

## TWO NOTES ON THE RELATIONSHIP OF EDUCATION AND HEALTH

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**Abstract:** *Man health is usually defined as a status of physical, psychological and social felicity. With a such wide approach to the health the connection between the health and education can be easily demonstrated in the historical and present view. In the first note the author reminds some of biological pieces of knowledge which helped to disclose the causes of infect illnesses, their expansion and prevention. The second note deals with necessary changes in present school and civic education. The rehabilitation of the nature value and also the recognition of against nature characters of present culture are basic for understanding structural and functional connection between man and earth, with life and lifeless systems.*

**Keywords:** *health, education, school and civic education, nature, culture*

Human health is usually defined as a state of total physical, mental and social well-being. In this broad concept, health is not primarily about the disease, doctors and hospitals; and because of this, the link between health and education can be shown in two ways: *historically and topically*.

Before discussing it in more detail, I will say that in my view, for a very long time health was a rather *biological category*. Only in the last few centuries it has become a *socio-cultural category*. It can be said about the majority of living systems, which successfully reproduced within the evolution of the biosphere, that they were healthy throughout their existence. Until recently the entire biosphere was healthy, even though three billion years it was the biosphere only at a bacterial level. By the expansion of biotic diversity, which occurred approximately six hundred million years ago and during which all main forms of earthly life were created in a relatively short time, the problem of health extended also to multicellular organisms.

The above statement is not inconsistent with the fact that biological species in the evolution of the Earth were constantly formed and became extinct, and that the proportion of those which have been preserved to those who have died is estimated at 1:1000. The extinction of species is linked with their somatic health only indirectly. Perhaps in the same way as functional disorders of a running old car are linked with the reasons for its decommissioning. Extinction, like the decommissioning, is a matter of inadequate relationship of the system's structural information and external conditions. Entire forms

of life have died for this reason (e.g. Paleozoic arthropods Trilobites). But biological species today are dying out more than a hundred times faster than they would have died out naturally. Evolutionary biologist Jaroslav Flégr suggestively writes that species are as if frozen, and “...mostly are just sadly waiting for the changes in their environment to accumulate to such an extent that they will have no other choice but to die out in a mannered way.”<sup>1</sup> I am not mentioning this extreme view as evidence of an unhealthy biosphere. On the contrary, I argue that the adjective “unhealthy” should now fit rather to describe the current anti-nature culture.

## 1. Brief historical note

Fluctuating quantity and harmfulness of pathogenic organisms and parasites to humans in the environment have been always connected primarily with the density of human settlement and natural migration of the population. Wars, migration of entire ethnic groups, long trips of travellers and growing population played in favour of spreading infectious diseases.

Before the great discoveries of a brilliant chemist Louis Pasteur, doctors, however, did not know reliably an originator of infectious diseases or the mechanism of their transmission and spreading. Many of us have read about the public demonstration with broth, i.e. soup deliberately cooked in a closed retort and left in an open pot. Obviously micro organisms falling from the air by their multiplication in the soup made it sour in the pot. And that was a proof that living systems can be very small and that there was no autogenesis because a living form of life can arise only from a living form of life.

The group of diseases that spread due to the ignorance of the cause and manner of transmission includes, for example, a well-known case of *puerperal fever* in Vienna maternity hospital. It also includes smallpox introduced in the American continent by European conquerors, which, along with other infectious diseases, wiped out up to 95 % of Indian population. Similarly, at the time of the Crusades, leprosy from the Arab world was introduced in Europe. Another example might be the spreading of malaria and flu in the territory of the Nukak tribe in 1988 in Colombia. Since that time half of the tribe died of these two diseases.

