

**THE SCIENTIFIC
BASIS OF
THE ECOLOGICAL
CIVILISATION**

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It is a basic pursuit of mankind to live the best and fullest possible life. In our article we call attention to the two basic types of civilisations: the life-centric and the material-centric civilisations. It was not only in ancient times when man lived in a life-centric civilisation. After our birth, we all have perceived and understood the world around us with a life-centric approach. Later, newer civilisational layers, received from our family, then school and society, have built on our original, natural being, alienating us from it in the material-centric civilisation. Due to alienation our human creativity is reduced to a fraction. The science of life can provide substantial help to cope with alienation. With the help of the new, exact biology we arrive at the first comprehensive, substantially complete science.

The basic principle of exact biology is encouraging us, as the most fundamental natural law of the Universe, in achieving the fullness of life and complete health. The first principles of the comprehensive science provide the ground the comprehensive scientific worldview, which can be called healthy, because it is comprehensive, balanced, and corresponds to the essence of reality. In the comprehensive science, the most comprehensive and fundamental characteristic of the Universe is that it is alive. Due to life's fundamentally cosmic nature, our life has fundamental communal, social and cosmic dimensions. And if it is so, then understanding life is the key to understanding the whole world and to the success of the ecological civilisation. In our essay, we will show how.

TWO BASIC TYPES OF CIVILISATIONS:

NATURAL AND MODERN

Fundamentally, two kinds of civilisations can be distinguished in the history of mankind: the ancient, Nature-compatible, life-centric, communal civilisation and the modern, materialistic, material-centric, individualistic one. The division of civilisations into these two basic types – among others – is supported by the surviving ancient traditions of mankind and its historical memories of earliest times; the history of religion; the history of mythology; the study of folk tales; and history.

A natural civilisation is characterized by the harmony of man and living Nature. Man is born of the creative powers of Nature (see below in the section The First Principles of the Universe), he is their human embodiment. Man is fundamentally just as much of a natural being as any other living being on Earth. Human nature – homonymy is not a coincidence here – and Nature are consubstantial. For millions

of years, man lived in Nature's lap, in unity with Nature. In the nature religion of the ancient civilisation, man conceived Nature as filled up with the most awe-inspiring force, the cosmic life force. The man of a natural civilisation feels gratitude towards Nature, greatly appreciating its gifts. He is extremely sensitive to the mystery of the energy lying dormant in all beings of Nature. He regards frankness, honesty and purity as moral virtues resulting from the natural order, and shows the highest respect for the fascinating and awe-inspiring law of natural order, the perfection of the life processes of Nature. The natural civilisation is sacral; for it, the order of Nature is sacred, life is sacred, reason is sacred, and they are all held in the highest respect. The man of a natural civilisation aims at cooperation with Nature. In modernity, none of them is sacred. Modern man uses its environment, and does not seek cooperation. The natural civilisation regarded life as the most fundamental existence, therefore life was held in the highest esteem; that is why it was life-affirming and harmonious, that is why it could persist for an extremely long time. The basic experience of mankind, the experience of the sacredness of life saturating Nature has been overshadowed by the increasing dominance of materialism. The experience of the sacredness of life and Nature has been replaced by the experience of a nihilistic, profane civilisation.

The decay of civilisation seems to have begun with the ancient Greeks, the founders of Western civilisation, in the centuries around 800 BC. Referring to Homer, Strabo, the most significant ancient Greek historian, writes, 'our way of life has encouraged a change for the worse for nearly all people, introducing trumphé and pleasures and fraudulent dealings and much greed besides. (...) Although these things ought to incite them to civilisation, instead they corrupt the morals and introduce an embroidery instead of the frankness(...).' These signs of moral corruption are all characteristics of a materialistic approach. Civilisation is closely related to material-technological achievements, which have often led to shifts in our way of life, and repeatedly entailed the belittling of traditions, profanation, and the gradual strengthening of materialism. Groups of people pursuing a traditional way of life and preserving a pure source of a legacy of million-year-old knowledge both in their lifestyle and their worldview, that is, in a more complete way, may play an important role in building an ecological civilisation.

As Mircea Eliade, a prominent historian of religion pointed out so convincingly, the profane, Western civilisation, 'the completely profane world, the wholly desecralized cosmos is a recent discovery in the history of the human spirit', and in all other eras and regions man has always attempted to remain in a sacred universe. The man of an ancient, sacral civilisation bravely takes responsibility, for example, for taking part in the creation of the world, creating his own world, ensuring the life of plants and animals, etc. This kind of responsibility is, however, different from the one we, modern people regard as real and valid: it is responsibility in a cosmic dimension. The man of the pre-Western, natural civilisation takes part in such a cosmic sacrality that manifests both in the animal world and the vegetable world. For ancient man, the Cosmos is a living and arranged unit.

This archaic, life-affirming, sacral world order persisted in nature religions in the central and eastern parts of Europe and in most parts of Asia until 1200s AD, and still lives on in Confucianism, Taoism, Shintoism and the archaic traditions of the peoples along the Silk Road. With the birth and the conquests of Western civilisation, this Eurasian, life-affirming civilisation has been replaced by an increasingly materialistic civilisation lacking respect for values inherent in life and Nature. Albert Schweitzer argues that in the Middle Ages, the archaic European worldview was replaced by an approach denying life and the world, focussing on the supernatural. Life-affirmation, relying on the creative powers of initially "barbaric", that is, "pagan" peoples, arriving from the East in Europe in the Middle Ages, with a

worldview akin to Zoroastrianism and Chinese philosophy, was reborn again from the 1300s, but has been gradually overshadowed again since the 1800s. It is the tragedy of modern European thought that the bonds that originally existed between life- and-world-affirmation and a moral worldview were slowly loosening and finally broke, and there was a tragic rupture in European history.

BREAKING THE LIFE-CENTRIC VALUE SYSTEM AND

THE CREATIVE POWER IN INFANCY

In the first years of our individual life – just like in the archaic, natural civilisation – our value system is based on the appreciation of life. This is the natural value system, the value system of life. In our infancy, as years go by, a second value system, learned in the family (nursery, kindergarten) is being built upon us with increasing weight. When this second, family value system clashes with the first, life-centric value system, our personality becomes ambivalent. American psychologist Gordon W. Allport pointed out that in the West, family and social effects overcome the original, natural self of children at the age of 3-5 years; by that time, ‘the I of Western people sticks out [from their inner world] like a stubbed thumb.’ Remarkably, the independent, original perspective and creativity of children is simultaneously fading. In ages from three-to-five years old, the creativity of 98 per cent of children reaches the creative genius level. By the age of 25-30 years this rate drops below 2 per cent. Why does it happen? it is a fact that from the age of 6, a third value system is built on the second one: the value system of school education and the curriculum. Modern, compulsory school education has a materialistic worldview, its curriculum forcing children to memorise boring data suppresses free will and interest, it is distant from life, substantially alien from the original interest and natural motives of children, enhances nihilism and takes the creative genius out of children.

