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Why We, The Living Beings, The World, The Universe Exist out of Nothing

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Abstract — We, the human beings, are totally dependent on model-dependent realism. For us, reality means the model interpretation of the input signals from the real world through our sensory organs. Our brains interpret the input signals by making a model of the real world. We establish mental concepts of our houses, trees, animals, the locality, and other people from the input signals taken by our sensory organs. These mental concepts are the only reality we are able to know about. In other words, for us, there is no model-independent examination or test of reality. An elaborated and detailed well-constructed model creates its own reality itself. To have an elaborated and detailed well-constructed model, it needs arbitrarily large number of input signals to form a lucid mental concept to comprehend in its totality by our psychology. We are afraid of calculations with infinity, but our brain always deals with infinite number of inputs to have each lucid, detailed, well-constructed model of mental concept. Our inbuilt biological systems never afraid to deal with infinity, just naturally able to deal with infinity, it is the man-made infinity we are afraid of. If the life is a game, there must be some winners as well as losers. In fact, there is no winner or loser. It is because there is no game or players. So, the game term is definitely a misleading terminology. We, the human beings, are just like natural robots (human beings or any other complex living beings are robots that came to existence after a long evolution process). The natural robots plays the game of life and nature pays in terms of stimuli (so called natural stimuli) the natural robots for their game of life. For us, some valid questions, why is the Universe that way it is? Why not any other way? Why is there something rather than nothing? Why is our existence that way it is? Are there a set of laws that govern the Universe, if so, why not the other laws? The laws of nature provide answers to us how the Universe behaves, but the laws never answer the why questions.

Keyword — Model-dependent Realism, Natural Robots, Alien, Negative Gravitational Force, Vacuum Energy, Isolated Body, Discrete Physical Time, Parallel Universes.

1. Introduction And Theory

A human being's cell is composed of roughly around ten trillion molecules [1]. The recently evolutional complex living beings are compounded with many complex systems of limited shape and size that are stable and can reproduce themselves [2]. Human brains respond to environmental stimuli, the so called natural stimuli and hence, it is the decision making ability of human beings [3]. Many people argue that self-awareness is something that is very unique to human beings and it is which gives them free will, the ability to choose from many different courses of actions. The free will gives us ability to choose one out of many options available to us. Our brain use optimization technique to choose one out of many options. Now, How can one tell if a being has a free will or not? If one encounters an alien, how can one tell if it is just a robot or has it a mind of its own? If the alien were a robot, the behavior of the robot would be completely determined by us unlike that of a being with the so called free will. Thus one could in fact detect that a robot is nothing but a being whose actions can be predicted. Well, this is totally impossibly difficult if the being is recently evolutionally large and complex. The human beings even cannot solve exactly the mathematical equations for three or more particles interacting with each other, i.e. the third or higher order equations [4-5]. Since an alien can be resembled like human beings that contain around one thousand trillion trillion particles even if the alien were a robot, it would be impossible for the human beings to solve these equations and resultantly predict of what it would do [6]. Thus, we therefore have to say that any recently evolutionally complex living beings have free will, not as a basic or fundamental feature but as an effective enough conclusion, an admission of our inability to do the numerical calculations of one thousand trillion trillion particles interactions that would enable us to predict what it would do. That is why we approximate all systems as linear systems ignoring the fact that all physical systems are non-linear, it is just desperate attempt to apply known predictable simple linear formulae, and we choose simple and linear because we running out of options to describe systems except simplicity and linearity. Is there a simple set of laws that can produce complex features resemblance to those of intelligent life like human beings? If it is, there must be a whole set of laws to define various features of intelligent life resemblance to human beings. Then what are the fundamental laws that govern the Universe? What are the laws of our Universe that define the evolution of the complex systems? It looks like the Universe is a whole set of isolated bodies of matter. Any set of laws that describes the real world such as our own free will must have a concept of energy, which is a pure function of discrete physical time for any intelligent life like us i. e. it

