casting faint shadows in the metaphysical and religious literature. This betrays the fact that their bodies are composed of matter in the plasma state. Ghosts also have been reported to be in the form of vortices (like a moving cyclone) or vapour. All

these forms are compatible with descriptions of plasma and its dynamics.

4. Concentric Shells

Plasma crystals can be generated in the laboratory. These crystals are basically collections of particles which are held in a crystal-like array by a plasma of weakly ionized gas. In one series of experiments, when the assembly of microscopic particles was contained between two electrodes and illuminated by a laser beam, the particles naturally arranged themselves regularly into as many as 18 planes parallel to the electrodes. In a subsequent experiment, the particles in the plasma crystal arranged themselves into neat concentric shells, to a total ball diameter of several millimeters. These orderly “Coulomb balls,” consisting of aligned concentric shells of dust particles, survived for long periods in the laboratory. This onion-like layered structure, comprising of concentric shells, is also often seen in depictions of the human energy field or subtle bodies in the metaphysical literature; and has been reported in close observations of “orbs” which is another category of dark plasma life forms.

**THERE IS A SHEATH
AROUND THE OVOID
WHICH IS FREQUENTLY
IDENTIFIED BY
METAPHYSICISTS AS
THE “AURIC SHEATH”
OR “AURIC SHELL”...**

5. Dark Fields

Magnetic plasma, besides generating electromagnetic fields, is a good conductor of electricity and radiator of electromagnetic waves. It has been observed and recorded in the metaphysical and religious literature that within the biplasma body are both helical and straight currents aligned with the longer axis of the biplasma body. These are the “central currents.” There are also numerous filamentary currents interpenetrating the biplasma body. These outline the magnetic field lines, through which dark matter particles are guided. A complex network of currents enveloping the biplasma body has been observed by Barbara Brennan who notes, “The main vertical power current induces other currents at right angles to it to form golden streamers that extend directly from the body. These in turn induce other currents that circle around the field, so that the entire auric field and all the levels below it are surrounded and held within a basket-like network.” Moving charges generate magnetic fields which have often been depicted in the metaphysical literature.

INTERNAL STRUCTURES

6. Double Helix (Birkeland) Currents

Researchers detected a fiery giant double helix in space around a gas cloud in the Orion constellation using the Green Bank Telescope, a radio observatory in Virginia. It is believed to be caused by charged particles coursing through the magnetic field lines of the gas cloud which had helical shapes. Mutually entangled currents (in the form of double spirals) are frequently seen in space and laboratory plasmas. Helical structures can also be found in dusty (or complex) plasma. They are signature features within magnetic plasmas.

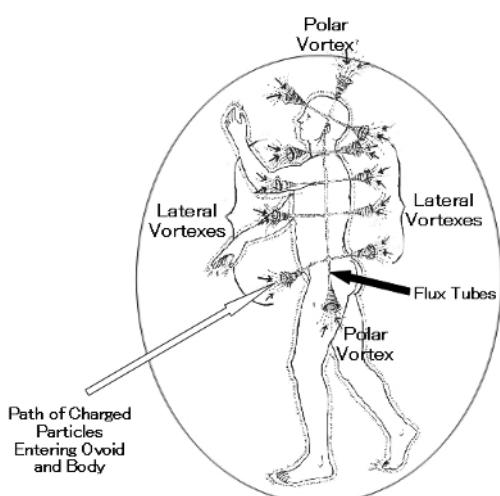
Kundalini is a Sanskrit term that is derived from the term "kundala," which means a "ring" or "coil." Kundalini currents have often been depicted in the metaphysical literature as a serpent coiled around the back part of the root chakra in three and a half turns (comparable to a solenoid or a compressed helical current) around the sacrum. The energy is supposed to originate from an apparent reservoir of subtle bio-energy at the base of the spine (i.e. within the bioplasma body). The central vertical currents in the subtle body (described as Ida, Pingala and Sushumna in the Yoga literature) are often depicted in the metaphysical (particularly the Yoga) literature as a pair of mutually entangled helical currents with straight (i.e. axial) currents passing through them.

This shows that there is a strong connection between plasma dynamics and the formation of the central kundalini and pranic currents in the bioplasma body as described in the Yoga literature.

7. Hot Spots or Plasmoids

Plasmas can take up a variety of shapes and have "hot spots" which are visible. It has been observed (based on UFO sightings and the metaphysical literature) that these hot spots in plasma emanate along axes. Secondly, (as reported by official analysis of UFO reports by the British Ministry of Defence) these hotspots have different colours and temperatures than the rest of the mass. These observations are consistent with the bright blobs of light of different colours often found depicted in subtle body and human energy field literature along the spinal axis of the human body.

The hot spots in ordinary plasma are believed to be sources of intense X-ray emission and require intense heating rates frequently associated with focused laser beams. Hot spots in bioplasma bodies are therefore expected to radiate high energy dark photons. Pulsed beams have also been depicted in the metaphysical and religious literature. Presumably these are generated by the hot spots and are guided by vortex systems.



They then undergo "lensing effects" as the beam passes through the translucent ovoid and finally emanates as collimated beams of dark light directed at specific targets.

8. Beams and Jets

Scientists at Jiao Tong University in Shanghai have shown that "subtle energy" has the properties of an electromagnetic current when flowing through acupuncture meridians but takes on the properties of coherent particle streams, similar to laser light, when projected out from the body through the hands of master Qigong healers who cure diseases by beaming their energy into the patient's body.

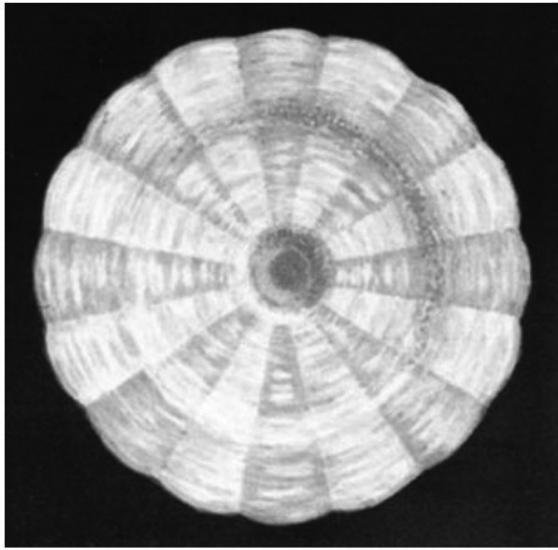
There are important vortexes (or "chakras") on the palms of the hands (of the subtle body within the ovoid). Jets or directed beams of light have been seen in photographs taken during events where subtle energetic practices take place (for example, Reiki, Qigong and Christian "Praise and Worship" sessions). There are also Hindu, Taoist, Buddhist and Christian images (produced centuries ago) showing jets of light issuing out from the palms of saints or deities. One of the seers of the Fatima apparitions of "Mary" in 1919, "Lucia," revealed that during one of the apparitions, "Mary" opened her hands and "rays of light" issued from them.

The "plasma focus device" produces, by electromagnetic acceleration and compression, a short-lived magnetically-confined hot spot or plasmoid that is so hot and dense that it becomes a multi-radiation source. These plasmoids emit intense beams of accelerated ions and electrons. This device is similar to the plasma gun which is a magnetically driven shock tube that ejects plasma in the form of a plasmoid. The similarities in the image when we look down at the barrel of a dense plasma focus device and the image of the throat chakra as depicted by Leadbeater are obvious (page 31).

Plasma focus devices are therefore already embedded in bioplasma bodies, with the vortexes (or "chakras") in the bioplasma body acting as delivery systems of intense collimated beams of energetic particles that are seen in many religious depictions of deities and also reported in UFO sightings.

9. Plasma Vortexes ("Chakras")

Charged particles in an ionized environment have a tendency to follow magnetic field lines. If the path of the particle is at an angle, i.e. neither parallel nor perpendicular to the magnetic field lines, the particle will spiral around the magnetic field lines using a helical path. When the particles plunge they collide with other particles in the ovoid, generating a light phenomenon similar to the auroras in the atmosphere at Earth's magnetic poles. This process will generate a helical path that will have a cone shape when viewed from the side, with the apex of the cone meeting the surface of the denser bioplasma body within the ovoid. Dynamically, this can



Throat Chakra (as drawn by Leadbeater)



Plasma Focus Gun

be described as a vortex. Since there are many particles streaming down into the biplasma body, taking slightly different trajectories, smaller vortexes can also appear within a larger vortex.

Experimental metaphysicist Barbara Brennan has observed, as have many other metaphysicists, vortexes within the human energy field or biplasma body. In Yoga literature these are called "chakras" or wheels. Within each vortex, residing on the surface of the relatively dense body within the ovoid, there are also small rotating vortexes spinning at very high rates – as observed by Brennan.

10. Filamentary Currents ("Meridians")

Plasma naturally forms filaments in response to electric fields within the subtle bodies of humans, angels, ghosts, aliens and other related life forms. Charged particles are guided within these filaments by magnetic fields and accelerated by electric fields – generating currents. It is a well accepted fact in metaphysics that there are filaments within our subtle body, which have been referred to as "meridians," "nadis" and "channels" – in the Chinese, Indian and Tibetan literature, respectively. In Taoist and Qigong literature, they are also referred to as "circuits" and "orbits." For example, Qigong practitioners may speak of microcosmic and macrocosmic orbits. The microcosmic orbit is really the main meridian through which particles are accelerated in the relevant practices to bring energy to the rest of the subtle body. According to *Dark Plasma Theory*, these meridians are "Birkeland currents," i.e. currents in which charged particles are aligned and guided by magnetic field lines. The central helical currents (discussed above) are also Birkeland currents.

**PLASMA NATURALLY
FORMS FILAMENTS IN
RESPONSE TO ELECTRIC
FIELDS WITHIN THE
SUBTLE BODIES OF
HUMANS, ANGELS,
GHOSTS, ALIENS...**

BEHAVIOUR

11. Passing through Objects

Being composed of low density plasma, ghosts (and subtle astral and etheric bodies) can pass through you, walls and other ghosts (or subtle bodies). They are composed of "collisionless dark plasma" – just like much dark matter. Science reporter, Ron Cowen, says: "Evidence indicates that when speeding fragments of dark matter meet, they don't collide as other matter do but pass right through each other, ghostlike." You are unlikely to 'collide' with ghosts but electrical sensations can be felt if their bodies glide near or through your own body. There will be slight changes in frequencies (which correspond to changes in energy levels) and distributions of charges over your own subtle biplasma body. Leadbeater says that the intersecting bodies do affect one another as far as their "rates of vibrations" (or frequencies) are concerned. Your carbon-based body would experience electrical sensations as electrons get kicked-off their orbitals due to the random collisions of dark matter particles with the ordinary particles in your body as the invisible life form passes through you.

12. Appearing and Disappearing

Human beings or animals that use the sensory systems of their dark biplasma bodies can see these plasma-based life-forms which radiate dark light. However, as discussed above, dark plasma life forms can easily change their degree of opacity (or refractive index of the plasma). This allows them to apparently appear or disappear when using our dark sight. When the dark plasma life form zips to another location, however, the ordinary plasma (which usually has a cloudy appearance) will linger on for a short while – giving off very low levels of radiation.

These exotic life forms or entities are seen by a greater number of people (for example, in the public Marian sightings) when ordinary matter particles (for example, in the air) collide with dark matter particles in the dark plasma body to generate an ordinary plasma and radiation which can be seen with ordinary sight.

13. Changing Appearances

The psychological states of angels, ghosts and deities can modify their appearances in an instant. This is possible because these "appearances" are in reality holographic projections within the ovoid or projected from the ovoid. The "native structures" within the ovoid (i.e. the hot spots, vortexes, filamentary currents etc.) should be distinguished from the projected form. From a dark evil-looking appearance, an entity can be transformed to a bright and beautiful angel in minutes when the internal psychological state changes (just as a chameleon can change its appearance within minutes when in a new environment). As observed by Leadbeater, the 3-dimensional holographic thought-form generated within the ovoid also changes if another persistent thought-form replaces the current one.

14. Long Range Communication ("Telepathy")

Since your own bioplasma body radiates (dark) electromagnetic waves, an entity can also change its appearance in accordance with your expectations by tuning into these frequencies using their plasma antennae. As explained by *Dark Plasma Theory*, within the subtle bodies are plasma cells which can behave as antennae. ("Plasma antennae" are actually used in scientific laboratories.) As noted in the account of the Marian apparition above, when the ball of light reached the children "it" tuned into the thought waves of the children (i.e. the electromagnetic waves broadcasted by the children and modulated by their thoughts) and resolved into the form of an angel.

This is not inconceivable if ghosts, angels and similar life forms have bioplasma bodies which are good radiators and receivers of dark "radio" waves. When these waves are modulated by the thoughts of the owner and radiated out of the bioplasma body, telepathy can take place (between bioplasma bodies). This allows these exotic life forms to communicate their mental and emotional states to human beings through receptors in our bioplasma bodies.

15. Electrical Interventions

In encounters with ghosts, it has been reported that lights may go on and off without any mechanical change



JAY ALFRED is the author of *Dark Plasma Theory* (formerly described as "plasma metaphysics"). This theory holds that dark matter is largely in the form of plasmas of exotic (non-baryonic) particles (or non-standard "dark plasma") and predicts the existence of terrestrial dark plasma (TDP) life forms. Jay has been researching dark plasma life forms since 2001. He is the author of three books on the *Dark Plasma Theory*: *Our Invisible Bodies* (2006), *Between the Moon and Earth* (2007) and *Brains and Realities* (2006), which are available on all Amazon, Borders and other online bookshops. He is the Research Director of Dark Plasma Life Research Organization and a Consultant at ARPAST (Arkansas Paranormal and Anomalous Studies Team), a science-based research group that studies anomalous and currently unexplained phenomena. His organisation's website is www.dapla.org.

in the position of the light switch. Similarly, messages may appear on a computer screen without any movement of the keys on the computer keyboard. Some have even claimed that broadcasts of various beings residing in parallel planes have been transmitted and received by television. How do dark plasma life forms affect computers and light switches composed of ordinary matter?

According to *Dark Plasma Theory*, a possible explanation is the generation of short-lived ordinary plasma due to dark-ordinary particle collisions (as described above) that can be used to short circuits and ordinary electromagnetic radiation (generated by the same process) to send electronic signals through our machines. Furthermore, based on this theory, a much larger counterpart dark plasma Earth interpenetrates the visible Earth. This counterpart Earth is the biosphere for the exotic plasma life forms which have been loosely referred to as angels, ghosts, aliens and similar life forms in the anecdotal literature. These life forms, like us, exist in societies. It is not inconceivable that these societies would have developed technologies that would allow them to communicate or experiment communicating with us – either in an organised or sporadic manner.

Conclusion

There is much evidence that angels, aliens, biological UFOs, deities, ghosts, jinns and even our own bioplasma bodies (which include the etheric, astral and other related bodies) are exotic life forms composed of dark magnetic plasma. Once this is accepted more widely, a more rigorous scientific framework can be formulated for the study of these life forms which will significantly increase our understanding and may even allow us to communicate with them in the near-future. They are co-inhabitants of this planet and have a right to share this environment with us just like any other life form. It is time that we get to know our exotic neighbours a little bit better now rather than wait for the death of our carbon-based body when our locus of awareness is transferred more completely to the bioplasma body. As Saint Paul said, "For now we see through a glass, darkly; but then face-to-face..." But why wait, if we have the technology today?

For further information, read the author's books *Our Invisible Bodies*, *Between the Moon and Earth* and *Brains and Realities*, all available via bookstores on the Internet.

Plasma Aliens

From a Parallel Earth

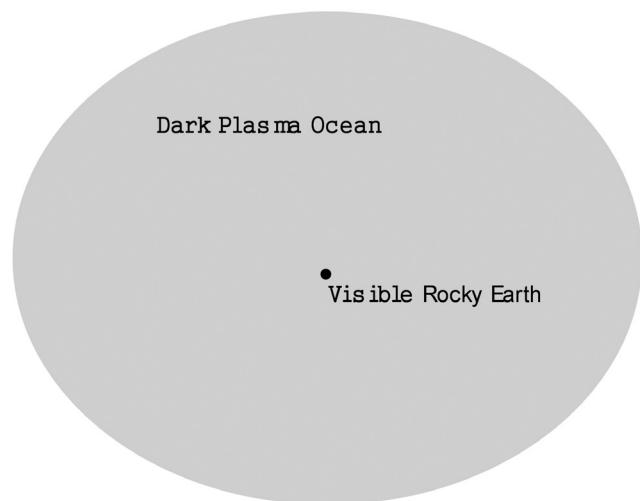
Biological UFOs and Their Effects

— © BY JAY ALFRED —

The author's *Dark Plasma Theory* holds that the physical-dense Earth is gravitationally coupled to an invisible counterpart dark matter Earth. Earth's invisible counterpart was co-accreted with the physical-dense Earth about 4.6 billion years ago from dark matter components in the embryonic Solar System and further accumulations through the gravitational capture of dark matter particles throughout its long history.

Dark matter is invisible matter which is five to six times more abundant in the universe than ordinary matter. In fact, scientists estimate that more than 85% of all matter in the universe is dark or invisible to our sensory systems and scientific instruments. The bulk of this matter is believed to be composed of particles outside the physicist's "Standard Model" (in a sense we could describe them as "nonstandard" particles).

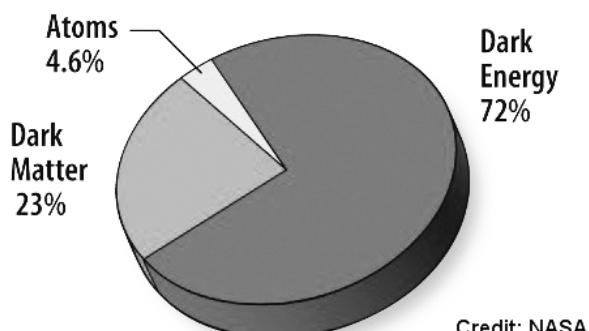
According to the author's *Dark Plasma Theory* (published in 2006) a substantial amount of dark matter in the universe is composed of plasmas of dark matter particles. A scientific paper at the end of 2008 by Caltech (California Institute of Technology) scientists upholds this view. It therefore logically follows that Earth sits inside a dark magnetosphere or an invisible "Dark Earth." The relative dimensions of this dark Earth



Not drawn to scale

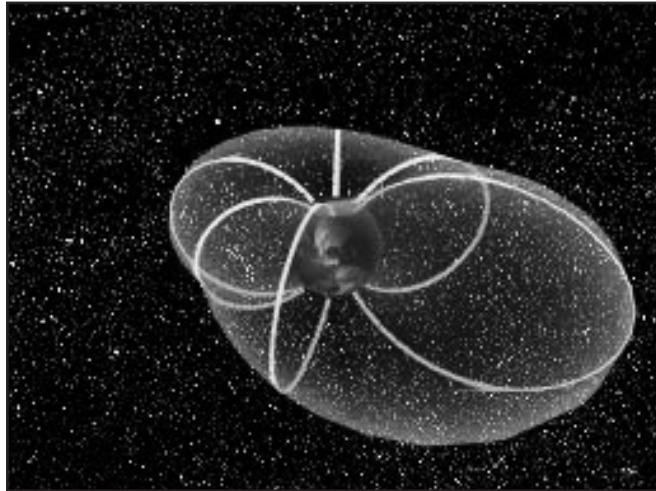
to the visible rocky Earth may be very similar to the relationship of Jupiter's gas envelope (which is about 142,000 km in diameter) to its small rocky core (which, based on late-2008 computations, is about the diameter of the visible Earth). Dark Earth is therefore as large as Jupiter and can comfortably fit more than 1,000 visible Earths inside itself.

The physical attributes of this "Dark Earth" are currently believed by *Dark Plasma Theory* to be as follows:



	Dark Earth	Visible Earth
Mass	2.32×10^{16} kg	5.97×10^{24} kg
Volume	1.44×10^{30} cm ³	1.08×10^{27} cm ³
Mean Density	10^{-14} kg cm ⁻³	5.5×10^{-3} kg cm ⁻³
Mean Radius	70,000 km	6,371 km

In 2003 minimal plasma cell systems with life-like qualities were produced in the laboratory by scientists Lozneanu and Sanduloviciu. It is therefore hypothesized that minimal dark plasma cells were created



Earth's magnetosphere.

in the early Dark Earth. After hundreds of millions of years, these cells evolved into a variety of more complex plasma life. They were as varied in scale, structure and intelligence as carbon-based life forms on the visible Earth – as different as a microbe from a whale; a mosquito from a tiger; a giraffe from a crocodile; an ant from a human being. Their degrees of intelligence and awareness were as different as a centipede's awareness to the awareness and intelligence of Homo sapiens. The more technologically-savvy life forms exist in societies. It is not inconceivable that these societies would have developed machines and technologies that would allow them to communicate or experiment communicating with us – either in an organised or sporadic manner.

The counterpart dark matter Earth, composed of low density plasma and co-rotating with our visible Earth, can effectively be considered another planet. The sporadic interactions with plasma life forms in Dark Earth can therefore be described as interactions with "aliens" (since they are, strictly speaking, from another planet – although a counterpart Earth). Swarms of UFOs seen in our atmosphere may be the manifestation of dark plasma life forms in Dark Earth which become visible when they intentionally or unintentionally generate ordinary plasma sheaths and hot spots in their bodies due to the *Dark Ionization Process* (explained below). When this happens the hot spots and sheaths are seen superimposed against Earth's atmosphere.

In a 1976 paper, Carl Sagan and Edwin Salpeter proposed that creatures resembling hot air balloons could exist in Jupiter's atmosphere. They included

There is enormous diversity of life forms on our dark matter "sister" Earth, which is theorised to be like an extensive plasma ocean. Life-like plasma objects that sporadically appear in our atmosphere are actually floating or swimming in this ocean. Some of them would move about in a similar manner to certain sea creatures including jellyfish.

"sinkers," "floaters," and "hunters." The "floaters" were giant gas bags which generated heat through their own metabolism, feeding off sunlight and free molecules. They moved by pumping out helium. The "hunters" were squid-like creatures which used jets of gas to propel themselves. The scientists calculated that the "hunter" variety could grow to be many kilometres across. The plasma life forms, which manifest as UFOs in our atmosphere, may be similar to those proposed by Sagan and Salpeter.

Just like Jupiter, Earth's equally large dark plasma halo would not have any hard surface. Plasma life forms would essentially float in an oceanic type atmosphere of tenuous cold dark plasma. While the biosphere of the physical-dense Earth occupies only a small volume of the Earth, i.e. largely confined to plus or minus 10km from sea level (which is less than 1% of the volume of the Earth), the plasma Earth is composed wholly of plasma making it more like a gigantic plasma ocean habitable to dark plasma life forms.

Like our visible oceans, this generally invisible plasma ocean is subject to tides because of the gravitational interactions within the Earth-Moon-Sun system. Hence, its volume, density and shape will be continuously changing like a soap bubble floating in the air, like Earth's magnetosphere.

At perigee, when the Moon is closest to the Earth, the gravitational attraction of the Moon would allow the tenuous tail of Earth's dark matter halo to extend to the Moon. Furthermore, just like the Sun (which is a



ball of plasma), it experiences differential rotation; the rate of rotation in the equatorial region slowing down as it approaches the poles. The length of day and night will therefore vary in different parts of Dark Earth.

Life forms in Dark Earth move in all three dimensions (i.e. like fishes in the sea, not like human beings walking on the surface of the Earth) in this extensive plasma ocean. There is enormous biodiversity in this plasma planet which teems with life. Life-like plasma objects which sporadically appear in our atmosphere are actually floating or swimming in this ocean. They are therefore able to dart back and forth (like squid, cuttlefish and octopuses) or swim majestically (like manta rays). They may be as large as whales. Plasma life forms in the atmosphere have been seen at Marian apparitions, in Chinese history as dragons and UFO sightings. They also include what the Qur'an refers to as "jinns."

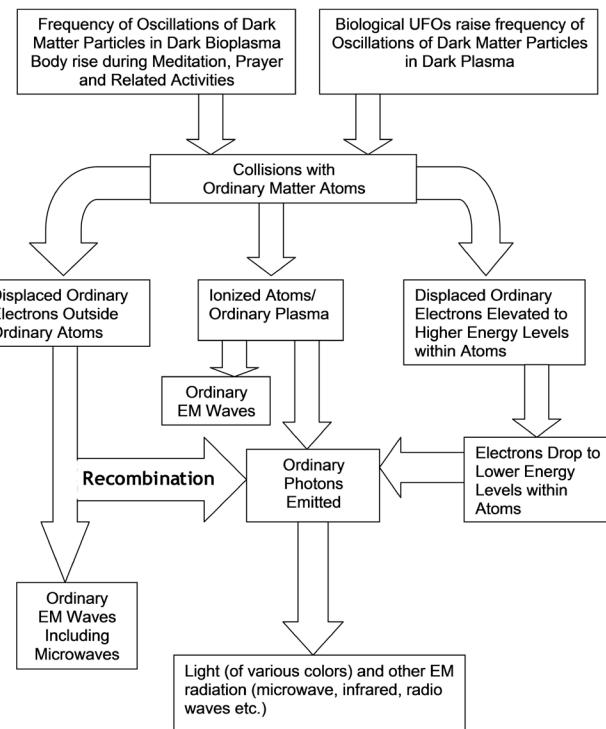
BIOLOGICAL UFOS

The famous Islamic cosmographer and Persian physician who lived in the thirteenth century, Zakariya ibn Muhammad ibn Mahmud Abu Yahya al-Qazwini, states that jinns "are aerial animals, with transparent bodies which can assume various forms." This description could also fit Trevor Constable's plasma-based "sky creatures." Some writers have already argued that jinns are in fact plasma life forms, for example, Dr. Ibrahim B. Syed, a Clinical Professor of Medicine at the University of Louisville, School of Medicine. Gordon Creighton and Chris Line, as far back as 1989, have argued that UFOs are in reality jinns in different issues of the *Flying Saucer Review*. Nevertheless, aerial jinns comprise only one category of plasma life forms in Earth's dark biosphere.

The idea that Earth's atmosphere could be the habitat of living aerial creatures which manifest as "biological UFOs" has been put forth before. Charles Fort held this belief; Kenneth Arnold, who kick-started modern ufology in 1947, also believed UFOs were living creatures. He held that these biological UFOs were space animals with the ability to change their density allowing them to apparently appear or disappear. Constable has photographed many different types of "plasmatic creatures" in the atmosphere using fast infrared film and has been researching these life forms for several decades.

The British Ministry of Defense (MoD) completed a four year study (1996 to 2000) on "Unidentified Aerial Phenomena (UAP)" which looked at data compiled from reports of UAPs received by the MoD over a 10 year period (1987 to 1997) which was published in 2006. The report concludes that most of these sightings were due to ordinary plasma bodies generated by incompletely burnt-out meteors entering the Earth's atmosphere during meteor showers, although with certain reservations. Nevertheless, it was admitted in the report that

Dark Ionization Process (DIP)



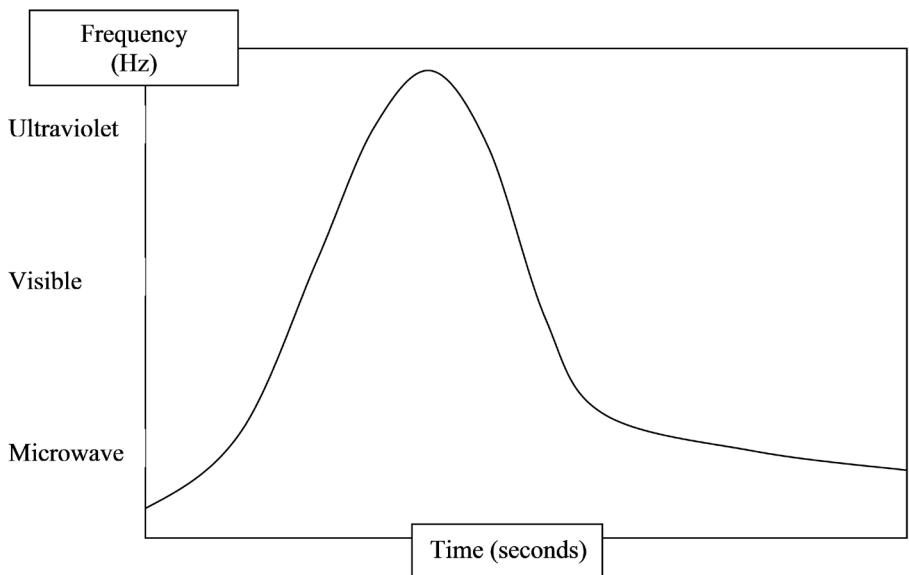
they could not explain some aspects of the motions of these UAPs.

