

The basics of A STILL UNUSED ONTOLOGY

Version 2 - May 2015

Henk de Weijer

weije265@planet.nl

Three ontologies

The world is familiar with three different ontologies, which are not only known but also applied and often heavily defended. The first is dualism, in which mind and matter, consciousness and energy, exist but are not understood to have a relation. The second, and an extreme ontology, is materialistic monism, in which energy is the single primitive, while consciousness is its derivative. The third, and also an extreme ontology, is idealistic monism, which is the opposite of materialism and only accepts observation, consciousness, but denies the existence of energy.

It is essential to realize that all ontologies are based on philosophical Open-World Assumptions, for which no scientific verification is required, promised or sought. Ontologies sketch a comprehensive and detailed or simple understanding of the Nature of nature. Unless a profound and layered understanding is included, acceptance of any ontology is subjective. Materialist science sees materialism as a clear and workable platform, without asking questions about the validity of the ontological assumptions.

Present definitions and their limitation

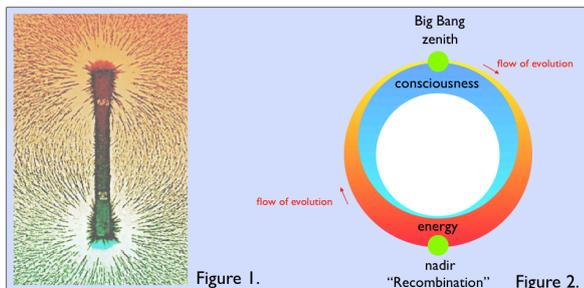
Without definitions, discussions lack clarity. Before continuing here, at least some thoughts about the above-mentioned energy and consciousness need to come up now. In science, an accepted definition of physical energy is: 'The capacity of a system to work.' Energy can take many forms, like mechanical, electrical, thermal or nuclear energy. Energy moves in accordance with the four forces of nature: gravity, the strong and the weak nuclear force and the electromagnetic force. Whatever rightly can be said, it

remains an unintelligent force. It cannot choose to move in the most efficient direction because it does not understand what is efficient. Organisms cannot deny any of the forces of nature, yet even the smallest cells have enough intellect to use them. That applies to the smallest organism in the same way as a university looks for the most appropriate teacher to shape its education and research in its various disciplines.

A definition of consciousness will meet more disagreement than a definition of energy. In science, the word is understood to mean 'subjectivity, personal experience, observation (awareness)' or 'something that we lose when we fall in dreamless sleep and regain when we wake up'. These definitions reduce consciousness to a single property, observation capacity. Indian philosophical systems give it a wider and deeper content. Samkhya imparts 'knowledge'; Advaita Vedanta and Advaita Siddhanta assign 'bliss' to consciousness and see it as the material cause of all forms, without defining this. Although that suggestion can be seen as an edition to the previous thought, it does not look for possible attributes of the material. David Chalmers hinted at what he called the 'hard problem of consciousness' by asking: "What causes subjective experience to emerge from objective matter?" Daniel Dennet gave a promissory reaction to this question: "The hard problem is a theorists illusion - something inviting therapy, not a real problem to be solved with revolutionary new science." That answer avoids the question.

Quantum physics has clearly shown the influence of observation. Observation causes the

collapse of the wave function, called quantum reduction. This quantum reduction means the superposition of the many 'eigenstates' into one. However, does this influence of observation explain coordination in even the simplest of organisms? Frankly speaking: what can be done with the concept of observation? One liver cell has about 10^{10} protein molecules. Not only liver cells, but all cells, molecules, and even atoms, possess at least observational skill. Atoms in a Bose-Einstein condensate have memory for a short time; this memory is empirically observed. How can the collapse of wave functions explain the complexity of the internal and external management of the 10^{14} cells in a human body? Not only that, the number of bacteria in a human body is 10^{15} . All cells and bacteria, each with their specific identity, need coordination to survive and reproduce. Observation alone does not suffice to explain what is the cause of this continuous flow of cohesive intra- and inter-activities. Different from the general assumption, consciousness cannot be equal to observation.