But human health is not endangered only by diseases caused by pathogenic organisms. Human health in a specific population is also affected by eating habits, hygiene, environmental conditions, by the physical strain<sup>2</sup> of the organism and by the knowledge of living systems, including badly understood relationship between the innate and acquired. Before little-known discoveries of Abbot Gregor Mendel in Brno, whose experimental garden laid only a few hundred metres from our meeting room, even the greatest European scientists including Charles Darwin *did not know that living systems do not transmit characteristics to their offspring*, but some hidden discrete factors of heredity, in today’s terminology described as: *inside information*. This genetic information, as we now know, may also include the susceptibility to and disposition of certain diseases: for example, Huntington’s chorea.

It is therefore important for us to know already from school, that organisms are

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1 Flégr, J. *Zamrzlá evoluce*. Praha Academia 2006, p. 19.

2 Compare e.g. newspaper article Šmajš, J. *Bude lidská práce na lékařský předpis?* In. Právo 22. 10. 2010.

complex open systems with inside information, that they relate to the whole of life, with their own history as well as with the whole and with the character of the culture. For parents and teachers, it is useful to know how it is with the mentioned relationship related to innate and learned. As he himself admits, also ethologist Konrad Lorenz struggled with this issue. Finally he found a correct and elegant solution right in the sphere of information. If the information, controlling a particular activity of the organism, comes from its phylogenesis, it characterizes the *innate behaviour*. If it originates from its ontogenesis, this *behaviour* is *learned*.<sup>3</sup>

The difficulty for us laymen, however, also lies in the fact that the accuracy of the knowledge about living systems keeps enhancing. Lynn Margulis in the book *Symbiotická evoluce* (The Symbiotic Evolution)<sup>4</sup> published in the Czech language pointed to a little-known phenomenon of symbiosis, which has modified living systems probably since the beginning of their creation and which should correct our simplified concept of evolution only as the emergence of new species and the struggle for the survival of the fitter ones. Also Carl Zimmer in the Czech edition of the book *Vládce parazit* (*Lord Parasite*) attempted to show the often overlooked role of parasites in the evolution. A free quote of his basic thesis: A healthy ecosystem and healthy organisms are full of parasites.<sup>5</sup> There is an article by D. Čejková and D. Šmajš, *Projekt lidského mikrobiomu* (Human Microbiome Project)<sup>6</sup>, which is in a similar spirit and which notes that the human organism is made up of the billions of other organisms with their own genetic information, living in symbiosis with the human body.

## 2. Somewhat longer current note

First I would like to recall one general socio-cultural trend. The gap evidently increasingly widens between a rapid scientific and technological progress, including its impact on the lives of people and a slow ability of average population to intellectually absorb and understand what is happening now with the world. In ordinary human consciousness an ideological emptiness appears, accompanied by infantilisation, ignorance and uncertainty. The commercial success of the book *Teorie nevzdělanosti* (*Theory of Ignorance*) of philosopher Paul Liessmann<sup>7</sup> is not only due to its fresh language and general readability of the text. It is due to its truthfulness. Our higher education (including primary and secondary), is in crisis. It has succumbed to the capitalization of spirit. I will better express it by Liessmann's formula saying that *a student counts credits, teacher publications, school money*. In addition, our teacher at a university must laboriously enter into the information system every clerical stupidity which he or she does not need for anything. Technology oppression, which once forced the workers to break machines, in the stage of the *society of knowledge* in a rather subtle form also falls on creative people. In accord with Liessmann I would like to add that where administration

3 However, K. Lorenz emphasizes that every learning process assumes a genetic programme; there is no "purpose-oriented learning process which would not have a phylogenetically programmed mechanism as its basis, containing a large quantity of inborn information." Lorenz, K. *Základy etologie*. Praha: academia 1993 p. 185.

4 Margulisová, L. *Symbiotická planeta. Nový pohled na evoluci*. Praha, Academia 2004.

5 Zimmer, C. *Vládce parazit*. Praha: Paseka 2005.

6 Čejková, D. Šmajš, D. *Projekt lidského mikrobiomu*. In: Universitas 43, no. 2/2010, p. 23-28.