The researchers also concluded that, "It is not certain that the radiation/fields are conventional and electromagnetic in nature... any pursuit of this process of identification or elimination is pointless if it turns out that UAP radiation is other than EM [electromagnetic] radiation as we currently understand it."

Indeed, dark plasma life forms radiate dark (not ordinary) electromagnetic waves. The author believes that the MoD detection data provides evidence of clumps or blobs of dark plasma that populate the atmosphere and are detected when particles in these blobs interact with standard particles through nuclear and electron recoils; generating light, heat and electrical phenomena that can be detected temporarily or intermittently. The MoD report also alluded to the possible existence of plasma life forms due to the reported intelligent life-like behaviour of observed UAPs in the reports that they received.

Recent scientific papers at the end of 2008, which studied acceleration anomalies in spacecrafts and satellites orbiting the Earth and more detailed calculations of dark matter density in the Solar System and around the Earth, also point to the possible existence of blobs of dark matter in our atmosphere. Within the context of *Dark Plasma Theory*, these point to dark plasma blobs within the Earth environment.

There are many characteristics of UFOs that are reminiscent of plasma life forms. These include the



Expected Light Curve of a Plasma Life Form

existence of hot spots (or bright lights) within the body of the UFO, vortexes, filamentary currents and erratic movements which are not characteristic of our machines. This article will explore these similarities and also other related phenomena, including the production of thermal shock waves and plasma-induced combustions, in encounters with UFOs. Biological UFOs are dark plasma life forms that live in a dark supersymmetric universe. To understand how they interact with ordinary matter, the *Dark Ionization Process* (DIP) has first to be understood.

DARK IONIZATION PROCESS

Interactions between ordinary and dark matter bodies are generally collisionless, i.e. they can pass through each other. Firstly, this is because of the low density of particles and secondly because dark matter particles do not interact with ordinary electromagnetic forces within an atom. Hence, generally, dark matter particles of a dark matter object can pass through the large spaces within ordinary matter atoms easily and without causing any effects. However, plasma bodies possess a plasma frequency which is caused by the natural oscillations of the particles within the plasma. If the particle oscillations within the dark plasma are high, the probability of collisions between dark matter particles in the plasma and the particles in ordinary matter atoms increases.

When the dark plasma life form focuses (this also happens during meditation or other mental focusing activities) on a target area, the density of dark matter particles in that area increases. This results in an increase in the frequency of oscillations within the dark plasma and a rise in the collision rate. When dark matter particles collide with ordinary matter atoms, some electrons may be displaced to generate an electric cur-

rent. Other electrons may jump to higher energy states then fall back to lower energy levels, emitting ordinary photons. In ordinary circumstances, there will be ultra weak photon emissions. However, when the plasma life form focuses on a target area, the intensity of photon emissions in that area will increase. Ordinary light of different colours and other electromagnetic radiation, including microwaves may be generated. The diagram on the previous page summarises the process.

Besides light, the ordinary plasma also generates heat. The microwaves that are generated by the *Dark Ionization Process* also heat up biological tissues.

Thermoelastic waves of acoustic pressure are generated when microwaves heat up soft tissues in the head. These waves travel by bone conduction to the inner ear to cause buzzing and other sounds that can be heard only inside the head and not by others who are not oriented similarly. Furthermore, the natural oscillations of dark matter particles in the dark plasma cause collisions with ordinary particles in a periodic fashion, resulting in the density of the ordinary plasma to increase and decrease cyclically, generating a pulsating electromagnetic field.

As can be seen from the graph above, the predominant frequencies generated by the temporary ordinary plasma will be low, mostly in the microwave region, but would also include radio waves and infrared waves on either side. Occasionally it will be high enough to be detected at visible wavelengths and more rarely extending beyond this into the ultra-violet region. The "light curve" generated by the temporary ordinary plasma of a dark plasma life form would therefore span the frequencies as shown in the schematic diagram over a particular time-frame.

A microwave glow is predicted before the visual detection (and also a microwave after-glow subsequent to the visual detection). In other words, a visual sighting of a plasma life form or (biological UFO) can be predicted by first detecting the microwave glow, then tracking its evolution. If the frequency continually increases, a visual sighting is likely to occur.

Let us review the appearance, various signature features and behaviour that are often recorded or illustrated in the UFO literature, to confirm that many UFOs are indeed the manifestations of dark plasma life forms.

EXTERNAL STRUCTURE & APPEARANCE

1. Emission of Light and Colourful Auras

Colour

As distinguished from a wide variety of white or coloured lights that are reportedly attached to UFOs, light is observed radiating from the entire object. Very common descriptions such as “surrounded with a red glow” and “wrapped in a blue haze” clearly indicate that the source of UFO luminosity is not the object itself but the air around it. During the *Dark Ionization Process* dark matter particles collide with atoms in the air, ionizing them. This excitation begins with the gas with the lowest ionization energy, i.e. xenon, to gases with higher ionization energies (i.e. the other noble gases followed by oxygen and then nitrogen). The colours generated by the different gases may be combined or seen as a mixture of different colours. At the lowest excitation levels, therefore, “blue,” “brilliant blue,” and “luminous blue,” associated with xenon, will be generated. This has been reported in many day-time UFO sightings (see image on page 55).

Brightness and Transparency

For an electromagnetic wave to pass through or emanate from magnetic plasma, its frequency must be greater than the plasma frequency or else it gets “blocked.” Depending on whether the plasma frequency is greater, equal or less than the electromagnetic radiation, the bioplasma body can be in at least four luminosity modes: “normal mode,” “glow mode,” “arc mode” and the “dark mode.”

Sometimes the light emitted by a UFO is so intense that its surface is entirely obscured from view. Witnesses may describe this light as equivalent to a “welding torch” or “burning magnesium.” These are plasma UFOs in the arc mode. Certain UFOs initially observed on the ground become dazzling just before zooming-off. This indicates that the plasma frequency increases significantly on take-off. In some UFO encounters, black objects are observed. These are plasma UFOs in the dark mode. Certain UFOs in the “normal mode” look like ordinary objects and are opaque or reflect light.

Plasma UFOs can therefore appear shiny like metal (i.e. reflecting all the waves from external sources, including radio waves from radar which consequently appears “solid” to the radar), black (i.e. absorbing the waves and not re-emitting), translucent or transparent (i.e. allowing waves to pass through the plasma from external sources and/or light from within the plasma to

emanate out from the plasma in the arc or glow modes). These plasma UFOs can therefore manipulate the degree of opacity and intensity of radiation of their bodies by changing their internal plasma frequencies (just as we can tense or relax our muscles) – allowing the bodies to apparently appear, disappear or fade away.

UFO witnesses have reported entire objects that were transparent. In one of these, a disc-shaped object flew above a cyclist for five kilometres at a height of six meters. It “was luminous and seemed made of glass,” according to the witness. In the other instance, witnesses in a stalled vehicle saw occupants inside a “brilliant, transparent, mushroom shaped object.” UFOs can therefore be transparent or translucent or cast faint shadows. This betrays the fact that their bodies are composed of matter in the plasma state. UFOs have also been reported to be in the form of vortices (like a moving cyclone) or vapour. All these forms are compatible with descriptions of plasma and its dynamics.

Auras

A GREAT
PERCENTAGE
OF NIGHT-TIME
SIGHTINGS
REPORT UFOs
THAT APPEAR AS
“ORANGE BALLS
OF LIGHT.”

The “aura” that is radiated by UFOs can be seen to be composed of ordinary light when the observer uses ordinary sight and “dark light” when using “dark sight.” Different witnesses may therefore give different accounts of the colour and shape of these auras. Most people, however, see only the aura composed of ordinary light (i.e. the “ordinary aura”) emitted by the tenuous ordinary plasma which is generated by the *Dark Ionization Process* (see images on page 56).

2. Balls of Light – Magnetospheres

A great percentage of night-time sightings report UFOs that appear as “orange balls of light” (see photo on page 55). These have also been described as “luminous globes,” “glowing orbs,” “spheres of light” or “balls of fire” and are typically orange/yellow or white in colour. Variations include ovoids. The natural stable shape of magnetic plasma bodies is ovoid (or “prolate”). There is a sheath around the ovoid. Within the ovoid, a three-dimensional image composed of higher density dark plasma (generated in the same way that “plasma holograms” are now generated in the laboratory) may be generated, aligned with the longer axis of the ovoid. (In UFO encounters and Marian apparitions, this image has also been projected outside the ovoid). So, projections may occur either internally, within the ovoid, or externally.

Lower density magnetic plasma fills the rest of the ovoid. The sheathed transparent ovoid functions similarly to Earth’s magnetosphere (which is composed

of ordinary magnetic plasma), protecting the dense bioplasma body (inside the ovoid) from unwanted radiation, just as the Earth's magnetosphere protects the physical-dense Earth from harmful solar radiation. When travelling in swarms, the ordinary plasma sheaths around dark plasma life forms show up as coloured orbs of light in the sky.

3. Filamentary Currents

Plasma naturally forms filaments in response to electric fields within the biological UFO and other related life forms. Charged particles are guided within these filaments by magnetic fields and accelerated by electric fields – generating currents. According to *Dark Plasma Theory*, these filaments are “Birkeland currents,” i.e. currents in which charged particles are aligned and guided by magnetic field lines. There are usually larger currents running along the axis of the life form (see examples on page 57).

4. Hot Spots or Plasmoids

As reported by official analysis of UFO reports by the British Ministry of Defence, hot spots or bright spots emanate along the axes of UAPs/UFOs, which may have different colours and temperatures. Hot spots are also commonly observed in laboratory plasmas. Two filamentary currents may attract or repel each other depending on the direction of currents. If the currents are in the same direction, they will be attracted to each other. Where the attraction is greatest, kinks will form in the filamentary currents. These kinks will retard the flow of charged particles causing them to accumulate and increase the charge density in these kinks. As the charged particles jostle in these kinks, they will collide with ordinary matter atoms which become excited due to the *Dark Ionization Process*. As electrons in the ordinary matter atoms fall back to lower energy states or recombine, they will emit ordinary photons which then manifest as brighter visible “hot spots” (see examples on page 57). These have often been identified as “windows” from which bright light was emanating in a “spaceship.”

5. Beams and Jets

The hot spots in ordinary plasma are believed to be sources of intense X-ray emission and require intense heating rates frequently associated with focused laser beams. Hot spots in UFOs are therefore expected to radiate high energy photons. Pulsed beams are also sometimes reported. Presumably these are generated by

the hot spots in the dark plasma body and are guided by vortex systems. They undergo “lensing effects” as they pass through the curved sheath of the translucent ovoid which focuses the beam that emerges as collimated beams of dark light directed at specific targets. This dark light, if intense enough, emits ordinary plasma through the *Dark Ionization Process*, which can be seen by ordinary sight and have been depicted in religious literature and also reported in UFO sightings.

It is often wondered why UFOs would want to make themselves seen by us by generating bright lights. The short answer is that UFOs find it difficult to control or are not aware that visible ordinary plasma is being generated, particularly at the tips and the axis of their body, by the natural *Dark Ionization Process* (see image on page 56).

6. Plasma Vortexes

Rotating vortexes have also been seen, embedded within UFOs. Charged particles in an ionized environment have a tendency to follow magnetic field lines. If the path of the particle is at an angle, i.e. neither parallel nor perpendicular to the magnetic field lines, the particle will spiral around the magnetic field lines using a helical path. When dark matter particles plunge they collide with other dark matter particles in the ovoid, generating a light phenomenon similar to the auroras in the atmos-

phere at Earth's magnetic poles that can be witnessed by dark sight. In addition to dark plasma, if the agitation is intense enough, ordinary plasma will be generated through the *Dark Ionization Process* that can be witnessed by ordinary sight. This process will generate a helical path that will have a cone shape when viewed from the side, with the apex of the cone meeting the surface of the denser body within the ovoid. Dynamically, this can be described as a vortex. Since there are many particles streaming down into the body, taking slightly different trajectories, smaller vortexes can also appear within a larger vortex.

BEHAVIOUR & EFFECTS

7. Thermal Shock Waves

In an ordinary bolt of lightning, the temperature is raised in a split second to about 25,000 degrees Centigrade causing ionization of most of the atoms in the air and a sudden expansion of the gases generating pressure waves. This manifests as the loud crashing sounds of thunder. Similarly the *Dark Ionization Process* generates thermal shock waves which can give rise to similar



(Left) Day time UFO sighting exhibits a luminosity caused by the Dark Ionization Process. (Right) Close up of a night time UFO reveals what is seen from afar as orange balls of light.



sounds. Rumbling sounds, similar to rolling thunder, have been heard prior to Marian apparitions and UFO sightings. (This is a different phenomenon from sonic booms which are caused by the motion of the object. Biological UFOs, due to their low mass, produce only weak sonic booms.)

8. Ionic Winds

During the Marian apparitions at Fatima, several observers noted "a light breeze blowing." Another witnessed, "a breeze strong enough to make him feel cold." These winds are also witnessed prior to UFO sightings. These winds are caused by the sudden expansion of the volume of air due to heat and the repulsive forces experienced by ionized atoms with similar charge as a result of air ionization caused by the *Dark Ionization Process*.

9. Motion

The UFOs move by interacting with the electrical environment in the counterpart Dark Earth. Some aspects of its motion would therefore be similar to the motions of a test charge in an ionized environment. This motion will be inexplicable when superimposed against the visible Earth. Dark plasma life forms move generally by neutralising or reversing their electric charge and/or redistributing the electric charges in their bodies relative to the background (dark) electric field of the Earth. They may also move by changing their density. Another method of active transport is by sucking in particles

through their orifices in the direction of the motion and/or spewing out particles from the opposite orifice. The suction generates a drift and the spewing out a thrust. They may also use Birkeland currents (often described as "ley lines" in the metaphysical literature) within the counterpart dark plasma Earth to zip from one location to another like maglev trains.

Hence, there are many methods of locomotion for the huge variety of plasma life forms and this may be true even for a single plasma life form – just as seagulls can walk, swim or fly using different biomechanical manoeuvres.

10. "Solid," Noisy and Reflective Plasma UFOs

UFOs are also often described as being solid in appearance. The notion that plasma objects cannot appear to be solid is mistaken. Not only auroras but even hard solid metals are considered to be in the plasma state in Science. White dwarf stars contain "solid plasma." Electrical discharges, like lightning (which is in a plasma state), hit like a ton of bricks. Electrical discharges from plasmoids can generate loud sounds and produce scarring on the ground. Ball lightning is typically the size of a grapefruit and lasts for a few seconds or minutes, sometimes hovering, even bouncing along the ground. These balls of plasma have been known to leave holes, furrows and scorch marks on the ground. Think of biological UFOs as expanded versions of ball lighting and the "thud" of apparently solid UFOs on the ground is explained.

Electromagnetic forces between the particles in the ground are the reason why we do not sink into the ground. So the very feel of the “solid” ground is caused by the interaction of the electromagnetic forces in your body with the electromagnetic forces holding the particles of the ground together. A plasma UFO is held together by dark electromagnetic forces – it can therefore be felt and seen as “solid” if the sensory systems in our dark bioplasma bodies are activated. The bodies of aliens and UFOs are held together by electromagnetic forces – they too can be felt and seen as solid. When ordinary plasma is generated by the *Dark Ionization Process* it can be highly reflective giving the appearance of “solids” to radar.

11. Smelly Plasma

The ionization of the air caused by the *Dark Ionization Process* in the proximity of plasma life forms will generate electrochemical reactions in the air that can be sensed as odours. Plasma life forms, including biological UFOs, can therefore be detected by smell. When the ordinary plasma generated by the *Dark Ionization Process* is in the arc mode, nitrogen can be elevated to a metastable state, producing a persistent soft, white glow. This “activated” nitrogen will readily combine with many other elements unlike ordinary nitrogen. It combines with hydrogen to form ammonia (NH_3) and with oxygen to form nitric oxide (NO). This oxide is stable at high temperatures but below 150 degrees Centigrade it reacts with oxygen to form nitrogen dioxide (NO_2). The dioxide can also react with other atmospheric gases to form nitrobenzene, an oily substance that is poisonous

and smells strongly like the oil of bitter almonds. Also produced by electrical discharges is ozone which has a distinctive odour. The odour of ball lightning has frequently been described as sharp and repugnant, resembling ozone, burning sulphur or nitric oxide.

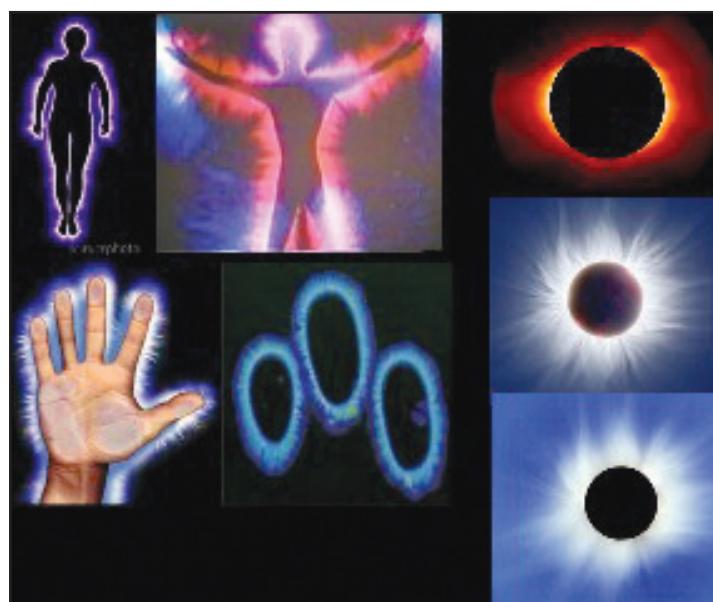
12. Taste of Plasma UFOs

Plasma UFOs generate electromagnetic waves, including microwaves. During UFO sightings, witnesses can sometimes experience unusual tastes which are experienced immediately but decay slowly. This can be explained by electrochemistry. Chemicals in saliva break down in the presence of pulsing and alternating currents up to about 1000 hertz and a current of larger than 100 microamperes (DC or AC). It is estimated that about 1% of witnesses can taste the presence of microwave energy. The presence of metallic teeth fillings and braces may affect the sensation.

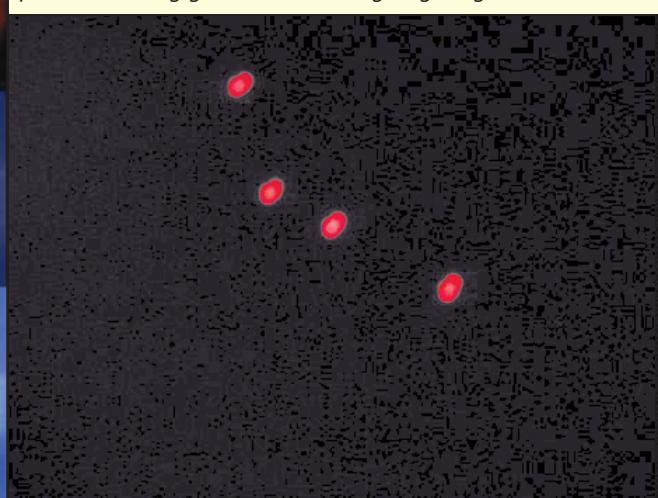
DURING UFO
SIGHTINGS,
WITNESSES CAN
SOMETIMES
EXPERIENCE
UNUSUAL
TASTES...

13. Falling Residues

When the biological UFO zips to another location, the ordinary plasma (which usually has a cloudy appearance) will linger on for a short while – giving off very low levels of radiation. When the gas atoms and molecules in the ordinary plasma subsequently recombine, together with water molecules and dust, residues may form and clump to produce what has been described as “angel hair,” ectoplasm or other similar material, which usually dissipates before it reaches the ground.



(Left) A variety of different auras. (Below) UFOs find it difficult to control or are not aware that visible ordinary plasma is being generated, causing bright lights.



14. Changing Appearances

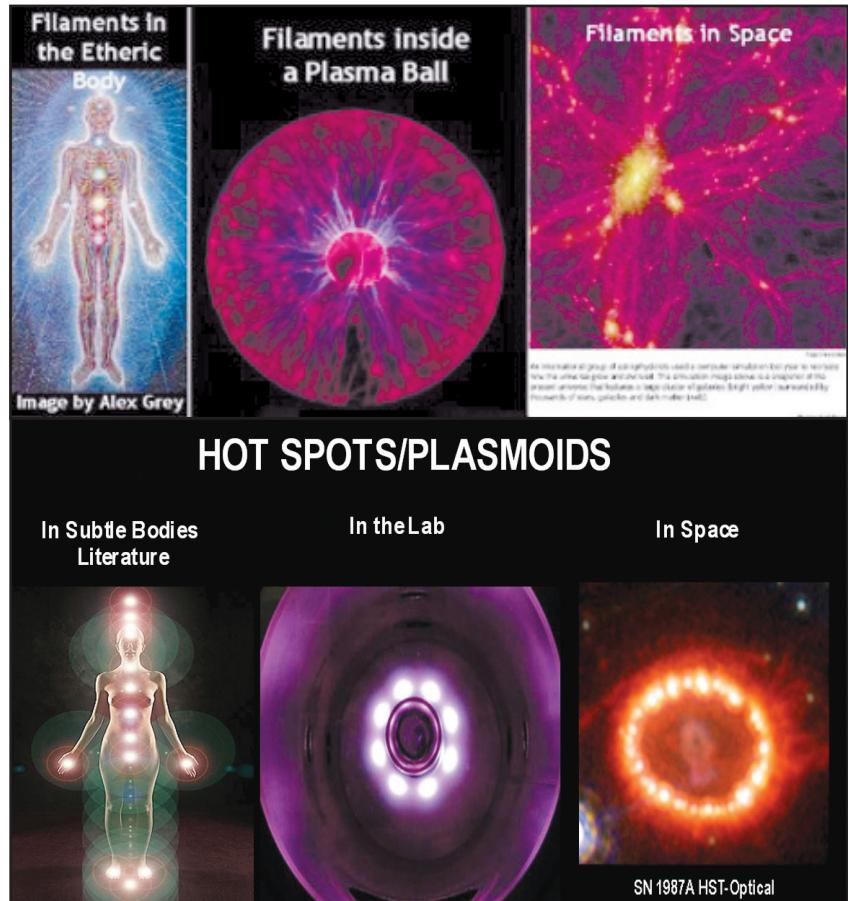
UFOs can change their appearances in an instant. This is possible because these “appearances” are in reality projections within the ovoid or projected from the ovoid. The “native structures” within the ovoid (i.e. the hot spots, vortexes, filamentary currents etc.) should be distinguished from the projected forms. (For example, the circuit boards and the body of a television are native structures but the images projected on the screen are not.) A dark entity can be transformed to a bright object in seconds when the internal psychological state changes (just as a chameleon can change its appearance within minutes when in a new environment). As these UFOs are composed of low density plasma, they can easily also shape and size-shift – becoming larger or smaller by changing the inter-particle distance in the plasma.

Many reports suggest that the exterior surface of UFOs is extremely smooth. In fact many are surprised that they are unable to detect any line that would indicate adjoining plates on the surface or any rivets. In some cases, a door was seen to open in the side where no outline was seen before. Furthermore, on closing, the outline of the door disappeared in front of witnesses only a few metres away. All this is not surprising if we note that these are plasma bodies that are structured by magnetic fields which are generated and manipulated by the plasma life form.

15. UFO-Human Long Range Interactions

Biological UFOs and similar life forms have bio-plasma bodies which are good radiators and receivers of dark “radio” waves. When these waves are modulated by the thoughts of the owner and radiated out of the bioplasma body, telepathy can take place (between bioplasma bodies). This allows these exotic life forms to communicate their mental and emotional states to human beings through receptors in our bioplasma bodies. Hence, human sensitives and mediums should be able to communicate and receive messages from biological UFOs. Furthermore, when the short-lived plasma sheath around a UFO dissipates, it is recorded to have “disappeared” by most witnesses and radar; however, the dark component is still there and can be seen by “sensitives” using dark sight.

Since your own bioplasma body radiates (dark) electromagnetic waves, a dark plasma life form (including biological UFOs) can also change its appearance in



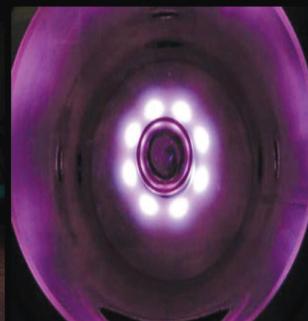
HOT SPOTS/PLASMOIDS

In Subtle Bodies

Literature



In the Lab



In Space



SN 1987A HST-Optical

accordance with your expectations by tuning into these frequencies using their plasma antennae. As explained by *Dark Plasma Theory*, within dark plasma life forms are plasma cells which can behave as antennae. (“Plasma antennae” are actually used in scientific laboratories.) As the biological UFO reaches the observer it can tune into the thought waves of the observer (i.e. the electromagnetic waves broadcast by the observer and modulated by their thoughts) to resolve into the desired form.

16. Electrical Interventions

In encounters with UFOs, it has often been reported that lights may go on and off without any mechanical change in the position of the light switch. Similarly, messages may appear on a computer screen without any movement of the keys on the computer keyboard. Some have even claimed that broadcasts of various beings residing in parallel planes have been transmitted and received by television. How do dark plasma life forms affect computers and light switches composed of ordinary matter? According to *Dark Plasma Theory*, the *Dark Ionization Process* generates ordinary plasma which short circuits electrical systems and batteries (consequently draining them). This ordinary plasma can also provide pathways, acting as highly conductive wires, between different components of a circuit.



17. Images Generated by Digital Cameras

Digital images of UFOs (and also ghosts) may sometimes appear where none are seen by ordinary sight when taking the photo. This is because the ordinary plasma generated by the *Dark Ionization Process* may be so tenuous that it is not perceptible to our (ordinary) sight. However, as Joshua Warren has suggested, a charged couple device (CCD) (normally found in a digital camera) can take a charge that does not produce light, being invisible, and generate an image digitally. So although the photon emission generated by the *Dark Ionization Process* may be weak, given time, sufficient photons generated by the UFO can arrive at the CCD to generate a digital image where none was seen during the actual sighting.

18. Plasma Induced Human Combustion

An Ohio farmer and his wife were watching TV one night in November 1958 when the set suddenly blacked-out and a strange light appeared in the window. They looked outside to discover a large object some six meters in diameter hovering over their backyard. The husband went out to investigate and became paralysed when the object moved directly over him. He quickly became ill and was dead within 48 hours, "...his insides fried as though by the heat of a microwave oven." The majority of encounters are not so dramatic but a sensation of body heating during a close encounter with a UFO is a common complaint.

There are numerous cases of abnormal thermogenesis (i.e. heat generation) in the general, religious

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and UFO literature, which are sometimes classified as "spontaneous human combustion" in more serious cases. The *Dark Ionization Process*, which generates ordinary plasma, provides the source of internal ignition that could lead to combustion. The resulting combustion can be intentional and done by oneself or by others or accidental.

The frequency of oscillations in dark plasma can be raised in various ways – during meditation, focused attention or using the resonance phenomena. A biological UFO, or for that matter any bioplasma body, can generate a frequency that may be the resonant frequency of another bioplasma

body which is induced to oscillate at the same frequency, transferring energy to the other (bioplasma) body. As the dark matter particles in the bioplasma body receive energy, the plasma frequency rises and ordinary plasma is generated through the *Dark Ionization Process* which effectively "roasts" the parts of the biological body where this plasma is generated. This may have occurred in the case of the unfortunate Ohio farmer, cited above.

19. Healing and Other Effects

UFOs have been known to beam light that has healing properties as well as harmful properties. The *Dark Ionization Process* can have a variety of both healing and deleterious effects, as shown in the diagram on page 59.

The bioplasma body, in generating ordinary plasma and radiation, may modulate the existing weak electromagnetic fields of the biochemical body to cause healing, mutations or participate in morphogenesis during DNA replication and transcription. Experiments in electromagnetic biology have shown that pulsed and sinusoidal magnetic fields can heal.