A fourth ontology

[floating image: 'Screen shot 2015-05-13 at 6.09.51 PM'] After what has gone before, there is reason enough to check whether all possible ontologies were investigated. Only little thought is needed to conclude that the answer needs to be 'no'. An obvious fourth, but nevertheless still unused, ontology - except in a number of Indian spiritual systems - is bipolarity. Bipolarity assumes that the two fundamental principles of consciousness and energy that underlie all phenomena of this universe are equivalent and always occur simultaneously. The Indian philosophers Abhinavagupta (950-1020) and

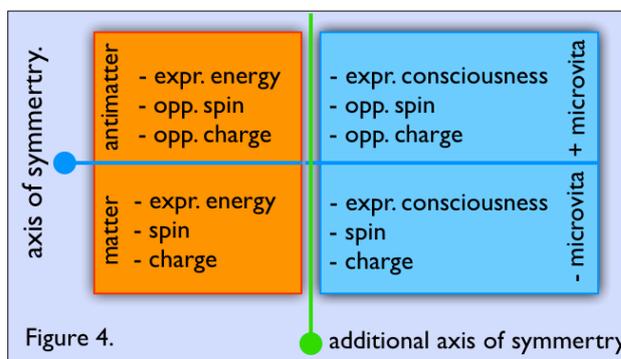
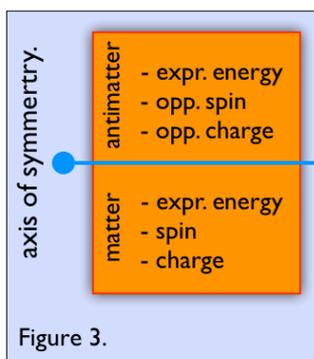
Gyaneshwar (1271-1296) lived this principle and described it in beautiful wordings. P.R. Sarkar also described it but did this in a way that could accommodate a new ontology, as well as a new approach to evolution.

In bipolarity, energy is accepted as a workforce, but a blind workforce. Consciousness, on the other hand, is not a blind force, but a substratum with attributes, like observational capacity, memory, intelligence, creativity, intuition and joy. It is considered to be the substratum of all forms, be it on macro or micro level.

'All phenomena of this universe', as mentioned earlier, must also relate to the very first and smallest particles of matter, on which elements and ultimately organisms, have their basis. Physics has not only shown the presence of particles and their antiparticles, but also that no preference of matter over antimatter exists. An almost perfect mirror-symmetry between matter and antimatter is accepted; (see Figure 3.) each particle has its antiparticle. Particle-antiparticle pairs exist, like quark-antiquark, electron-positron, proton-antiproton, neutron-antineutron or photon-antiphoton. Antiparticles have the same amount of mass and spin, but opposite charge. Photons have zero mass, neutral electric charge, are quanta of electromagnetic energy, and their spin is potentially right-handed and left-handed.

In accordance with the above ideas, another symmetry can be mentioned. A symmetry between the physical particles with expressed energy, but dormant consciousness and 'units' with expressed consciousness, but relatively small levels of energy, called 'microvita'. In Figure 4. they are noted down as '+ m.v.' and '- m.v.', which stands for positive and negative microvita. Such 'units', mainly consisting of expressed consciousness, are knowledgeable and creative; they 'know' what is proper and efficient, make individual or cooperative decisions and consequently are more or less living units.

Elementary and composite particles of energy do



work in accordance with the laws of physics. ‘Units of consciousness’ are different; they are intelligent, creative and active in the application of particles of energy. While the particles of energy are connected to entropy, microvita are connected to syntropy. These two do not compete but are complementary in all chemical and biological forms.

A natural question will arise now: ‘What causes the birth of these ‘local forms of conscious-ness’? Paraphrasing on Darwin my answer at present would be: “It is merely rubbish thinking, at present, about the origin of local forms of consciousness, microvita; one might as well think about the origin of local forms of energy.” In other words, why and how local forms of energy are born from nonlocal energy and local forms of consciousness from nonlocal, ubiquitous consciousness, remains a mystery, until this moment.

Complementary expression in bipolarity

These, admittedly speculative, ideas that arise from the idea of bipolarity, cannot have consequences for the form of the universe itself, but a change in the map of it, is unavoidable. Thoughts on chemistry, biology and evolution will not remain untouched. If everything in this universe is a composition of consciousness and energy, all forms, from subatomic particles, till multicellular organisms, must be composed of consciousness and energy. Since both are united in an inalienable concomitance, the expression of any bipolar unit is the expression of both together, which is 100%. The expression of each part is 100% minus that of the other. I.e., if the expression of energy is 20%, the expression of

consciousness is $(100-20) \% = 80\%$. In all subatomic particles, the expression of energy is dominant, so 100%, while consciousness remains dormant, so 0%. In microvita the expression of the two principles is opposite; consciousness has reached a high and energy a low level. Mind is a layered composition of various denominations of microvita. These microvita explain the presence of intelligence and other emotional, creative and intuitive characteristics.