Human creativity is the main driving force of civilisation. A civilisation that retains our original, innate human creativity, interest, curiosity and motivation, in harmony with man’s nature, the natural forces and skills inherent in us, would not only provide mankind with a much higher joy of life but, at the same time, would also gain a vast surplus of the civilisational driving force compared to the volume conventional in a materialistic civilisation.

In the materialistic worldview characterizing modern civilisation, the integrated unit of life, reason and the material world, i.e. Nature does not seem to be more than matter: and life and reason do not seem to be more than side-phenomena of the material world, lacking independent causal power. Consequently, in the modern world life and reason are subordinated to the material world, and, alienated from its very nature, it is forced to follow materialism. As Leo Strauss outlined in his impressive criticism, the essence of modernity is the pursuit to “liberate” human will from all factors regarded as “external”, such as God, Nature or history. The successfulness of modernity, however, undermines modernity itself, because modern western man, left without any compass, does not know what to want, and has lost his faith in the reason that would have confirmed his higher purposes. Losing his original, natural orientation, western man is easy prey for materialism. History has left its natural banks, the time is out of joint, as Shakespeare put it in 1602. Under natural circumstances, human will to live and the faith in reason are the primary driving forces of human creativity. The crisis of modernity entailed that modern civilisation has downgraded its greatest resource, the internal motivation that drives human

creativity, and put it on hold. Our conclusion is underpinned by Niall Ferguson, Professor of History at Harvard University, who claims that in recent decades westerners have lost their faith in their own civilisation.

THE CORRELATION BETWEEN HEALTH AND

THE ECOLOGICAL APPROACH

The fact that man is fundamentally a natural being means that our self-identity is basically consistent with Nature. It is only possible if Nature is a living organism. By Nature, we mean the Universe here, that is, the integrated whole of all living beings. If the Universe is alive, its life is unimpeded as there is no living being external to it. If we, as natural beings, are consubstantial with the Universe, our life is in a personal relationship with this unimpeded, extraordinary, cosmic life. Due to our natural being, we are one with the Universe living a cosmic life, organized on a higher level – the Whole. Therefore, our being is extremely profound and it is integral only if it is not alienated from this Whole. And if our self-identity is fundamentally consubstantial with this infinite Universe, living in celestial freedom, it belongs to the integrity and health of the human spirit.

Ecology is the science of living organisms and their relations, interactions and relationships. If Nature is alive, then ecology encompasses the Universe, and thereby becomes the most comprehensive science. Within the frameworks of materialism, the human being is limited to its individual body.

According to the definition of the World Health Organization (WHO), health is ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’. By mental well-being, we mean a high level of emotional and cognitive well-being. In order to comprehend the full significance of health, a notion crucial for the health of our civilisation, the WHO’s definition of health must be clarified and extended over the most fundamental level of life, our natural self, and the relationship between man and Nature. Considering the fact that mankind can appreciate Nature if it is comprehended as something having its own, internal value, the basic task of ecology is to be able to regard the Universe as a living organism. The scientific basis of ecology, appreciating Nature, requires exact biology, extending life over the whole Cosmos. Distinguished from the materialistic concept of health, limited to physical health, the notion of health obtained this way is called complete health when it is required for understanding. Thus, our definition of health is as follows: *health is a state of complete physical, mental, spiritual, social and natural well-being of our individual, social and natural self, including the well-being of the relationship between man and Nature.*

Complete health is not merely the absence of disease but the absence of any kind of effects damaging our physical, mental and spiritual health, and it is being charged with all kinds of physical, mental and spiritual power, complete power of life, enthusiasm and discernment. It includes a complete harmony of our natural self with the living Universe. This complete health is accompanied by the full and high-level unfolding of spirit and mind, happiness and discernment. If we want to highlight these characteristics, we can also call complete health life-fullness, the prime of life. To preserve our mental and spiritual integrity, we need a healthy, life-affirming, reason-affirming and world-affirming civilisation. In the definition by Nobel laureate physician and philosopher, Albert Schweitzer, world- and life-affirmation is an inner

conviction of man that life is a real being, the world and life have great, internal value, life is infinitely valuable to everyone, the human spirit can encompass the whole world and man should never give up its fight. This life-affirming and world-affirming civilisation is typical of two regions of the world; these are Europe and China. 'It was nowhere but in Chinese philosophy the problem of world-and-life-affirmation has been felt in so elemental and comprehensive a fashion.' Our previous study paper indicated that the Silk Road had created a cultural unity of these two regions in pre-historic and ancient times, persisting as long as until 1200 AD. Western civilisation, with the increasing dominance of materialism, has left this path. China, however, preserved its life-and-world-affirming worldview until Mao's term. In recent decades, the ancient ecological worldview is being reborn in Central and Eastern Europe as well as in China.

Health is a fundamentally ecological notion because life in the Universe has a communal and fundamentally interdependent nature. In ancient Hungarian mythology – just like in comprehensive ecology – the Universe is the highest level of the organisation of cosmic life, the Highest Being. Similarly, the Universe is perceived by Chinese philosophy as a living organism. In our times, astrobiology and anthropic cosmology unexpectedly created a fundamental link between the Universe and life sciences. This relationship is confirmed by the universal law of nature, discovered by Ervin Bauer, a biologist of Hungarian origins, the Gaia theory, developed by James Lovelock, which is the theory of the Earth as a living organism, the Helios theory, which is the theory of the Sun as a living organism, and the theory of the Living Universe. These mutually reinforcing trends constitute the modern scientific substantiation of the ancient Hun-Hungarian and Chinese life-centric philosophies.

THE THEORETICAL BASIS OF CIVILISATION

One of the major branches of metaphysics is ontology, the study of being and its basic types. Materialism regards matter as the only being, and does not attach ontological importance to life and reason. A life-centric worldview contributes ontological importance to matter, life and reason as well, and of these three, it regards life fundamental. In a life-centric worldview, matter, life and reason make up an integrated whole, and for this reason – at least under natural circumstances – these three kinds of reality are in harmony.