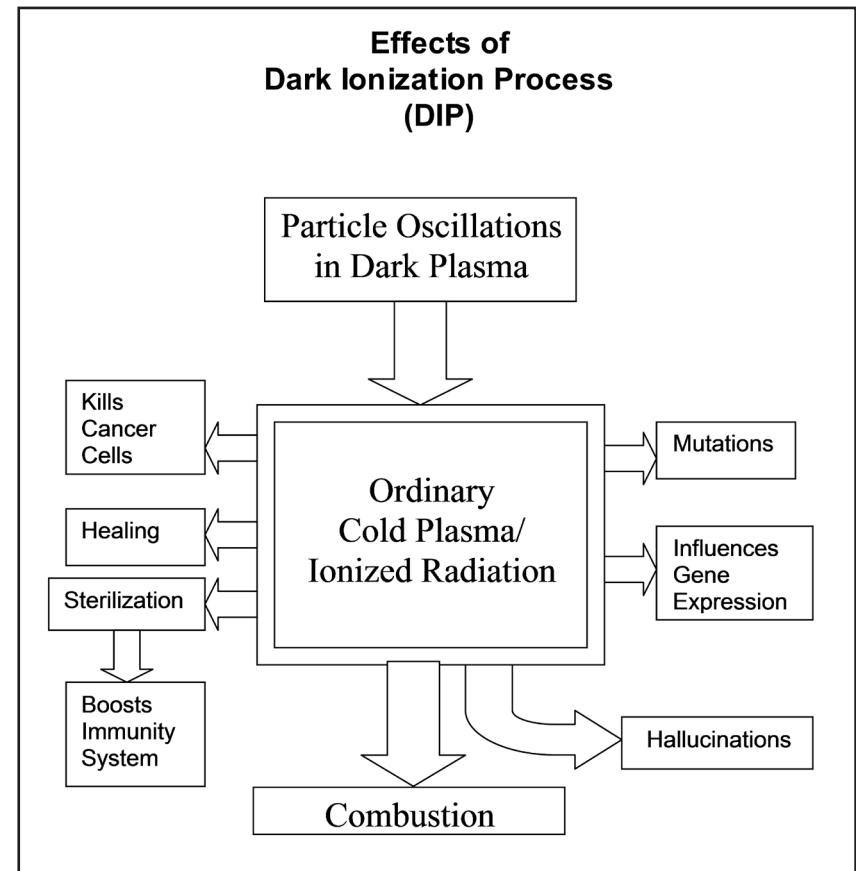
AN ADVANCED PARALLEL CIVILISATION

The SETI (Search for Extra-Terrestrial Intelligence) Institute's program is trying to find intelligent life outside Earth. However, there is much research that can be done on alien life right here within the Earth system. The aliens and biological UFOs that are most frequently encountered and that can be considered "intelligent life" do not travel at light speed within our low energy

physical universe nor do they have any technology to undertake intergalactic or interstellar travel. They are cohabitants of the Earth system – which includes the visible Earth and its dark matter counterpart(s). They, like us, live in societies, and have developed their own technologies, which parallel our own. At least one species of these aliens have had symbiotic relationships with the species Homo sapiens. Hence, an “alien” from Dark Earth may have actually lived as a human being previously.

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Are We Living Inside a Brain?

Neural Architecture of the Akashic Records

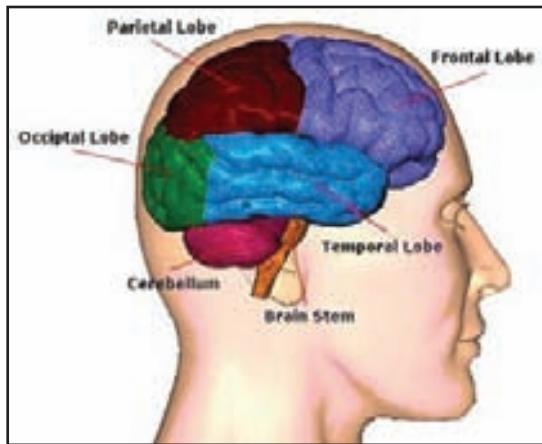
© By JAY ALFRED

In the 1930s and onwards, neurosurgeon Wilder Penfield developed a surgical procedure for epileptics in which he operated on a patient's exposed brain while the patient remained fully conscious. When an electrode was placed on the patient's temporal lobe, the patient had a complete flashback to an episode from earlier in his life.

(Applying the electrode to other parts of the brain did not produce this.) The scenes always moved forward, and only forward.

If music was involved, this followed the precise original tempo; the full score of which the patients would be able to hum with total accuracy – much as an autistic savant would be able to reproduce music with almost complete accuracy – like a recording on a video or compact disc.

Penfield in his book *The Mystery of the Mind*, recounted, "They were electrical activations of the sequential record of consciousness, a record that had been laid down during the patient's earlier experience. The patient 're-lived' all that he had been aware of in that earlier period of time as in a moving-picture 'flashback'." He said,

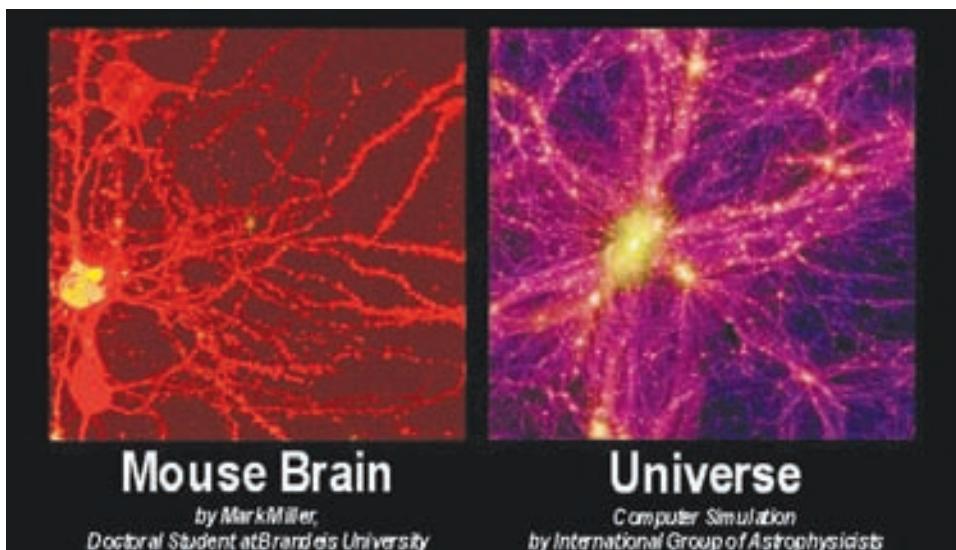


"Each time I re-stimulated, she heard the melody again. It began at the same place and went on from chorus to verse."

Penfield concluded that the brain stores everything its owner has ever experienced in its original form. The flash-backs seemed to play themselves out in their proper order like scenes in a movie.

"Since the electrode may activate a random sample of this strip from the distant past," he reasoned, "and since the most unimportant and completely forgotten periods of time may appear in this sampling,

it seems reasonable to suppose that the record is complete and that it does include all periods of each individual's waking conscious life."



"One is only micrometers wide. The other is billions of light years across. One shows neurons in a mouse brain. The other is a simulated image of the universe. Together they suggest the surprisingly similar patterns found in vastly different natural phenomena." – David Constantine, New York Times, August 15, 2006.

The brain's temporal lobe (particularly in the right hemisphere) has also been implicated in near-death experiences where "life reviews" occur. Life reviews have been described as viewing a movie, a video, a vivid 3D colour display of a person's entire life or segments of it. Some have described it as viewing a 3D hologram of a person's life in full colour, sound, and scent. The scenes can go into a preview mode, viewing scenes in little bursts; at random, skipping from one scene to another; in fast-forward mode, viewing scenes at a tremendous speed; or in slow-motion or paused, in order to focus on a particular detail. This is similar to the "Penfield movies" described above.

The movie-like record of experiences that Penfield observed is also identical to what has been observed and recounted by readers of the "Akashic records," including metaphysicists and mediums.

These records include the autobiographical memories of others and accumulated knowledge on specific subject matters. Metaphysicists hold the view that the Akashic records are memories encoded in space. ("Akasha" in Sanskrit means "space.") But how exactly could these memories be encoded in space? The purpose of this article is to provide a physical model of how this can happen.

NEURAL NETWORKS IN SPACE?

There is mounting evidence the "ordinary matter" that is currently familiar to physicists makes up less than 5% of the universe. More than 25% of the matter in the universe is composed of what is called "dark" (or invisible) matter. Astronomers have detected a vast network or web of filaments, composed of dark matter, which provides the scaffolding for the large-scale structure of the Universe. Using NASA's X-ray satellite observatory, Chandra, these filaments were found stretching for millions of light years through space, with one passing through our own galaxy. These invisible filaments of dark matter are detected only because higher density ordinary matter tends to accumulate and condense in them through gravitational attraction. The ordinary matter generates ordinary electromagnetic radiation that can be measured by scientists.

The visible galaxies in the universe are therefore not isolated and disconnected but appear as nodes (with embedded vortexes) at the junctions where filaments cross. According to the European Southern Observatory (ESO), "All recent computer-simulations of the early universe have one prediction in common: the first large-scale structures to form in the young universe are long filaments connected at

their ends in nodes. The models typically look like a three-dimensional spider's web, and resemble the neural structure of a brain." The appearance of this web bears an uncanny resemblance to a cross-section of the brain packed with networks of neurons (see illustration on previous page).

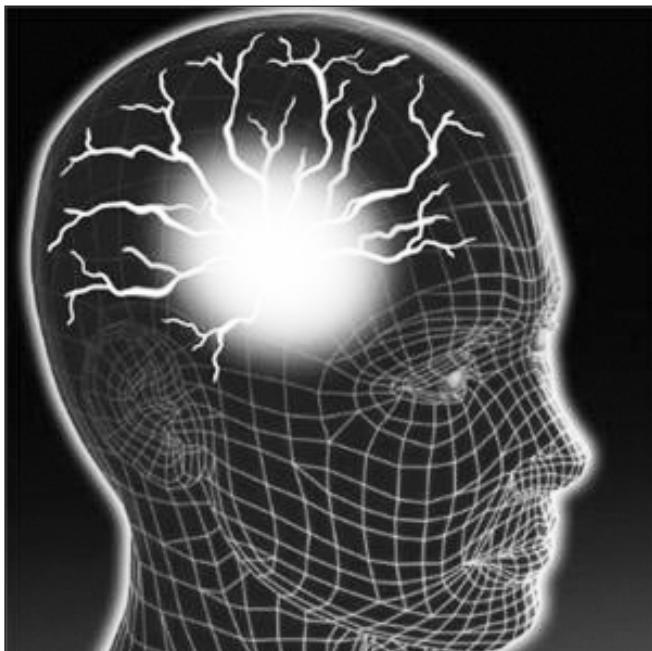
NEURAL NETWORKS IN THE HUMAN BRAIN

There are more than a 100 billion neurons in the human brain. Neurons are similar to other cells in the human body in many ways, but there is one key difference: Unlike other cells, neurons have specialised extensions emanating from their cell bodies, called axons and dendrites, which are designed to transmit and receive information. Neurons maintain different concentrations of positive ions (charged particles) across their cell membranes giving rise to potential differences (and resulting voltages) which change with chemical activities. A cycle of electrical depolarisation, hyper-polarisation and then repolarisation allows neurons to fire action potentials in rapid bursts in a specific direction along the axon.

Beside neurons, there are also ten times more "glial cells" in the human brain. These cells provide the scaffolding in which neurons are held together. According to Peter Russell, these cells act as liquid crystals which resonate with ambient electrical fields. This allows them to detect faint electrical currents and amplify them several thousand times in the same way that transistors do.

The current most popular theory of memory formation in neuroscience states that networks of neurons forming different patterns provide the physical basis for memory. This theory was provided by Donald Hebb, who explains memory as a process of reactivating the same pattern of neurons that were activated at the time of the original experience. Thinking of ice cream activates one network of neurons in the brain, while thinking of rats fires up an entirely different network with a different pattern or structure. Experiences change the anatomy or structure of these neural networks. Different structures represent different memories. According to "Hebb's rule," the repeated activation of the same network strengthens the connections between the neurons in the network. These strengthened networks form the biological substrate of memories. If there are infrequent firings, the connections weaken from the lack of stimulation and gradually disappear. In other words, repeated stimulation of the same networks is necessary for memories to form.

While this explains the experiences of "ordinary memory" for most of us, we know from the study of autistic



savants that they are able to spontaneously recall prodigious amounts of information from just one encounter with the stimulus, even decades after the event, with photographic clarity. There appears to be no need for rehearsal, reinforcement or repeated stimulation to strengthen synapses. How does Hebb's rule fit into all this? This suggests a different type of memory mechanism or a different substrate which allows for almost immediate long term potentiation to take place alongside "ordinary memory." This rapidity could fit better with the workings of an "electronic brain."

NEURAL NETWORKS IN SPACE PLASMA

According to the author's *Dark Plasma Theory*, much of the dark matter is in the form of magnetic plasmas of exotic particles, i.e. dark plasma. A filamentary network is both a signature feature of invisible dark matter and magnetic plasma. Mitua Uehara and his colleagues have suggested that plasma physics should be considered a part of biological investigation, stating that, "Plasma physics can be useful in the investigation of the physical properties of living cells. Concepts like charge neutrality, Debye length, and double layer are very useful to explain the electrical properties of a cellular membrane." The concept of "plasma biology" and the recent finding of a web of dark matter filaments in space then allow us to think of a filamentary network of currents that could serve as a substrate for the encoding of memories in space.

According to *Dark Plasma Theory*, dark matter filaments in space are the result of plasma dynamics. This would mean that currents of charged dark matter particles are coursing through these filaments. (This charge is a feature of dark, not ordinary, electromagnetism. Dark electromagnetism is a counterpart of ordinary electromagnetism and is allowed in modern physical theories. Dark matter, in itself, does not interact with ordinary electromagnetism.) Furthermore, these currents form patterned networks, just like neural networks in the brain.

Spiked increases and decreases in current flow would serve as signals through the network. Over time, tiny filamentary currents grow into larger filaments if signals are sent through these channels more frequently, strengthening the connections in the network. In others, where activation is less frequent, the current decreases and the connections cease. This activity generates Hebbian-like networks (much like in human brains) to form in dark plasma.

Negative currents are inhibitory and positive currents are excitatory. The summation of these currents at the nodes provides a net charge which will "fire" to propagate a positive or negative charge forwards to alter the structure of the network. Furthermore, when output currents are fed back as input currents over various timeframes, causing loops to occur, they construct associative memories in the network which self-organises through adaptive resonance and learns.

In this way memories are encoded in the dark matter in the space around us as in the gray and white matter within our brains, in the different patterns of filaments and nodes in specific networks. Human brains which intercept and link to these networks generate images and sounds associated with the memories.

The human brain contains mainly chemical synapses with few electrical synapses. Signalling at electrical synapses is much more rapid than across chemical synapses. These synapses are often found in neural systems that require the fastest possible response, such as in defensive reflexes. It is hypothesised that the neural networks in dark plasma terminate at electrical synapses. We would therefore expect memories to be encoded much more rapidly in dark plasma, allowing rapid long term potentiation and encoding of photographic-like memories.

EARTH'S BRAIN – THE DARK NOOSPHERE

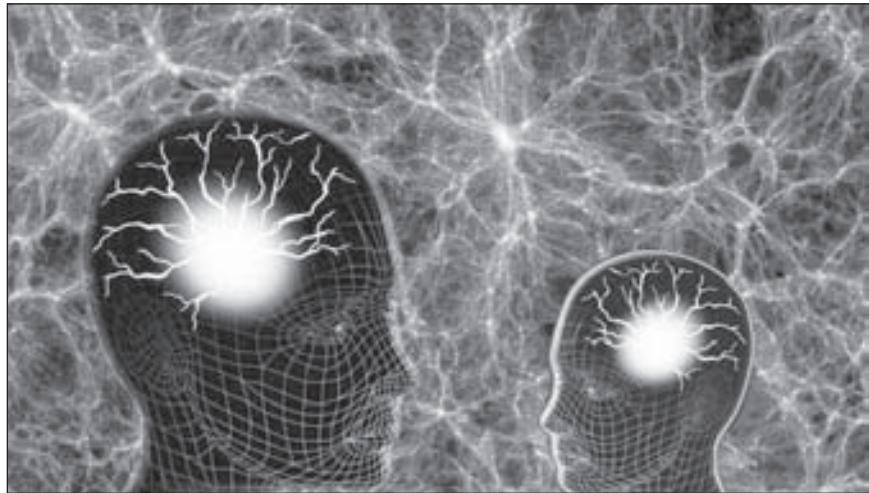
Teilhard de Chardin views the noosphere as the "collective consciousness" of human beings which emerges from the interaction of human minds on Earth, and is enriched as the population of human beings on Earth increases. According to *Dark Plasma Theory*, the visible Earth sits inside a Jupiter-sized dark plasma sphere which is similar in size and shape to Earth's magnetosphere. The dark magnetic plasma generates filaments which synapse at nodes (with embedded vortexes) which are the analogues of the axons/dendrites and cell bodies in a human brain. These filaments in Earth's brain have also been

identified as "ley lines" and the vortexes as "sacred sites" or portals in the general metaphysical literature.

As in the cosmic brain, the Earth's (dark electromagnetic) brain provides a suitable infrastructure for the rapid encoding of memories. Dark plasma, unlike ordinary plasma, is long-lived even at room temperatures. This is due to several factors, including the observation that the exotic particles making up the magnetic plasma, as theorised in *Dark Plasma Theory*, are of similar mass. This allows the ionisation energy of the particles to be much lower.

The Akashic records that have been accessed by various readers of the human species are fairly recent memories encoded in Earth's brain. According to metaphysicist Charles Leadbeater, when the observer is not focusing on them, the Akashic records simply form the background to whatever is going on – "reflecting the mental activity of a greater consciousness on a far higher plane which is accessible to us." Observing the dynamic and visual Akashic records would be like watching a larger brain's movie from a distance.

We inhabit this much larger brain and are encoding memories not only within our own biochemical brain but within this dark noosphere. This encoding process in Earth's brain may be taking place during REM (Rapid Eye Mo-



tion) sleep via the left hemisphere of the brain and through the bioplasma body interface when our carbon-based body undergoes paralysis allowing our bioplasma body to decouple from it to communicate more freely with the dark neural networks that we are embedded in. This facilitates long term memory consolidation. Resonance between similar circuits in the human brain and Earth's brain may also play a part in reinforcing memories.

Most of the memories of the human species are encoded within a few kilometres of the Earth's crust, i.e. within what can be described as the "geocortex." These include autobiographical memories of individuals and various cognitive maps. In the wider space, memories of body maps of life forms, which play an important role in morphogenesis and the evolution of the species, may also be encoded. Associative memory ensures that thoughts relating to the same subject matter are agglutinated – resulting in libraries, databases and specific types of environments – as recounted by readers of the Akashic records and ensures that "like attracts like." Both heaven and hell may be accessed through association pathways in Earth's brain. No doubt, this is also the physical substrate which forms the basis of Carl Jung's "collective unconscious" and the Buddhist "alaya" or storehouse of memories.

BUT AREN'T THE AKASHIC RECORDS IN THE BRAIN?

At this point the reader may be justified in asking, "Is there really a need to hypothesise another brain for the encoding of memories when the biochemical brain itself can provide sufficient complexity to encode practically all memories, given its billions of neurons and trillions of connections?"

Firstly, a theory of a larger brain is required because Hebb's rule does not explain the immediate encoding of prodigious amounts of information in the absence of repeated

stimulation and the automated, photographic quality of the memories during recall episodes in humans. A non-biochemical substrate is therefore suspected.

Secondly, the biochemical brain cannot account for certain types of memories, principally detailed memories of remote places and autobiographical memories of other persons which are routinely uncovered by forensic psychics, mediums, sensitives and remote viewers.

Thirdly, recent experiments have shown that correlated neural signals may be detected by fMRI (functional Magnetic Resonance Imaging) scans and EEG (ElectroEncephaloGram) readings in the brains of subjects who are physically isolated from each other.

Fourthly, the source of human genius is currently still not very well understood in scientific studies. It is often ascribed to an external source by the geniuses themselves.

Fifthly, intelligence is routinely exhibited by life forms with either no brains or very little "gray matter." How is that possible if the biochemical brain is the sole provider of intelligence and storehouse of our memories?

EEG AND FMRI CORRELATIONS IN PHYSICALLY ISOLATED SUBJECTS

**Most of the
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the Earth's crust...**

Experiments have been conducted which show correlations between EEG readings of human experimental subjects who act as "senders" and "receivers." More recently these correlations were also observed using fMRI brain scans. There are now six published fMRI psi studies, five of which report significant findings. In one experiment, discussed by Dean Radin, light was flashed at the sender on one end. The receiver, who was inside a noisy fMRI machine, showed activity in the occipital lobe (in the primary and secondary visual cortex) which correlated with the flashes of light. 20 studies of EEG and fMRI correlations have been discussed by Robert Charman. He concludes that there is evidence that direct communication between physically separated human brains can and does occur.

Furthermore, Radin's analysis of RNG (Random Number Generator) experiments showed strong evidence for attenuation due to distance between sender and receiver. He therefore believes that psi is not completely independent of distance. He cites Fiona Steinkamp's analysis of ESP card guessing tests which also found a decline in effect sizes with increasing distance. The effect of distance on effect sizes cannot be accounted for by "quantum entanglement" models of telepathy which require immediate correlations and would be unaffected by distance. Furthermore, these

models, strictly speaking, do not allow actual information transfer.

However, the dark neural networks discussed in this article require that there be a time difference for signals to propagate and attenuation in effect sizes. If Earth's brain was mediating the transfer of signals from one human brain to another, it will have to span a distance. The time taken for the transfer, although still fairly rapid, will take some time – possibly a fraction of a second for short distances and a longer time for signals travelling from one continent to another. The effect sizes would be expected to be attenuated. Unlike ordinary electromagnetic currents, the dark currents generated between senders and receivers will not be affected by electromagnetic shielding during an experiment as dark matter, in itself, will not electromagnetically interact with such a shield.

The Global Consciousness Project uses RNGs all over the world to record any apparently non-random movements during major news events. It was noted that prior to certain events, the RNG data would spike. The biggest spike was seen about two hours before the first 9/11 attack on the World Trade Centre.

This provides some evidence of mass presentiment (i.e. unconscious precognition) indicating that human brains are tapping into a larger brain or neural network which processes time in a different and more expansive way.

These recent scientific studies provide persuasive evidence that there are deep invisible interconnections between human brains which are physically separated. This article proposes that Earth's brain has been the silent and invisible intermediary between these physically separated human brains.



Lisa Williams



Dean Radin, researcher and author in the field of parapsychology.

PSYCHICS, MEDIUMS, CLAIRVOYANTS AND MYSTICS

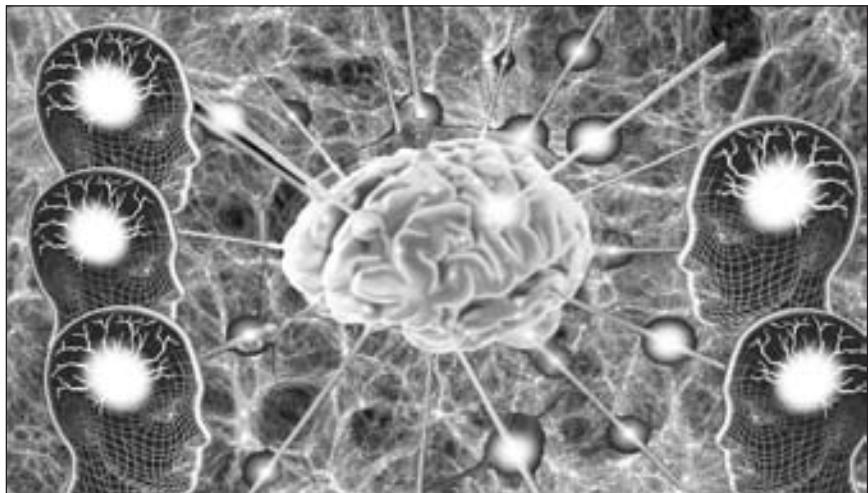
The role of forensic psychics in fighting baffling crimes appears to be growing. These psychics (who are really acting as mediums) often feel the pain of the victim in specific parts of their body and in some cases viewed the crime scene from the victim's or attacker's point of view, i.e. through the "eyes" of the deceased victim or assailant. In other words they were retrieving the autobiographical memories of the victims and attackers from some unknown source.

Observing a medium like Lisa Williams during a "reading" shows her not only recalling the deceased's intimate autobiographical memories as if she was somehow operating from within that individual's brain but, most notably, also feeling the physical pain that the deceased suffered – whether it was due to a disease like cancer or a gun shot wound at specific sites in her body which correlates accurately with independent information.

Paramahansa Yogananda, a modern mystic, recounts how his consciousness, while in meditation, was transferred to a captain of a sinking ship far away. He lived the harrowing experiences of the captain for several minutes. Then, as the dying captain slipped into unconsciousness, consciousness was transferred back to Yogananda. In other words, he lived another person's experience. Many cases like this have been routinely reported and documented.

These readings by mediums or psychics are similar in nature to readings of the Akashic records, the "Penfield movies" or the experience of undergoing a life review during a near-death experience. Persons undergoing a life review during a near death experience often feel the emotions of others who are affected by their actions (which would otherwise be unknown to them).

For example, a pilot during a war experienced the pain and anguish of a whole village when he unleashed his bombs on them. This can happen if the life review emanates from a higher brain centre which has access to the autobiographical memories of numerous other persons, many of



whom may be unknown to the subject until the life review, but are linked in Earth's brain through association pathways. Although "mirror neurons" in the brain allows us to experience the emotions of others, the detailed nature of these experiences and the new information generated would suggest a genuine extra-cranial process, mediated by Earth's brain.

REMOTE VIEWING AND CREATIVITY

In "group consciousness," telepathy and remote viewing, the Earth's "neural networks" are actively used by participants (see above illustration).

According to Melvin Morse, "Remote viewing doesn't involve actually seeing something as much as it involves processing information through our right temporal lobe from the patterns of information contained in the universe." These patterns of information are the neuronal networks in dark plasma within which the visible Earth is embedded. This is one method that remote viewers may employ. Harman and Rheingold believe that the research on remote viewing suggests that "the creative/intuitive mind could be getting information in ways other than from the lifelong learning of the person." Many discoveries, scientific and artistic ideas come about when scientists or artists are not actively thinking about them. Where does this intelligence emanating from below our conscious radar come from?

PARANORMAL IMPRINTS

According to the paranormal literature, ghosts sometimes do not appear to be conscious. They are completely oblivious to observers, and always look and act the same – almost like in a "Penfield movie" – of a memory being replayed or relived over and over again. These are called "imprints" or "residual hauntings" in the paranormal literature. Events that trigger them include fights, murders, rapes, kidnappings, or wars. Famous examples of imprints include the many Civil War battlefields across the United States. In the battlefields of Gettysburg, Pennsylvania, the roar of cannon fire and the sounds of gunshots can often be heard in the

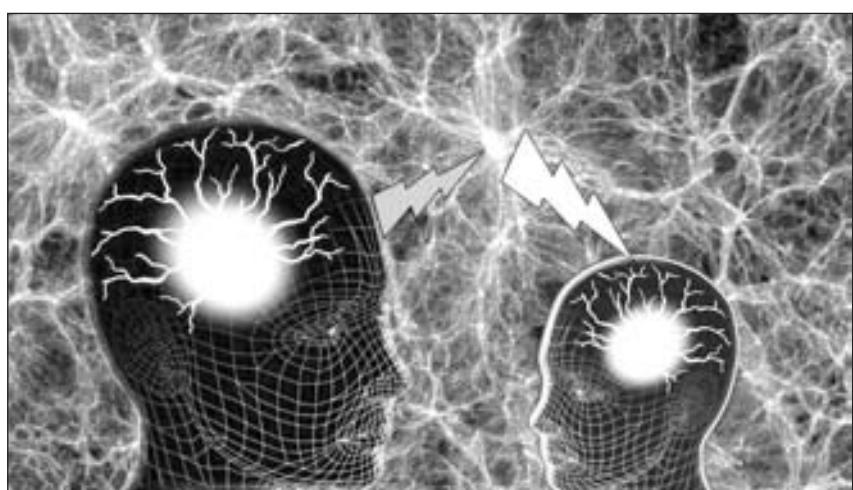
evening hours. The smell of gun powder can also sometimes be detected in and around the road where fierce fighting took place for many hours during the Battle of Antietam in Sharpsburg, Maryland.

Paranormal researchers believe that imprints occur when a vast amount of paranormal energy is left behind and is replayed time after time at the same location. However, it is still not clearly understood how these "energy imprints" take place. Some popular theories include the notions that the building materials "soak up the energy" of the location and replay these stored energies at a later time or it is energy stored in the atmosphere which is activated by changes in the atmosphere.

According to *Dark Plasma Theory*, "imprints" in the paranormal literature are memories encoded in Earth's dark geocortex. They are triggered because of interactions between our brains and the Earth's brain. When a person intrudes into a location in Earth's brain in which a part of a memory is encoded, the associative memories are activated and replayed – much like what happened when memories were activated and replayed by Penfield when he applied an electrode to specific locations in his patients' brains. However, most of the time these activated memories remain in our subconscious – only a powerful memory (usually endowed with strong emotions) in the Earth's brain can surface in our conscious awareness making us see and hear the scenes. Genuine mediums and sensitives, however, may sense Earth's memories and are conscious of the replays more often than others.