Evolution

What is the consequence of this idea for evolution? After first the physical particles -elementary and composite fermions- emerged, the local units of consciousness -microvita- cooperated with them, which in the end resulted in complex organisms. It is the nature of the universe to seek full expression of conscious-ness, which can only occur after the full expression of energy. (See Figure 2.) Does this mean that the universe is the effect of a top-down teleological principle? No, the universe is the result of the intrinsic desire of consciousness for a full expression on local level. Evolution is the procedure to achieve this goal that only can be realized in human beings.

To have a clearer understanding, of the principles that are fundamental to evolution, the metaphor of a potter and his clay will be used now. Clay is the material cause for a new pot, but if the potter only sits next to the clay, no new pot will ever appear. The potter first needs a creative mind and develop a conceptual idea about the form and function of a new pot. Consciousness, with its conceptual creativity, is essential and, because of that, is the first efficient cause of forms. This conceptual

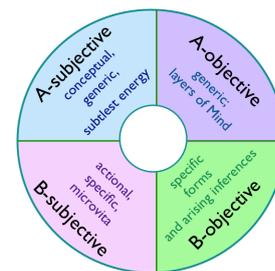
creativity is non-committal if it is not complemented by procedural creativity, the competence to be aware of the attributes of the substratum and the skill to complete the previous conceptual creativity in an appropriate form. Consciousness, with its dual creativity, is the first efficient cause that connects the potter and his desire of making a new pot. The mere presence of a willing, creative and skilled potter, as well as the most appropriate clay, is not enough to materialize a pot. All phases of this process need adequate amounts of energy. Because energy is a servant that follows intellect and creativity, it cannot be the first efficient cause, but is the second efficient cause of forms.

Macro and micro level

How to transfer this image to the nature of the universe? According to the Cosmological principle, the distribution of matter in our universe is, on a large scale, both isotropic and homogeneous. It is the same in all directions and has no specific location, like e.g. a center. The laws of physics apply everywhere and concern all particles of physics, as well as all-pervading space-time itself. Soon after the Big Bang local forms of energy were born from nonlocal energy. Since energy and consciousness are an inalienable concomitance, nonlocal energy must be accompanied by nonlocal consciousness. In the same way as local forms of energy emerged from nonlocal energy, local forms of consciousness emerged from nonlocal consciousness. Local forms of consciousness can only emerge with the inclusion of the presence and integration of still unknown forms of local energy. These local forms of consciousness are, what can be called, the ‘atoms’ and ‘molecules’ of mind. This integration of the two fundamental principles at nonlocal levels, resulted in the formation of Macro mind, and lastly in the formation of micro minds. Minds are overall managers of organisms, be it at the level of biological organisms or the complete universe.

The creative procedure in evolution

Bipolarity, the complementarity of two principles, is the basis of our universe. The two intimately connected levels of macro mind and micro minds are products of this bipolarity. It also applies to the universe with its already mentioned subjective, abstract platform and its objective, realized platform. Evolution of the noumenal and phenomenal universe is a creative development that starts with a conceptual idea in the generic, creative platform of the Macro mind (called Jina Purus’ a in Sanskrit). It is followed by the actional, specific creativity of microvita (called Krta Purus’ a). The order in which new subtle and concrete forms arise is, at present, in my idea as follows:



- 1 - Generic creativity develops a generic concept of a new, yet abstract reality, still without a concrete form.
- 2 - The specific creativity of microvita translates this concept into a specific procedure, on a long term basis by first developing an impetus for appropriate micro minds.
- 3 - This specific procedure is taken over by the generic potential of appropriate micro minds.
- 4 - The generic potential of individual minds uses the directions given, to develop a specific internal and/or external form.

The inclusion and procedure of creativity are not at all restricted to the evolution of new, concrete forms; they also lead to the formation of abstract forms inside the mind. Generic creativity decides whether an ongoing action will be continued, or a new one be taken up.

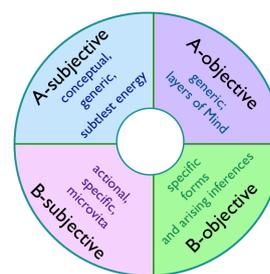
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