A natural civilisation is metaphysical, sacral and harmonious; a materialistic civilisation is anti-metaphysical, profane and alienated. Although the emergence of a mechanic ethos based on new, materialistic metaphysics played an initiating and decisive role in the development of modern science, modernity tried to downgrade metaphysics. And this is detrimental to its own survival, as the fall of the first version of western civilisation, the Greek-Roman civilisation in the early Middle Ages was caused by the fall of its own worldview based on "pagan" metaphysics. The materialistic worldview of Western civilisation is based on the extremely doubtful metaphysical assumption that physics, the science of matter can describe all aspects of the entire Universe, that is, the behaviour of both living and lifeless beings. This assumption is made on an ontological level, meaning that all changes can be contributable to only physical causes, that is, all changes are brought about by physical forces. But physics, which is extremely successful at anticipating the behaviour of lifeless objects, fails miserably in anticipating the behaviour of living organisms. It flatly contradicts everyday experience as well, as human behaviour is

fundamentally governed by instincts, feelings and thoughts and not by physical forces. In addition, as we will show below, today the materialistic worldview of Western civilisation is being disproved by its major tool, science.

Since the relative significance of matter, life and reason is an ontological question, civilisation is regarded as a fundamentally ontological position. This ontological position is so profound that it counts as an almost completely unexplored world for our thinking, which is burdened by everyday problems, accustomed to lesser questions, and overwhelmed by these. And exactly this extremely profound nature enables civilisation to guide our way of thinking imperceptibly into the direction of its own ontological position, for example, to steer it into a materialistic framework. Furthermore, the ontological position of civilisation enters our inner world without criticism in our early years. After we have got used to it, it guides us unnoticed. Therefore, it is extremely effective at creating our everyday conduct of life, and can exert an effect on a significant part of mankind. That is exactly the reason why the dominant ontological position is regarded as the essence of civilisation. If the impact system of the dominant ontological position affects a multitude of peoples and a historically significant period, we can talk about civilisation.

THE ESSENCE OF CIVILISATION AND ITS MOST EFFECTIVE

TOOL: WORLDVIEW

The Universe is an integrated whole of all living beings, that is, an integrated reality. An ontological position forms an opinion on the essence of the whole world, therefore it is necessarily philosophical. A worldview is a form of an ontological position applicable in everyday life, a coherent system providing fundamental explanations to every phenomenon in the world. A worldview is a coherent system, the essential foundation of interpreting, evaluating and perceiving the world; it is the way we comprehend and evaluate the world. The worldview is the most effective tool of civilisation, because it is incorporated in children through their families and the system of social effects in their early childhood, and determines their understanding of the world, before the development of critical thinking available for adults. If we do not become aware of it later, it remains unnoticed. It also remains unnoticed that the worldview has crucial significance in determining the fundamental direction of our conduct of life. Therefore, being aware of the significance of the worldview is essential. In other words: the worldview is a coherent system of our thinking and value system, upon which our decisions are based, and thus it is the most fundamental drive of our actions.

The way we perceive the world is of key importance because we can use all our experiences to improve the quality of our life, our emotions and thoughts – or to increase material wealth, to gain more money or power. It is the worldview that determines which questions are important to us, and what answers can be given to these questions. What we call thinking is usually not more than applying our already existing worldview to a particular situation. Worldview is fundamental in science, too, usually without our knowledge. Fundamentally, it depends on our worldview what we think about science. The worldview has greater practical significance than science. The unconscious development and application of the worldview is one of the major reasons why we are unaware of the immense significance of the worldview. The worldview is immensely significant because its three layers – the innate one, the one received from the family and the one received from society – develop in every person at a young age,

and usually determines the whole conduct of life. In addition, very few people recognise the role their worldview has in their lives even in adulthood, exactly because the immense significance of the worldview dissipates. Still, if there is awareness, we can become capable of rendering our worldview healthy and guiding our life into a rising direction.

The significance of the worldview lies in the fact that it sums up the Universe in a nutshell, and knowledge summed up in a nutshell is incorporated into the thinking of each member of the civilisation. The next level of our thinking is the effect of science and education. We have already indicated above that the natural, primary level of our thinking is seeing the world in a natural, life-centric way. In the Western world, the value system, which determines the second level of our thinking and is learned in the family, and is usually more or less consistent with the value system of the society and the civilisation due to the dominant role of parents and their inclusion into society, is built upon the primary level. In the materialistic civilisation, parents usually acquire a materialistic worldview, and therefore the second level of our thinking becomes a materialistic worldview in Western civilisation. The first two levels affect us unconsciously, imperceptibly. The third level is conscious thinking. In today's world, a significant part of conscious thinking is characterized by the effects of science. Both parents and school children consider scientific truths relevant when deciding what is true and what is not. If science is of a materialistic nature, which is the case for modern science, which acknowledges the exclusivity of physics, the third, conscious level of our thinking is – usually without being noticed – guided into the framework of materialism. And if this third level is fundamentally in line with the second, family-led worldview, they enhance each other's effect, and overshadow even more effectively our innate, life-centric worldview and our spiritual and mental health. Alienation becomes even greater.

THE THREE LEVELS OF OUR THINKING

AND THE HEALTHY CIVILISATION

All three levels of our thinking are extremely significant for building an ecological civilisation. In order to be able to preserve the natural health of our children's mind, these three worldviews must be in harmony. Since the life-centric worldview is innate, our mental health cannot be complete unless we receive a life-centric worldview from our family and the civilisation. It is a fundamental task for a society seeking a healthy approach to prepare parents for life-centric child-rearing, based on a healthy worldview. Getting familiar with the parenting habits of peoples still preserving the child-rearing traditions of the ancient Eurasian civilisation may provide important help.

The worldview of our children can remain healthy on the second level of thinking if parents consciously strive to acquire an adequate level of the healthy worldview. The worldview of our children can remain healthy on the third level of thinking if the approach of school education is life-centric and adequate attention is paid to physical, mental and spiritual well-being by harmonizing them. As long as one single exact science exists, the science of matter, i.e. physics, and the authority of this exact science is attributed to materialistic metaphysics, which can be at best considered as a hypothesis, the worldview of school education remains fundamentally materialistic. Consequently, adopting the Western educational system in Central and Eastern Europe and Asia fundamentally transforms the thinking and the worldview of children leaving school. Children graduating from the Western educational system go out into society