7 Liessmann, K. P. *Teorie nevzdělanosti. Omyly společnosti vědění*. Praha: Academia 2008.

and counting are involved, there thinking is missing. And where thinking is missing, there dysfunction, problems and mental disorders arise, which eventually somatize and have an adverse impact on human health.

One of sovereign tasks of education is to teach school pupils and students to think, to arouse their liking of problems which may arise not only during their lifetime, but also in their trying to resolve the present conflict of culture and nature. And now it is probably also the best guide to health, to the care for body and soul and to the good life.

Although the educational system should also include the knowledge from the sphere of the care of health, nature and everything natural, we should know that the mental and physical health can be mainly affected indirectly. *Education* does not only act as a formative *factor of human personality, but also as a factor shaping the cultural system*. A strong anti-nature cultural system (with the lack of the open nature, with unhealthy food and water, etc.) may completely eliminate personal efforts of individuals. So the problem lies in the fact that the creation of a human and the formation of culture are two different processes that may conflict, that are little explored, and that may seem mysterious for the public and schools.

Many teachers today still do not understand that the education system, which helps shape people as well as culture, unfortunately helps deepen the current *global environmental crisis* as well. Even teachers cannot therefore agree on how today's education content should be changed and focused in another direction. With the risk of misunderstanding I have been arguing for a long period time that education, like law or politics, should be anticipative; it should anticipate the future. I contend that it is time to *move from today's spiritual, abiotic and anti-nature orientation to the biotic and pro-nature orientation*. From the hidden domination of the abstractions of mathematics and physics, which represents a way of thinking encouraging pupils and students to transform the nature, we should be moving on to the *knowledge, understanding and worship of the Earth* and to humility before all natural structures. The majority of partial information, which is little tolerant, technologically exploitable and difficult to sort and intellectually integrate, should be replaced by a sophisticated method of its reduction and by a personality cultivating synthesis.

Culture (civilization)<sup>8</sup> is still rapidly destroying the conditions that shaped the man once, and with which he, as a kind, remained coherent. But only this fatal threat to human health enables us to understand that even spiritual culture, including the education system that is the imaginary genome of a cultural system, is not so true, noble, and human protecting. It helps develop a culture system including its economics and technosphere, but at the cost of its senseless struggle with nature and at the expense of the destruction of nature.

Refined fighting of culture with nature, which today decides on human survival, cannot be any longer disguised by affluence, or ethnic, religious or political conflicts. Quietly an *economic epoch of human history is ending*, in which social systems competed for power, for the lead in work productivity, for the development of production, tech-

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<sup>8</sup> I prefer a systemic concept of culture to the vague notion of civilization. By the culture I understand a man-created, i.e. artificial system with its own objective and organizational forms (material culture and institutions), with its own constitutive information (spiritual culture), and with its own reproduction and evolution.

nology and human freedom. It turns out that particularly technically developed culture pushes back nature, that it fights the system, which is *older, wider and more powerful* and which once spontaneously provided favourable conditions for human mental and physical health.

That is why I defend the need for a major change of the current spiritual basis of culture (of the concealed cultural paradigm).<sup>9</sup> *Today's predatory attitude of the culture to the Earth*, which subordinates the spiritual culture including science and education system, *has to replace – still in this century – the ontologically justified biofil paradigm*. An offensive adaptive strategy, which was once inborn to us and the success of which at the level of the planet today threatens us with our extinction, needs to be replaced by a consciously chosen *biofil strategy: by the development of culture subordinated to the prosperity of the biosphere*. Only by a new biofil strategy can mankind *keep planetary conditions for human health, i.e. for the habitability of the Earth*, and enter into the age of adulthood and responsibility.<sup>10</sup> The human kind is not responsible for nature, which it did not create and therefore may not even fully understand. It is responsible for culture, for its work, by which the Earth, i.e. the natural and coherent system, is being unnecessarily hurt.