is not a conserved quantity at all for an individual living being or a particle matter. But the total energy of the whole Universe is a conserved quantity [7-8]. The energy of an empty space is a constant. To get the energy of any given volume of empty space, one must subtract out the constant vacuum energy of the same volume, which in turn leads to the result zero, which we can term as the constant zero. One requirement for the laws of nature that they must satisfy that the energy of an isolated body surrounded by empty space is positive in nature in the sense that one has to do work to assemble the body as an identity of an isolated matter [9]. It means the electro-magnetic force that binds the matter particle into an isolated body is must be a positive energy. Once the isolated body is formed by positive energy, it also produces the same amount of negative energy that sets up its gravity to satisfy the zero, the constant zero. If it were a negative energy for a particle matter, it would create a state of motion for the particle matter so that its negative energy is exactly balanced by the positive energy due to the motion of the particle to satisfy the constant zero (for a stable isolated body, one has to satisfy the constant zero condition of energy) [10]. If it were a negative energy, there would be no reason that particle matter or isolated bodies could not appear anywhere and everywhere. Then, The Universe would not be locally stable as it is now, it would not be so organized and ordered as it is now, the matter particle would have scattered erratic motion end up with a total mess in the Universe because the particle matter would appear anywhere and everywhere. Therefore, empty space would be unstable. For example, you left the room empty and you returned and found the room is filled with stones, marbles etc. which could create question on the stability of space and physical time. But that never happen because bodies cannot just create or appear anywhere and everywhere. But if it costs positive energy to create an isolated body, like us or Earth, such instability cannot happen because the negative energy counter balance so that the total energy of the Universe is a conserved quantity i.e. it must remain constant, the constant zero. That is the reason that the positive energy makes the Universe locally stable, but unstable globally. Because the Universe is locally stable is the reason that things just do not appear anywhere and everywhere out of nothing. If the total energy of the Universe is conserved i.e. it must be always remain zero, the constant zero and it costs energy to create a body, how can the whole Universe be created from the constant zero means nothing? That is the reason why there are laws like gravity. Because gravity is attractive, the gravitational force is negative because one has to do work to separate a gravitationally bound system such as Earth and Moon. The total negative energy is in balance with the positive energy needed to create an isolated body of matter particle [11]. The earth's gravitational energy is way less than the positive energy that the earth's matter particles are made of to form an isolated body [12]. The more rigid or solid the body, the more positive energy dominates over the negative energy. A body such as a star must have more negative gravitational energy and the smaller in size it is (the closer the different parts of it are to each other), the grater this negative gravitational energy will be. But the moment the negative gravitational energy is about to become greater than the positive energy of the isolated body of matter particle, the star will have the so called gravitational collapse to form a Black hole. Because nothing can escape even light from a black hole, it must have more positive energy than the negative gravitational energy. That is why empty space is stable; means bodies such as stars, black holes cannot appear out of nothing. But the whole Universe can appear out of nothing, it needs only to divide the constant zero into two parts, the positive energy to create the isolated bodies of the Universe, and negative energy to produce the gravity. That answers the question why a whole Universe can be created out of nothing. All we need positive energy to create Universe and once the Universe is created, it will be counter balanced by the negative energy like gravitational force to counter balance the positive energy to make the net energy zero, the constant zero. Because the gravitational force effect space and physical time, the space-time is locally stable, but globally unstable due to variation of gravitational energy. On the scale of the entire Universe, the positive energy is balanced by the negative gravitational energy, so there is no restriction on the creation of the whole Universes. Because there is law like gravity, the Universe will create itself out of nothing.

2. Energy Divisions With Parallel Universes

The particle matters or isolated bodies possess positive energy which is exactly cancelled by the negative gravitational energy. The anti-particle matters or anti isolated bodies must possess negative energy and their anti-gravitational force must possess positive energy which in the same way exactly cancels the negative energy that built the anti-particle matters or anti isolated bodies. Hence the anti-Universe is also locally stable, and anti-particle matter or anti isolated bodies just do not appear anywhere and everywhere out of nothing, but the whole anti-Universe can. The concept of parallel universes came with the invention of the fact that every particle has its own anti-particle [12 -14], every being or self has an anti-being or anti-self. So, there must be an anti-universe for our own universe. It is also true that when the particle and the anti-particle annihilate each other, it leaves with pure energy [15 -17]. Thus the pure energy (the constant zero energy) is separated into non zero positive and negative energies. A part of positive energy creates matter particle and it is stays as particle form and the rest is anti-gravitational energy that stays as energy form. Similarly, the negative energy has a part that is responsible to form anti-particle which stays as anti-particle matter form and the rest is gravitational

