

## **New-Paradigm definition of life**

*(Definition of life is the oldest philosophic and scientific problem of humanity. New-Paradigm physics teaches us that life is a natural quantum process. Below is the corresponding excerpt from the newest book by Peter Jakubowski "[Unified Physics; which Einstein & co. dreamed of and is finally realised now](#)".)*

After we have presented the main points of the New-Paradigm theory of life, we can try to define life itself. Such a definition can never replace a full theory, but it can be helpful in any scientific discussion comparing different theories to the same topic. A definition of life is probably the oldest philosophic, and currently also scientific problem of humanity. What is life? As we already know, life is a process, more exactly - a quantum process. So we can ask the following, more scientific question: What a process is life?

The Unified Physics gives us the first since ever realistic possibility to answer the question in a strict scientific way, beginning with the axiomatic, fundamental basis of the New-Paradigm physics. Let us begin with the single axiomatic entity of the Unified Physics, the Universal Unity, simply denoted as 1. This unity is the Universal Creative Potential (UCP) of the Unified Physics. From this potential we have defined all physical quantities of the traditional physics used up to now (*compare Chapter 4*). The most important of them are the physical quantities equivalent to UCP (*compare the white squares in Figures 14, 15, and 18*). They are: the quantum circulation  $\Phi_f$ , the quantum power P, the quantum electrical conductivity  $\sigma$ , the quantum magnetic induction B (being equal to the quantum electric current density, j), and the quantum electric field strength E. All those quantities are completely independent of any physical conditions. This means, we can assume that they are unchangeable across the Cosmic Hierarchy of the Solar System, having the same value for all quanta of our observable Universe.

The simplest equivalent of the UCP is the quantum circulation  $\Phi_f$ , being a product of the quantum area  $A$  and its frequency  $f$ ,  $\Phi_f = A \cdot f = f \cdot A$ . The quantum frequency  $f$  means the reverse quantity of the quantum period (or characteristic time):  $f = 1/t$ . Therefore, we also can say that this quantity  $\Phi_f$  means a temporal change of the quantum area. There are two possibilities to realise such a temporal change. Either the quantum area changes its position during a quantum period (a single circulation), or the quantum area pulsates, changing periodically the area value. In the first case we can imagine a (circular for simplicity) area changing its position along a full circulation period and returning to the starting position after the full period, as demonstrated in Figure 64.

On the other way, we can imagine the same area remaining at a "fixed" point (somewhere in our Universe), but changing periodically its value, from minimal to maximal, and then back to the starting minimal value, as shown in Figure 65.

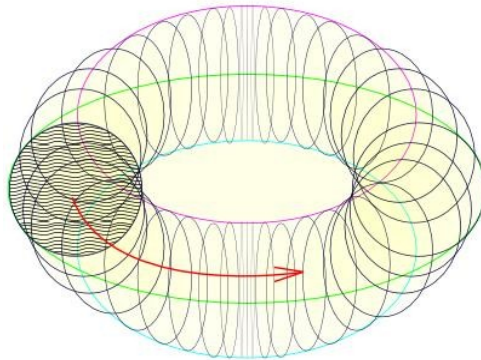


Figure 64. Quantum (shadowed) area of a matter-spirit quantum changing its position over a single quantum period, during a single circulation.

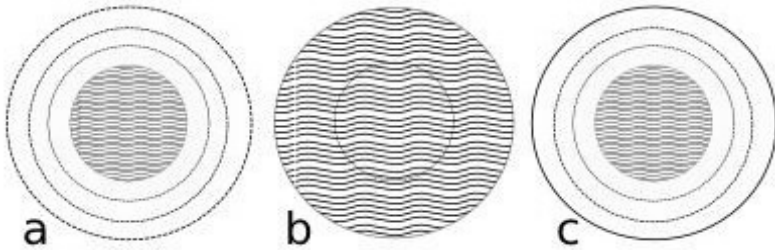


Figure 65. A single matter-spirit quantum (the shadowed object) changing its area from minimal (a), to maximal (b) and to minimal again (c) during a single quantum period.

Therefore, the simplest property of any quantum, living or not, is its natural circulation and/or its natural pulsation. They are the natural (and sometimes considered as spontaneous) properties of every quantum in our Universe.

The quantum power  $P$ , the second physical quantity equivalent to the UCP, is simply the quantum circulation squared:  $P = \Phi_f * \Phi_f$ . But we can also read this equation as a pulsation of the quantum circulation, or as a circulation of a quantum pulsation. As we see, by beginning of our definition of life with the quantum power, we really begin it "at the heart" of the problem. Our pulsating heart, pumping the toroidal red cells of blood, is the first (and last) sign of life in our organism. So, let us place the quantum power  $P$  at the center of our definition of life indeed.

