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BIO DARK-MATTER CHEMISTRY

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ABSTRACT

Where matter exists chemistry exists. The objective of this study was to examine the viability of applying principles of ordinary chemistry to "dark matter" particles with the outcome of extraordinary chemistry or "dark chemistry" akin to "SUSY Chemistry". Monopoles will substitute electric charges. Biophoton emission is considered as an evidence for weak interactions of "*light*" and "*dark*" chemical bonds. A differential distribution of the dark particles across the taxa predicts a ratio of biophoton emission rates between plants and humans which agrees with reported experimental value. The ancient notions of a "subtle body" and related anomalies may have a scientific basis.

Keywords: Dark-matter, biophoton, neutrino, monopole, axion.

INTRODUCTION

Dark-matter is estimated to account for eighty percent of all matter in the universe. It has very weak interaction, if any, with "*light*" matter. Kaplan et al (2009) proposed that dark matter exists as bound states of dark atoms. Then, *extraordinary* dark-matter chemistry and its bonds will exist corresponding to *ordinary* chemistry and its chemical bonds. There are many candidates suggested for dark matter such as axions, (Duffy et al, 2005, 2009, Erken et al, 2012), neutrinos (Davis et al, 1985, Lee et al, 2011) and monopoles (Gomez-Sanchez et al, 2011). Physicist Professor Nikolai Nijegorodov (2008) states: "in the nearest future physicists would prove, first theoretically and then experimentally that neutrino atom and neutrino molecules do exist. That would be enough evidence that life in the world of neutrino does exist". Okulov's (1981) neutrino model with magnetic charge (a point source of magnetic field analogous to the electric charge, *e*) predicts a non-zero mass. Fermionic axions have been theoretically shown to exist (Hooper and Wang, 2004). Gravitons may behave as charged particles with negative and positive color charges as well as magnetic color (H. Javadia et al, 2009). Malkus (1951) determined that the binding energies of monopoles to matter are close to those of chemical bonds, that the Dirac magnetic monopoles interact with matter and could be separated by strong magnetic fields. If dark-matter is confined to the galaxies only and if it has no chemistry, it is of no routine use for the biosphere. Chemistry and chemical bonds are essentially "spin" phenomena. Dark matter chemistry parallels SUSY chemistry (Clavelli et al, 2009); monopoles will substitute electric charges. If the *human mind* is purely a *quantum* byproduct of ordinary particles, then pan-psychism is inevitable, for which there is no experimental evidence. The *humaniqueness* idea of Hauser (2008) seems obvious and opposed to the late Harvard Prof. Gould's man-twig identity notion. Dark matter chemistry may perhaps give substance to the ancient notions of a "subtle body" or even Maya (EM being the Maya and non-EM being the Real) or the notions of Forms by Plato and Aristotle. It is materialism extraordinaire.

METHODOLOGY AND RATIONALE

Popp FA et al (1992, 1994) had established that all living cells spontaneously emit 380-780 nm ultra-weak photons (biophotons), from 1 to 1,000 photons/sq.cm/s, depending on the organism's position on the taxonomy scale and the vitality of the cells. ["The Field" by McTaggart (2008) gives an exhaustive bibliography]. Biophotons have these characteristics: 1. They are spontaneous, continuous and intrinsic to live matter only, not in robots. 2. They are ultra-weak photons with different frequency bands for different taxa 3. These photons are coherent natural lasers 4. Plants emit 100 photons/sq.cm/s which is 10 times more than humans. 5. Sick cells emit more than healthy cells, with sudden bursts at cell-death. 6. Its origin is unknown; the very similar DNA structures cannot account for the very dissimilar emission rates .No known chemical reaction including chemi/bio luminescence explains biophotons. The biosphere seems to have distinct photonic markers for its biodiversity which cannot be accounted for by the three fermions common to all matter. Besides, something more substantial than 0.1% genetic divergence must justify the difference between humans and chimps.

