

Light in the beginning!

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Abstract: There might be two kinds of lights in the beginning. The light that forms matter and is confined to the speed of light, which is the light we have known. The other light is the inherent wave of the matter (3D wave) described in this article which is faster than the speed of light and is always constantly moving through matter from the rear to the front, directing the matter. 3D wave of the molecule can be separated from the matter and exist as a separate entity and interact with other matter.

It is hypothesized in this article as the following: From the beginning space is full of 3D waves leading to relations. Only when there is a 3D wave with complex structure already in space, small molecules could interact against thermodynamic barrier leading to complex structure. It is believed that 3D wave is a light leading to life.

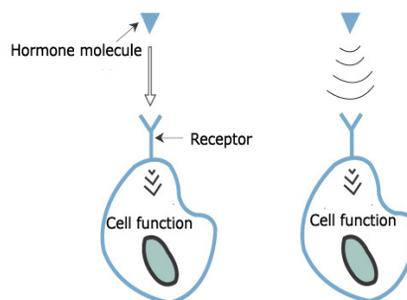
Matter is always accompanied by the 3D wave. However, the 3D wave can exist as separate entity separated from the matter. We need to ask which one is the first light in the beginning.

1. 'Water Memory'

'Water memory' was utilized in traditional homeopathy and scientifically first investigated by Benveniste and his colleagues using homeopathic dilution (vigorously shaken by hard strokes at each dilution) [1]. As biological reaction in the absence of any effective molecules cannot be explained by the conventional theory which focuses only on the structure of water of which the hydrogen bonds last only picoseconds, the results of Benveniste and his colleagues sparked many following investigations. The most interesting one was the research performed double blind by 4 independent European laboratories in 2004 [2]. The purpose of their double blind test was to disprove 'water memory' but instead proved that it was, in fact, true.

Benveniste thought that there is a wave inherent to the molecule. When the wave propagated from molecule is transferred to a cell receptor through water, the wave can induce resonance of a receptor

initiating intracellular signal transmission [3].



Comparison of current theory(left) and Benveniste's Digital Biology(right)

2. 3D Wave of the matter

The inherent wave of matter is not a new concept. In 1924 de Broglie proposed that every matter has an accompanying wave [4]. De Broglie further suggested that the wave inherent to matter is constantly moving through the matter guiding the trajectory of the particle, and called it as pilot wave [5].

In 1961, Eisberg showed by calculation that the pilot wave is much faster than the speed of light

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[6]. The pilot wave of a mass particle moving below the speed of light should be faster than the speed of light by following equation:

$$w = \frac{c^2}{v_p}$$

w : speed of pilot wave,
 v_p : speed of particle,
 c : speed of light

For a positive mass particle which is travelling at $v_p < c$, we see a set of waves moving faster than the speed of light. According to Tiller, pilot waves are always constantly moving through the matter from the rear to the front, just as occurs in water waves, directing the mass particle [7]. Calling such wave as 'information wave', as it does not spread out like electromagnetic wave and rather decreases thermodynamic entropy (negative entropy), Tiller suggested mass particles and information wave interacts so as to be experimentally operational. Inherent wave of the matter is expressed as 3D wave in this article, as it forms a field with 3D structure by constantly moving around the matter

3. Imaginary Matter

If anything is faster than the speed of light, it should have negative mass according to special relative theory which does not allow speed beyond the speed of light.

$$m = \frac{m_o}{\sqrt{1 - v_p^2/c^2}}$$

where m_o is the total relativistic mass and v_p is the velocity of the particle

According to Dirac, space is full of particles with negative energy and negative mass (Dirac sea of vacuum) [8]. This corresponds to the area of imaginary number. The world consists of real area with positive energy and imaginary area with negative energy. When enough energy is given to

the particle with negative energy in imaginary area, it jumps to real physical area, leaving a hole in imaginary area. A hole in imaginary area corresponds to anti-matter. Only infinitesimal part of space was converted to matter.

Matter consists of a real part (physical area) and an imaginary part. The imaginary part of the matter (called imaginary matter in editorial) does not exist like particles in the physical world but carry out its effect by creating a field by constantly moving around the matter. When the imaginary part was separated from original matter in water, it still could interact with other matter as demonstrated in 'water memory'.

Combining both pilot wave theory and the Dirac sea of vacuum, it could be suggested as the following: Matter consists of both a real part and a corresponding imaginary part which is faster than speed of light (pilot wave or 3D wave in this editorial). The imaginary part of matter could be separated from a matter and interact with other matter (which is an imaginary parts of other matter) [9].

If the interaction between imaginary matters is possible, it might be even possible to hypothesize that the real part of matter provides a frame and the imaginary parts of the matter provides function.

4. Light in the beginning!

Matter could be converted to energy following the famous equation of Einstein, $E=MC^2$, and *vice versa*. In the beginning it is believed particles were formed from energy. After the first particles (elementary particles) are formed, more complex materials follow, finally leading to life. Modern physics focus on the formation of the elementary particles from energy using huge particle accelerator. However, they do not ask why such

relations take place leading elementary particles to life in the direction of decreasing entropy.

There might be two kinds of lights in the beginning. The visible (detectable) light that forms matter and is confined to the speed of light, which is the light we have known. The other light is the inherent wave of the matter (3D wave) described in this article which is faster than the speed of light and is always constantly moving through matter from the rear to the front, directing the matter. 3D wave of the molecule can be separated from the matter and exist as a separate entity and interact with other matter.

It can be summarized as the following: From the beginning space is full of 3D waves leading to relations. Only when there is a 3D wave with complex structure already in space, small molecules could interact against thermodynamic barrier leading to complex structure. It is believed that 3D wave is a light leading to life.

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5. New Paradigm beyond Materialism

There are countless facts which cannot be explained with conventional paradigm. What is needed is the scientific breakthrough like Plank did 100 years ago to explain black body radiation.

Current paradigm views world as materialism. Every biological reaction occurs by physical contact between molecules. If we scale the size of the cell as big city like Seoul where more than 10 million people live, the size of each molecule almost corresponds to each person. The meeting between

people without prior appointment when and where would be almost impossible. The biological reaction by physical contact between molecules cannot explain the fast reaction of living body.

If the interaction between imaginary matters (3D wave) could lead to cellular signal transmission, it does not need physical contact between molecules. If the interaction between matter and imaginary matter, or between imaginary matters is fast and good enough to induce cellular signal transduction, there is no need to rely on the materialism which cannot explain fast biological reaction.

Now we have seen that biological reactions could occur without the presence of materials. There are enough facts which require new paradigm out of materialism. The 21st century should be an era for new paradigm beyond materialism.

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