THE MYSTERY OF PRAYER

When a person prays, signals are sent from his or her brain to different parts of the "association cortex" in Earth's brain depending to whom the prayer is directed to (see below illustration). If it is directed to a well-known deity, the relevant associative memories, generated by human brains over the ages and found in fairly localised regions in the Earth's brain with respect to that deity, are activated. Signals are



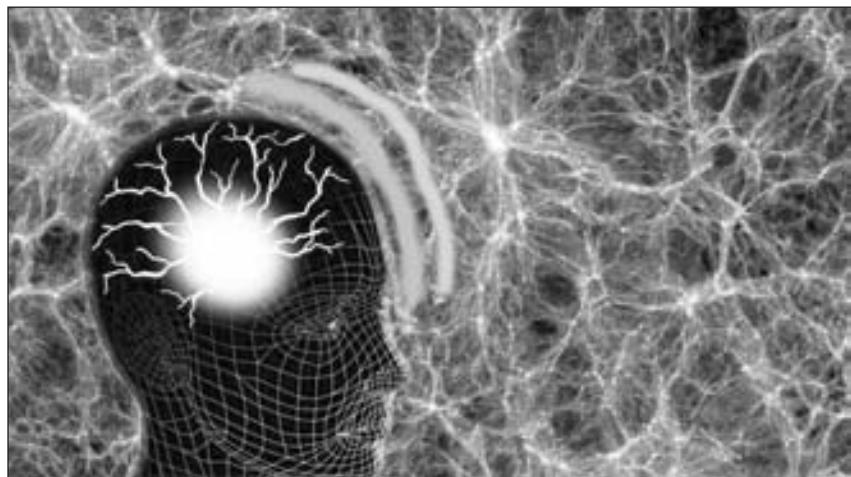


Close up of a butterfly's head shows the photo-receptors on one of its eyes.

then projected out through the pathways in Earth's brain and received by individuals who are also focusing on the same target and who may become participants of the intention of the prayer. Distant healing may also use such a process.

ANIMAL INTELLIGENCE

Butterflies have more photo-receptors in their visual system than we do, making their visual systems much better than ours in certain respects. However, while we have a big occipital lobe in our brains to process visual information, the butterfly does a superior job with brains that are mere specks two millimetres in size. Scientists have no clue as to how they do it. Plants and amoeba go about their complex activities without having brains. The brainless single-celled slime mould solves mazes every time it is tested. Where is this intelligence and information processing power coming from? Mother Earth? The life-forms lower down the evolutionary chain (with no or tiny brains) may often be using non-local intelligence to compensate for deficits in their biological cognitive system. Autistic savants, whose brains are impaired, may also use this non-local intelligence to compensate for deficits.



AUTISTIC SAVANTS AND MISSING BRAINS

Neuroscientists believe that autistic savants have access to regions in the brain that function like supercomputers. But where is this supercomputer located... in our wet bio-molecular brain?

Across the world, there are hundreds of cases of people with hydrocephalus – a condition where large cavities form in the brain. There are also hundreds of cases where people have either been born with an underdeveloped brain, or have had large areas of their brain damaged in an accident or removed in surgery. Nevertheless, many of them function normally. Some scientists believe that the remaining cortex takes over the functions once provided by the removed cortex. However, this explanation becomes questionable especially in cases where hardly any brain is left in the cranium. There is cynicism even among neurologists.

Some neuroscientists claim that, perhaps, we have underestimated the work of the deep sub-cortical structures in the brain. However, neuroscientists have studied the sub-cortical structures intensively and there appears to be no evidence currently that these structures in a normal brain can actually perform the cognitive functions currently attributed to the cortex. Instead of sub-structures we have to turn our attention to super-structures. We need to look at the supercortical structures which interface with Earth's dark noosphere.

INVISIBLE SUPERCORTICAL STRUCTURES AND META-NEUROLOGY

Penfield noted, during his surgical experiments, that his patients, while reliving their memories, can distinguish between their current experience and the vivid memories that they were recalling. In other words, they experienced two "streams of consciousness" and knew that they were *observing* their memories. They firmly believed it was not them but the surgeon who was generating the flashbacks. This led Penfield, a highly experienced neurosurgeon, to come to the conclusion that the mind was separate from the brain and was supported by a "different form of energy."

According to *Dark Plasma Theory*, our carbon-based bodies are intimately linked to a series of invisible bodies composed of dark plasma that co-evolved with our visible bodies over millions of years. These dark biplasma bodies and their brains act as the interface between Earth's brain and the biological brain. The biological brain is therefore supported by an invisible superstructure (see left illustration), composed of dark matter, which develops during life. This invisible superstructure comprises a complex of subtle (dark) electromagnetic bodies, which are capable of transmitting and receiving information from non-local sources within Earth's brain. The study of these invisible structures and their interac-

Continued on page 65...

tions with the physical-biomolecular brain are the subject of a field that the author described as “meta-neurology” in 2006.

The electromagnetic nature of the subtle body makes it a better candidate to carry-out the complex calculations and recall that savants have, with the help of Earth’s brain. A “photographic” recall, CD-like audio recall, fast calculations and video player-operations such as “fast-forwarding” and “rewinding” suggest an electromagnetic substrate which can be found in our dark subtle bioplasma bodies.

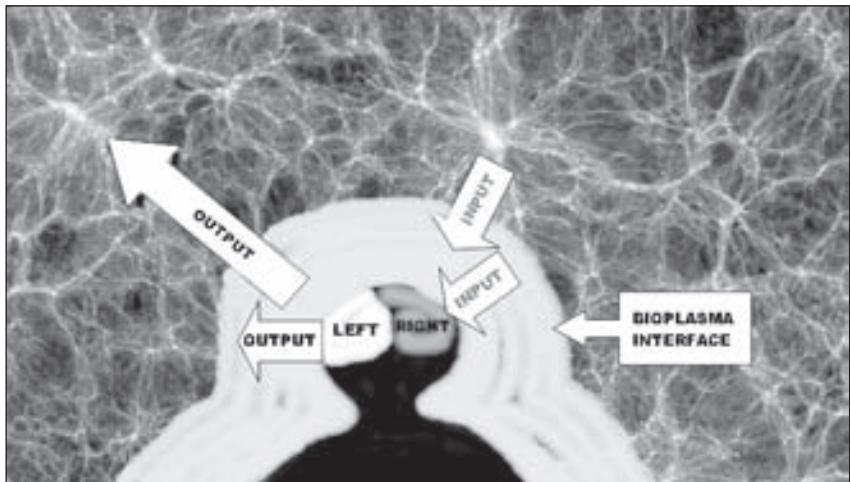
In certain diseases of the brain, such as Alzheimer’s disease, circuits that are required to record the incoming signals from supercortical structures may also be damaged. Hence, while there is access to Earth’s brain, there is no ability to recall the information, particularly in waking consciousness. The biological damage, however, does not extend to the supercortical structures (as they are composed of different types of matter that only weakly interact). At death the undamaged bioplasma body decouples from the carbon-based body and lives within the dark noosphere – giving it the ability to interact with Earth’s brain even more directly, diluting the sense of being an isolated individual.

INTERNALISATION OF THE UNIVERSE AND INDIVIDUATION

It is theorised that as brains evolve (in particular, the neocortex) and become larger (in proportion to the body) the more the life-form gets cut-off from non-local intelligence and has to rely on local intelligence in the brains housed within their bodies. Human beings, in particular, have become increasingly estranged from non-local intelligence. We create our own universes within our brains which compete with information coming from Earth’s brain for our conscious attention.

However, evolution may have stepped in to correct this. The prefrontal and temporal lobes in the human brain underwent the most significant development during the evolution of Homo sapiens. The right temporal lobe in the human brain (or metaphorically, the “East Gate”) could have evolved more significantly in Homo sapiens to circumvent complete blockage to Earth’s brain to give our species an evolutionary advantage, specifically, unprecedented creativity in the animal kingdom.

On the one hand, the memories generated by our experiences are relayed into Earth’s brain through the left hemisphere probably during REM sleep. On the other hand, we reconnect with Earth’s brain when certain neural processes or circuits in our brains break down or are “switched off” intentionally (as in meditation, induced



trances and the ingestion of psychoactive drugs) or unintentionally (as in reverie or brain damage due to accidents or medical conditions such as brain lesions, tumours and biochemical imbalances) while others are “switched on” in the right hemisphere (in particular the temporal lobe) to record the experiences and enable conscious recall. Hence, neural signals from the biological brain are output from the left hemisphere into the bioplasma interface which is then transmitted to Earth’s brain while input signals from Earth’s brain arrive via the bioplasma interface to the right hemisphere.

Currents form quite readily in plasma following lines of least resistance and magnetic field lines. During a reading of the Akashic records a current is generated in the brain of the reader’s bioplasma body which connects as a cord to Earth’s brain allowing information to be streamed across. (This is similar to the “silver cord,” frequently reported by Out-of-Body experiencers, that connects the physical-dense body to the bioplasma body.) The low density currents do not become “entangled” like copper wires as they can easily pass *through* each other just as collisionless dark matter objects pass through each other. In a sense, this is like connecting to the Internet, except that we are connecting to a much larger and older net – the “Gaianet” or the G-Net.

We create our own universes within our brains which compete with information coming from Earth’s brain for our conscious attention.

DIFFERENT BRAINS, DIFFERENT REALITIES

Different brains generate different “worlds.” On the one hand, this means that each person who accesses Earth’s brain would contextualise the information received (in his or her brain) in terms of his or her own understanding and expectations. On the other hand, it also means that Earth’s brain does not process inputs in exactly the same way as human brains. Hence, an individual’s memories may be modulated by Earth’s brain. Furthermore, Earth’s brain may construct space and time differently. This supports the claim

by some that the information received in precognitive dreams (i.e. dreams relating to a future event) is ultimately derived from the Akashic records which are encoded in Earth's geocortex. The networks of currents in the brains of life-forms are an integral part of the network of currents in Earth's brain. In other words, each living brain is a functioning module or nucleus in Earth's brain.

WE ARE THE EYES AND EARS OF GAIA

If Earth has a brain, then how does it obtain its sensory inputs? This it does by generating life-forms. The myriad of life-forms (including human beings) on Earth are in fact the many eyes and ears of Gaia. It is in the interest of Gaia to generate life-forms so that it can see, hear, taste, touch and smell and become aware of itself. Gaia does not only possess a biological body but is an entity that thinks, dreams and remembers. Her memories can be accessed by the Rain Man in all of us. These include the autobiographical memories of every person who has ever lived on this planet. Your life's memories are not solely yours – it is also Gaia's and the rest of humanity's.

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JAY ALFRED is the author of Dark Plasma Theory (formerly described as "plasma metaphysics"). Jay has been researching dark plasma life forms since 2001. He is the author of three books on the Dark Plasma Theory: *Our Invisible Bodies: Scientific Evidence for Subtle Bodies* (2006), *Between the Moon and Earth* (2007) and *Brains and Realities* (2006), which are available on all Amazon, Borders and other online bookshops. He is the Research Director of Dark Plasma Life Research Organization and a Consultant at ARPAST (Arkansas Paranormal and Anomalous Studies Team), a science-based research group that studies anomalous and currently unexplained phenomena. His organisation's website is www.dapla.org.



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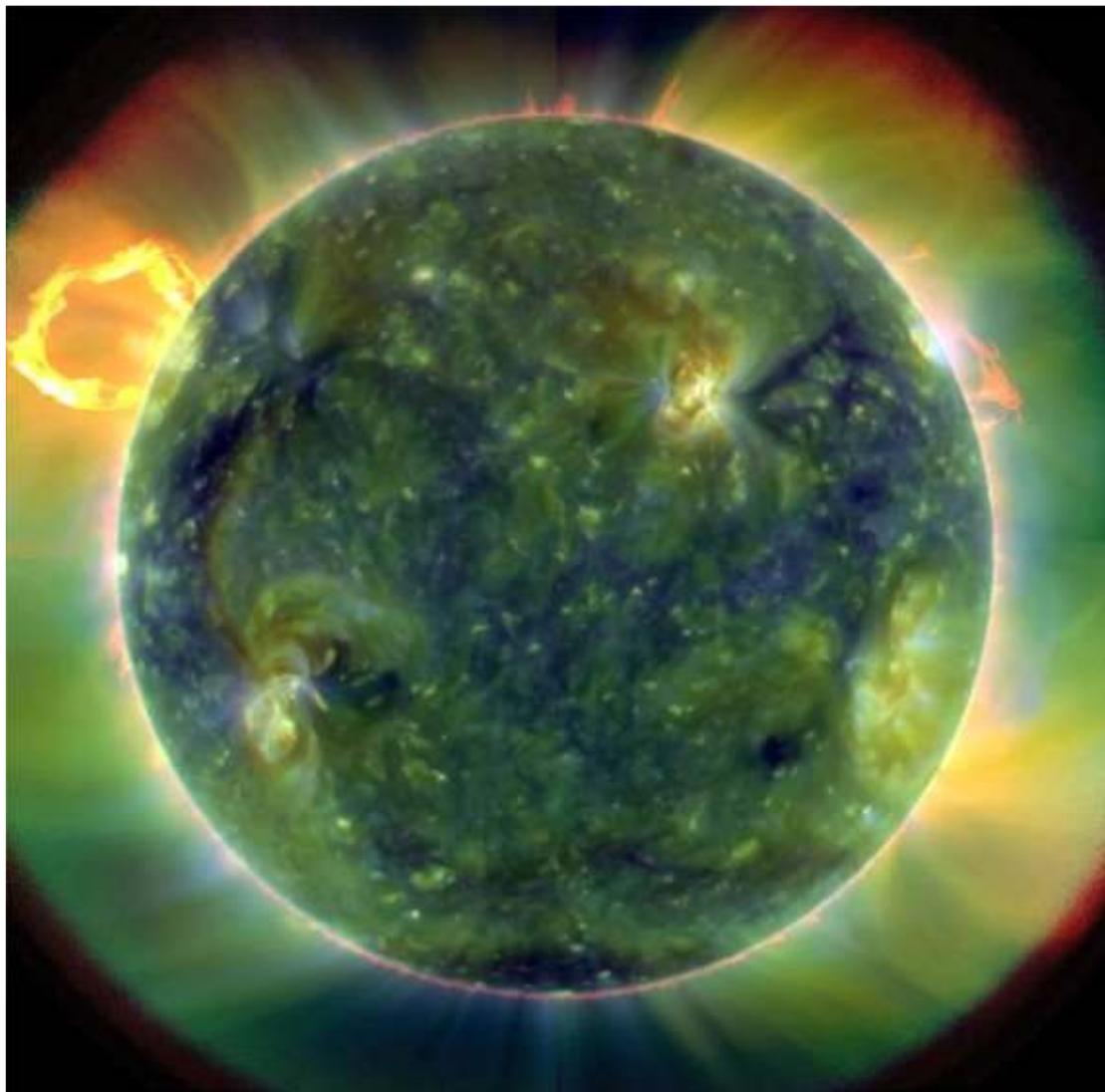
FURTHER READING

For further information, read the Jay Alfred's books ***Our Invisible Bodies: Scientific Evidence for Subtle Bodies, Between the Moon and Earth*** and ***Brains and Realities***, all available via bookstores on the Internet or go to www.newdawnbooks.info.

The Invisible Sun

Storehouse of Qi and Prana

*By Jay Alfred
September 2010*



(Credit: SOHO)

H P Blavatsky, a leading metaphysicist of the nineteenth century, observed that “the real Sun” was hidden behind the visible Sun. What was this “real Sun” she was referring to? An invisible Sun that we could not see? She revealed that this invisible Sun was “...the storehouse of vital force” and from it “issue those life-currents which thrill through space, as through the organisms of every living thing

on Earth – the real Sun being hidden behind the visible Sun and generating the vital fluid which circulates throughout our [Solar] System in a ten year cycle.” The vital force that Blavatsky is referring to has been called “qi” by the Chinese and “prana” by the Indians. It is generally accepted in the metaphysical literature that qi and prana emanate from the Sun and interact weakly (or in subtle ways) with ordinary matter, just like dark matter. According to the author (*Our Invisible Bodies*, 2006), qi and prana are composed of dark matter particles. If so, this invisible Sun that Blavatsky was referring to was a Sun composed of dark matter.

Dark matter is invisible matter that makes up more than 80 percent of the matter in the universe and does not interact with ordinary electromagnetic forces. In terms of the known forces (within the Standard Model of particle physics), it only interacts with the gravitational and weak forces. There is five times more dark matter than ordinary matter in the Universe. However, it is completely invisible to most human eyes and every kind of scientific instrument we have so far devised. Physicists only know it’s there because of its gravitational effects on ordinary matter.

Galaxies rotate faster without flying apart because of the strong gravitational forces generated by dark matter. Dark matter is also responsible for much of the large-scale structure in the universe. Dark matter particles and an equal number of anti-dark matter particles are thought to exist. However, the author’s *Dark Plasma Theory*, published in 2006, assumes a matter-anti-matter asymmetry in the vicinity of the Earth and Solar System. If this is so then dark matter particles can accumulate in the Sun and in the Earth by gravitational capture. There should be a large storehouse of dark matter particles within the visible Sun.

Now scientists are coming to the same conclusion. Eugenie Reich of New Scientist asked in 2010 “Is dark matter lurking at the centre of our bright Sun?”. Perhaps Blavatsky already had the answer about a century ago. Blavatsky’s “real [invisible] Sun” is an obvious reference to a Sun which is ordinarily invisible to most of us and our scientific instruments. In the current scientific context, we should interpret this as a Sun composed of dark matter.

If that is so, the next question is: Is there scientific evidence that there is dark matter in the Sun? If the answer is “yes” then we will need to conclude that there is scientific evidence that the Sun harbors and issues dark qi and prana particles throughout the Solar System - not only to Earth but to all the other planets. This evidence will suggest that there is indeed an invisible Sun behind the visible Sun, just as Blavatsky claimed a century ago.

SCIENTIFIC EVIDENCE for an INVISIBLE SUN

Even as far back as 2001, researchers from the University of Oxford believed that the Sun harbored a vast reservoir of dark matter particles. Astrophysicists

Ilidio Lopes and Joe Silk argued that passing dark matter particles would be captured by gravitational fields of massive bodies like the Sun. More recently Mads Frandsen and Subir Sarkar of the University of Oxford came to the same conclusion. “The Sun has been whizzing around the galaxy for 5 billion years, sweeping up all the dark matter as it goes,” It is estimated that the visible Sun contains about 2% to 5% of the mass of the Sun in the form of dark matter (Kardashev et al, 2005). Sarkar said. Recent scientific research papers are beginning to support the view that the Sun is indeed accumulating vast amounts of dark matter particles, generating what is effectively an invisible Sun growing inside the visible Sun. The scientific evidence is discussed below.

1. The Sun is moving too fast!

The Sun is orbiting the galaxy at about 220 kilometers per second when it should be going only at 160 kilometers per second, based on the visible mass of the galaxy in the solar neighborhood. This suggests that the Sun is being accelerated under the gravitational influence of a huge mass of invisible dark matter, which forms a halo around the galaxy.

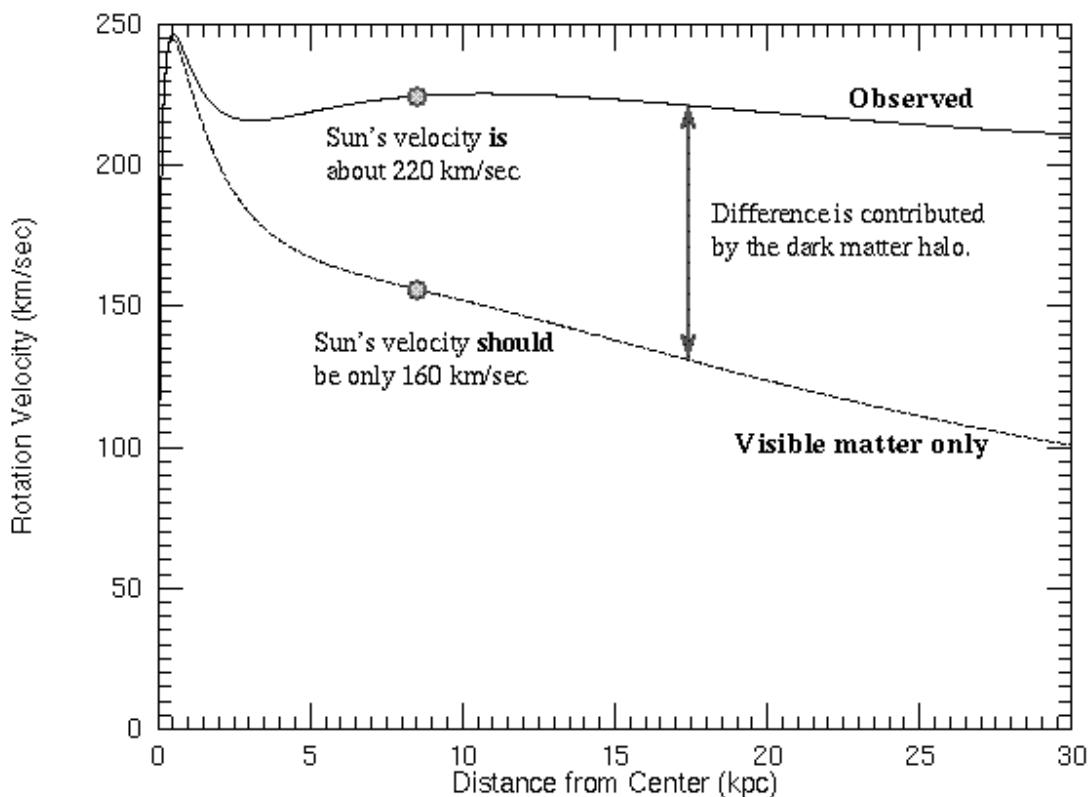


Figure 1: The Sun is moving about 60 km/sec faster than without dark matter

2. The orbit of the Earth is shrinking

Xu and Siegel, from the University of Arizona, estimated the mass of dark matter within the Solar System (between 0.2 AU and 100 AU) to be about 1.07×10^{20} kg (or 1.78×10^{-5} the Earth's mass). (AU=Astronomical Unit. This is a unit equal to the mean distance of the Earth from the Sun.) They have also estimated that during its journey around the galaxy over the past 4.6 billion years, the Solar System has waded through 203 solar masses of dark matter. That's a lot of dark matter!

A team of Italian researchers from the National Institute of Nuclear Physics in Pisa, led by Lorenzo Iorio, believes that the density of dark matter would most likely be larger around the most massive bodies, such as black holes and stars. It then logically follows, say the researchers, that the Sun also accumulates large amounts of dark matter as it rushes through the dark matter halo of our galaxy, the Milky Way. They believe that the growing storehouse of dark matter in the Sun will alter the orbits of planets in the Solar System, including the Earth's. The team estimates that as dark matter accretes in the Sun over the next 4.6 billion years, at the same rate as in the past, the orbit of the Earth will shrink about 0.2 to 0.5 AU. There is, in fact, observational evidence for this shrinkage (Standish, 2005; Pitjeva, 2005).

3. The Sun is cooling-off too fast

According to Sarkar and Frandsen, assuming a matter-anti-matter asymmetry in the Solar System and lighter dark matter particles, dark matter captured by the Sun will not annihilate after gravitational capture. It would build up in the Sun and alter how heat moves inside it in a way that would be observable from Earth. Ordinary photons and electrons bounce off each other on their way from the Sun's interior to its surface, so light and heat can take billions of years to escape. But because dark matter particles ignore all the ordinary matter inside the Sun, they have fewer obstacles in their way and can therefore transport heat more efficiently to the surface. Sensitive observations of sound waves on the Sun's surface reveal that the Sun indeed has a much easier time transporting heat from its interior to its surface than what standard models predict. While this will not significantly affect the Sun's overall temperature, a cool core sheds new light on the way heat is distributed and transported within the Sun. The buildup of dark matter in the Sun could therefore explain and solve a pressing problem in solar physics, called the "solar composition problem".

Separately, Stephen West of Royal Holloway and his colleagues at the University of London explored what would happen if light dark matter particles existed within the Sun. Their simulations show that gravity would suck such dark particles to the centre of the Sun, where they would absorb heat. Some of these dark matter particles would then carry off this heat from the core to the surface, decreasing the core temperature, confirming the work published by Sarkar and Frandsen.

4. Convective boundary too far out based on Current Model

Sarkar and Frandsen believe their solar dark matter particle also resolves another problem. Heat energy is transported in the Sun by conduction and radiation around the core; and by convection nearer to the surface. The position of the so-called “convective boundary” between these two regions is disputed. Currently, simulations based on the Sun's composition suggest that the convective boundary is further out than is indicated by sound waves detected on the surface of the Sun, which are affected by the position of this boundary. Sarkar and Frandsen claim that if dark matter particles are included in these simulations, it will bring this boundary inwards, resulting in closer agreement between simulations and observations.

5. Too few Neutrinos from the Sun

Sarkar and Frandsen also calculated that if the Sun was full of dark matter, as suspected, this would reduce the flux of neutrinos from the Sun by a few percent. This is because dark matter particles would absorb energy, reducing the rate of fusion reactions that produce neutrinos. The predicted small decrease in the low energy neutrino fluxes can be tested and will be measurable by the Italian Borexino and Canadian SNO⁺ experiments, now under way.

Implications

If there is a large dark matter ocean in the Sun, as certain scientists believe, it is a logical next step to expect dark matter particles captured by the Sun from various sources to be also blown out of the Sun in its solar wind – just like ordinary matter particles – in the form of plasma. Since this solar wind is composed of dark matter particles, it is a dark plasma wind. It is this plasma wind that Blavatsky described as “life currents which thrill though space”. There is much evidence in the metaphysical literature that the solar wind also carries with it dark matter particles, often described as energetic globules by various metaphysicists of the nineteenth and twentieth century. Blavatsky classified them as high energy “physical-etheric” particles. According to *Dark Plasma Theory*, these self interacting dark matter particles carry a dark charge, not the ordinary electromagnetic charge.

It states in the metaphysical literature (including the Taoist and Hindu literature) that qi and prana emanate from the Sun. In Chinese culture (under the study of ‘feng-shui’) it is “auspicious” for the door of a Chinese home to face the East (in the direction of sunrise). Qigong practitioners face the Sun and other stars during their practice. Both the Sun and stars have significant and pervasive magnetic fields and plasma (including dark plasma) winds that blow out both ordinary and dark matter particles from their hot interiors. Standing in front of the Sun would therefore be like standing in front of an electric fan blowing out qi or prana.

Conclusion

Blavatsky's invisible Sun may soon be detected by scientists working at various multi-million dollar installations underground to directly detect dark matter particles from the Sun. Although this discovery will be one of the most important discoveries in the history of human civilization, it will pale in comparison with the discovery that logically follows – that every human being also has an invisible bioplasma body composed of dark matter – our own invisible bodies.

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What is the Weight of the Human Soul?

An Estimate Based on Dark Matter Statistics

— © BY JAY ALFRED —

Andrew Jackson Davis believed it to weigh about one ounce. Others say it does not weigh anything. However, being substance, the astral body must have some weight.

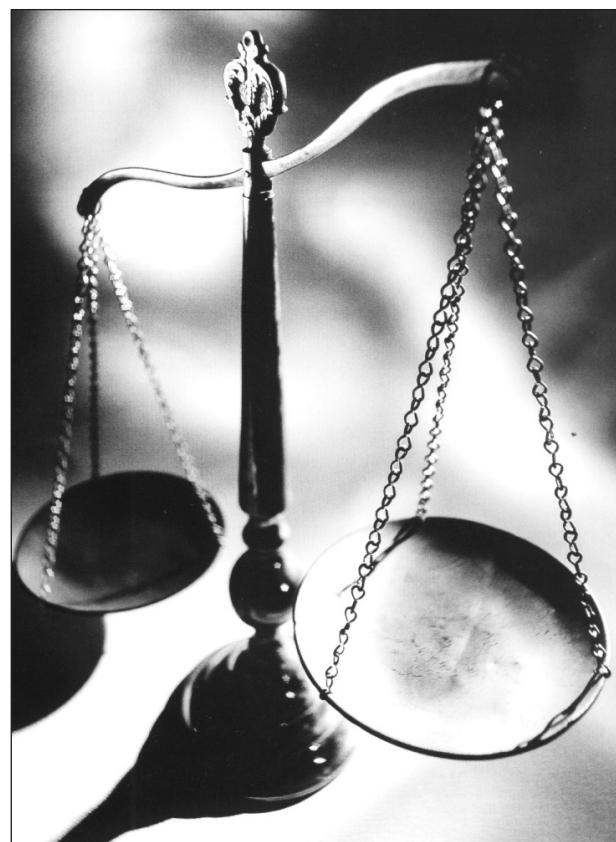
— Sylvan Muldoon & Hereward Carrington, 1973

The idea of a material soul is not new. The Greek philosopher, Heraclitus, who lived in the sixth century BC, thought that the soul was composed of an unusually fine or rare kind of matter, such as air or fire. However, if it was material it had to have some weight.