Ackerman et al (2009) and Feng et al (2008) posited that "dark matter couples to a new long-range force known as "dark electromagnetism," mediated by particles known as "dark photons." Ordinary chemical bonding occurs when two nuclei simultaneously attract one or more electrons. A two-state system of dark-matter atoms may be set up qualitatively with energy levels split between them, which result in an energy bond. A dark nucleus may consist of positive monopoles (*psychons*) and *neutrinos*. Adding a negative monopole (*emoton*) at a certain distance from the dark nucleus will constitute a dark atom. E0 is the ground state energy of two such nuclei A and B separated by an infinite distance. The *emoton* will switch positions between A and B. The exchange effects will split E0 into two sub-levels E0 +α and E0 -α where α is the probability amplitude for the exchange. The lowest energy level possible is when the *emoton* spends an equal time between A and B. It will depend on the distance between A and B. This causes "*bonding*". It is indeed much more complex than that, when various other *light* and *dark* particles are involved, but bonding energies and distances between A and B may be estimated for a qualitative basis of dark-matter chemistry. It has been proposed that they may yield dark Chemistries following the pattern of stable duet or octet configuration rules of ordinary chemistry, spin-spin interactions and couplings (Benjamin, 2003, 2007-A, 2007-B, 2010 A & B).

Biophotons form ultra-weak coherent laser beams, integral waves in phase, inexplicable by ordinary chemistries. Electromagnetic (EM) matter has very little, if any, direct interactions with non-EM dark matter. Primakoff effect may convert axions to photons and vice versa in *strong* electromagnetic fields, but biosphere has no such strong fields other than the weak geomagnetic field. With organism's complexity, biophoton emissions decrease and magnetic fields increase. The spectral distribution of biophotons is quite flat within the range of 300 to 800 nm. Bentov (1977) describes a series of energy exchange diagrams which illustrate different frequencies of different species. The vast differences in biophoton emission rates by an order of magnitude and the different bands across the taxa point to a differential distribution of bio dark-matter particles in plants, animals and humans (Benjamin 210). Benjamin (2003) proposed an axion-like bio dark-matter and its chemistry. These axions were called *emotons (E,)*, *psychons (P)* and *neumatons (N)* coupled respectively to electrons (e), protons(p) and neutrons (n) via spin-spin interactions. Electron/emoton pairs are common to all life forms, proton/psychon will be in animals and humans only and neutron/neumaton will be unique to humans as shown below.

Species	Particles	Stability Factor
Humans	(e/E) + (p/ P) + (n/ N)	3^3
Animals	(e/E) + (p/P) + n	3^2
Plants	(e/E) + p + n	3^1

Stability ratios of the dark-matter bodies will then be: 3^1: 3^2 : 3^3 (or 1:3:9) for plants, animals and humans, where the powers 1, 2, 3 refer to the *number of kinds* of *dark matter* particles (E,P,N) in each taxon, the base 3 refer to the number of kinds of *light matter* common to all (e, p & n). Biophoton emission rates will be inversely proportional to the stability factor. This predicts an emission ratio of 9:1 in plants and animals, agreeing closely with experiment. Only humans will have the most complete set and most stable dark bodies. Differential incorporation of dark particles will be governed by both "dark" and "light" genetics, similar to XX and XY chromosome production. An additional scheme for neutrinos will be the same, doubling stability factors without changing ratios of emission rates.

There is a correspondence here to the taxonomic gradation of sentience. Plants have only stimulus-response. Animals add intelligence. Humans add ratiocinative self-awareness. A triune continuum (Naumenko, 2002) of life seems to exist with a taxon dependent genetically determined makeup of the dark-matter bodies. The plant realm will be a spatio-temporal continuum via emoton E, corresponding to the universal electron. The animal realm will be the constitution continuum where the plant realm is continued with the addition of psychon P, (different from the Eccles dendron). The human realm will be the information continuum where the animal realm continues by the neumaton N which is unique to humans.