with a Western type of thinking, irrespectively of local traditions and cultures. The emergence of exact biology, which is not deductible from physics and has its own, independent laws, can change this situation. Since the basic principle of the new, exact biology, upholding and developing the best traditions of modern physics, provides guidance for our conduct of life at both individual and community level, it enhances schoolchildren's natural interest and love of life both individually and at community level. A life-centric life science also brings physics much closer to students, because it allows for deeper understanding more easily, quickly and effectively owing to its first principles. Therefore, it can raise their interest, turn the school curriculum attractive, inspiring and motivating instead of being the conventional boring, unrelatable, encyclopaedic knowledge, place emphasis on understanding relationships and the evolution of independent thinking, and develop children's soul and mind in a healthy direction. The goal of healthy child-rearing is to preserve and develop the integrity of our self to the level of succeeding in today's civilisation, being able and ready to act independently for the health of our individual, community, social and natural self. The goal of healthy education is to answer and summarise the fundamental questions of human existence in a coherent system of basic knowledge encompassing the whole world, in basic literacy. A coherent vision of the world allows for the most effective development of general cognitive skills. Since it is a life-centric curriculum, the education of the science of living organisms and their interaction, i.e. ecology also becomes simple at a stroke. The life-centric, substantially complete and therefore healthy ecological worldview, completing our system of interpreting and evaluating the world, enables the generations finishing school to build a balanced, healthy civilisation. If the ecological worldview does not provide for a scientific basis the significance of which is at least akin to that of the scientific basis of the materialistic worldview, it may be placed at competitive disadvantage. In our opinion, the most important tools required for building a viable ecological civilisation are a science encompassing the entire Universe in its full extent and depth, which includes the science of life and reason in addition to the science of matter, and the healthy worldview based on this comprehensive science. This task requires the development of such biology that promotes life-affirmation, the increase of the vital force and the quality of life, and which has such exact foundation as physics does, but is not subordinated to physics. An important task of building the ecological civilisation is to establish a scientific basis for life-affirming biology and reason-affirming psychology.

THE FIRST PRINCIPLE OF PHYSICS

A developed industry based on physics and the materialistic worldview based on physics are the most effective props of modern Western civilisation. To solve our task, the first step is to recognise that the most effective tool of physics is the principle of least action. The principle of least action can be regarded as the first principle of physics, because all basic equations of physics can be deduced from it. It is a fact that the most elegant, most concise and most explicit wording of the basic equations of classical physics can be deduced from the principle of least action, as in the case of the theory of gravity or quantum physics. The principle of least action, which comprises all the basic equations of physics, can be regarded as the definition of physics. Physics is the science of lifeless matter; it is lifeless matter the behaviour of which is determined by the principle of least action. The content of the principle of least action is illustrated by the fact that the inertia is manifested in the changes of physical objects.

THE FIRST PRINCIPLE OF BIOLOGY

Living organisms, however, are not inert, thus their behaviour is described by a fundamentally different law of nature, the law of maintaining the ability to act. Living organisms have to restore their own ability to act, their own viability in their actions because biological actions require energy and time as well. If living organisms did not take care of maintaining their viability, their energy, their mobility would soon vanish. The universal law of living organisms was discovered by Ervin Bauer, and it is named the Bauer principle after him.

The Bauer principle provides that 'living and only living systems are never in equilibrium, and, on the debit of their free energy, they continuously invest work against the realization of the equilibrium which should occur within the given outer conditions on the basis of the physical and chemical laws. A living system always converts its entire free energy content into work done against the realization of the expected equilibrium.' The A Bauer principle can be regarded as the first principle of life because Bauer deducted all basic equations of life, including metabolism, reproduction, growth, and all the basic phenomena of life from it. Therefore, the Bauer principle can be regarded as the first principle of Nature. It provides an energy-related definition of the essence of life. It expresses that the essence of life is action, work done to elevate life to the highest possible level. Since it is an eternal law of nature, life in the Cosmos is necessarily destined for victory. A law of nature cannot be defeated. There is no such earthly power that could impede the victory of life at least in the long term. Thus, the essence of life does not lie in survival, as it could be seen through the lenses of physics, but in elevating the quality of life, perfecting life, making it increasingly valuable, happy and meaningful.

BIOLOGY IS MORE FUNDAMENTAL THAN PHYSICS

The significance of the Bauer principle requires a comparison with the most important component of theoretical physics, the principle of least action. As the principle of least action is the law on the changes of inert objects, and living organisms have a substantial surplus, the ability to act, I was looking for a way to biologically generalize the principle of least action. The principle of least action prescribes the trajectory requiring the least energy and time consumption between the current, given starting point and the future endpoint of an action or event. The principle of least action is ideal for the role of the "postman" because it links the starting point with the endpoint with a straight line. If we generalize the principle of least action, and we omit the "least" constraint, and we consider the fact that the endpoint, the purpose of the action is determined by the living organism itself because – in accordance with the Bauer principle – it spends all available energy on elevating its ability to act onto the highest level, we get to the basic principle of biology. A falling stone falls to the ground in a straight line and not in a zig-zag pattern, because that would take more energy and time. "Effect" is the combined measure of the energy input and the time commitment. Physical objects complete their trajectories with the least energy expenditure and within the shortest period of time; this is what the principle of least action expresses. However, the opposite is true for living organisms. We aim at living with as much energy and for as long as possible. We select the endpoint of our actions to benefit from it, to elevate our life onto the highest possible level and this should last as long as possible. That is how I have got to the principle of most action (PMA). The mathematical form of PMA includes the Bauer principle as the principle of greatest vitality, and also the principle of the most efficient use of time, that is, the principle of greatest wisdom. I have defined "wisdom" in a biological sense: a decision that is made in favour of life is a wise one. Reason

belongs to life. Its purpose is to make the decision that is the most favourable to life as quickly as possible under the given circumstances. Reason was created by life to make wise decisions, so that life could move forward to fulfil its highest potential. The principle of most action includes, as a close case, the principle of least action, should the most action be extremely small, as it is in the micro world. This is the principle of the smallest degree of action, the principle of inertia, which is typical of elementary particles and the material world. Since the PMA is the generalization of the principle of least action, it is as valid in the entire Universe as the principle of least action is. Since PMA includes the principle of greatest vitality for the whole of the universe, the Universe – as a whole – is a living organism. Since PMA includes the first principle of physics, the laws of physics derive from the law of life. Life is more fundamental than matter. The Universe lives on a deeper level of reality than its material surface. The causality between biology and physics is remarkable. The biological cause exerts an effect first, sets the goal, and deploys the biological energies required for the achievement of the goal. Thereby a whole series of specific physical causes, necessary for the physical achievement of the goal, are generated. As soon as the goal is set biologically, the required physical processes are created as economically as possible because the principle of inertia is also the principle of economy, the principle of the least energy and time expenditure. Nature gives biological reasons priority over physical causes and the ability to dispose of them. The civilisation based on the science of life has a more efficient scientific basis than the materialistic civilisation does because the principle of most action is a further developed, extended, more far-reaching version of the principle of inertia, promoting the elevation of life. While the civilisation focussing on the consumption of material wealth aims at creating more and more convenience, a life-centric civilisation, retaining the aspect of material well-being, fundamentally aims at improving the quality of life.