Barbara Brennan, former NASA engineer and now world-renowned energy healer, observes that 'aura' appears to have weight. Robert Monroe also believes that the 'Second Body' has weight, although much less than the carbon-based body. (The terms 'aura', 'astral body' and the 'Second Body' refer to what is generally described as the 'subtle body' in the metaphysical literature. The subtle body has often been loosely identified as the 'soul'.)

If the soul has weight, it means it has mass and is subject to Earth's gravitational force. This has motivated various researchers, including *Noetic Science*, to undertake experiments to weigh the soul.

In 1907, Dr. Duncan McDougall weighed six patients, while they were in the process of dying from tuberculosis. When death was imminent, the entire bed of the patient was quickly placed on a highly sensitive industrial sized scale. In each case, when the patient expired, he noticed an extremely small sudden change in the weight of the deceased which could not be accounted for by other means. The *missing mass*, which this weight loss represented, was used to support his hypothesis that the body had a soul which had mass. On the death of the visible body, the soul departed, and so did this mass. The weight of the soul, based on the average loss of mass in six patients, was measured by McDougall to be 21 grams.



A paper summarising his findings appeared in the journal *American Medicine* in 1907. One critic quickly pointed out that the sphincter and pelvic floor muscles relax at death, and that the loss was perhaps due to ejected urine and/or faeces. McDougall rebutted that if this were the case, the weight would remain upon the bed and, therefore, upon the scale.

Someone else suggested that the dying patients' final exhalation might have contributed to the drop in weight. To disprove this, McDougall climbed into the bed and exhaled "as forcibly as possible" while his assistant watched the scale. No change was observed.

Another critic reasoned that body weight was being continually lost as water escapes into the air through

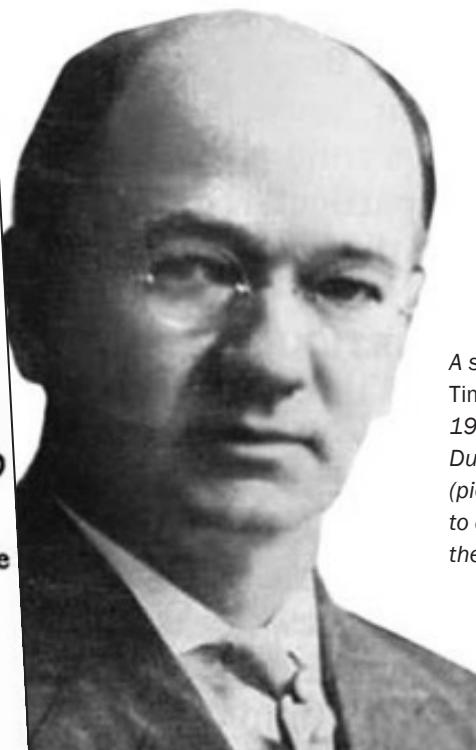
SOUL HAS WEIGHT, PHYSICIAN THINKS

Dr. Macdougall of Haverhill Tells
of Experiments at
Death.

LOSS TO BODY RECORDED

Scales Showed an Ounce Gone in One
Case, He Says—Four Other
Doctors Present.

Special to The New York Times.



A sensational New York Times news story from 1907 reports on Dr. Duncan McDougall's (pictured left) experiments to discover the weight of the human soul.

the evaporation of perspiration and the water vapour that goes out with the breath. McDougall claimed to have accounted for this also. His first patient, he wrote, lost water weight at the rate of an ounce per hour, far too slowly to explain the sudden three-quarter-ounce (about 21 grams) drop precisely at the time of death.

In the 1920s, Dutch physicists Drs Malta and Zaalberg Van Zelst claimed that the (physical-etheric) subtle body is capable of expanding by 1.26mm and contracting by 8mm. According to them, it was composed of "extremely small and widely separated" atoms and had a density of 176.5 times lighter than air and weighed, on average, 69.5 grams (or about two-and-a-quarter ounces).

The description that the 'atoms' were widely separated means that the particle density in the subtle body was low. This and the observation that the body could expand and contract suggest that the subtle body was composed of low density plasma, which could vary its density to some extent.

In 1988, *Noetic Science* carried out experiments on the largest number of patients and concluded that the human soul weighs 1/3,000th of an ounce. The experiments were carried out by East German researchers who weighed more than 200 terminally ill patients just before and immediately after their deaths. In each case the weight loss was exactly the same – 1/3,000th of an ounce. This is approximately 0.01 gram or 10^{-5} kg.

The expert's report on these experiments, co

authored by physicist Elke Fisher, was criticised by Gerard Voisart, a leading French pathologist, who said that the weight difference between the living and dead could be accounted for by air leaving the lungs. However, Drs. Fisher and Mertens pointed out that this was considered in their calculations. Furthermore, they argued that the device they used to weigh the 'soul' had a margin of error of less than 1/100,000th of an ounce or 0.0003 grams.

"It occurred to us that the weight loss could be the result of an instantaneous physical deterioration," said Dr. Fisher. "But after exhaustive study we agreed – that was not the case. The only possible explanation is that we were measuring the loss of the human soul or some kind of life force."

Dr. Becker Mertens of Dresden claimed in the German science journal *Horizon* that the only logical conclusion is that the existence of the human soul had been confirmed and its weight determined.

"The challenge before us now is to figure out exactly what the soul is composed of," he said. "We are inclined to believe that it is a form of energy. But our attempts to identify this energy have been unsuccessful to date."

This author's *Dark Plasma Theory*, first published in 2006, proposes that these bodies are composed of low density plasma of dark matter particles.

DARK PLASMA THEORY ESTIMATE

Dark Plasma Theory holds that there is a halo of low density plasma around the Earth composed of exotic

(asymmetric) dark matter particles. This view, which was new in 2006, is supported by some scientists currently. Minimal (dark) plasma cells developed in this ‘dark biosphere’ after Earth formed. Over more than 4 billion years these first cells evolved into complex dark plasma life forms. Being plasma life forms they exhibit features commonly seen in ordinary standard plasma.

Heraclitus was probably close to the mark when he hypothesised that the soul was composed of a rare ‘finer substance’ which appeared like air or fire to him – two substances which, from a lay perspective, would bear a close resemblance to plasma.

However, the reader should take careful note that these life forms are not composed of ordinary short-lived plasma but non-standard plasma composed of dark matter particles, which is invisible to most humans (just as dark matter is).

Some of these life forms formed symbiotic relationships with members of the human species and co-evolved, integrating with the living carbon-based human body. On the death of the carbon-based bodies, the dark bio-plasma bodies separate and return to their societies in the dark biosphere (i.e. Earth’s dark matter halo). It is these exotic life forms that are popularly called the ‘souls’ of human beings.

In order to estimate the density and weight of the ‘soul’, i.e. the human bioplasma body, we must first estimate the density of dark matter particles on Earth.

DARK MATTER DENSITY AROUND EARTH

The background galactic halo dark matter density is estimated to be about $5.35 \times 10^{-28} \text{ kg cm}^{-3}$. Xu and Siegel, from the University of Arizona, estimated the mass of dark matter within the Solar System (between 0.2 AU and 100 AU) to be $1.07 \times 10^{20} \text{ kg}$ (or 1.78×10^{-5} the Earth mass) (AU=Astronomical Unit. This is a unit equal to the distance of the Earth from the Sun). The mass of dark matter within the orbit of Earth (i.e. within 1 AU) was estimated to be $7.69 \times 10^{19} \text{ kg}$. The corresponding dark matter density was approximately

$9.65 \times 10^{-23} \text{ kg cm}^{-3}$. This is five orders of magnitude greater than the background galactic halo dark matter density.

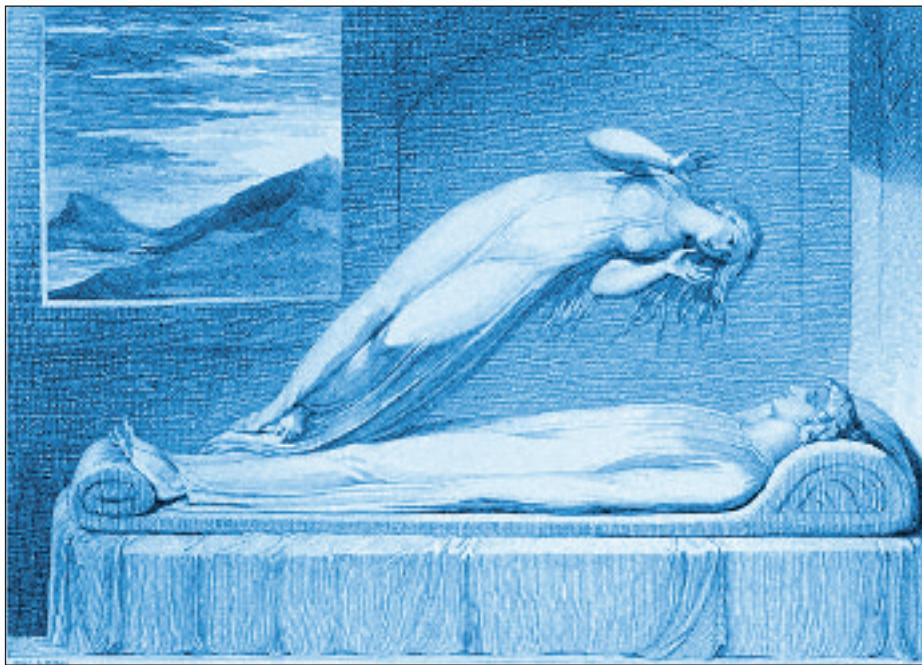
Xu and Sigel’s estimate that the dark matter density around Earth exceeds the galactic halo density significantly has been correlated by Stephen Adler from Princeton University. Anomalies relating to accelerations, observed during fly-bys of spacecraft orbiting the Earth, suggest that the dark matter density around Earth had been significantly understated (as suggested earlier by this author). According to Adler the magnitude of the observed anomalies requires dark matter densities many orders of magnitude greater than the galactic halo density.

Adler suggested that by comparing the total mass of the Earth-Moon system (determined by lunar laser ranging) with the sum of the lunar mass (determined by its gravitational action on satellites or asteroids) and the Earth mass (determined by the LAGEOS geodetic survey satellite), a direct measure of the mass of Earth-bound dark matter lying between the radius of the Moon’s

orbit and the geodetic satellite orbit can be obtained. Based on this, the mass of Earth-bound dark matter must be less than 4×10^{-9} of the Earth’s mass, giving an upper dark matter mass limit of $2.32 \times 10^{16} \text{ kg}$. (This is less than one-hundredth-millionth of Earth’s mass and therefore has negligible effects on gravity.)

According to Adler, to explain the flyby anomalies, Earth-bound dark matter would have to be concentrated within a radius of about 70,000 km around Earth, within a volume of approximately $1.44 \times 10^{30} \text{ cm}^3$. For the dark matter mass within this volume not to exceed 4×10^{-9} of the Earth’s mass, the mean dark matter density would have to be about $10^{-14} \text{ kg cm}^{-3}$. This is greater than the background galactic halo dark matter density by fourteen orders of magnitude.

Based on the analyses above, it is reasonable to conclude that there exists a halo of dark matter particles around the visible component of the Earth within a



An 18th century print depicts the soul rising from the body.

radius of approximately 70,000 km. Earth's dark matter halo has been dubbed "Dark Earth" by the author and its attributes, based on the most recent estimates, compared to the visible Earth, are given below:

	Dark Earth	Visible Earth
Mass	2.32×10^{10} kg	5.97×10^{24} kg
Volume	1.44×10^{30} cm ³	1.08×10^{27} cm ³
Mean Density	10^{-14} kg cm ⁻³	5.5×10^{-3} kg cm ⁻³
Mean Radius	70,000 km	6,371 km

The above estimates show that the dark matter halo would be three orders of magnitude or about 1.33×10^3 or 1,330 times larger in volume than the visible rocky Earth. This approximates with the dimensional relationship between the volume of Jupiter's huge gas envelope and its tiny rocky core (the latter approximates the volume of the visible rocky Earth). In other words, we would expect an envelope of dark matter particles the size of Jupiter around the visible component of the Earth with a mean density of 10^{-14} kg cm⁻³.

WEIGHT OF THE SOUL

A man weighing 100kg is approximately 100 litres or 10^5 cm³ in volume. Based on a mean density of dark matter of 10^{-14} kg cm⁻³ (as estimated above) and the approximate volume of the human body of 10^5 cm³, the weight of the human biplasma body (or the 'soul') is estimated to be: 10^5 cm³ x (10^{-14} kg cm⁻³), multiplied by the gravitational acceleration of 10 ms⁻², or approximately 10^{-8} Newtons. However, in lay language, this is often taken to be 10^{-8} kg.

Estimated Weight of the Soul:	
Based on <i>Noetic Science</i> Experiment	10^{-5} kg
Based on Dark Matter Statistics	10^{-8} kg

The weight of the soul, as measured in the *Noetic Science* experiment was 10^{-5} kg while the estimate based on dark matter statistics in this article is even lower at 10^{-8} kg. Considering that the dark matter



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estimate was the *mean* density, one should not expect a very close correlation. Bioplasma bodies may actually be denser than the surrounding environment (in the dark biosphere). The measurement in the *Noetic Science* experiment may also contain a certain percentage attributable to the weight of unaccounted ordinary matter.

Looking at the broad picture, therefore, these estimates can be considered quite close. We hope that this finding will motivate further experiments to weigh the human soul using more sensitive scales in controlled settings.

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RESPONSES by JAY ALFRED to QUESTIONS DevaJu Project

1) What role do you think belief plays in the manifestation of paranormal phenomena?

Studies in neuroscience have shown that expectations, which are based on our beliefs, play an important part in framing or contextualizing incoming sensory data. In fact we do not actually see or hear the raw data but the brain's hypothesis of what the sensory data mean. Perception is therefore an active process which is modulated by beliefs. Hence, in many cases, ordinary and mundane phenomena may be misclassified as paranormal where we are highly biased towards a paranormal explanation. However, the reverse error may also occur. In other words, paranormal phenomena may be misperceived and subsequently misclassified as mundane phenomena if we are biased towards non-paranormal explanations.

A skeptic's belief system may block perceptions that may be quite evident to sensitives, resulting in negative hallucinations. While positive hallucinations occur when a presence is seen or felt when others do not perceive them, negative hallucinations occur when an object can be seen by a certain class of persons but not by a particular observer. This is a type of "blindness" brought about by an individual's belief system.

Beliefs and consequent expectations play a more dramatic role when objects exhibit behavior associated with coherent quantum systems. The physical properties of the observed objects may be altered depending on the context in which the observation is made.

2) Do you believe that the majority of paranormal phenomena could be a construct of the human brain/consciousness? In other words, is it all in the mind? If so, can you point to a particular area of your own work suggests this?

All perceptions are generated by some brain or cognitive system. To perceive you will need a cognitive system to process incoming sensory data. Both the external and the internal context (i.e. the internal emotional and mental environments) of the observer play important roles in interpreting and contextualizing sensory data. We may see things that are not there because of constructions or projections by the brain. Cognitive illusions are common and can be proven, as illustrated by the many well-known visual illusions. This is a well-tested area in neuroscience. The majority of reported paranormal phenomena may therefore not be paranormal. However, we should guard against "neuro-idealism" i.e. discounting everything paranormal as non-existent because they are constructions of the brain.

Michael Persinger, the neuroscience researcher, claims that by putting on a specially made helmet, the brain can be made to generate erroneous paranormal experiences,

such as feeling the presence of (invisible) beings. However, we cannot conclude from this that all these experiences do not actually take place in reality. A good trickster can show a very good hologram of an orange from a distance and observers may believe that it is in fact a real orange, although it is only a representation. We cannot conclude from this that all perceptions of oranges do not represent real objects or that real oranges do not exist in the real world. Persinger is simulating presences which the brain (and its dark counterparts) has evolved to respond to. In other words, some aspects of Persinger's experiments are tricking the brain to conclude that it is seeing or sensing something that, in other circumstances, actually occurs in reality.

Since perceptions are generated by what the senses signal to the brain through a network of nerves, any interception in the network to introduce erroneous data will make the brain come to erroneous conclusions. It will not be surprising, if following Persinger, scientists are able to induce all the sensations of eating an apple pie in the brain of a person. This does not mean that an apple pie was actually eaten. Neither does it mean that apple pies do not or cannot exist in reality. The simulation in the laboratory is irrelevant in establishing the reality of the object in the real world. Simulating experiences in the laboratory does not mean that the corresponding actual experiences do not occur. A person who concludes that ghosts and invisible presences do not exist in the real world because similar experiences can be simulated in a laboratory by electrical and magnetic interventions is committing what can be described as a "simulation fallacy" in the logic of his argument.

Other aspects of Persinger's experiments actually deactivate certain brain circuits, so that the subject is introduced to a new reality. When this happens, the locus of awareness shifts from the carbon-based body to the hypothesized dark biplasma bodies. Although it is not possible to detect these "presences" directly with our current scientific instruments, a human being's own subtle biplasma body may be able to sense these invisible beings which come within the range of sensory systems in the biplasma bodies. In these particular cases, real presences (which our current scientific instruments are unable to detect) are being detected by semi-independent cognitive-sensory systems in our biplasma bodies. In this sense, ESP (Extra Sensory Perception) is a misnomer. These are in fact cases of ASP (Alternate Sensory Perception) generated by an alternate subtle biplasma body that is coupled to our carbon-based body.

Genuine paranormal phenomena exist alongside mundane phenomena. The existence of genuine paranormal phenomena is not only supported by a smaller number of genuine paranormal reports but can be expected based on extrapolations of current scientific theories and is increasingly being evidenced in rigorous psi experiments.

3) We have read about or seen the "effects" of paranormal phenomena for thousands of years - reports and stories of ghosts, UFOs, cryptids, etc. These we consider the physical effects so to speak. What is your theory as to the "cause" of these phenomena?

Only a small subset of these can be classified as genuine paranormal phenomena. So what are these? The matter that is visible and currently directly measurable is composed of particles that have been identified in the physicists' "Standard Model". However, the majority of scientists now believe that this "ordinary matter" makes up less than 5% of the universe. In fact, it makes up less than 20% of all the matter in the universe. The other more than 80% is composed of invisible matter that has been dubbed "dark matter" by scientists.

Dark Plasma Theory argues that dark matter is present in the Solar System, including on Earth. Evidence shows that the Sun and the Solar System are under the gravitational influence of invisible dark matter in our galaxy. Dark matter particles have been raining down on Earth every day and night for the past 4.6 billion years. These particles are captured by Earth's gravitational field. Furthermore, the embryonic Solar System also contained dark matter. There are therefore many reasons to infer that there are low-density halos of dark matter particles interpenetrating all the planets, including the Earth - effectively forming (currently) invisible "counterpart-Earths" that co-rotate and share the same gravitational field as the visible Earth. The *Theory* questioned in 2007 if the density of dark matter around Earth was underestimated.

Computations in late 2008, by Stephen Adler of Princeton University and Xu and Siegel from the University of Arizona, suggest that dark matter density in the Solar System and around Earth exceeds the galactic halo density significantly and is much higher than previously thought. According to the *Theory*'s estimate, the visible Earth is gravitationally coupled to a Jupiter-sized dark matter halo. As dark matter clumped, it created conditions for a dark biosphere to form. This dark biosphere gave rise to dark matter life forms and consciousness over millions of years.

The *Theory* argues that dark matter is largely in the form of plasmas of exotic particles (including supersymmetric particles such as charginos and neutralinos). It has been shown in laboratory experiments over the past ten years that minimal ordinary plasma cell-systems can be generated in the laboratory. The *Theory* therefore suggests that minimal dark plasma cell-systems were generated within this dark halo/biosphere in the early Earth and predicts the existence of terrestrial dark plasma life forms which evolved from these minimal plasma cell systems. Furthermore, unlike chemical-based life forms, dark plasma life forms are compatible with life in a supersymmetric universe.

These life forms would be as varied in scale, structure and intelligence as carbon-based life forms - as different as a microbe from a whale; a mosquito from a tiger; a giraffe from a crocodile; an ant from a human being. Their degrees of intelligence and

awareness would be as different as a centipede's awareness from the awareness and intelligence of human beings. The taxonomy of these plasma life forms is wide and varied. Some of these plasma life forms have interacted with us in the past (intentionally or unintentionally).

The entities that we have loosely identified as ghosts, angels, jinns, demons, deities (for example the Marian apparitions in the atmosphere), aliens, biological UFOs, fairies and sightings of the recently deceased (on the surface of the Earth) are characteristic of these predicted exotic plasma life forms from interpenetrating dark plasmaspheres or counterpart Earths. They constitute an ecology of plasma life forms that evolved throughout Earth's history and sometimes formed symbiotic relationships with the visible carbon-based life forms that we are more familiar with. Homo sapiens are the products of carbon-based bodies that evolved and formed symbiotic relationships with some of these plasma life forms (i.e. the result of a symbio-genesis). When the carbon-based bodies died, the bioplasma bodies continued their existence in counterpart Earths.

4) In your research have you ever personally come across anything that you truly believe to be legitimate scientific proof of paranormal or anomalous phenomena?

The Marian Zeitoun apparitions between 1968 and 1971, which have been broadcast on TV and captured in photographs and viewed by thousands of people, provides a real challenge for current mainstream Science to explain. ***Dark Plasma Theory***, on the other hand, predicts these types of phenomena.

Experiments have been conducted which show correlations between EEG readings of human experimental subjects who act as "senders" and "receivers". More recently these correlations were also observed using fMRI brain scans. There are now six published fMRI psi studies, five of which report significant findings. In one experiment, discussed by Dean Radin, light was flashed at the sender on one end. The receiver, who was inside a noisy fMRI machine, showed activity in the occipital lobe (in the primary and secondary visual cortex) which correlated with the flashes of light. Twenty studies of EEG and fMRI correlations have been discussed by Robert Charman. He concludes that there is evidence that direct communication between physically separated human brains can and does occur. ***Dark Plasma Theory*** believes that these types of "extra-cranial" communications are mediated by a plasma-based dark neural network which is an integral part of Earth's dark plasmasphere (discussed above). This network arises naturally out of plasma dynamics in Earth's dark biosphere.

5) Why do you think that with all the paranormal researchers and amateur "ghost hunters, "UFO hunters" and "monster chasers" out there scientists have yet to find solid supporting evidentiary data? Do you believe these researchers, both scientists and layperson alike, are "looking for ghosts in all the wrong places?"

Scientists themselves have been searching for dark matter particles in multi-million dollar facilities all over the world, both underground and in space, using a variety of techniques and state-of-the-art technology. However, they have still not detected these particles directly. It is therefore expected to take some time for current technology to evolve to detect these particles directly. However, ***Dark Plasma Theory*** suggests that there could be indirect ways of detecting dark plasma life forms.

Dark plasma life forms are composed of dark matter particles. Collisions between these particles and ordinary matter particles (for example, in air) will generate heat, light and electricity. Furthermore, very low levels of ordinary plasma may also be generated due to ionization caused by these collisions. This (relatively cold) ordinary plasma will generate low levels of electromagnetic radiation that can be detected by current instruments. In fact, current equipment carried and used by professional paranormal researchers may have already detected these indirect traces in certain instances. Furthermore, the generated ordinary plasma may also cause short circuits in electrical appliances. Disruptions to the operation of electrical equipment are frequently reported during paranormal events.

It is perhaps not really the lack of evidence that is the problem; it is the lack of a coherent theory to connect this evidence to mainstream Science. ***Dark Plasma Theory*** is an attempt to do this.

6) Since Albert Einstein, theoretical physicists have been searching for an ultimate, all encompassing "Theory of Everything." The TOE would successfully unify broad aspects of nature and reality. Since the 1990's, M-theory (or matrix string theory) has been touted as being one serious possibility (although many believe that M-theory is not complete.) Do you believe that quantum and/or theoretical physics hold the key to unlocking all of the mysteries of the universe?

Mathematics plays an important role in unveiling the substructure of the universe and allowing us to look beyond appearances. It shows us what our current senses cannot perceive. These mathematical theories of the universe look quite promising in unraveling the mysteries of not only this universe but also parallel universes. Although they are incomplete and need to be verified more thoroughly in scientific experiments which are limited by current technology, they are proceeding in the right direction. ***Dark Plasma Theory*** is consistent with M Theory.

Incidentally, the "TOE phenomenon" (in its wider sense) is not new. Various Greek, Indian and Chinese philosophers were formulating and promoting their own "Theories

of Everything” more than 2,000 years ago. There appears to be a deep urge in human beings to understand “everything” in a nutshell. The fact that this “everything” is a moving target makes it all the more interesting to play, as John Lennon once sang, the game “existence”.

Dark Plasma Theory has been described as a *Theory of Everything* in the context of paranormal phenomena as it explains the origins and properties of a wide variety of life forms encountered during these phenomena within a single and internally consistent theoretical framework.

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Creation of Minimal Plasma Cell Systems by Self-Organization in Earth's Dark Biosphere leading to the Evolution of Dark Plasma Life Forms

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Abstract

This paper proposes that the visible Earth is sitting inside a low density halo of dark plasma, within which minimal dark plasma cell-systems were generated in the early Earth. It predicts the existence of terrestrial dark plasma life forms which evolved from these cell systems, giving rise to a dark biosphere. The generic morphology of these plasma life forms is explored and a prediction is made that they would exhibit signature features commonly associated with well-structured plasma bodies observed in the laboratory.

Introduction

Recent computations suggest that the dark matter density in the Solar System and around the Earth [1, 2] exceeds the galactic halo density significantly. This aggregation of dark matter particles around the Earth forms effectively a halo of dark matter particles. It has also been proposed that dark matter may be composed of plasmas of exotic particles [3]. It therefore logically follows that a dark matter halo exists around the visible component of Earth composed largely of plasmas of exotic particles.

Laboratory experiments have suggested that plasma spheres may be generated spontaneously in the laboratory through self-organization. These spheres appear to possess attributes commonly associated with life forms [6]. Furthermore, more recently, numerical computer simulations have suggested that complex plasmas may naturally self-organize into stable interacting helical structures that exhibit features normally attributed to DNA (Deoxyribonucleic acid) in organic living matter. The self-organization is based on non-trivial plasma dynamics [7].

From the above, it is feasible to theorize that partially ionized plasmas of exotic particles self-organized into minimal plasma cell systems, which possessed attributes associated with life forms, in the early Earth. It is proposed that these minimal cell systems then evolved on this planet over more than 4GYr to more complex plasma life forms that thrived in (what became) Earth's dark biosphere.

Dark Matter Density around the Earth

The background galactic halo dark matter density ρ_{DM} is about $5.35 \times 10^{-28} \text{ kg cm}^{-3}$ [4]. The mass of dark matter within the Solar System, between 0.2 AU and 100 AU, as a result of gravitational capture, was estimated to be $1.07 \times 10^{20} \text{ kg}$ (or 1.78×10^{-5} the Earth mass) [1]. The mass of dark matter was estimated to be $7.69 \times 10^{19} \text{ kg}$ within the orbit of Neptune and $3.23 \times 10^{17} \text{ kg}$ within the orbit of Earth (i.e. approximately within 1 AU). The dark matter density ρ_{DM} within the orbit of the Earth (or approximately 1 AU) would therefore be approximately $9.65 \times 10^{-23} \text{ kg cm}^{-3}$. This is greater than the background galactic halo dark matter density by five orders of magnitude.

Xu and Siegel's [1] estimate that the dark matter density around Earth exceeds the galactic halo density significantly has been correlated by Adler [2]. Anomalies relating to accelerations, observed during fly-bys of spacecraft orbiting the Earth, suggest that the dark matter density around Earth had been significantly understated. According to Adler [2] the magnitude of the observed anomalies requires dark matter densities many orders of magnitude greater than the galactic halo density.

Adler has suggested that by comparing the total mass (in gravitational units) of the Earth-Moon system (determined by lunar laser ranging) with the sum of the lunar mass (determined by its gravitational action on satellites or asteroids) and the Earth mass (determined by the LAGEOS geodetic survey satellite), a direct measure of the mass of Earth-bound dark matter lying between the radius of the Moon's orbit and the geodetic satellite orbit can be obtained. Based on this, the mass of Earth-bound dark matter must be less than 4×10^{-9} of the Earth's mass, giving an upper dark matter mass limit of $2.32 \times 10^{16} \text{ kg}$. The mass of

the Earth-bound dark matter is approximately one billionth of Earth's mass and therefore has negligible effects on gravity.