The current global environmental crisis is a crisis of the whole system of current anti-nature culture. That is why it is also the crisis of traditional values, traditional philosophy, religious systems, science, education and art. The defining components of modern religious culture - philosophy, science, religion, art - have been openly and covertly anthropocentric, indifferent to nature and haughty to the “values” of inanimate and living nature. Great modern thinkers thought that man is the measure of all things and that relationships between people and cultures are primary and more important than human relationship to nature. It seemed to them that man is no longer a nature being and that the culture, the value of which is above the nature, also elevates and refines him. They believed that the growing civil liberty, human culture and human relations will positively influence also the relationship of humanity to nature. This view, however, was false in two ways. It could apply only *if the man was not a natural being coherent with the biosphere, and only if there were not human generic selfishness*.

The *human generic selfishness*, which has not been theoretically categorized yet and through the development of which anti-nature culture developed, is actually *deeper and more significant than the derived, generally well-known and theoretically and artistically reflected intra-specific individual and social selfishness*. Generic selfishness, the historically first intellectual form of which is the *predatory spiritual paradigm* and the complex system form of which is the current *anti-nature culture*, is not (with exceptions) condemned legally, politically, religiously or morally.

This is also a reason why the biofil change of planetary culture will be complicated. It will require not only a new theory of culture, but also a broader and deeper *ontological theory* – expressed by an Aristotle term - a new *first philosophy*. With the

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<sup>9</sup> I use the term paradigm to describe the *deep spiritual basis of culture*, i.e. the concealed frame of human evaluation, deliberation and attitude to the world, which the science does not classify and which escapes the attention of philosophy. More details on this topic Šmajš, J., Klíma, I., Čilek, V. *Trí hlasy. Úvahy o povaze konfliktu kultury s přírodou*. Brno: Doplněk 2010.

<sup>10</sup> Already in the first distinctly ecological book, *Ohrožená kultura* (1995), I described the deterioration of human health as a reliable feedback report on the disproportionate nature of culture.

help of ontology evolution<sup>11</sup>, backed by scientific reasoning, we must try to *break a predatory spiritual paradigm*. Efforts to reduce the rate of culture expansion (or budgetary responsibility) will probably not suffice. *We will have to give way to nature*.

We will therefore face extraordinary challenges which will not be only *generally intellectual, but will also include courageous acts of educational, civic and political nature*. For the first time in human history it will not be about changing the traditional holders of power or proprietary production relations. It will not be primarily about who will be a ruler in the country or on Earth, or who will be rich and who will be poor. It must be a *change in our generic attitude to being*, the change that would follow up the predispositions hidden in the human genome, *which should be strengthened and developed by school education*. If, however, the human genome did not include sufficient potency of humility, awe, or fear of the powerful forces of nature, we would not create biofil culture even with the help of philosophical ontology and of the new education system.

Culture, however, is still perceived wrongly both by school and by the public, mostly as a spiritual phenomenon, known as the cultivation of man and nature. *School or subsequent civic education does not address the clarification of the essence of culture and its relationship to nature*. Human understanding of the world contained in secondary and tertiary education is indiscriminate: in relation to nature it conceals its potentially destructive component and in relation to culture it shows knowledge only as a tool for the humanization of nature and man.<sup>12</sup>

Even in school we therefore need to offer students not only partial knowledge and *life ignoring mathematical, geometric and physical abstractions*. From the very beginning of the education process we also need good general knowledge and *life comprising biological and cultural abstractions*. Efforts should be made to acquire a generally comprehensible form of a new interpretation of the human and natural (dead and alive) evolution. It is also necessary to teach an analogous form of the interpretation of an opposing creative human activity, i.e. the broadly conceived cultural evolution. I will try to illustrate this new *ontological minimum* that should be comprehensible to pupils, students and all citizens in five propositions.