THE LIFE PRINCIPLE ENCOURAGES US

TO HAVE COMPLETE HEALTH

As the principle of most action comprises only quantities existing also in physics, time and energy consumption, I have further generalised it to biology's own drives. Every living organism is a sentient being, and every living organism must decide how to act in a given situation. In physics, changes are caused by a physical force. Biological changes are caused by motivation. There are two basic types of motivation: emotional and intellectual motivation. That is how I have arrived at the most general, most fundamental principle of biology, which I have named the life principle. The life principle states that every living organism deploys all their energy, enthusiasm and wisdom to elevate their vitality, emotions and thoughts to the highest possible level at every moment.

Familiarity with the life principle may facilitate a conscious conduct of life because it states that, as living organisms, our life task is to deploy all our *spiritual and intellectual energies* at every moment *to discover and perform actions done in favour of a complete life*. According to the principle, we live our lives as much as we do for everything to elevate life. If do not do that, we are vegetating in a state of suspended animation; our life passes by without using the real opportunities life offers us, the opportunity of elevation. Thus, if we want to live a substantially full, that is, healthy life, we must do everything to make life prosper.

It does matter to living organisms what they feel, whether they feel good about themselves. It does matter to intelligent creatures whether they have a correct understanding of the world. The life principle encourages us to have the best emotions and thoughts, complete health and to achieve the prime of life. It is worth considering as it is about our life. The life principle is the natural law of health and life-fullness. Raising our awareness of the life principle enhances vitality, wisdom and the development of our best abilities, and encourages us to regain our creativity revived as an inner, pristine force of nature. If we live consciously according to the life principle, we are filled with elemental power, eternal vital force and obtain an enormous surplus of vital energy. Therefore, understanding the life principle is essential for a healthy civilisation.

THE THREE FIRST PRINCIPLES OF NATURE

The three first principles of Nature are the principle of matter, life and reason. The ontological One-trinity of matter, life and reason corresponds to the trinity of physics, biology and psychology in science, the trinity of body, mind and soul on the level of the individual, and the trinity of atom, emotion and thought on the level of ultimate components. In the theory of the living beings' ability to act I have shown that biologically controllable energies belonging to motivations can create pairs of virtual particles in the quantum vacuum that are suitable for the physical realization of their inherent goal. According to quantum-electrodynamics, all physical forces are carried by virtual particles. Thus, biological motivations can generate and implement physical processes corresponding to biological causes in living organisms. Modern physics suffers from two fundamental defects, and these are the infringements of the universal law of conservation of energy and that of causality. In the quantum vacuum, pairs of virtual particles generated spontaneously, without physical causes, happen to violate both at once. According to exact biology, pairs of virtual particles are generated in living organisms by biological causes with the help of biological energies. The scientific significance of the comprehensive natural science is reflected by the fact that, on the one hand, it can define a systematic aspect of the behaviour of living organisms, but, on the other, remedy both defects of modern physics without any further assumptions.

LIFE IS A REALITY EXISTING ON ITS OWN POWER

Life, consistently with its fundamental nature, focusses on creating life. Life recreates itself over and over again. Life is more than mere existence, because it acts and creates. Life is a reality establishing, creating and realizing itself. Cosmic life is an extraordinary, completely unique example of causality because it represents such a cyclic teleology through which a living being setting the goal can cause their own further becoming. Cosmic life is an omnipotent reality creating itself in its full connections, in its full existence and its complex of being, which is independent from anything else in its existence. The material being cannot be the first being because its being must be created, which needs an ability to create. As an ability to create must be created, it can exist if it creates itself, if it is the ability to create. There is only one such thing, and this is cosmic life. Thus, cosmic life is an absolute being, being through and by itself. Cosmic life is a reality being and acting by itself. Life is more than being, because it is also acting; it is self-creating through its acts, and therefore it is the basis for any existence. Life is a reality creating itself through its acts. If a reality can be ultimate without a cause external to itself, that is, creating itself, then

cosmic life is the ultimate reality. Thus, the ultimate reality is the Living Universe creating itself and its changes by itself. There is nothing greater than cosmic life. Life is filling and embracing, and even continuously creating, moving and developing the Universe. Life is the only, ultimate reality coming into being by itself, by its own power, continuously creating and perfecting itself.

LIFE LIVES ON SEVEN LEVELS

In exact biology, the individual is a “psychogenic” notion, it is not involved in the life principle. The notion of individual derives from self-reflection. An individual cannot live without their cells, cannot live without ascendants, cannot live without a species, a species cannot live without the biosphere, and if life is the ultimate reality, all life originates from life, and therefore the biosphere on Earth originates from cosmic life. Life cannot be put in a box. The life principle is universal, is ubiquitous and its fruits are various life forms on different levels. The essence of life lies not in its substance, but in leading its changes, its behaviour, and its life-elevating nature. This behaviour manifests simultaneously on the level of the individual and the community as well as on the level of our cells. The same universal life principle governs the lives of individual people and the lives of cells, of the human species, the biosphere, the Universe. The life principle links the life of an individual with the life of cells, the life of the species, the life of the biosphere and the Cosmos. Ecology, as the study of living organisms and their relations, links the world of cells with the life of individuals, species, the earthly world and the cosmic world. We have arrived at the ecology embracing the whole Universe. In this comprehensive, cosmic ecology, we differentiate between seven fundamental levels of life, for which we are responsible, for which we must act, on which our life happens. These seven levels are cells, the individual, family, nation, mankind, biosphere and the cosmic community. Our life is the union of these seven lives. Our true self is present simultaneously on all seven cosmic levels of life. The fact that the man of the archaic, sacral civilisation voluntarily takes the heavy responsibility for ensuring a life for plants and animals and in a cosmic dimension indicated that our moral commitment to the earthly and cosmic levels of life was known in the ancient Eurasian civilisation. The comprehensive science enhances this ancient knowledge. Our life is more profound than the material world, thus, necessarily, our self, our intelligence, as well as our life principle, are of cosmic nature. A life-and world-affirming ecology is unfolding before us. We have come to the Earth to act as a local centre of action of the Living Universe throughout our life. These seven levels of life are the basis for the universal moral world order. The universal moral world order is the law of acting for the benefit of all lives on all seven levels of life. In addition to our individual life, the seven levels of life also comprise our community and natural self. The moral world order based on the exact science of life provides the basis for harmonizing the life of families, nations and mankind with the natural, earthly and cosmic living world. An exact, independent biology adds value to science. Of all values, life is the most fundamental and the greatest value, since all values are values for the lives of living beings. Acting for the benefit of life is good for life, therefore a scientific basis can be provided to the moral notion of “good”. Our conclusion also complies with Albert Schweitzer’s ethics based on respect for life. ‘Ethics grow out of the same root as world- and life-affirmation, for ethics, too, are nothing but reverence for life. That is what gives me the fundamental principle of morality, namely, that good consists in maintaining, promoting, and enhancing life, and that destroying, injuring, and limiting life are evil.’ Since being alive is the fundamental essence of the Universe, the fact that it is good belongs to its fundamental essence. Since the life principle comprises the principle of matter, spirit and reason, it