To explain the flyby anomalies, Earth-bound dark matter would have to be concentrated within a radius of about 70,000 km around Earth, within a volume of approximately $1.44 \times 10^{30} \text{ cm}^3$. For the dark matter mass within this volume not to exceed 4×10^{-9} of the Earth's mass, the mean dark matter density would have to be about $10^{-14} \text{ kg cm}^{-3}$. This is greater than the background galactic halo dark matter density by fourteen orders of magnitude.

Frere, Ling, and Vertongen [5] have proposed that dark matter concentrations within our galactic neighborhood became bound to the Solar System during its formation. Adler [2] suggests that a large density within the Solar System could result from an accumulation cascade. In this scenario dark matter that accumulates within the Solar System (including the initial contribution during its formation) over its lifetime leads to further accumulation through gravitational capture. This cascade of Earth bound dark matter results in a dark matter density within the Solar System far exceeding the average density in the galaxy.

Adler [2] contends that dark matter particle density peaks at about 70,000 km, then reduces until it is much lower on the Earth's surface (although still higher than the background galactic halo density) and the interior of the Earth. Various methods were used to arrive at this conclusion. At 12,600 km, the LAGEOS satellite experienced smaller residual accelerations, due to drag effects, of $3 \times 10^{-12} \text{ ms}^{-2}$ compared to 10^{-6} ms^{-2} at higher altitudes.

The mean dark matter density on the surface of the Earth, assuming a steady-state situation and similar dark matter velocities at Earth's radius (at the surface) of 6,400 km and 70,000 km was estimated to be much lower at $10^{-23} \text{ kg cm}^{-3}$. This is still five orders of magnitude higher than the galactic halo density. Furthermore, the mean dark matter density in the interior of the Earth was estimated to be even lower, being not more than $1.07 \times 10^{-28} \text{ kg cm}^{-3}$ (this is slightly lower than the background galactic halo density). The latter estimates were determined by Adler using a different method i.e. by analyzing the Earth's heat flow budget and luminosity, assuming a steady-state situation. Adler concludes that dark matter density is therefore much smaller near the Moon's orbit (which exceeds 70,000 km) and near the Earth's surface using a different set of analyses and assumptions.

Estimates of dark matter around Earth can be confirmed by further analysis of spacecraft acceleration anomalies and sensitive underground detection facilities. An enhanced Solar System density of dark matter particles would show up as a daily sidereal time modulation of dark matter particle counting rates in DAMA/LIBRA type of experiments, in addition to any annual modulation in the counting rate [2]. More accurate assessments of a larger sample of spacecraft acceleration anomalies and dark matter particle detections in the future, coupled with a more consistent measurement model, may alter the density profile of dark matter within the Earth system, particularly on the surface and the interior of the Earth, as proposed by Adler [2]. It is noted that the estimates above are based on gravitational interactions between dark matter particles and ordinary masses. It is possible that dark matter density may be even higher if self-interactions using the dark electromagnetic force is taken into account and if dark matter particles interacted with ordinary matter with additional forces, which are currently unknown but suspected.

Earth's Dark Matter Halo

Based on the analyses above [1, 2], it can be concluded that there exists a halo of dark matter particles around the visible component of the Earth within a radius of approximately 70,000 km. Considering that dark matter density varies significantly over different Earth radii, it is possible to model the dark matter density as being distributed in concentric shells of different particle densities around Earth.

A sphere of dark plasma with a radius of 70,000 km has a volume of $1.44 \times 10^{30} \text{ cm}^3$. The volume of the visible Earth at a radius of 6,378km is about $1.09 \times 10^{27} \text{ cm}^3$. This means that the dark matter halo would be three orders of magnitude or about 1.32×10^3 or 1,320 times larger in volume than the visible rocky Earth. This approximates with the dimensional relationship between the volume of Jupiter's huge gas envelope and its tiny rocky core (the latter approximates the volume of the visible rocky Earth). In other words, it is predicted that a dynamic halo of dark matter particles averaging the size of Jupiter would exist around the visible component of the Earth, which would have a mean density of $10^{-14} \text{ kg cm}^{-3}$.

Xu and Siegel [1] have also computed dark matter densities for other planets in the Solar System.

Planet	Fraction Captured	Mass Captured
Mercury	1.03×10^{-16}	$2.09 \times 10^{-14} M_{\odot}$
Venus	8.71×10^{-16}	$1.77 \times 10^{-13} M_{\odot}$
Earth	9.41×10^{-16}	$1.91 \times 10^{-13} M_{\odot}$
Mars	2.91×10^{-16}	$5.91 \times 10^{-14} M_{\odot}$
Jupiter	1.23×10^{-13}	$2.50 \times 10^{-11} M_{\odot}$
Saturn	7.06×10^{-14}	$1.43 \times 10^{-11} M_{\odot}$
Uranus	2.87×10^{-14}	$5.83 \times 10^{-12} M_{\odot}$
Neptune	3.98×10^{-14}	$8.08 \times 10^{-12} M_{\odot}$

Fig 1: Dark Matter around Planets [1]

It is predicted that there should be dark matter halos around planets; and purely dark matter halos and blobs (occupying volumes comparable to planets but with low densities of dark matter particles) within the Solar System that would cause anomalies in spacecraft accelerations that will be measured in the future.

Earth's Dark Plasma Halo

It has been proposed that dark matter may be composed of plasmas of exotic particles. Alfred [11, 12, 13, 14] proposed, observing the similarities between the properties of dark matter and plasma, that dark matter is largely composed of plasmas of exotic particles which radiate “dark light”. Ackerman et al [3] proposed a new long-range $U(1)_D$ dark abelian gauge field (“dark electromagnetism”) that couples only to dark matter, not to the Standard Model (SM), with gauge coupling constant g_D and dark fine structure

constant $\alpha_D = \frac{g_D^2}{4\pi}$. (The “D” subscripts refer to the dark sector.) The field, which is taken to be initially a

singlet under $SU(3)_C \times SU(2)_L \times U(1)_Y$, is anomaly free and provides the right relic abundance at thermal freeze-out. The correct relic abundance can be obtained if the dark matter couples to the conventional weak interactions. Under an extended model, DM particles are charged under both $SU(2)_L$ and $U(1)_D$.

The dark matter consists of an equal mixture of positive and negative charges under the new force which is mediated by “dark photons” that are the source of “dark radiation”. In the most basic scenario, they [3] propose a dark sector which consists of a single particle X with $U(1)_D$ charge of +1 along with its

antiparticle \bar{X} with a charge of -1. In other words, it is a plasma of positively and negatively charged particles and anti-particles or an “ambiplasma”. Since the galactic DM halo is overall neutral under $U(1)_D$ there are no net long-range electromagnetic interactions in the dark sector. Quasi-neutrality is of course a general feature of plasma. Plasma effects in dark matter dynamics are therefore expected. However, these effects are only very briefly explored in Ackerman et al’s paper [3].

Annihilations between particle and anti-particles are suppressed and dark matter will be effectively collisionless if the dark matter mass is sufficiently high, in the TeV range, and the dark fine structure constant $\alpha_D < 10^{-4}$ outside the galactic cores. Inside galactic cores, however, annihilations are expected to occur when the density of dark matter reaches high values. If this is the case, then annihilation radiation in the form of gamma rays from the center of our galaxy may be detectable to distances of tens to hundreds of Mpc and would provide evidence of the existence of dark matter in the center of the Milky Way.

Results from the INTEGRAL satellite [8], however, do not support dark matter as the major source of the gamma rays from the center of our galaxy. This is because it shows an asymmetry of emission (by a factor of two) with respect to the central axis of the galaxy, which is correlated more with the distribution of low mass X-ray binaries than with the predicted distribution of dark matter in the galactic core. The question of whether anti-dark matter actually exists is an empirical matter for further investigation. The fact that there are no significant sources of gamma (annihilation) radiation within a radius of 70,000 km from the center of

the Earth (i.e. within Earth's dark plasma halo), despite the estimated high density of dark matter around this region, rules out large amounts of anti-dark matter in the vicinity of the Earth.

The dark plasma envisaged in this paper would therefore consist of positively and negatively charged particles with varying mass, similar to the attributes of the heavy and light charginos under the MSSM (Minimal Supersymmetric Standard Model), together with neutrals (such as MSSM's neutralinos). The dark tenuous plasma in the Earth system would therefore be composed of partially ionized plasmas of heavy and light DM particles with opposite $U(1)_D$ charge, together with neutral DM particles.

It is envisaged that the (percentage) difference between the masses of the charged DM particles are not as great as between the proton and the electron and more in line with the MSSM's heavy and light charginos. Due to the large inter-particle distance in tenuous plasma and the weaker dark electromagnetic interactions (approximately one hundred times weaker than ordinary electromagnetism) [3], recombinations would be less likely to occur. Partially ionized plasma bodies in the dark sector would therefore be long-lived.

On a cosmological scale, it could then be envisaged that the dark sector did not undergo the recombination epoch that the visible sector underwent about 380,000 years after the Big Bang but remained largely in the plasma state. It has to be noted, in this context, that even a partially ionized gas in which as little as 1 percent of the particles are ionized can possess the properties of a plasma (i.e. respond to magnetic fields and be highly electrically conductive). 99 percent of matter in the universe of ordinary matter is composed of (partially and fully ionized) plasma. The dark universe is expected to be similarly composed.

From the findings in II and III, above, it follows that a tenuous (i.e. low density) dark plasma halo exists around the visible component of the Earth composed largely of plasmas of dark matter particles which interact weakly with SM particles. Consistent with a plasma environment (as in the early universe), there would be an isotropic diffuse (dark) light everywhere in this halo.

It is proposed that the shape and volume (i.e. size) of this halo is dynamic. This is primarily due to 3-body gravitational interactions between the Earth, Moon and the Sun. When the Moon and the Sun are aligned relative to the Earth (as in a solar eclipse), their combined gravitational effects on Earth's halo will stretch the tail of the halo to extend to the Moon's own dark matter halo, changing the shape of the halo. Particle density within the halo will also change due to these influences and the size of the dark plasma halo will also undergo changes (just like Earth's visible atmosphere). The shape and size of this dark plasma Earth is therefore dynamical and would be constantly size and shape-shifting much like Earth's magnetosphere.

The dark halo, with a total mass much lower than the visible Earth (it does not exceed 4×10^{-9} of the Earth's mass [2]), would be gravitationally coupled to the Earth and corotate with it. Furthermore, just like the Sun (which is a near-sphere composed of plasma) and Jupiter, it would be expected to experience differential rotation; with the maximum rate of rotation in the equatorial region slowing down towards the direction of the poles. A day in the dark halo (as measured by one full rotation of the halo at the relevant latitude) would therefore vary from location to location although the year would be the same as the visible Earth (as the halo is gravitationally coupled to the visible Earth).

It is worth reflecting that the density of dark matter is more than 5 times that of baryonic matter in the universe. The average baryon density in the universe currently is about $10^{-33} \text{ kg cm}^{-3}$. The average mass density in the interstellar medium (ISM) is $10^{-27} \text{ kg cm}^{-3}$. This is many orders less than the computed densities of dark matter around Earth, within a radius of 70,000km, of about $10^{-14} \text{ kg cm}^{-3}$ (as discussed above). This extremely low density of ordinary matter, however, does not stop dense stars, composed of baryonic matter, to form with vast amounts of almost empty space in between. Similarly, higher density dark plasma blobs are expected to form and drift around the Earth even if the average density is low - just as dark matter clouds are believed to drift through the galaxy [16]. Adler [2] claims that these clumps or blobs have been detected in the form of anomalous accelerations of spacecraft during fly-bys and orbits around the Earth.

Based on the above analyses, the attributes of the dark biosphere or “Dark Earth” can be estimated as follows:

	Dark Earth	Visible Earth
Mass	2.32×10^{16} kg	5.97×10^{24} kg
Volume	1.44×10^{30} cm ³	1.08×10^{27} cm ³
Mean Density	10^{-14} kg cm ⁻³	5.5×10^{-3} kg cm ⁻³
Mean Radius	70,000 km	6,371 km

Minimal Plasma Cell-Systems

Lozneanu et al [6] have generated “plasma cells” or more specifically, complex space charge configurations (CSCC) that display the attributes of a primitive organism in the laboratory. The CSCC spontaneously emerges when an electrical spark generates a well-located non-equilibrium plasma on the surface of a positively biased electrode within a cold plasma which contains free electrons and atoms in ground, excited and ionized states.

The plasma evolves into a stable self-confined luminous, nearly spherical body, attached to the anode. Measurements using electrical probes reveal a positive nucleus surrounded by a nearly spherical boundary or electrical DL (double layer). Within the DL are adjacent space charge layers of opposite charge where electrostatic interactions take place in an electric field. (In this respect, the DL resembles a capacitor.)

Lozneanu et al [6] argue that, similar to biological cells, the electrical boundary of these self-assembled gaseous plasma cells provides an enclosed internal environment that differs from the external environment. The boundary is able to sustain and control operations such as: (i) the acquisition and transformation of energy, (ii) rhythmic exchange of matter across the system boundary and (iii) continual internal transformations of matter. At a critical value of the anode potential, the CSCC detaches from the anode surface and escapes into a free-floating state. After its emergence, the CSCC is able to replicate, by division, and to emit and receive information. Lozneanu et al [6] believe that “the CSCC is potentially able to perform a further biochemical evolution into a ‘living’ cell.”

Using numerical simulations, Tsytovich et al [7] show that complex plasmas may naturally self-organize themselves into stable interacting helical structures that behave like DNA (Deoxyribonucleic acid) in organic living matter. These structures incorporate “memory marks” allowing for self-duplication, carry out metabolic activities in a thermodynamically open system and exhibit non-Hamiltonian dynamics. Tsytovich et al conclude that these complex self-organized plasma structures possess all the necessary properties to qualify them as candidates for primitive inorganic living matter that may exist in partially ionized plasma in space provided certain conditions allow them to evolve naturally.

Uehara et al [9] have suggested that plasma physics should be considered a part of biological investigation, stating that “Plasma physics can be useful in the investigation of the physical properties of living cells. Concepts like charge neutrality, Debye length, and double layer are very useful to explain the electrical properties of a cellular membrane.”

Plasma exhibits a cellular structure as plasma of different densities and temperatures are naturally cordoned-off by electrical double-layers. This provides the closure necessary for minimal plasma cell systems to form.

Dark Plasma Life Forms

Following from the above implications, the possibility of minimal plasma cell-systems being generated in Earth’s dark plasma halo through non-linear dynamics and self-organization cannot be ruled out. Arc discharges (which may arise due to plasma polarizations brought about by a variety of factors; including thermodynamic considerations, particle mass and mobility) will generate plasma spheres or minimal plasma cells spontaneously in the dark plasma halo. This would allow Earth’s dark plasma halo to harbor a dark biosphere of minimal dark plasma cell-systems which would evolve into more complex dark plasma life forms over Earth’s history of more than 4.5Gyr. Some of these life forms, existing within the dark biosphere, would be superimposed on Earth’s atmosphere. These aerial life forms would have morphologies and behavior analogous to life forms proposed by Sagan and Salpeter [10] in Jupiter’s atmosphere.

Sagan and Salpeter [10] proposed that creatures resembling hot air balloons could exist in Jupiter's atmosphere. They based their hypothesis on the ecology of our oceans where different life forms existed at different depths. At the top, simple life forms such as plankton thrive; at a lower level fish exist which fed on these plankton; below this were larger marine predators which fed on the fish. The Jovian equivalents of these were the "sinkers", "floaters", and "hunters". The "floaters" were characterized as giant gas bags which generated heat through their own metabolism, feeding off sunlight and free molecules in Jupiter's atmosphere (composed largely of hydrogen and helium). They moved by pumping out helium. The "hunters" were squid-like creatures which used jets of gas to propel themselves and could grow to be many kilometers across.

Just like the gas giants in our Solar System, Earth's dark plasma halo would not have any hard surface. Hence, plasma life forms would essentially float in an oceanic type atmosphere of tenuous dark plasma. Earth's visible biosphere is a thin shell that has approximately a thickness of 2×10 km over a surface area of $4\pi r^2$ or 5.10×10^8 km² i.e. a volume of approximately 10^{25} cm³ (ignoring the negligible effects of the spherical curvature by treating it as flat space). The dark biosphere volume was estimated (see above) to be about 1.44×10^{30} cm³. The volume of the dark biosphere (assuming that all regions of the dark biosphere are habitable as a first approximation) is therefore five orders of magnitude larger than the Earth's visible biosphere i.e. 10^5 or 100 thousand times larger in volume than the known (visible) biosphere. (Nevertheless, it can be envisaged that different plasma life forms may occupy different ecological niches in different regions of the dark biosphere.)

Unicellular Life Forms

As observed by Uehara et al [9] and demonstrated by Lozneanu et al [6] and Tsytovich et al [7], plasma cell systems have a morphology strikingly similar to a living eukaryotic cell. Plasma cells, generated in the laboratory have a double layer (analogous to a cell's phospholipid bilayer membrane), a nucleus (or nucleoid region), filaments (analogous to a cell's cytoskeleton composed of microtubules and filaments) and rotary structures. These plasma life forms are therefore expected to have morphologies resembling single-cell life forms such as protozoans such as amoebae and paramecia. This suggests that plasma life forms did not evolve into multi-cellular life forms, unlike what happened on the visible Earth about 550 Myr ago.

It should not however be assumed that the cognitive systems of the more evolved species of these life forms are primitive. Indeed, the intelligence of life forms such as amoebae, which do not possess brains (i.e. dense collections of neurons), have been demonstrated in the laboratory. Plasma life forms are expected to have 'decentralized' cognitive and sensory systems. They are also expected to replicate like single-cell life forms i.e. through cell fusion, fission, budding and transgenically – giving some of them immortality (within geological time scales). During certain situations, plasma life forms are expected to have the ability to congregate to form super-organisms or to form endo-symbiotic relationships, similar to many types of single cell life forms found on the visible Earth. Single cell life forms are some of the most successful life forms on Earth and have existed for billions of years.

Generic Model of a Dark Plasma Life Form

Based on our model, more complex life forms would be expected to exhibit signature features frequently found in confined plasmas of SM particles in the laboratory, including filamentary currents, vortexes, hot spots (plasmoids) and double layers. These plasma life forms are dissipative structures far from equilibrium. Internally, signature plasma structures form through self-organization and non-linear dynamics. Lozneanu et al [6] have already shown that during the "embryogenesis" of the minimal plasma cell a well-located nucleus develops. It is surrounded by an electrical DL or "Langmuir" sheath which forms an enclosed near-sphere or ovoid. Filamentary electric currents could be expected to form in the electric field between the nucleus and the sheath. A typical primitive plasma life form would therefore be expected to exhibit features as schematically depicted here:

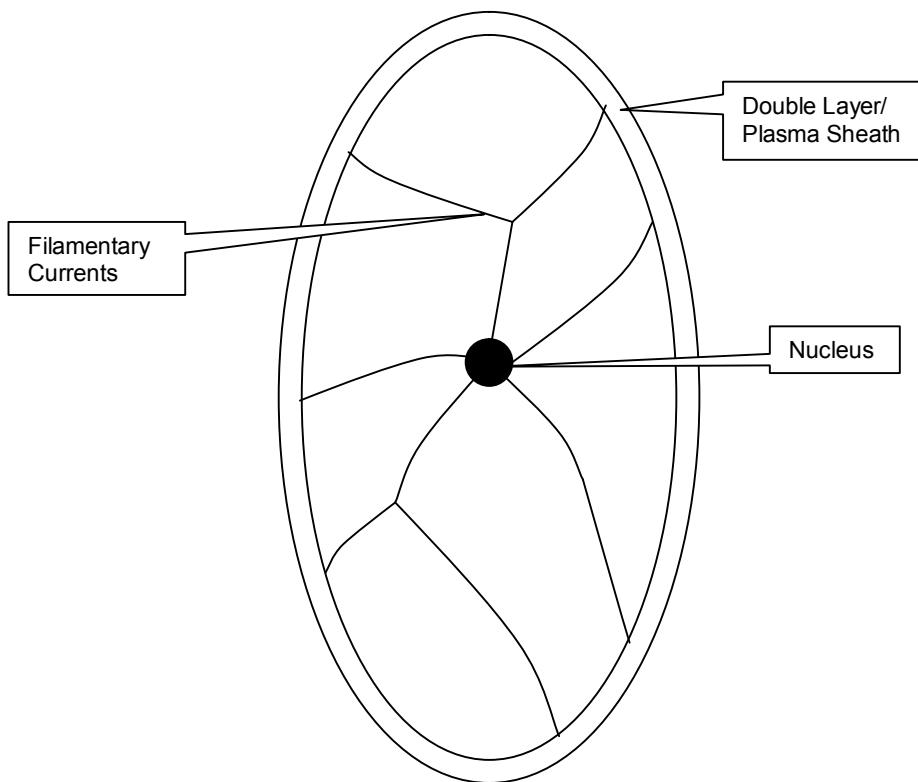


Fig 2: Stage 1: Nucleation Phase, Front View (face-on view)

Schematic Diagram of Internal Structures expected in a *Primitive Plasma Life Form*

Following this, as in biochemical embryogenesis, a longitudinal axis or mid-line will form. In the context of a plasma life form, a pair of axial currents would develop. One carries a heavy DM particle (analogous to the MSSM's heavy chargino) and has a dark negative charge. The other carries a light DM particle (analogous to the MSSM's heavy chargino) and carries a dark positive charge. Based on basic electromagnetics and consistent with Maxwell's equations, each current will generate an azimuthal magnetic field around it. Due to the magnetic force, at intervals, these currents, moving in opposite directions but carrying opposite charges, will be attracted to each other (based on Biot-Savart Law). They will pinch to form hot spots. Filamentary currents sprout out of the hot spots and connect to other parts of the ovoid, using the paths of least electrical resistance.

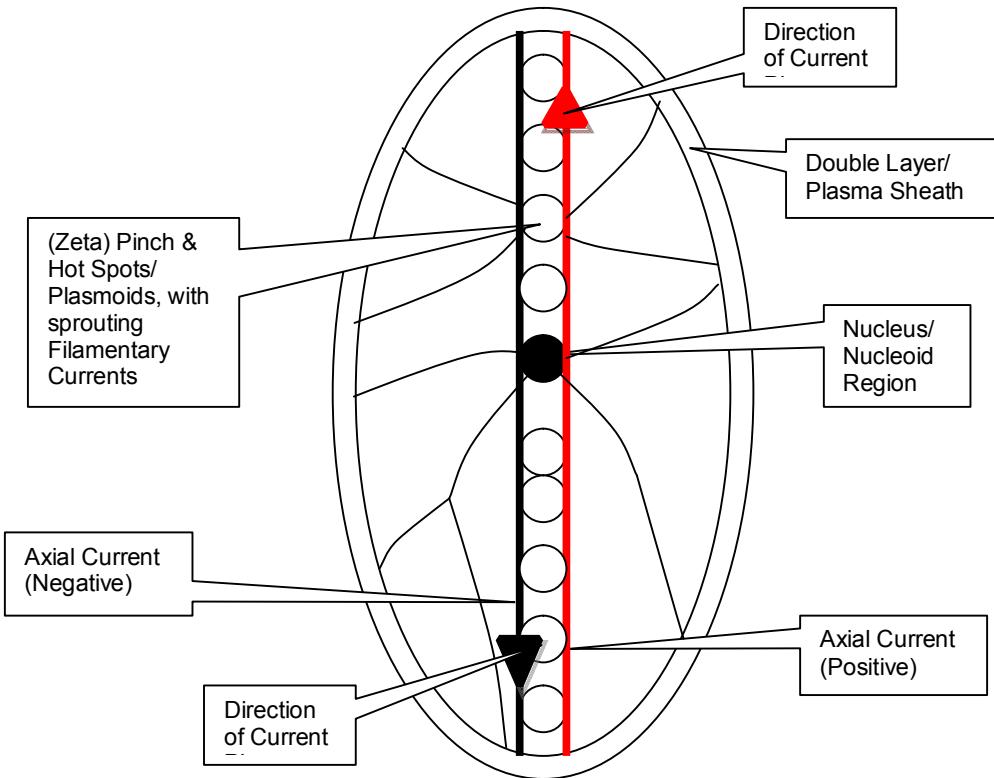


Fig 3: Stage 2: Axial Phase, Front View (face-on view)

Formation of Axial Currents, Hot Spots and Filamentary Currents

The hot spots will lie along the axis and emanate radiation of different frequencies (as in a confined plasma of SM particles). Particles moving up along the left negative axial current will be deflected sideways as they are attracted to the right axis. Conversely, particles moving down the positive axial current will be deflected sideways towards the left axis. The combined motions of the particles will impose a clockwise torque (face-on view), generating vortexes within the hot spots. These vortexes will be aligned with the pair of axial currents. Taking the ovoid's longer axis to be perpendicular to the ground, the polar vortexes will form facing the sky and the ground. In this orientation, the axis of the lateral vortexes will be parallel to the ground.

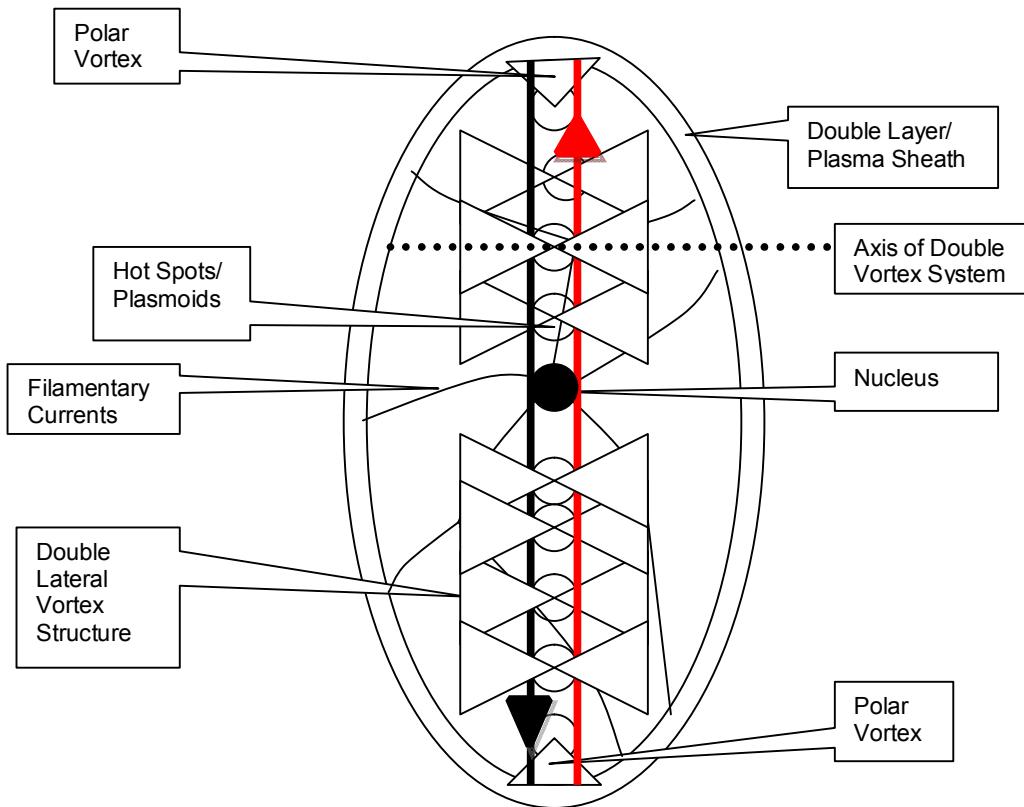


Fig 4: Stage 3: Vortex Phase, Side View

Vortexes form at Hot Spots

Simultaneously, double helical currents will appear around the axial currents.