1. Even with a very simple reflection of the global environmental crisis, we must abandon the traditional subject-object-oriented approach. It is necessary to clearly distinguish *two different evolutions, i.e. two types of Ontic creativity and orderliness, two pieces of different constitutive information (two orders)*. Human culture, including material and spiritual culture, is not a product of natural evolution, but the young and temporary *creation* of cultural evolution, i.e. the result of creative abilities of human activity. Culture is a complex open system with inside information, which is the spiritual culture. Also, the spiritual culture is a product of cultural evolution, even when it is helping to shape and develop the cultural system.

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<sup>11</sup> The concept of evolution ontology is described in the book by Šmajš, J. *Evolutionary ontology Reclaiming the Value of Nature by Transforming Culture*. Amsterdam and New York: Rodopi 2008. The Czech version is supplemented with evolution gnosiology and philosophy of technology and contained in the publication: Šmajš, J. *Filosofie – obrat k Zemi*. Praha: Academia 2008.

<sup>12</sup> I consider the general misunderstanding of the opposing relation of nature and culture, which allows the solution of the global environmental conflict to be moved to the next generations, i.e. to live not only at the expense of our children and grandchildren, but also at the expense of less developed countries, as an inexcusable fault of today's education.

2. A human is a normal, randomly formed biological species. His uniqueness does not predominantly lie in that it recognizes, thinks, learns and believes. In lies mainly in the fact that, in accordance with his genetic equipment, i.e. due to an innate offensive adaptive strategy and ability to encode non-biological neuronal information in the language, he made it as the *second worldly demiurge, as "a small Ontic opposing God", as the sole creator of culture.*
3. Human conceptual knowledge, which became the core of the genome of the anti-nature cultural system, is a peculiar guide for creating culture by human activity. Its knowledge content is not so fascinating and objective as we thought. Especially today, we find that it helps create a cultural system, which unnecessarily ravages the planet Earth. The ecological crisis reveals that even conceptual knowledge, like sensory neuronal cognition of other fauna species, is *generically selfish*, even though it is not primarily tested only through a natural method of trial and error, but also by the aspect of truth. Unlike the non-conceptual cognition of animals it is not only Ontically culturally constitutive, but also – with regard to the nature - Ontically destructive.
4. Due to the inappropriate content of educational structure, most of today's population does not know what nature is and what culture is. People do not know what evolution is and what evolution produces. They were not instructed that evolution can produce only shapes, structures or orderliness, i.e. information. They do not know that the universe is spontaneously creative and that natural evolution has created beautiful Earth nature including the human, i.e. all natural systems, structures and shapes, all natural information. It is not emphasized to pupils and students that the culture, if it is to build its own forms, structures and shapes, must break natural forms, textures and shapes. The school does not teach that the *extinction of species* caused by the culture also is a barbaric burning of rare original texts inscribed in living systems, that it is inexcusable and by human beings irreparable *destruction of natural genetic information.*
5. Probably just a philosophical point of view of evolution, the outline of which should be included in teaching in secondary schools and universities, can help rehabilitate the value of nature and facilitate the understanding of the substance and Ontic role of natural and socio-cultural information. Today we find that natural biotic information, which creates and integrates the biosphere, does not divide nor harm the Earth. Only *human socio-cultural information* was hostile towards the Earth. It divided it to the nature and culture and temporarily *turned* the expansive *cultural system*, existentially subject to the broader and more powerful law of nature, *against the natural evolution, against life.*

In conclusion, I would like to point out seven other arguments for the need of the reconstruction of education content.

1. Pupils and students today for the first time need time to be trained and qualified not only for them to be able to make adequate job performance as adults in today's information society, in which the need for productive human labour dramatically reduces, but also to ensure that they become responsible citizens of planetary culture. It is therefore vital for them to understand the conflict of culture with nature and as citizens to be able to express it on the political level.