can be regarded as a coherent theory encompassing all three fundamental realities. Hence, it comprises the essence of the whole Universe. All three first principles of Nature are more profound than the laws of physics, and they also cover the world of life and reason, thus the worldview of the comprehensive science is both wider and more profound than the modern physical worldview. Compared to the worldview of the comprehensive science, the physical worldview is one-sided and shallow. Since the function of a worldview is to give a picture of the whole world, and physics gives a picture of only one side of the world, the material one, the physical worldview is one-sided, mutilated, misleading because in reality it is not a worldview, only a material-view, it is only the view of the material world and not the whole world. Since the worldview of the comprehensive science comprises all three circles of life of reality, i.e. the material reality, the world of life and the world of reason, it can be called substantially complete. Since it is substantially complete, it gives a realistic picture of the whole world, and therefore it can be called a healthy worldview. The comprehensive science covers the whole world; therefore it can be regarded as the essence of the scientific worldview. As it comprises both the essence of the whole world and the natural law of life-fullness, it may ensure that our individual conduct of life is in harmony with Nature and reality. Since it encompasses all mankind, it provides the fundamental law and the main goal of civilisation. As the dominant worldview of a civilisation is its source, drive and most effective tool, familiarity with the healthy worldview is of historical importance because it lays the foundations for building a healthy civilisation.

THE SIGNIFICANCE OF THE SEVEN LEVELS OF LIFE

TO OUR LIFE

1 The significance of the world of cells

We are responsible for the health of our cells. Our life entails the natural moral commitment to do everything we can for the health of our organisation and the world of our cells within. It is worth acknowledging that our cells are living, and as such, sentient beings. The emotions of our cells are closely related to our environment. The human organisation consists of 60,000 billion cells, which is a greater number than the number of stars in the Milky Way. How can we form a non-mechanic picture of the life of our cells?

Every cell implements hundreds of thousands elementary biochemical processes per second; for example, thermal motion to and from, the appropriate molecules must be transmitted to the appropriate receptors. Both the structure of the cell and the whole of the cell take part in controlling the molecules of our cells. The whole of the cell can intervene in processes on molecule-level with biological motivations. Our cells contribute to ensuring their appropriate life functions with their emotional energies. In a metaphor: our cells help the molecules reach their goals with emotional energies, their passionate love of life. My calculations suggest that the cells use their full thermodynamic potential, all their energy for biological purposes. Cells work extremely effectively; they almost always transmit their molecules perfectly appropriately. In this respect, they far exceed human performance. The almost perfect cooperation of cells is even more remarkable. They cooperate so harmoniously that they ensure almost perfectly the activities required for our human life, from our brain functions to moving our limbs, happening in cosmic heights compared to their lives. Such cooperation of our cells enables us to move

our body extremely easily through our will, for a hundred years or even longer. They seem to function in accordance with the principle of “one for all, all for one”, although it is not easy for us to comprehend how powerful, cosmic being is the “one” they act for. The basis of their agreement is the respect for the life principle keeping all lives alive, including human life taking place in a cosmic distance from them. Such perfect cooperation can be a model for the cooperation between nations and mankind. The fact that there are cells that use their independence for abuse, asserting their interests to the detriment of community values illustrates that this cooperation is not mechanic at all. These are called “cheating” cells by biologists. This individualist, anti-social behaviour, however, is so rare that it does not impede the life of our organisation taking place with fascinating ease and in almost perfect harmony. Much can be learnt from considering that our organisation consists of cells pursuing extremely effective life activities. It is time to grow to live a similarly perfect life. If the key to this is a passionate love for life, and an active commitment to it, we cannot be strangers to that, as we are living organisms, too, and the more fully we live our lives, the happier we live. More precisely, the unusual efficiency of the lives of cells and their communal cooperation is contributable to the fact that their decisions – with an unusual commitment and frequency – are in line with the life principle. Let us illustrate the life of cells with a metaphor! Let us regard the life principle as a shaman horse, the cells as the princes of fairy tales, and our organisation as an army of princes, each member of which does their best for the cause with all their life and spirit every day. Lying on the backs of their shaman horses, they are dashing on their most attractive, most pleasing course of life, becoming one with their horses, in perfect unity, for a common goal of promoting their own life and the life of a higher living organism. The prince is rushing with the speed of a whirlwind because he agrees with the shaman horse; the main point of their decisions is ‘Forward’! If he told his shaman horse, ‘stop, I want to get off, because I need freedom, because I want to achieve everything from my own powers, completely independently from reality’, he could only walk, much more slowly, and it is very doubtful whether he is going forward or backwards. Compared to our cells, in cosmic heights we live our human life as celestial beings. Our organisation is a kind of macrocosmic world beyond the micro cosmoses of our cells. We can bridge this distance with our actions, emotions and thoughts, since our emotions and thoughts are biological drives. In this sense, our physical, emotional and intellectual activities count as “divine” events to our cells. To our cells, we are actually acting “gods”, higher beings. We can act as benevolent, compassionate gods, if we eat healthily, if we do exercise on a daily basis and we generate happiness hormones through exercise, if we act for the beauty and elevation of life. And we will also benefit from it!

2 The significance of our individual path of life

to our conduct of life

In our actions, we should always keep the full path of our earthly life in mind so that the end-result, that is, the whole of our life, should be as great as possible. If we look back at the other end of the path of our earthly life, as if on our death bed, and rack our brain on what we can do for our life while we are here on Earth and able to act can have a very mobilising effect. Fundamentally, we have received our life and our mind from Nature. The cosmic mind, saturating Nature, is the one that knows why we are here. Our task is to find out what this goal set by Nature is. That is why it is significant if we try to look at our life goal and our life through the eyes of Nature, a cosmic living being. All efforts of this kind bring us closer to discovering and realising the goal of our life, to living the life we were born for. Every single day we can take further the cause of our life, because, if we live a healthy life, no one and nothing can stop us from

dedicating our emotions and thoughts to striving for this goal. No one can stop us from living an increasingly healthy life, either. There is an old aphorism: seize the day. In the film entitled *Dead Poets' Society*, the teacher says to his students, 'Seize the day, boys. Make your lives extraordinary.' We should add: seize the week, the month, the year, the decade and first of all, seize your whole life. Make your life extraordinary. Your life should be extraordinary because the Living Universe itself found your earthly life great enough to take you to the Earth. Seize the goal of your life, the meaning of your life, and your quality of life will multiply. Every single day we can start our day by deciding at the moment of waking up, by completely mobilizing our abilities, and by proclaiming as a resolution in our organisation, 'I will elevate my life'. Before falling asleep, at the end of the day, we can ask ourselves, 'What have I done today for elevating my life? What great, elevating experiences have I gone through? What great, elevating thoughts and decisions have I come to? What have I done today for becoming a better man, for my development? What great, elevating deed have I done?' In the world, we are the person who is the most responsible for shaping our life.