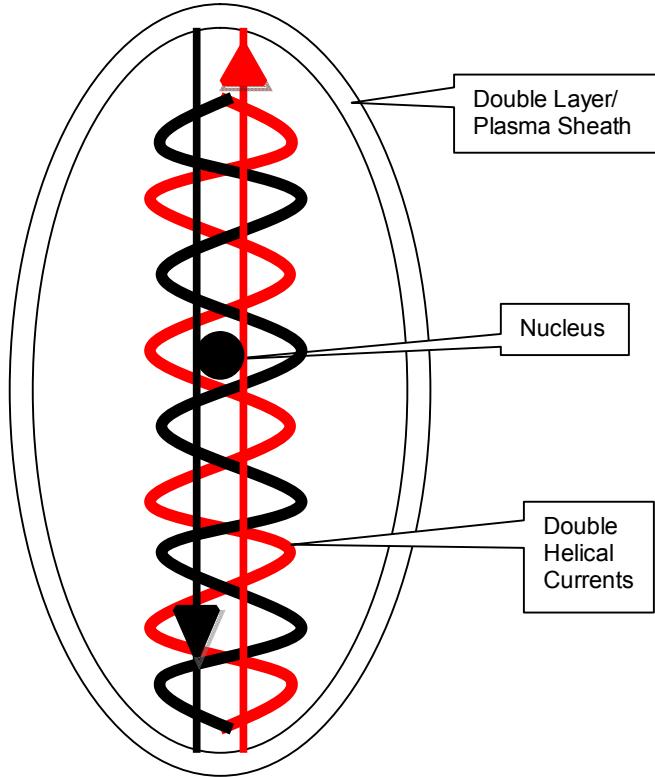


Fig 5: Stage 4: Helical Phase, Front View

(Face-on view, without other features to avoid over-crowding)

Helical Currents wrap around Axial Currents

In addition, smaller cells form within the biplasma with double layers around them. These double layers act like capacitors and have the ability to store (dark) electrical energy. A bank of capacitors is therefore expected to reside in the dark plasma body. As part of its metabolic activity, dark plasma life forms absorb charged particles through their vortexes and store this energy as potential differences within the double layers. The energy can be released gradually or in bursts. The filamentary currents will form circuits that carry dark electrical energy around the dark plasma body and obey Kirchhoff's and other electric circuit laws.

The hot spots in the dark plasma body are expected to generate (dark) bremsstrahlung radiation as the two species of particles skirt each other and (dark) cyclotron radiation as they rotate around the axis of the vortex. These life forms would be expected to emit dark radiation [3] as a result of metabolic activities. As these radiations are absorbed and re-emitted, the bodies of these plasma life forms would behave as near blackbody radiators. In this connection Wien's Law and Stefan-Boltzman Law in the context of dark radiation would apply to observations of dark plasma life forms.

An estimate of the weight of a plasma life form, the size of a human being, can be made. A man weighing 100kg is approximately 100 liters or 10^5 cm^3 in volume. Furthermore, the human carbon-based body has a density approximately that of water – the surrounding medium. Assuming that plasma life forms have similar densities to the surrounding medium of dark plasma, i.e. a mean density of approximately $10^{-14} \text{ kg cm}^{-3}$ (as estimated above) and an approximate volume similar to the human body of 10^5 cm^3 , the lower bound of the weight of a human-sized biplasma body is estimated to be: $10^5 \text{ cm}^3 \times (10^{-14} \text{ kg cm}^{-3})$,

multiplied by the gravitational acceleration of 10 ms^{-2} , or approximately 10^{-8} Newtons. The actual weight of the biplasma body is expected to be at least a few orders higher. (For example, the density and weight of an animal on land or a fish in the sea, compared to the medium in which it is immersed in (the air and water, respectively) is many times the medium. Nevertheless, the weight of a plasma life form is expected to be extremely light, even when compared to a feather. The dimensions of a specific plasma life form are expected to be variable to a significant extent when its density increases or falls. The significant variations in size/volume are possible because of the very large inter-particle distance in low density plasma gas, analogous to the variations in size possible in a balloon filled with air.

Detecting Dark Plasma Life Forms

Dark plasma life forms are expected to possess a plasma frequency, defined as follows:

$$\omega_{dp} = \left(\frac{n e^2}{\epsilon_0 m} \right)^{\frac{1}{2}}$$

where "n" is the DM particle density, "e" the dark $U(1)_D$ Coulomb charge, "m" the mass of DM particle and ω_{dp} the dark plasma frequency. As can be seen from the equation above, the plasma frequency is inversely related to the mass of the particle. As DM particles are expected to be massive the dark plasma frequency is expected to be generally lower.

Generally, dark plasma is collisionless. However, during certain events when particle density increases the collision rate rises. Some oscillating DM particles within the dark plasma collide with the nuclei and electrons of ordinary matter atoms. This may happen for example, when the dark plasma life form is situated within a medium of air particles. If the plasma frequency is relatively high, the oscillations or jiggles caused by the positive and negative particles in the dark plasma are expected to collide with nuclei and electrons of SM atoms immersed within the dark plasma. This will generate light (as a result of scintillations), heat (due to the transfer of momentum) and electricity (when electrons get kicked-out of their orbitals during the ionization process, generating currents). This ionization process is described as the *Dark Ionization Process*. The process also generates short-lived ordinary plasma (i.e. composed of ordinary matter particles) which would usually dissipate after a short duration.

When this ordinary plasma is sufficiently dense it will reflect microwaves from radars and be detected by them temporarily and/or intermittently. The heat can be detected with infrared cameras and calorimeters. The light can be detected by cameras (if visible) and analyzed using spectrometers and bolometers. The frequencies generated by the ordinary plasma are expected to be mostly in the microwave segment of the electromagnetic spectrum, which is associated with electron oscillations in the ordinary plasma. These microwaves can generate heat in living tissue and anomalous sounds within the human cranium if the observer is within or at a near distance from the microwave source.

A plasma life form within the Earth's atmosphere would therefore be expected to have both a dark plasma component (which emits the primary dark radiation) and an intermittent ordinary plasma component (which generates the secondary ordinary radiation).

The ordinary plasma would increase in density and frequency as the plasma frequency of the dark component increases as the collision rate rises with increased particle density. If the plasma frequency of the dark plasma increases significantly, the frequency of the ordinary electromagnetic waves radiated by the ordinary plasma would move up into the visible segment of the electromagnetic spectrum temporarily and/or intermittently. These can be detected using cameras (so long as this frequency is higher than the plasma frequency of the ordinary plasma).

Since the density of dark matter particles within the dark plasma blobs is much higher than the spaces between the blobs, only extremely small amounts of radiation (which will fall below normal detection levels) will emanate from these spaces. (At galactic levels a microwave glow is predicted from the production of the ordinary plasma via collisions with the particles in dark plasma.)

A low level of microwave radiation will, however, emanate from invisible (generally fast) moving point sources (i.e. the dark plasma life forms) which would be spread out over a very wide area (as discussed above, the dark biosphere is more than a thousand times larger in volume than the visible Earth).

Furthermore, most of these life forms do not have to be restricted to the surface of the Earth i.e. the thin biosphere where most ordinary matter life forms exist. Hence, encounters between plasma life forms and humans would be extremely rare.

As can be seen from the graph below, the predominant frequencies generated by the temporary ordinary plasma will be low, mostly in the microwave region, but would also include radio waves and infrared waves on either side. Occasionally it will be high enough to be detected at visible wavelengths and more rarely extending beyond this into the ultra-violet region. The “light curve” generated by the temporary ordinary plasma of a dark plasma life form would therefore span the frequencies as shown in the schematic diagram below.

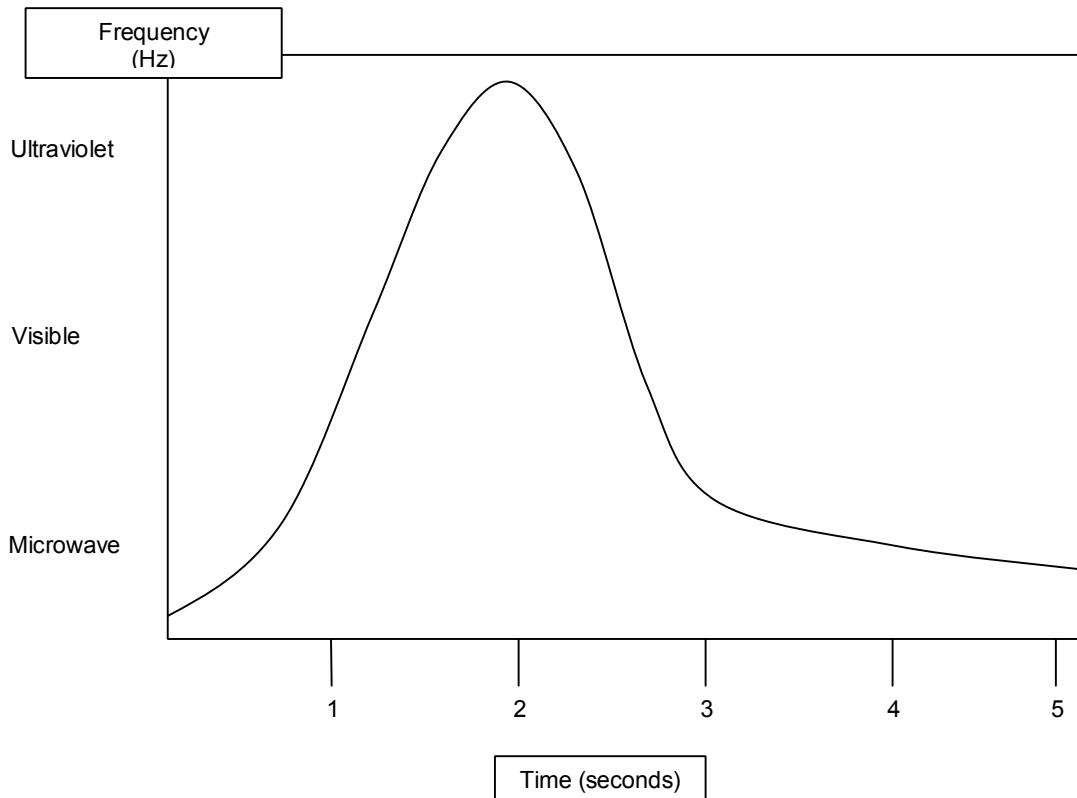


Fig 5: Expected Light Curve of a Plasma Life Form

In the galactic halo, this (secondary) radiation would be extremely feeble due to the extremely low density of dark massive particles. However, at the centers of galaxies this would give rise to a broadband spectrum of SM radiation, including radio, X-rays and gamma rays. The plasma frequency would be much higher here as the particle density (and collision rate) is significantly higher.

The direct (primary) radiation from these dark plasma life forms will not be easily detectable by our current instruments (which are composed of particles that generally do not interact or couple with the direct radiation). However, secondary (SM) radiation, particularly in the microwave bands could indicate the presence of low energy plasma life forms near the Earth's surface. A microwave glow is predicted before the visual detection (and also a microwave after-glow subsequent to the visual detection). In other words, a visual sighting could be predicted by first detecting the microwave glow, then noting its evolution. If the frequency continually increases, a visual sighting is likely to occur. This may be captured using cameras (both at visible wavelengths and infrared) and photometric detectors. For more advanced analysis of the radiation, spectrometers and bolometers may also be used. Calorimeters could be used to detect anomalous heat generation.

DM particles may be generated in the LHC (Large Hadron Collider) experiments and subsequently harnessed. When this happens, transmitters and receivers composed wholly or partially of dark matter may be manufactured to transmit and receive dark electromagnetic waves. In this way messages could be sent to intelligent life forms in the dark biosphere. This could form the basis for a SITI (Search for Intra-Terrestrial Intelligence) project.

Unidentified Aerial Phenomena (UAP)

The British Ministry of Defense ("MOD") [17] completed a 4 year study (1996 to 2000) on "Unidentified Aerial Phenomena" (UAP) which looked at data over a 10 year period. UAP objects detected by the MOD through radar interceptions were attributed to unknown plasma objects in the atmosphere. The MOD study also alluded to the possible existence of plasma life forms due to the reported intelligent life-like behavior of these UAPs. Constable [18] has photographed many aerial objects using fast infrared film which he claims as evidence of "plasmatic life forms" inhabiting Earth's lower atmosphere. This possibility is also supported by the analysis in the previous sections. This provides evidence of clumps or blobs of dark plasma that populate the atmosphere which are detected when the ordinary plasma generated by dark plasma interact with SM particles.

The MOD researchers concluded that "It is not certain that the radiation/fields [generated by the UAPs] are conventional and electromagnetic in nature...any pursuit of this process of identification or elimination is pointless if it turns out that UAP radiation is other than EM [electromagnetic] radiation as we currently understand it." [17] In the context of this paper, this unknown radiation (which may be mixed into ordinary electromagnetic radiation) is conjectured to be dark electromagnetic radiation emitted by dark plasma life forms superimposed on the visible Earth's atmosphere.

Conclusion

The notion that dark matter is in the form of plasmas of exotic particles, that a tenuous halo of dark matter particles surrounds the Earth and that plasma life forms evolved after minimal plasma cell systems were spontaneously generated through plasma dynamics and self-organization in Earth's dark biosphere have previously been discussed in the popular literature [11, 12, 13, 14]. "Dark light" and the rich phenomenology of dark matter have also been explored in this literature.

An additional source of dark plasma (which may include minimal dark plasma cells) that was deposited on Earth over its history would include blobs or clouds of dark plasma carried by meteorites, asteroids and comets. This could support a "dark panspermia" theory [15].

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**Creation of Minimal Plasma Cell Systems
by Self-Organization in Earth's Dark Biosphere
leading to the Evolution of Dark Plasma Life Forms**

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Abstract

We explore the possibility that the visible Earth is sitting inside a low density halo of dark plasma. Furthermore, noting work which suggests that minimal ordinary plasma cell-systems can be generated in the laboratory, we suggest that minimal dark plasma cell-systems were generated within this dark halo/biosphere in the early Earth. We predict the existence of terrestrial dark plasma life forms which evolved from these minimal plasma cell systems. We explore the morphology of these plasma life forms and predict that they would exhibit signature features associated with well-structured plasma bodies in the laboratory.

I. INTRODUCTION

Recent computations suggest that the dark matter density in the Solar System and around the Earth [1, 2] exceeds the galactic halo density significantly. This aggregation of dark matter particles around the Earth forms effectively a halo of dark matter particles. It has also been proposed that dark matter may be composed of plasmas of exotic particles [3].

It therefore logically follows that a dark matter halo exists around the visible component of Earth composed largely of plasmas of exotic particles.

Laboratory experiments have suggested that plasma spheres may be generated spontaneously in the laboratory through self-organization. These spheres appear to possess attributes commonly associated with life forms [6]. Furthermore, more recently, numerical computer simulations have suggested that complex plasmas may naturally self-organize into stable interacting helical structures that exhibit features normally attributed to DNA (Deoxyribonucleic acid) in organic living matter. The self-organization is based on non-trivial plasma dynamics [7].

From the above, it is feasible to theorize that partially ionized plasmas of exotic particles self-organized into minimal plasma cell systems, which possessed attributes associated with life forms, in the early Earth. It is proposed that these minimal cell systems then evolved on this planet over more than 4GYr to more complex plasma life forms that thrived in (what became) Earth's dark biosphere.

II. DARK MATTER DENSITY AROUND EARTH

The background galactic halo dark matter density ρ_{DM} is about $5.35 \times 10^{-28} \text{ kg cm}^{-3}$ [4]. The mass of dark matter within the Solar System, between 0.2 AU and 100 AU, as a result of gravitational capture, was estimated to be $1.07 \times 10^{20} \text{ kg}$ (or 1.78×10^{-5} the Earth

mass) [1]. The mass of dark matter was estimated to be 7.69×10^{19} kg within the orbit of Neptune and 3.23×10^{17} kg within the orbit of Earth (i.e. approximately within 1 AU). The dark matter density ρ_{DM} within the orbit of the Earth (or approximately 1 AU) would therefore be approximately 9.65×10^{-23} kg cm⁻³. This is greater than the background galactic halo dark matter density by five orders of magnitude.

Xu and Sigel's [1] estimate that the dark matter density around Earth exceeds the galactic halo density significantly has been correlated by Adler [2]. Anomalies relating to accelerations, observed during fly-bys of spacecraft orbiting the Earth, suggest that the dark matter density around Earth had been significantly understated. According to Adler [2] the magnitude of the observed anomalies requires dark matter densities many orders of magnitude greater than the galactic halo density.

Adler has suggested that by comparing the total mass (in gravitational units) of the Earth-Moon system (determined by lunar laser ranging) with the sum of the lunar mass (determined by its gravitational action on satellites or asteroids) and the Earth mass (determined by the LAGEOS geodetic survey satellite), a direct measure of the mass of Earth-bound dark matter lying between the radius of the Moon's orbit and the geodetic satellite orbit can be obtained. Based on this, the mass of Earth-bound dark matter must be less than 4×10^{-9} of the Earth's mass, giving an upper dark matter mass limit of 2.32×10^{16} kg. The mass of the Earth-bound dark matter is approximately one billionth of Earth's mass and therefore has negligible effects on gravity.

To explain the flyby anomalies, Earth-bound dark matter would have to be concentrated within a radius of about 70,000 km around Earth, within a volume of approximately $1.44 \times 10^{30} \text{ cm}^3$. For the dark matter mass within this volume not to exceed 4×10^{-9} of the Earth's mass, the mean dark matter density would have to be about $10^{14} \text{ kg cm}^{-3}$. This is greater than the background galactic halo dark matter density by fourteen orders of magnitude.

Frere, Ling, and Vertongen [5] have proposed that dark matter concentrations within our galactic neighborhood became bound to the Solar System during its formation. Adler [2] suggests that a large density within the Solar System could result from an accumulation cascade. In this scenario dark matter that accumulates within the Solar System (including the initial contribution during its formation) over its lifetime leads to further accumulation through gravitational capture. This cascade of Earth bound dark matter results in a dark matter density within the Solar System far exceeding the average density in the galaxy.

Adler [2] contends that dark matter particle density peaks at about 70,000 km, then reduces until it is much lower on the Earth's surface (although still higher than the background galactic halo density) and the interior of the Earth. Various methods were used to arrive at this conclusion. At 12,600 km, the LAGEOS satellite experienced smaller residual accelerations, due to drag effects, of $3 \times 10^{-12} \text{ ms}^{-2}$ compared to 10^{-6} ms^{-2} at higher altitudes.

The mean dark matter density on the surface of the Earth, assuming a steady-state situation and similar dark matter velocities at Earth's radius (at the surface) of 6,400 km and 70,000 km was estimated to be much lower at 10^{-23} kg cm $^{-3}$. This is still five orders of magnitude higher than the galactic halo density. Furthermore, the mean dark matter density in the interior of the Earth was estimated to be even lower, being not more than 1.07×10^{-28} kg cm $^{-3}$ (this is slightly lower than the background galactic halo density). The latter estimates were determined by Adler using a different method i.e. by analyzing the Earth's heat flow budget and luminosity, assuming a steady-state situation. Adler concludes that dark matter density is therefore much smaller near the Moon's orbit (which exceeds 70,000 km) and near the Earth's surface using a different set of analyses and assumptions.

Estimates of dark matter around Earth can be confirmed by further analysis of spacecraft acceleration anomalies and sensitive underground detection facilities. An enhanced Solar System density of dark matter particles would show up as a daily sidereal time modulation of dark matter particle counting rates in DAMA/LIBRA type of experiments, in addition to any annual modulation in the counting rate [2]. More accurate assessments of a larger sample of spacecraft acceleration anomalies and dark matter particle detections in the future, coupled with a more consistent measurement model, may alter the density profile of dark matter within the Earth system, particularly on the surface and the interior of the Earth, as proposed by Adler [2].

III. EARTH'S DARK MATTER HALO

Based on the analyses above [1, 2], we conclude that there exists a halo of dark matter particles around the visible component of the Earth within a radius of approximately 70,000 km. Considering that dark matter density varies significantly over different Earth radii, it is possible to model the dark matter density as being distributed in concentric shells of different particle densities around Earth.

A sphere of dark plasma with a radius of 70,000 km [2] has a volume of $1.44 \times 10^{30} \text{ cm}^3$. The volume of the visible Earth at a radius of 6,378km is about $1.09 \times 10^{27} \text{ cm}^3$. This means that the dark matter halo would be three orders of magnitude or about 1.32×10^3 or 1,320 times larger in volume than the visible rocky Earth. This approximates with the dimensional relationship between the volume of Jupiter's huge gas envelope and its tiny rocky core (the latter approximates the volume of the visible rocky Earth). In other words, we would expect an envelope of dark matter particles the size of Jupiter around the visible component of the Earth with a mean density of $10^{-14} \text{ kg cm}^{-3}$ [2].

Xu and Siegel [1] have also computed dark matter densities for other planets in the Solar System.

Planet	Fraction Captured	Mass Captured
Mercury	1.03×10^{-16}	$2.09 \times 10^{-14} M_{\odot}$
Venus	8.71×10^{-16}	$1.77 \times 10^{-13} M_{\odot}$
Earth	9.41×10^{-16}	$1.91 \times 10^{-13} M_{\odot}$
Mars	2.91×10^{-16}	$5.91 \times 10^{-14} M_{\odot}$
Jupiter	1.23×10^{-13}	$2.50 \times 10^{-11} M_{\odot}$
Saturn	7.06×10^{-14}	$1.43 \times 10^{-11} M_{\odot}$
Uranus	2.87×10^{-14}	$5.83 \times 10^{-12} M_{\odot}$
Neptune	3.98×10^{-14}	$8.08 \times 10^{-12} M_{\odot}$

Fig 1: Dark Matter around Planets [1]

It is predicted that there should be dark matter halos around planets; and purely dark matter halos and blobs (occupying volumes comparable to planets but with low densities of dark matter particles) within the Solar System that would cause anomalies in spacecraft accelerations that will be measured in the future.

IV. EARTH'S DARK PLASMA HALO

It has been proposed that dark matter may be composed of plasmas of exotic particles [3, 11, 12, 13, 14]. Ackerman et al [3] propose a new long-range $U(1)_D$ dark abelian gauge field ("dark electromagnetism") that couples only to dark matter, not to the Standard

Model (SM), with gauge coupling constant g_D and dark fine structure constant $\alpha_D = \frac{g_D^2}{4\pi}$. (The “D” subscripts refer to the dark sector.) The field, which is taken to be initially a singlet under $SU(3)_C \times SU(2)_L \times U(1)_Y$, is anomaly free and provides the right relic abundance at thermal freeze-out. The correct relic abundance can be obtained if the dark matter couples to the conventional weak interactions. Under an extended model, DM particles are charged under both $SU(2)_L$ and $U(1)_D$.

The dark matter consists of an equal mixture of positive and negative charges under the new force which is mediated by “dark photons” that are the source of “dark radiation”. In the most basic scenario, they [3] propose a dark sector which consists of a single particle X with $U(1)_D$ charge of +1 along with its antiparticle \bar{X} with a charge of -1. In other words, it is a plasma of positively and negatively charged particles and anti-particles or an “ambiplasma”. Since the galactic DM halo is overall neutral under $U(1)_D$ there are no net long-range electromagnetic interactions in the dark sector. Quasi-neutrality is of course a general feature of plasma. Plasma effects in dark matter dynamics are therefore expected. However, these effects are only very briefly explored in Ackerman et al’s paper [3].

Annihilations between particle and anti-particles are suppressed and dark matter will be effectively collisionless if the dark matter mass is sufficiently high, in the TeV range, and the dark fine structure constant $\alpha_D < 10^{-4}$ outside the galactic cores. Inside galactic cores,

however, annihilations are expected to occur when the density of dark matter reaches high values. If this is the case, then annihilation radiation in the form of gamma rays from the center of our galaxy may be detectable to distances of tens to hundreds of Mpc and would provide evidence of the existence of dark matter in the center of the Milky Way.

Results from the INTEGRAL satellite [8], however, do not support dark matter as the major source of the gamma rays from the center of our galaxy. This is because it shows an asymmetry of emission (by a factor of two) with respect to the central axis of the galaxy, which is correlated more with the distribution of low mass X-ray binaries than with the predicted distribution of dark matter in the galactic core. The question of whether anti-dark matter actually exists is an empirical matter for further investigation. The fact that there are no significant sources of gamma (annihilation) radiation within a radius of 70,000 km from the center of the Earth (i.e. within Earth's dark plasma halo), despite the estimated high density of dark matter around this region, rules out large amounts of anti-dark matter in the vicinity of the Earth.

The dark plasma envisaged in this paper would therefore consist of positively and negatively charged particles with varying mass, similar to the attributes of the heavy and light charginos under the MSSM (Minimal Supersymmetric Standard Model), together with neutrals (such as MSSM's neutralinos). The dark tenuous plasma in the Earth system would therefore be composed of partially ionized plasmas of heavy and light DM particles with opposite $U(1)_D$ charge, together with neutral DM particles.

It is envisaged that the (percentage) difference between the masses of the charged DM particles are not as great as between the proton and the electron and more in line with the MSSM's heavy and light charginos. Due to the large inter-particle distance in tenuous plasma and the weaker dark electromagnetic interactions (approximately one hundred times weaker than ordinary electromagnetism) [3], recombinations would be less likely to occur. Partially ionized plasma bodies in the dark sector would therefore be long-lived.

It has to be noted, in this context, that even a partially ionized gas in which as little as 1 percent of the particles are ionized can possess the properties of a plasma (i.e. respond to magnetic fields and be highly electrically conductive). 99 percent of matter in the universe of ordinary matter is composed of (partially ionized) plasma. We expect the dark universe to be similarly composed.

From the findings in II and III, above, it follows that a tenuous (i.e. low density) dark plasma halo exists around the visible component of the Earth composed largely of plasmas of dark matter particles which interact weakly with SM particles.

It is proposed that the shape and volume of this halo is dynamic. This is primarily due to 3-body gravitational interactions between the Earth, Moon and the Sun. When the Moon and the Sun are aligned relative to the Earth (as in a solar eclipse), their combined gravitational effects on Earth's halo will stretch the tail of the halo to extend to the Moon's own dark matter halo. Since particle density can also change due to these influences, the size of the dark plasma halo also undergoes changes (just like Earth's

visible atmosphere). The shape and size of this dark plasma Earth is therefore dynamical and would be constantly size and shape-shifting much like Earth's magnetosphere.

The dark halo, with a total mass much lower than the visible Earth (it does not exceed 4×10^{-9} of the Earth's mass [2]), would be gravitationally coupled to the Earth and corotate with it. Furthermore, just like the Sun (which is a near-sphere composed of plasma) and Jupiter, it would be expected to experience differential rotation; with the maximum rate of rotation in the equatorial region slowing down towards the direction of the poles. A day in the dark halo (as measured by one full rotation of the halo at the relevant latitude) would therefore vary from location to location although the year would be the same as the visible Earth (as the halo is gravitationally coupled to the visible Earth).

It is worth reflecting that the density of dark matter is almost 5 times that of baryonic matter in the universe. The average baryon density in the universe currently is about $10^{-33} \text{ kg cm}^{-3}$. The average mass density in the interstellar medium (ISM) is $10^{-27} \text{ kg cm}^{-3}$. This is many orders less than the computed densities of dark matter around Earth, within a radius of 70,000km, of about $10^{-14} \text{ kg cm}^{-3}$ (as discussed above). This, however, does not stop stars, composed of baryonic matter, to form with vast amounts of almost empty space in between. Similarly we expect dark plasma blobs to form and drift around the Earth even if the average density is low - just as dark matter clouds are believed to drift through the galaxy [16]. Adler [2] claims that we have detected these clumps or blobs in the form of anomalous accelerations of spacecraft during fly-bys and orbits of Earth.

Based on the above analyses, the attributes of the dark biosphere or “Dark Earth” can be estimated as follows:

	Dark Earth	Visible Earth
Mass	2.32×10^{16} kg	5.97×10^{24} kg
Volume	1.44×10^{30} cm ³	1.08×10^{27} cm ³
Mean Density	10^{-14} kg cm ⁻³	5.5×10^{-3} kg cm ⁻³
Mean Radius	70,000 km	6,371 km

V. MINIMAL PLASMA CELL-SYSTEM CREATED IN LABORATORY BY SELF-ORGANIZATION

Lozneanu et al [6] have generated “plasma cells” or more specifically, complex space charge configurations (CSCC) that display the attributes of a primitive organism in the laboratory. The CSCC spontaneously emerges when an electrical spark generates a well-located non-equilibrium plasma on the surface of a positively biased electrode within a cold plasma which contains free electrons and atoms in ground, excited and ionized states. The plasma evolves into a stable self-confined luminous, nearly spherical body, attached to the anode. Measurements using electrical probes reveal a positive nucleus surrounded by a nearly spherical boundary or electrical DL (double layer). Within the DL are adjacent space charge layers of opposite charge where electrostatic interactions take place in an electric field. (In this respect, the DL resembles a capacitor.)

Lozneanu et al [6] argue that, similar to biological cells, the electrical boundary of these self-assembled gaseous plasma cells provides an enclosed internal environment that

differs from the external environment. The boundary is able to sustain and control operations such as: (i) the acquisition and transformation of energy, (ii) rhythmic exchange of matter across the system boundary and (iii) continual internal transformations of matter. At a critical value of the anode potential, the CSCC detaches from the anode surface and escapes into a free-floating state. After its emergence, the CSCC is able to replicate, by division, and to emit and receive information. Lozneanu et al [6] believe that "the CSCC is potentially able to perform a further biochemical evolution into a 'living' cell."