DISCUSSION

Physicalist Dualism

From an *ordinary* materialistic view, no single basic difference in constituent particles separates human beings from other animals or even plants. As such *pan-psychism* is inevitable for which there is no empirical or experiential evidence. Furthermore, 0.1% disparity in about 20 genes alone cannot account for the vast difference between humans and chimpanzees. In Sanskrit, Greek, Hebrew and Latin the root for soul and spirit is "breath" or "wind". As the ancients perceived the invisible "last breath" as the last sign of life,"breath" was identified as the "invisible life-source"- the subtle or spiritual body. Had the ancients been aware of dark matter, most probably soul/spirit would have been called dark bodies! A bio dark-matter body meets all the requirements of what is commonly called "spirit" or "soul". When fully decoupled at death from the light body of mass m, the non-entropic dark body of negligible mass will be left at a relatively negative energy state (-E = mC^2) which is needed to rise up this durable body to any functional level. That leavs little chance for roving ghosts. ET's/UFO's may be dark-matter entities at high energy states.

The "light" body is coupled to a verisimilar "dark" mirror body via their respective chemical bonds involving spin-spin interactions. Depending on the extent of dissociation of these coupling bonds, anomalous phenomena such as NDE, OBE can occur in extreme situations. Appropriate magnetic fields may also effect such dissociations (Persinger 2010, 2011). Cartesian dualism leads to the conundrum of a nonphysical mind in a physical body which lacks scientific evidence ((Kim, Jaegwon, 1993). However, a reductive physicalist dualism where mental events are dependent on physical events is viable if the *physical* dark matter and its chemistry are incorporated. Here the EM and non-EM bodies are *co-created* from the moment of conception subject to *dark* and *light* genetic codes. Then physical/nonphysical dichotomy is unwarranted. Dark-matter such as the neutrinos, axions and monopoles meet the requirements of what is usually considered *spiritual* or *mystical*. Being nonelectric they cannot be easily detected by ordinary (EM) tools.

Recycling, replacement, repair, apoptosis etc create constant flux in organisms at atomic, molecular, cellular and synaptic levels, within periods ranging from seconds to days or years. However, there is nothing kaleidoscopic about the mind or brain. Its processes including memories remain intact over a life time. How can transient and ever changing "structures" of brain retain the constancy and unity of mind, or effect memory consolidation and segregation of memories into short, medium and long terms? The durable *dark-matter cells* acting as *mirror cells* will store embodied shared representations, perhaps the universal archetypal symbols which then invisibly enable the brain to interpret the neuronal representations. That may be the basis for telepathy also. The dark and light bodies are in resonance at all levels. Resonance is recognition. Coupled with entanglements, that offers a framework for self-awareness, each recognizing the other. The causal agency for an observation or action is the combined system of dark and light bodies and their neural systems correlating light and dark neurobiological states and events.

CONCLUSION

Something that intuitively exists internally or externally as real, but is not able to make an impression on our senses need not be non-physical. The energetics of ordinary chemistries and chemical bonds in living cells cannot account for biophotons. Some very weak but continual interactions seem to exist. Most probably *dark* chemical bonds permeating *light* counterparts may transform their *bonding electrons* into very weak oscillating dipoles which then emit weak photons. Differential distribution of bio dark matter particles give *stability factors* which account for the experimentally observed ratios of biophoton emission rates across the taxa. In living matter governed by genetics, ordinary visible physical structures may co-exist with corresponding extraordinary invisible physical structures made of *dark* particles, both co-created from the moment of conception. In traumatic situations dark-matter chemical bonds may dissociate from their corresponding "light" matter bonds causing anomalous phenomena such as NDE, OBE. Low energy resonant magnetic fields can also cause the same effect. "*Channeling*" may be possible by alien *dark-matter beings* who are at a high energy state. Dark-matter chemistry gives new meaning to materialism and physicalism.

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