Schools must educate young people so that they leave their “innate” and usually family reinforced anthropocentrism, gradually to recognize the basics of “systemic” vision of reality.<sup>13</sup>

2. The observations of natural sciences, with their theoretical content still subordinated to the predatory spiritual paradigm (the aspect of an offensive adaptive strategy of culture), are - by their effects - as if added together and multiplied in the anti-nature cultural system; but as philosophical and useful knowledge in the living generation memory of people, they are vulgarized, diffused and mixed with pragmatic human interests, ideologies and myths. I therefore formulate a provocative argument that if an economic and technological self-motion is not adequately civically understood and practically controlled, *our ideas about science, truth, freedom and democracy will also fail*. And we, as a kind owning mobile phones and global information systems, will perish through our own fault.<sup>14</sup>
3. Today, we need education that will enhance human genetic predispositions for the secrecy, value and beauty of nature and that will enable the humanity to resolve the current ecological crisis in a democratic way. In the sensitive stage of human ontogeny, which partially covers the compulsory school attendance, the procedural view of reality, biofil values and emotional basis for a respectful attitude towards nature should be grown; the same applies to lifelong humility and admiration of the living systems. The question how things that surround us arose is a very natural question of a child. It is therefore necessary, from an early age, to teach and *reinforce* by education the *evolutionary thinking of children*. From a primary school, we should know that the Earth was created gradually, in a long cosmic evolution. We should know that this natural evolution is spontaneously creative (i.e., sacred, “divine”), that it not only created the universe and planet Earth, but also us - people - and all other natural conditions of culture. And perhaps even a child can understand that one can also create things and that by a joint effort of many people - by the socio-cultural evolution - all human socio-cultural creations can arise; but unfortunately only at the expense of nature.
4. The seemingly radical ontological evolutionary idea that man - after his creation - also creates reality, i.e. that he also lit evolution, anti-nature cultural evolution, may not be very distant from a young human mind. At the very tender age it is

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<sup>13</sup> Today it is prevented mainly by two obstacles. 1. Non-transparent construction of consumer microelectronic technology makes it impossible not only to understand the nature of technology, but also to understand the essence of culture and the role of the culture in the nature; 2. children adapt to attractive technical environment of today's flats and schools primarily motorically and non-verbally; this artificial environment, however, further removes them from the nature as it narrows down their inborn complex potential and develops them in the direction of mere controlling of abiotic information technology.

<sup>14</sup> Technical and socio-cultural factors of spontaneous education influence today's young generation similarly non-intentionally and formatively as in the past the prevalence of natural eco-systems influenced the formation of our animal ancestors. The genome of the man acquires almost nothing from the culture, but the mental and physiological imbalance of the human organism deepens as a consequence of the receding nature. And also because mass media - after a short initial period of them being a tool of human cultivation - have become carriers of bad news, sensations, commercials and superficial entertainment, the transformation of the contents of school education remains *the only chance for forming an educated and mentally healthy human personality*.



necessary to create conditions for a clear distinction between *what is nature and natural and what is culture and artificial*. It is time to leave the axiologically arrogant anthropocentrism and the additional mechanistic interpretation of reality in which nothing ontically new spontaneously arises. It seems that this is the level at which basic and secondary education stopped and fortified. And that is why the first step towards the rehabilitation of natural values in school will be difficult. But - to avoid a later split of values of the human psyche – *the imprinting of life as the highest value should be anchored in our children and pupils in the school as soon as possible*.