Using numerical simulations, Tsytovich et al [7] show that complex plasmas may naturally self-organize themselves into stable interacting helical structures that behave like DNA (Deoxyribonucleic acid) in organic living matter. These structures incorporate "memory marks" allowing for self-duplication, carry out metabolic activities in a thermodynamically open system and exhibit non-Hamiltonian dynamics. Tsytovich et al conclude that these complex self-organized plasma structures possess all the necessary properties to qualify them as candidates for primitive inorganic living matter that may exist in partially ionized plasma in space provided certain conditions allow them to evolve naturally.

Uehara et al [9] have suggested that plasma physics should be considered a part of biological investigation, stating that "Plasma physics can be useful in the investigation of the physical properties of living cells. Concepts like charge neutrality, Debye length, and double layer are very useful to explain the electrical properties of a cellular membrane."

Plasma exhibits a cellular structure as plasma of different densities and temperatures are naturally cordoned-off by electrical double-layers. This provides the closure necessary for minimal plasma cell systems to form.

VI. DARK PLASMA LIFE FORMS

Following from I to V, above, we propose the possibility of minimal plasma cell-systems being generated in Earth's dark plasma halo through non-linear dynamics and self-organization. Arc discharges (which may arise due to plasma polarizations brought about by a variety of factors; including thermodynamic considerations, particle mass and mobility) will generate plasma spheres or minimal plasma cells spontaneously in the dark plasma halo. This would allow Earth's dark plasma halo to harbor a dark biosphere of minimal dark plasma cell-systems which would evolve into more complex dark plasma life forms over Earth's history of more than 4.5Gyr. Some of these life forms would exist in Earth's atmosphere (within the dark plasma halo). These aerial life forms would have morphologies and behavior similar to life forms proposed by Sagan and Salpeter [10] in Jupiter's atmosphere.

Sagan and Salpeter [10] proposed that creatures resembling hot air balloons could exist in Jupiter's atmosphere. They based their hypothesis on the ecology of our oceans where different life forms existed at different depths. At the top, simple life forms such as plankton thrive; at a lower level fish exist which fed on these plankton; below this were larger marine predators which fed on the fish. The Jovian equivalents of these were the

"sinkers", "floaters", and "hunters". The "floaters" were characterized as giant gas bags which generated heat through their own metabolism, feeding off sunlight and free molecules in Jupiter's atmosphere (composed largely of hydrogen and helium). They moved by pumping out helium. The "hunters" were squid-like creatures which used jets of gas to propel themselves and could grow to be many kilometers across.

Just like the gas giants in our Solar System, Earth's dark plasma halo would not have any hard surface. Hence, plasma life forms would essentially float in an oceanic type atmosphere of tenuous dark plasma.

Earth's visible biosphere is a thin shell that has approximately a thickness of 2×10 km over a surface area of $4\pi r^2$ or 5.10×10^8 km² i.e. a volume of approximately 10^{25} cm³ (ignoring the negligible effects of the spherical curvature by treating it as flat space). The dark biosphere volume was estimated (see above) to be about 1.44×10^{30} cm³. The volume of the dark biosphere (assuming that all regions of the dark biosphere are habitable as a first approximation) is therefore five orders of magnitude larger than the Earth's visible biosphere i.e. 10^5 or 100 thousand times larger in volume than the known (visible) biosphere.

VII. GENERIC MODEL OF A DARK PLASMA LIFE FORM

Based on our model, more complex life forms would be expected to exhibit signature features frequently found in confined plasmas of SM particles in the laboratory, including filamentary currents, vortexes, hot spots (plasmoids) and double layers. These plasma life forms are dissipative structures far from equilibrium. Internally, signature plasma structures form through self-organization and non-linear dynamics. Lozneanu et al [6] have already shown that during the “embryogenesis” of the minimal plasma cell a well-located nucleus develops. It is surrounded by an electrical DL or “Langmuir” sheath which forms an enclosed near-sphere or ovoid. Filamentary electric currents could be expected to form in the electric field between the nucleus and the sheath. A typical primitive plasma life form would therefore be expected to exhibit features as schematically depicted here:

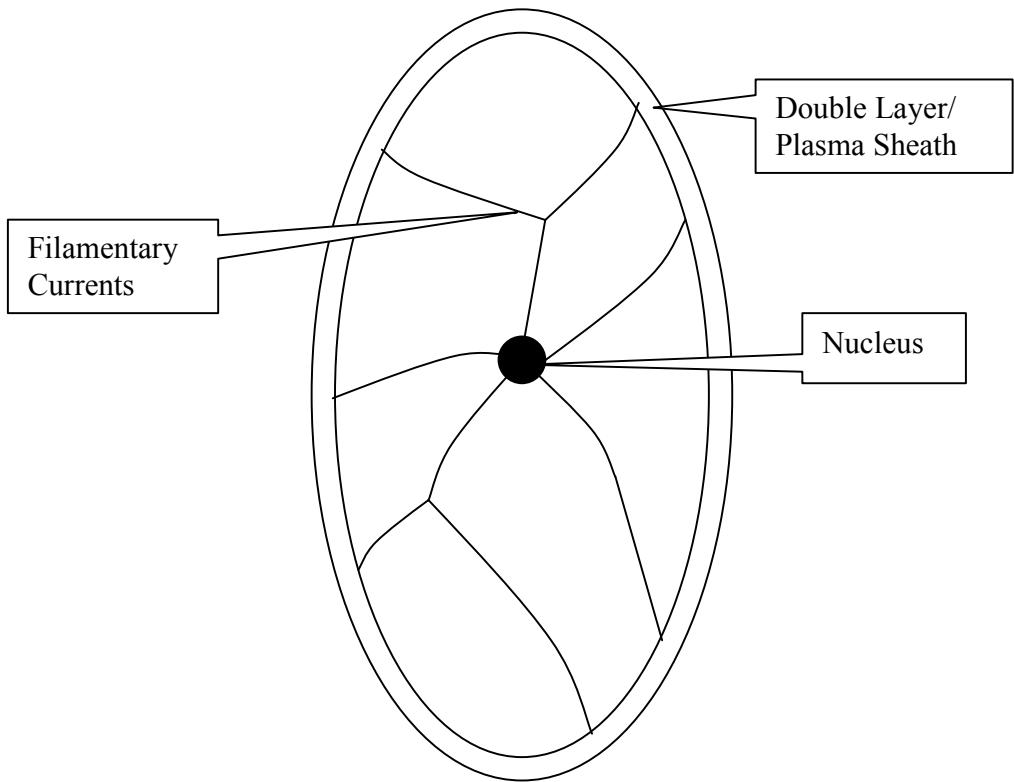


Fig 2: STAGE 1: NUCLEATION PHASE, FRONT VIEW (face-on view):

Schematic Diagram of Internal Structures expected in a *Primitive* Plasma Life Form

Following this, as in biochemical embryogenesis, we could expect a longitudinal axis or mid-line to form. In the context of a plasma life form, a pair of axial currents would develop. One carries a heavy DM particle (analogous to the MSSM's heavy chargino) and has a dark negative charge. The other carries a light DM particle (analogous to the MSSM's heavy chargino) and carries a dark positive charge. Based on basic electromagnetics and consistent with Maxwell's equations, we would then expect each current to generate an azimuthal magnetic field around it. Due to the magnetic force, at

intervals, these currents, moving in opposite directions but carrying opposite charges, will be attracted to each other (based on Biot-Savart Law). They will pinch to form hot spots. Filamentary currents sprout out of the hot spots and connect to other parts of the ovoid, using the paths of least electrical resistance.

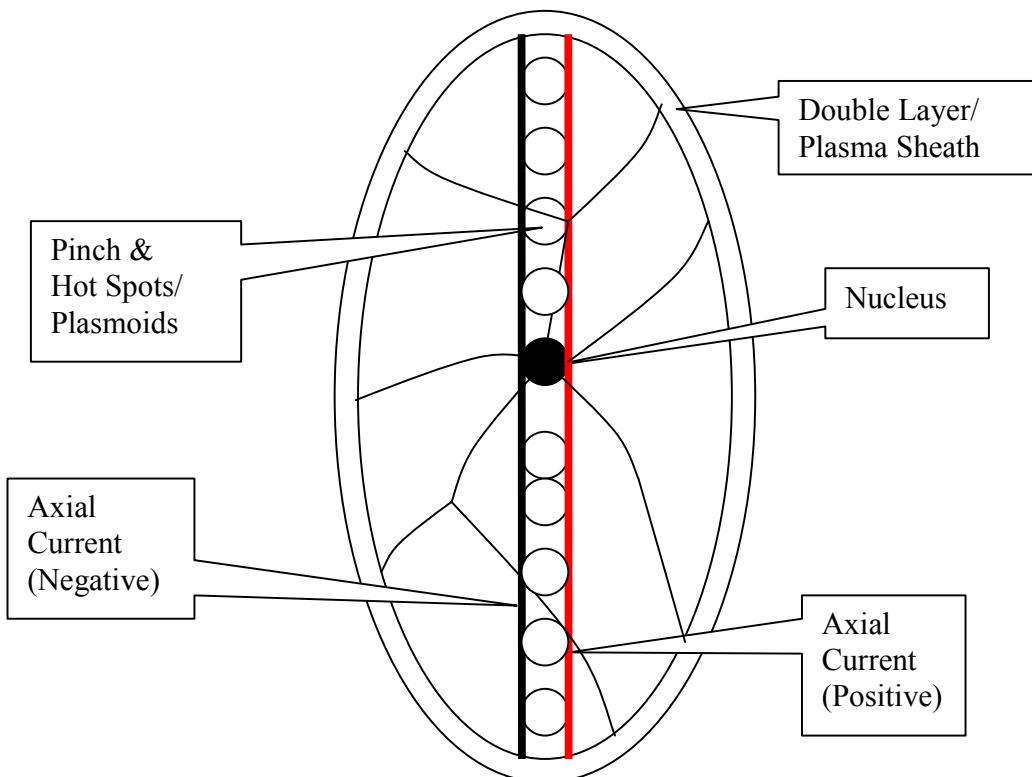


Fig 3: STAGE 2: AXIAL PHASE, FRONT VIEW (face-on view):

Axial Currents and Hot Spots form

The hot spots will lie along the axis and emanate radiation of different frequencies (as in a confined plasma of SM particles). Particles moving up along the left negative axial

current will be deflected sideways as they are attracted to the right axis. Conversely, particles moving down the positive axial current will be deflected sideways towards the left axis. The combined motions of the particles will impose a clockwise torque (face-on view), generating vortexes within the hot spots. These vortexes will be aligned with the pair of axial currents. The polar vortexes will form facing the sky and the ground if we imagine the ovoid's longer axis perpendicular to the ground. In this orientation, the axis of the lateral vortexes will be parallel to the ground.

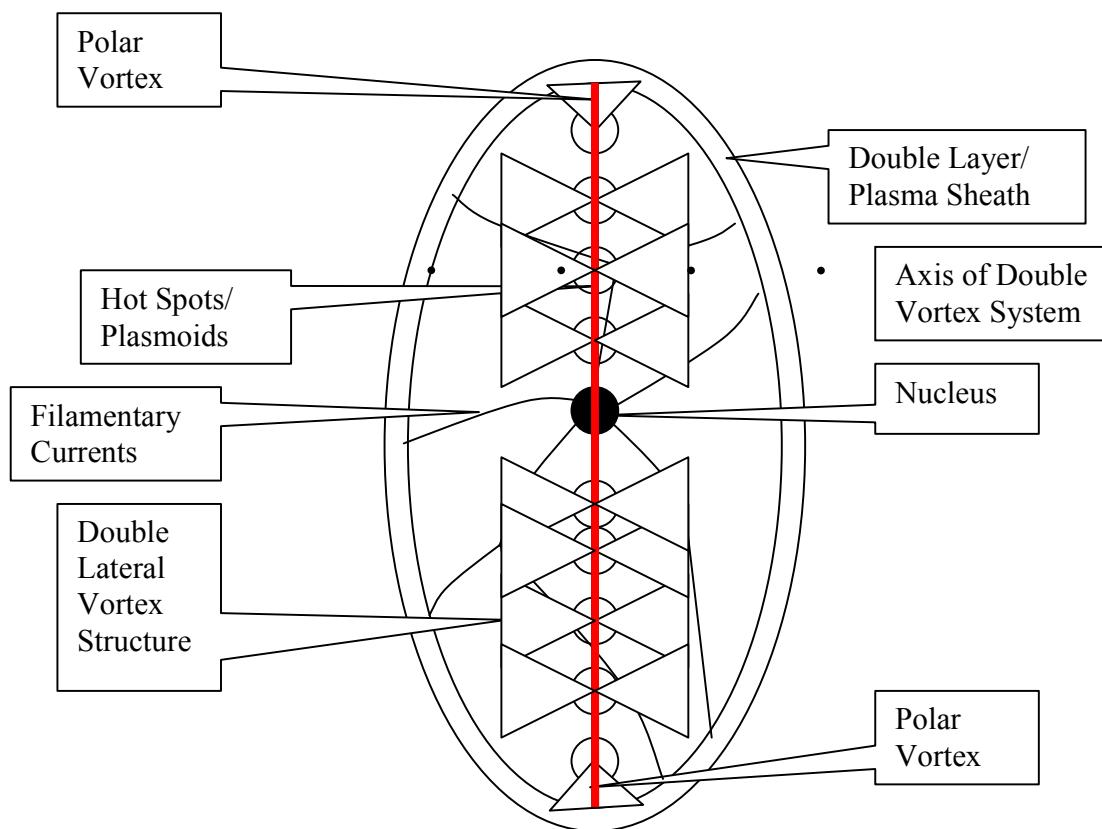


Fig 4: STAGE 3: VORTEX PHASE, SIDE VIEW:

Vortexes form at Hot Spots

Simultaneously, we would expect double helical currents to appear around the axial currents.

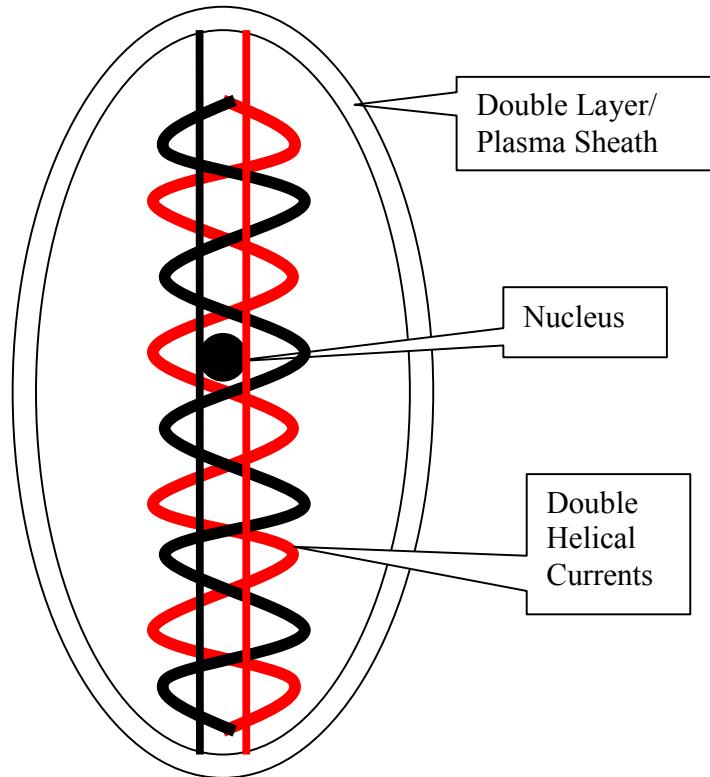


Fig 5: STAGE 4: HELICAL PHASE, FRONT VIEW

(face-on view, without other features to avoid over-crowding):

Helical Currents wrap around Axial Currents

In addition, double layers around cells (with plasma of different properties) form within the ovoid. These double layers act like capacitors and have the ability to store (dark) electrical energy. A bank of capacitors is therefore expected to reside in the dark plasma

body. As part of its metabolic activity, dark plasma life forms absorb charged particles through their vortexes and store this energy as potential differences within the double layers. The energy can be released gradually or in a burst. The filamentary currents will form circuits that carry dark electrical energy around the dark plasma body and obey Kirchhoff's and other electric circuit laws.

The hot spots in the dark plasma body are expected to generate (dark) bremstrahlung radiation as the two species of particles skirt each other and (dark) cyclotron radiation as they rotate around the axis of the vortex. These life forms would be expected to emit dark radiation [3] as a result of metabolic activities. As these radiations are absorbed and re-emitted, the bodies of these plasma life forms would behave as near blackbody radiators. In this connection Wien's Law and Stefan-Boltzman Law in the context of dark radiation would apply to observations of dark plasma life forms.

An estimate of the weight of a plasma life form, the size of a human being, can be made. A man weighing 100kg is approximately 100 liters or 10^5 cm³ in volume. Furthermore, the human carbon-based body has a density approximately that of water – the surrounding medium. Assuming that plasma life forms have similar densities to the surrounding medium of dark plasma, i.e. a mean density of approximately 10^{-14} kg cm⁻³ (as estimated above) and an approximate volume similar to the human body of 10^5 cm³, the lower bound of the weight of a human-sized bioplasma body is estimated to be: 10^5 cm³ x (10^{-14} kg cm⁻³), multiplied by the gravitational acceleration of 10 ms⁻², or approximately 10^{-8} Newtons. The weight of a plasma life form is therefore expected to be

extremely light. The dimensions of a specific plasma life form are expected to be variable to a significant extent when its density increases or falls. The significant variation in size is possible because of the very large inter-particle distance in a low density plasma.

VIII. DETECTING DARK PLASMA LIFE FORMS

Frequency

The dark plasma life forms are expected to possess a plasma frequency, defined as follows:

$$\omega_{dp} = \left(\frac{n e^2}{\epsilon_0 m} \right)^{\frac{1}{2}}$$

where “n” is the DM particle density, “e” the dark Coulomb charge, “m” the mass of DM particle and ω_{dp} the dark plasma frequency. As can be seen from the equation above, the plasma frequency is inversely related to the mass of the particle. As DM particles are massive the dark plasma frequency is expected to be generally lower.

Generally, dark plasma is collisionless. However, during certain events when particle density increases the collision rate rises. Some oscillating DM particles within the dark plasma collide with the nuclei and electrons of ordinary matter atoms. This may happen for example, when the dark plasma life form is situated within a medium of air particles.

If the plasma frequency is relatively high, the oscillations or jiggle caused by the positive and negative particles in the dark plasma are expected to collide with nuclei and electrons of SM atoms immersed within the dark plasma. This will generate light (as a result of scintillations), heat (due to the transfer of momentum) and electricity (when electrons get kicked-out of their orbitals during the ionization process, generating currents). The ionization process also generates short-lived ordinary plasma (i.e. composed of ordinary matter particles) which would usually dissipate after a short duration.

When this ordinary plasma is sufficiently dense it can reflect-off microwaves from radars and be detected by them temporarily and/or intermittently. The heat can be detected with infrared cameras and calorimeters. The light can be detected by cameras (if visible) and analyzed using spectrometers and bolometers. The frequencies generated by the ordinary plasma are expected to be mostly in the microwave segment of the electromagnetic spectrum, which is associated with electron oscillations in the ordinary plasma. These microwaves can generate heat in living tissue and anomalous sounds within the human cranium if the observer is within or at a near distance from the microwave source.

A plasma life form within the Earth's atmosphere would therefore be expected to have both a dark plasma component (which emits the primary dark radiation) and an intermittent ordinary plasma component (which generates the secondary ordinary radiation).

The ordinary plasma would increase in density and frequency as the plasma frequency of the dark component increases as we would expect the collision rate to rise with increased particle density. If the plasma frequency of the dark plasma increases significantly, the frequency of the ordinary electromagnetic waves radiated by the ordinary plasma would move up into the visible segment of the electromagnetic spectrum temporarily and/or intermittently. These can be detected using cameras (so long as this frequency is higher than the plasma frequency of the ordinary plasma).

Since the density of dark matter particles within the dark plasma blobs is much higher than the spaces between the blobs, only extremely small amounts of radiation (which will fall below normal detection levels) will emanate from these spaces. (At galactic levels we can expect a microwave glow from the production of the ordinary plasma via collisions with the particles in dark plasma.)

A low level of microwave radiation will, however, emanate from invisible (generally fast) moving point sources (i.e. the dark plasma life forms) which would be spread out over a very wide area (as discussed above, the dark biosphere is more than a thousand times larger in volume than the visible Earth). Furthermore, most of these life forms do not have to be restricted to the surface of the Earth i.e. the thin biosphere where most ordinary matter life forms exist. Hence, encounters between plasma life forms and humans would be extremely rare.

As can be seen from the graph below, the predominant frequencies generated by the temporary ordinary plasma will be low, mostly in the microwave region, but would also include radio waves and infrared waves on either side. Occasionally it will be high enough to be detected at visible wavelengths and more rarely extending beyond this into the ultra-violet region. The “light curve” generated by the temporary ordinary plasma of a dark plasma life form would therefore span the frequencies as shown in the schematic diagram below.

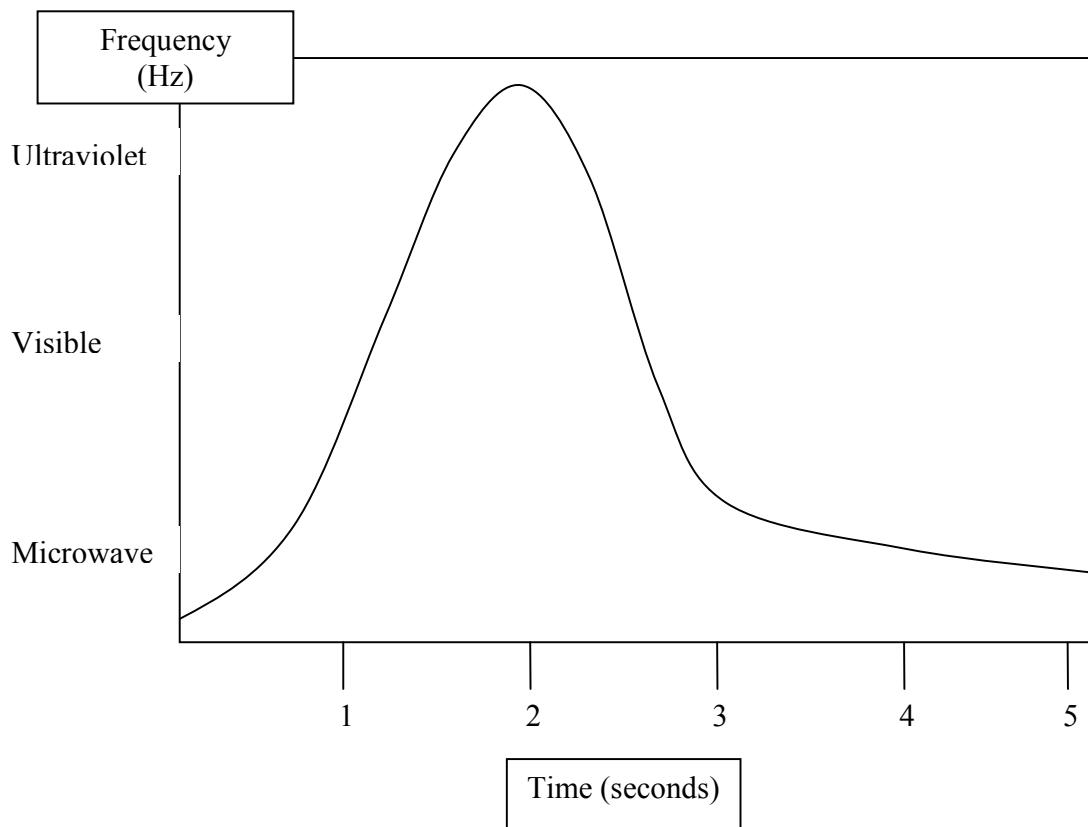


Fig 5: Expected Light Curve of a Plasma Life Form

In the galactic halo, this (secondary) radiation would be extremely feeble due to the extremely low density of dark massive particles. However, at the centers of galaxies this would give rise to a broadband spectrum of SM radiation, including radio, X-rays and gamma rays. The plasma frequency would be much higher here as the particle density (and collision rate) is significantly higher.

The direct (primary) radiation from these dark plasma life forms will not be easily detectable by our current instruments (which are composed of particles that generally do not interact or couple with the direct radiation). However, secondary (SM) radiation, particularly in the microwave bands could indicate the presence of low energy plasma life forms near the Earth's surface. A microwave glow is predicted before the visual detection (and also a microwave after-glow subsequent to the visual detection). In other words, a visual sighting could be predicted by first detecting the microwave glow, then noting its evolution. If the frequency continually increases, a visual sighting is likely to occur. This may be captured using cameras (both at visible wavelengths and infrared) and photometric detectors. For more advanced analysis of the radiation, spectrometers and bolometers may also be used. Calorimeters could be used to detect anomalous heat generation.

DM particles may be generated in the LHC (Large Hadron Collider) experiments and subsequently harnessed. When this happens, transmitters and receivers composed wholly or partially of dark matter may be manufactured to transmit and receive dark electromagnetic waves. In this way messages could be sent to intelligent life forms in the

dark biosphere. This could form the basis for a SITI (Search for Intra-Terrestrial Intelligence) project.

IX. UNIDENTIFIED AERIAL PHENOMENON (UAP)

The British Ministry of Defense ("MOD") [17] completed a 4 year study (1996 to 2000) on "Unidentified Aerial Phenomena" (UAP) which looked at data over a 10 year period. UAP objects detected by the MOD through radar interceptions were attributed to unknown plasma objects in the atmosphere. The MOD study also alluded to the possible existence of plasma life forms due to the reported intelligent life-like behavior of these UAPs. Constable [18] has photographed many aerial objects using fast infrared film which he claims as evidence of "plasmatic life forms" inhabiting Earth's lower atmosphere. This possibility is also supported by the analysis in the previous sections. This provides evidence of clumps or blobs of dark plasma that populate the atmosphere which are detected when the ordinary plasma generated by dark plasma interact with SM particles.

The MOD researchers concluded that "It is not certain that the radiation/fields [generated by the UAPs] are conventional and electromagnetic in nature... any pursuit of this process of identification or elimination is pointless if it turns out that UAP radiation is other than EM [electromagnetic] radiation as we currently understand it." [17] In the context of our current discussion, this unknown radiation (which may be mixed into ordinary

electromagnetic radiation) is likely to be dark electromagnetic radiation emitted by dark plasma life forms in Earth's atmosphere.

X. CONCLUSION

The notion that dark matter is in the form of plasmas of exotic particles, that a tenuous halo of dark matter particles surrounds the Earth and that plasma life forms evolved after minimal plasma cell systems were spontaneously generated through plasma dynamics and self-organization in Earth's dark biosphere have previously been discussed in the popular literature [11, 12, 13, 14]. “Dark light” and the rich phenomenology of dark matter have also been explored in this literature.

An additional source of dark plasma (which may include minimal dark plasma cells) that was deposited on Earth over its history would include blobs or clouds of dark plasma carried by meteorites, asteroids and comets. This could support a “dark panspermia” theory [15].

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Dark Plasma Theory Model - Clarifications

Dark Plasma Theory (which was previously known as ‘plasma metaphysics’) was published in 2006 by **Jay Alfred**.

DM particles within the scope of the DPT model are assumed to be:

1. Within the solar system.
2. Asymmetric dark matter (ADM). There is very little anti-dark matter in the same vicinity. Hence, annihilations are not considered.
3. Non-baryonic, exotic BSM (Beyond the Standard Model) particles.
4. Self-interacting dark matter (SIDM).
5. Charged, with a dark U (1) charge 100 times weaker than ordinary U (1) charge. This means dark heat and light can be generated and transmitted by dark photons which cannot be measured or felt by scientific instruments composed of ordinary matter particles except when certain events, such as the *Dark Ionization Process* takes place.

Other assumptions:

6. Dark matter is composed of varying proportions of CDM (Cold dark matter), WDM (Warm Dark Matter) and HDM (Hot Dark Matter).
7. Dark matter has a different thermal history from ordinary matter and is not in thermal equilibrium with ordinary matter.
8. Thomson scattering occurs when dark photons bounce off dark matter particles, causing dark plasma spheres to contain a diffused light.
9. Some dark matter is within this universe (i.e. a 3 dimensional brane with one time dimension) but the bulk is in other universes with its gravity being felt in this universe.
10. Atomized dark matter bodies are at the lower limit of dark plasma bodies where the degree of ionization is close to zero. In this case the dark matter body will be closer in structure and function with the carbon-based body.

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End

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