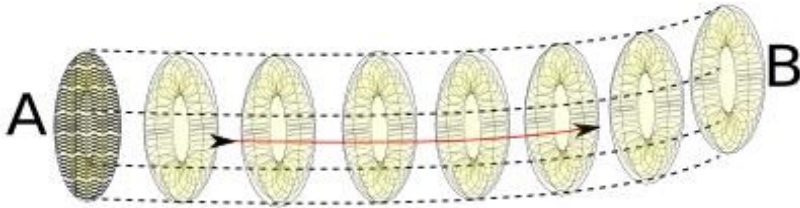


Figure 66. Quantum circulation of a single matter-spirit quantum transferring its energy between points A and B defines the quantum-energy transfer.

What we need to consider next is our unified relation between the quantum power and energy. According to the Unified Family of all physical quantities (*compare Section 4.2*), the quantum energy  $W$  is a flux of the quantum circulation,  $W = A * \Phi_f$  between arbitrary points "A" and "B" , as in Figure 66.

Energy transfer is the single universal process in our Universe. The relations between the universal power of life, the energy supporting the life and the general idea of a process of life has been graphically simplified in Figure 67.

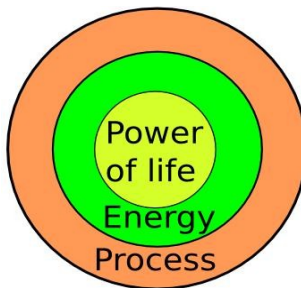


Figure 67. A simplified presentation of the definition of life as a quantum process originating in a universal quantum power and accumulating energy through energy transfer.

As we see, the energy transport by means of the red blood cells can be analogously considered as one of the simplest natural processes in a living organism. An energy transfer in a living quantum system is always directed from the non-living quanta with a higher energy density (higher speed of light), like large molecules, towards the living quanta with lower energy density (like cells), or from the living quanta of the lower spectral classes, like simple biological cells, to those of higher spectral classes, like nerve cells, or from nerve cells to brain cells, (*compare Section 4.3*). At that point, we have to remember the very important new observation of the Unified Physics that, though the quanta of the higher spectral classes are characterized with lower energy density (because of the defining relation  $c = c_u/\mu$ ), they are able to accumulate much more energy in any individual quantum (because of the defining relation  $W = \mu^2 W_u$ ). This makes the difference between the living matter and the inanimate matter, and between the different cells in our body. Every quantum of our nerves consumes ten thousand times more energy than a quantum of body tissue, and a quantum of our brain consumes still ten thousand times more energy than a single nerve quantum.

Every natural process can be understood as an action upon an object. Thus, we can consider the following sequence of relations: process = object + action; or process = size (of the object) + duration (of the action); or process = (involved) space + (necessary) time; (both being the unified 2-dimensional quantum quantities). Finally, we can treat the same relation holistically as a process of life = matter + spirit, or - in our present context of the definition of life of an individual - as:

$$\text{process of life} = \text{body} + \text{mind}.$$

In summary, we define the process of life as a natural composition of the two inseparable aspects of any living organism, its body and its mind, including all their energetic activities. In that way we reach our new, Unified-Physics definition of life:

Process of life = energetic body + energetic mind.

The proposed composition of body and mind into a living organism is a very old idea. And even their energetic activities have been already considered thousands of years ago (*compare the ancient eastern literature*). However, the absolute novelty of the above definition of life lies in the connection of those ancient ideas of body, mind and energy with the central idea of the unified description of the entire Nature, the Universal Creative Potential and its equivalents, the universal quantum circulation (or pulsation) and the universal quantum power.

In our quantized Universe, life emerges as a natural quantum process.

What can we say about the future evolution of life on Earth? We have seen in Section 5.2.1 that the evolutionary schedule of our Cosmic Timescale can be given precisely for millions of years ahead. On account of this schedule, we have to disappoint all traditional scientists believing in their own estimations. Our Earth, as well as our entire Solar System, has not next four of five milliard years to live (to exist) in our Universe. As we have seen in Figure 26, our Cosmic Hierarchy stands shortly before its next quantum jump of level 9. It means for us that not later than in 77.897 million years, but probably already in 35.739 million years, our Earth will be completely remelted, as during the previous event of the Moon's formation. The life expectation of our Order *Primates* ends in 7.958 million years. Nobody knows which exciting next Families of *Primates* could be theoretically created in those coming almost eight millions of years. If we consider the progress over the three recent Families (*Australopithecus*, *Homo erectus*, and *Homo sapiens*), the Earth could "obtain" some wonderful, even majestic inhabitants. Are we today smart enough to make their appearance possible? If we observe the world of today we cannot even be sure that our own Species, which can theoretically live the coming

almost unbelievable 6800 years, will not become the last one on Earth. The problem with us human beings is that our imagination cannot reach even the next century. This is a strong argument for myself to try to make our scientific long-term prognosis more trustworthy. We will return to that point in Chapter 6 of this book.