5. Culture, which has been fully created by human work, should be studied as an artificial system with inside information, as a subsystem subordinated to a wider and older system of the Earth. But the cultural system, which even after the emergence of modern natural science developed as a rapidly growing external human body, never became a real subject of philosophical, scientific or educational interest. Today we do not learn in secondary schools and universities how the cultural system is intentionally or unintentionally created, why it has the inside anti-nature information (spiritual culture) and anti-nature structure and why it is so far so dangerously aimed against its host environment – the earthly nature.
6. I openly defend the view that the need of pro-nature (biofil) orientation of educational process is not a post-modern fashion wave. Spontaneous biofil “education” of our ancestors through natural environment preceded human written history, and is therefore just as old as humanity itself, as culture. In the long historical phase of unintentional human education by the environment the human personality has been shaped not only by the relevant culture, but also by the nature, by the prevalence of natural ecosystems. Also Neolithic economy as the main way of creating culture by human activity before the industrial revolution was clear evidence of the subordination of abiotic technology and values to biotic technology and values. In Europe, this subordination had the form of superiority of villages over cities and agriculture over the home and professional craft.
7. A noticeable turn to temporary and from the long term dangerous abiofil orientation was brought about only by the expansion of mechanical machine technology. This turnover approximately coincides not only with the productive application of natural sciences, but also with a significant productivity orientation of education, with a predominance of Galilean-Newtonian worldview. Two centuries separating us from the Industrial Revolution brought about current technology boom and prosperity, but unfortunately also the greatest devastation of Earth culture. And both of these processes have occurred with the involvement of anti-nature natural science and a similarly oriented educational system of the European society.<sup>15</sup>

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<sup>15</sup> Educational systems are conservative and tend to hide problems that should be revealed. For example, children are still being taught in schools – by inertia – that for the Earth and the whole universe the law of conservation of matter and energy generally applies, but are not reminded that, on the Earth formed by the evolution of nature and later on culture, *no law of maintaining its natural orderliness applies*, even though this sole finding shows that a possibility of unlimited growth of culture (civilization) cannot apply. The culture stands or falls with the existence of natural conditions favourable for the health and biological reproduction of the man.

## Rest of the text

Also human activity should be shown as a nature-dependent creative power, which - on the naturally composed Earth - had to be first directed against the result and process of spontaneously creative activity of the universe. But we must also remember that at the stage of globalized culture its anti-nature orientation is harmful and dangerous and seriously threatens the human future. It will be therefore necessary to change this orientation and to transform the anti-nature culture that unnecessarily harms the nature to the culture which is respectful to the nature.

The system of biofil education should not ignore the destructive role of culture towards the Earth. As early as primary and secondary schools should disseminate the notion that the man-lit cultural evolution, which is now unnecessarily ravaging the Earth, must be reconciled with the evolution of the older, larger and more powerful natural system. Already at school nature has to be rehabilitated in terms of emotions, theories and value. Already here can we show that the living planet Earth represents an older, larger and more complex creative activity than the process of creating culture by human activity.

In what ways can young people be facilitated this reassessment of values, is already well beyond the means of philosophical reflection. It seems that it cannot be only the initiative task of philosophy, schools and social sciences, but also a serious challenge to other forms of spiritual culture, such as the natural sciences, journalism and fiction. It is an issue that will be crucial for human survival and that will soon have to be addressed by the policy.

Although the dangerous depletion of the natural being is caused only by the human species, certain more abstract justice can be seen in that the human being too is subject to the inexorable logic of preserving the system integrity of life. *It becomes an endangered species.* For the first time in his history is the man and his culture threatened by the native environment of the planet that once enabled his emergence.

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## DVĚ POZNÁMKY KE VZTAHU VZDĚLÁNÍ A ZDRAVÍ

**Abstrakt:** Lidské zdraví se obvykle definuje jako stav celkového blaha fyzického, duševního i sociálního. Při tomto širokém pojetí zdraví lze souvislost mezi zdravím a vzděláním poměrně snadno prokázat historicky i aktuálně. V první poznámce autor připomíná některé biologické poznatky, které vedly k pochopení příčin infekčních nemocí, jejich šíření a předcházení. Ve druhé poznámce se věnuje nezbytnosti obsahové přestavby nynějšího systému školního a občanského vzdělání. Hodnotová rehabilitace přírody včetně rozpoznání protipřírodního charakteru nynější spotřební kultury jsou podle jeho názoru předpokladem pro pochopení strukturní a funkční souvislosti člověka se Zemí, s neživými i živými systémy.

**Klíčová slova:** zdraví, vzdělání, školní a občanské vzdělávání, příroda, kultura