We are responsible for our worldview, we are able to take actions for it, we are able to acquire a healthy worldview because the life principle, and the principle of greatest vitality and greatest wisdom therein, helps us do so. The life principle states that the goal of life is to live and enforce the most wonderful, valuable and meaningful life possible on Earth. We all are working on solving this same task. We are life-colleagues. Martin Seligman, a researcher of the psychology of health, says that happiness has three levels. The first one is short-term pleasures and delights, such as eating. This level also has an important role in our life. The second, more profound level of happiness is the joy surplus released during passionate activities during which we feel that greater forces join us in realizing our goal, for example, when one gets an elemental feeling, our goal is almost realised by itself, and we act almost perfectly. We can experience the third, most profound level of happiness when we feel that our whole life has a meaning, and is related to a life greater than our individual life. This happiness is permanent, is related to our whole life and is even more-far-reaching, as it is related to an intelligence higher than our earthly life. It has been proven that until the first two levels of happiness do not imply an improvement in the quality of life, the third, most profound level of happiness, feeling the meaning of our life improves our health permanently, and to a remarkable extent: it increases our quality of life by five hundred per cent, that is, fivefold. It is worth dedicating time and energy continuously to the achievement of the most profound happiness, because our investment will bring a multiple return. The life principle encourages us to do so.

3 The significance of improving family life

to our quality of life

The most personal, most fundamental level of our life is family life. From our early childhood until we become parents, and then again, now as parents, our private life takes place in a family, intertwined by many intimate ties. Our self is not limited to our individual self. Our emotions naturally connect us with the natural emotions of our family members. That is why the best, the healthiest possible family atmosphere has immense significance to all of us. The level of happiness of family life is an important component of our quality of life. If we actively seek to improve our family life, we can significantly increase our individual quality of life. Exactly because of our close co-habitation, our family life requires

the development of our personality the most. In the United Kingdom, a survey of some 160,000 people conducted by the National Statistics Office concluded that above a certain level of income, a happy marital relationship is twenty times more important to our quality of life than a high salary. Good family relationships are of key importance also in the case of low incomes. Dedicating some hours every day to the well-being of our family life improves our quality of life much more than spending the same amount of time on earning money. Improving our family relationships is a life-long pursuit. The life principle spurs us to do everything we can for the happiness of our family. It is up to us how much part we take in this soul-refining task.

4 The significance of culture, nation and society

to our quality of life

From an ecological perspective, all nations are cohabitation communities of individuals, and the life of every nation takes place on the same level of life, in cohabitation communities of nations. History is determined by the activities of nations and their relations to each other. The life principle represents the fundamental law of comprehensive ecology. According to that, it is the natural goal of all nations to provide the nation with the highest possible level of material, emotional and intellectual well-being. On the basis of the life principle it is the natural life goal of all nations to cooperate with each other for the highest possible level of health of mankind and all life on Earth. On the basis of the universal ecological worldview, it is easy to notice that the fundamental interests and values of nations are common.

The seven levels of cosmic life form a single coherent order, a moral world order. Fundamentally, the life of nations is interpreted and evaluated in this world order. As all of the seven cosmic levels of life follow the same universal value system, the value system of cosmic life, by Nature, nations are not enemies and opponents but cooperating colleagues of each other and mankind. The primary interests of any nation are the elevating values of universal life. The material, spiritual and intellectual well-being of a nation is the stage where our life unfolds and an essential component of our individual quality of life. Loving our nation belongs to our mental health. The existence of a moral world order and an ecological worldview are essential to the elevating prospects of nations.

5 The significance of a moral world order to

mankind

The life of mankind takes place in cohabitation communities on Earth. From Nature's perspective, the life task of mankind is to ensure the complete health of the cohabitation community on Earth and to improve their quality of life. It is a fundamental interest of mankind to enrich the integrity and beauty of our home on Earth and the cohabitation community of earthlings. What makes humans human is human compassion, generosity and goodwill for all forms of life. Since all forms of life are invigorated and driven forward by three cosmic creative principles, they are the manifestations of cosmic life and intellect. These creative principles become active parts of our lives as the three basic instincts of living organisms. These three instincts focus on sustaining individual, community and cosmic life physically, mentally and

spiritually at the highest possible level. With their activity, mankind can contribute to an even richer prosperity of the living world. In the archaic history of mankind, there are several examples that justify mankind's practical activity to enrich Nature. These include, for example, the ancient Hungarian floodplain water management, which provided fish with such living conditions that in the Middle Ages there were more fish than water in our waters. A comprehensive ecological worldview forecasts that as soon as an ecological, constructive cooperation of nations becomes predominant on Earth, the life of mankind will start to flourish dramatically and beyond all expectations. Cosmic creative powers lend mankind's world of emotions and thoughts wings. Mankind's world of emotions and thoughts will become much more effective and will produce much greater results if it becomes harmonious with Nature, that is, reality. The unhindered manifestation of cosmic creative powers gives mankind a world of cosmic emotions and thoughts. Positive psychology has shown that the greatest and most magnificent experience, a peak-experience of human life is the experience of cosmic unity. In the past millennia, this peak-experience has appeared only rarely and in short periods of certain people's lives. As soon as mankind regains their complete health, the experience of cosmic unity will become commonplace and conventional. In a healthy civilisation living in harmony with Nature, cosmic sympathy, known from ancient times, becomes an important part of the culture of mankind. Understanding the essence of the Universe, unfolding the inner creative powers of life, preserving and further developing a high level of human creativity in adulthood raise the intelligence of mankind to a qualitatively higher degree. The process of becoming human achieves its goal, the full unfolding of man's abilities to elevate life.

6 The significance of a moral world order to the living Earth,

Gaia

On the basis of a moral world order, the natural life task of Gaia is to contribute to the evolution and perfection of the life of the Living Universe on Earth and exercising a life activity that is valuable and meaningful to the Universe.

