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from our readers

The Living Universe: Why Do We Need to Know Whether or Not the Universe is Alive ?

by Attila Grandpierre

We shape our lives according to the way we view the world. Our perception and understanding of that world governs the decisions we make and the underlying motivations. People's outlook on the world has for centuries been dominated by the general view of the Universe as it is given by the science of physics. Following this perspective, the Universe is, in essence, lifeless. According to that view, life—if it emerges—is wholly dependent on the basic laws of physics. However, the behaviour of living organisms as a rule deviates from physical laws—independent of the environment. In other words, life can overrule physics.

This approach is based on the most promising effort to achieve a fundamental theory of biology, a framework conceived by Ervin Bauer, perhaps the greatest biologist of the 20th century. Killed in the Stalinist purges of 1938, his works became forbidden. As a result, he has been forgotten despite his outstanding achievements. He formulated the autonomous, universal principle of biology in a mathematical form and derived all basic life phenomena from it. In *The Book of the Living Universe* (2012, in Hungarian), we propose that Bauer's principle is the Principal Law of the Universe and that the physical principle is rooted in it. This has far-reaching consequences for our worldview.

In a theoretical world-model governed merely by physical laws, no living entity can influence the course of events because, allegedly, everything has been determined by physical conditions, physical laws and chance. In contrast, we live in a fundamentally different Universe in which our decisions (e.g., whether to go to work today) certainly depend on us. On the basis of physical laws, it would be a miracle if all the workers of a factory went to work as prescribed, around the same time. Yet this apparent 'miracle' occurs regularly, and our societies are based on this regularity. Therefore, we must accept the causal role of decisions in our lives.

Without biological causes, we would be unable to act as free agents. Yet biological causalities, such as decisions how to move our body, can act only within the limits of Heisenberg's uncertainty relation (expressing the fundamental indeterminacy of Nature at the quantum level), given that all the rest is determined by physical laws and conditions. This means that the doors of indeterminacy are open to the realm of biological causes existing beyond the quantum level. If so, the real Universe (including life) transcends the world governed by physics because biology adds a new, more fundamental level where biological causes exist. Therefore, the living nature of the Universe is the supreme vital fact of existence.

If the Universe is alive, it values life because life has an aim—namely, to maintain and develop life. If the Universe is alive, it



Artist's impression of dark matter around the Milky Way

gives our life value and meaning. The biological principle governs our life towards life's highest completion. Since the widespread diseases of civilization cripple both our physical and mental health, it is of essence that the old, materialistic worldview is replaced with the new, biological worldview with its emphasis on the quality and value of life. Only the living Universe can free our mind from the narrow-mindedness of materialistic, consumer societies.

In the wider, biological framework, the material universe, life and mankind can have not only a physical but also a biological origin explainable on the basis of Bauer's principle and biological causes. The new answers offer us different and uplifting perspectives to shape our future. Knowing that the Universe is alive, that it is a sentient being, offers us a natural possibility to surmount alienation and open up our minds, creating a vital link between ourselves and the world around us. Religion and science (physics) have exerted immense power over society. If science shows that the Universe is alive, we can feel a real cosmic sympathy. The new picture of the living Universe can unify science and religion.

As historians of science have shown, novel theories of the Universe are behind all major changes in culture. With the advent of biology, a deeper but mentally uplifting revolution is in sight. Life is much more than metabolism and reproduction: it is a spiritually elevating, mentally creative cosmic power. If the Universe is alive, it has a mental aspect as well. Our future lies in regaining the natural function of mankind in the cosmic mind. In a sense, mankind is a brain center in this cosmic mind. As such, we can learn to function well in the cosmic mind, to co-operate like our nerve cells co-operate in our brains.

When we reach that stage, the thoughts and feelings of the cosmic mind will fill us in a permanent flux, just like our thoughts and feelings flow through our nervous systems. This will be the era of cosmic insights full of natural, uplifting, enlightening experiences. The living Universe will begin to shine in our minds. Our societies will be transformed into living societies, ensuring almost perfect co-operation of mankind and the living Universe.

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