force that stays as energy form. So, a black hole must have an anti-black hole [18, 19]. When a black hole isolates itself from the rest of the Universe, the anti-black hole does the opposite. When a black hole shallows a matter nearby, the anti-black hole releases the same. The gist is that a reverse of everything is in the anti-Universe of what we are accustomed to in our universe. Because of opposite characteristic of an anti-particle matter, it is highly volatile in our Universe, if it is produced experimentally, also it need a huge amount of energy to produce it because of Einstein's famous equation-

$$E = mc^2$$

To produce anti-particle is highly costly, and feasibility is highly unlikely. So, all happenings of our universe are just reversed for the anti-universe. If positive energy dominates in our Universe, the reverse is true for anti-Universe; the negative energy dominates in the anti-Universe. Otherwise how an anti-black hole releases the bodies every time overcoming the positive anti-gravity when the black hole in our Universe shallow the bodies every time. If positive energy dominates to make our Universe stable and ordered, the negative energy dominates to make anti-Universe stable and ordered as well. The domination of either energy comes into play because of uneven distribution of each energy (say positive energy) into particle form (matter particle of our Universe) and energy form (anti-gravity for anti-Universe), similarly it is true for negative energy too which has an uneven distribution as anti-particle for anti-Universe and energy form that responsible for the gravity of our Universe.

3. Natural Robots

As we depend on the model dependent realism, we are extremely dependent on nature. We are extremely dependent on the inputs of our sensory organs. Actually we just respond to natural stimuli only. And our decision makings or free will or our deeds are also extremely dependent on natural stimuli. We may not have any mathematical tools to predict our free will, we may not be able to calculate the interaction of around ten trillion trillion cell's interaction in our body, we may not have tools to predict the seemingly probabilistic futurity, and we may not have tools to deal with infinity. We have to accept the fact that we have our anti-selves, the discrete physical time is just opposite and reverse direction for our anti-selves [20], i.e. our deterministic history in the sense that we cannot penetrate the history due to causality (the cause and effect relationship) [21, 22] because cause and effect are psychological interpretation of two successive discrete physical time instants (a sample of discrete physical time is the discrete physical time instant). The formation of next discrete physical time instant is the very cause of collapsing the earlier discrete physical time instant. So, we can never penetrate history, because the all previous discrete physical time instants are no more in a temporal form of our use. They either transformed to extra space for our expanding Universe or they become property of our anti-selves which are their probabilistic futurity. But the gist is our definite history is our anti-selves' probabilistic future and our probabilistic future is our anti-selves' definite history. Either way they, both history and futurity, both are deterministic, only one way it can happen, makes us just robots, the robots that works on natural stimuli, no losers, no winners, even no players, no game, just robots, fixed match of life, we are just leading with.

4. Conclusion

The net total energy of the Universe is conserved; the amount of positive energy is balanced by the negative energy to make it zero, i.e. the constant zero. As long as positive energy is dominating over negative energy in our Universe, the space and physical time both are stable. A resemblance can be the principle of Gregor Johann Mendel, an organism that has two different alleles for a gene is said to be heterozygous for that gene, then one determines the organism's appearance and is called the dominant allele; and the other has no noticeable effect on organism's appearance and is called the recessive allele. This is also true for positive and negative energy to shape the space and physical time and their stability. The instability occurs when negative energy is about to be dominant. And when it about to happen, all matters are turned to a black hole due to gravitational collapse to make again positive energy more than the negative gravitational energy and to be stable. As the space and physical time both are stable, things do not appear anywhere and everywhere. But because of the net energy is zero, the constant zero; all we need to divide the constant zero to two parts, the positive part (the positive energy) that creates matter and the negative part which is responsible for gravity for our Universe. A simple mathematic can be applied as follows.

$$0 = +1 + (-1)$$
$$0 = +2 + (-2)$$
$$0 = +3 + (-3)$$

The mathematics show that the constant zero can be a combination of +1 and -1 which means a combination of one Universe and one anti-Universe. Similarly, the constant zero can be a combination of two Universes and their two anti-Universes. The constant zero can be a combination of three Universes and their anti-Universes and so on. So, that proves that there is no restriction of creation of Universes from the constant zero, means from nothing. So a whole Universe can be created from constant zero; in other words the whole Universe can be created out of nothing. That is why we, the living beings, the world, the Universe exist out of nothing is a very lucid and valid conclusion.

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