7 The significance of a moral world order

to the Living Universe

As soon as mankind becomes a healthy member of the cosmic world order unusual processes are expected to take place on a cosmic level. It is a fact that mankind has a unique role on Earth, which is related to their high level of consciousness. The unique role of mankind on this cosmic planet may be a sign of mankind's essential role and responsibility in the Universe, as it is taught by ancient Chinese philosophy. Now, let us regard mankind as an important centre of the brain of the Universe. Under current circumstances, this centre of the brain is ill, as its components, the nations, instead of cooperating for a higher cause, often turn against each other. If the cells in our brain turned against each other, our brain functions would break down. Seeing it from the level of cosmic life, this cosmic brain centre is like a confused anthill that suffers from an internal decay. Since one of the centres of its brain is ill, the Universe is not completely healthy, either. But when mankind regains their complete health, the Living Universe will become healthy again. Having achieved this healthy state, the life forces of the

Universe will completely saturate man again. Cosmic creative powers inherent in mankind will be stimulated by human intelligence and spirit, harmonious with them. Since the Universe regains its healthy centre of the brain, the cosmic mind will get into a higher, healthier, more complete and happier state of mind. The two arms of cosmic life, matter and intelligence will achieve a qualitatively higher level of harmony, get closer to each other and life, and their fundamental nature will become qualitatively more refined. In this state of fulfilment, matter responds to the effects of mind and emotions more easily. Mind and soul will become capable of governing matter on a qualitatively higher level. The Universe may enter its life stage of fulfilment, unfolding its complete abilities.

ON THE SEVEN LEVELS OF LIFE

In terms of an ecological worldview, we think that harmony and balance between the three spheres of existence and the seven levels of our lives is the basis of a healthy conduct of life by mankind. It is worth mentioning that Chinese philosophy has preserved similar views. “The context of life is created by a whole person, nation or all mankind or the fullness of the Universe, all elements and participants of which enter into the most intimate and harmonious relationship with each other” (Fang 1957, *The Chinese View of Life*, 249). For the ecological civilisation the extraordinary advantage of the comprehensive ecological view is that it renders us personally interested in the complete health of all seven levels of life. The most basic resource of civilisation is human creativity. No civilisation can survive without it. If unimpeded, the main path of life is health on all seven levels. Creating a healthy, ecological civilisation is the key issue of our quality of life. Our results show fundamental matches and similarities with the remaining traces of the civilisation along the Ancient Silk Road. The most written records of the ancient Eurasian high culture have been preserved by the Chinese civilisation. In Chinese philosophy, ‘qi’ is the life force, from which everything is created, the ‘ultimate fundamental of the existence of the Universe’, ... ‘the ontological source of the Universe’. The exact verification of the existence of the life principle will provide a scientific explanation for the existence of ‘qi’.

THE SIGNIFICANCE OF COMPREHENSIVE ECOLOGY

TO THE ECOLOGICAL CIVILISATION

What dimensions are outlined by comprehensive ecology, emerging from exact biology? A comprehensive science and a healthy worldview may play a key role in one of the most important factors of building and maintaining an ecological civilisation, i.e. school education. A comprehensive ecology enables the development of a life- and-world-affirming curriculum, and makes it attainable that the school system should not put out generations with an ecological worldview and not a materialistic one for building an ecological civilisation. A comprehensive science is the science of matter, life and consciousness. While paradigm shifts have so far meant advancements within physics, with the emergence of a comprehensive science our whole worldview will progress and arrive at a substantially complete, healthy worldview, thus it may mean an advancement more significant than any paradigm shift so far. The previous worldview shift took place at the dawn of the Early Modern Times, and represented an advancement to material growth. ‘Initiators and representatives (...) called this chaos new philosophy,

which we call scientific revolution today... Their cosmic speculations and researches (...) demolished the medieval concepts of a closed universe and an unchangeable social order, the fixed system of moral values, and they transformed European societies, culture, habits and the entire structure of civilisation to such extent as if a new species had appeared on the planet.' (Koestler 1959, *Sleepwalkers*, 13). As a result of the successes of exact physics, the medieval vision of the world was replaced by a materialistic approach. This turnaround was called "scientific revolution". Its consequence is the achievement of material well-being. The emergence of the next exact science may bring the exploration of the nature of life and its social application. Its consequence is the achievement of mental and spiritual well-being. Thanks to exact biology, the scientific substantiation of a life-centric worldview has become possible. In the scope of civilisation, a life-centric worldview can be adopted by everyone, as the materialistic worldview was in the past centuries. The diffusion and a growing consciousness of a healthy worldview can represent advancement to all mankind. Let us not be afraid of considering the expected consequences of the comprehensive ecology. The motto of the Hungarian, Nobel laureate biologist, Albert Szent-Györgyi is as follows, 'one can compromise everything but one's goals'. And if the most fundamental characteristic of the Universe is that it is alive, as it is supported by a growing number of scientific arguments, life is the ultimate reality, and the scientific resolution of the question of life may be the key question that opens the gate to the understanding of the whole world. If the most comprehensive and profound essence of the world is that it is alive, and if we understand this cosmic life, it may provide a key to understanding the whole world.

The exact formulation of the first principles of Nature allows for cultivating philosophy on a scientific basis, the revolution of philosophy. Discovering the moral significance of the life principle may contribute to the revolution of social sciences. As Ernst F. Schumacher highlighted, 'the conclusions and prescriptions of economics change as the underlying picture of man and his purpose on earth changes'. According to a comprehensive ecology, man's task on Earth is to promote a richer flourishing, beauty and cosmic value of the living world. A healthy civilisation focusses on completing this task.

Discovering a moral world order may contribute to a healthier national identity, the constructive cooperation of nation, world peace, the rebirth of mankind's unity, a recovery of the relationship between man and Nature, the revolution of world history. 'War is a judgment that overtakes societies when they have been living upon ideas that conflict too violently with the laws governing the universe' (Dorothy L. Sayers, 'Why Work?', Chapter 6 in: *A Christian Basis for the Post-War World* (S.C.M. Press), 46-63). A substantially complete, healthy worldview can contribute to the revolution of a healthy conduct of life, the revolution of reason, or to be more accurate, of wisdom, the revolution of mental integrity, the revolution of creativity, the revolution of the quality of life, the building of an ecological civilisation. It can harmonise natural and social sciences, which have been moving away from each other for centuries. Through its scientific substantiation, a sacral moral world order can remedy the misunderstanding between science and religion. By introducing the science of life into the school curriculum, science and life can be drawn closer. The comprehensive ecological worldview can draw our worldview closer to reality. The fact that a life-centric, comprehensive ecology, encompasses the whole Universe and is coherent attributes fundamental significance to the science of ecology. A focus on ecology can eliminate man's alienation from his self, society, mankind and Nature, and harmonise civilisation with Nature once again.