

# What Are Our Possibilities and What Should We Do?

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## Abstract

It is thought that the life of our Earth can be divided into two basic periods which are: the abiotic sterile physical life and the biological life. Both can be separated into smaller sections which are in the case of physical life: glowing star state with atomic evolution, solidification of the surface, the appearance of C, O<sub>2</sub> and water and abiotic chemical evolution. During that period of time kinds of external and internal energy were effective only through physical-chemical way. In the case of biological life, the 1<sup>st</sup> section started with the appearance of the first living unit and ended with the beginning of photosynthesis. The 2<sup>nd</sup> one lasted from the start of photosynthesis till the appearance of the first two man-like creatures. The 3<sup>rd</sup> one began from that point of time and lasted till 1778 and the last one the 4<sup>th</sup> has existed since that date. Since the appearance of the first living unit biological accumulation of external energy and mainly C but not only, emission of CO<sub>2</sub> gas, metabolites, heat, transformation and loading of the earthly environment as well as natural mutation of organisms that is the biological evolution have flown. When photosynthesis began biological fixation of solar energy/photon and free atmospheric CO<sub>2</sub>, as well as production of free O<sub>2</sub>, have also started beside the former events and the biological evolution has continued. No unnatural event had happened in these two sections. The fate of the 3<sup>rd</sup> and the 4<sup>th</sup> sections—that is the anthropoid time—has been determined by the unnatural effects of man kind. The most important altering events are: the number of the inhabitants, the use of fire, agricultural production, domestication of animals, formation and maintenance of industry, trade, vehicle-park, denaturation of the surface of the Earth and contamination of soil, atmosphere and waters etc. Finally, ideas for the solution of the climate problems which are mainly the results of the 3<sup>rd</sup> and 4<sup>th</sup> sections will be discussed.

## Keywords

Matter and Energy, Life Periods of Our Earth, Effect of Biological Life,

## 1. Introduction

We have started to deal with the problems of man kind before 2004 when our first paper was published [1]. Our opinion is that the Universe is an endless constant and continuous flow and metamorphosis of matter and energy which have not beginning or end on the basis of the law of conservation of matter and energy. This complex system consists of temporal visible forms of matter as well as different kinds of non-visible energy. The visible forms are the black holes, the celestial systems, the solar systems, including our own solar system also, the Milky Way, the galaxies and their building stones: the stars, the planets, the minor planets, the comets, the meteors/meteorites and the cosmic dust. The single visible forms were developed sometime in the past—for example our Galaxy was born more than 10 billion years ago and the age of our Solar System and that of our Earth existing in that System may be 5 - 4.75 and 4.55 billion years, respectively—or have developed at present—for example a new heavenly body is in the making—and will disappear in the future as a result of energetic and material effects as well as changings in the Universe [2] [3]. The invisible forms are the wavelength-dependent radiations consisting of photons of electromagnetic origin, the strong and weak interactions between atoms, and the gravity. In addition to these, we must also mention the high energy cosmic ray/flux from outer space, which in addition to the electromagnetic gamma radiation mentioned before, contains various particles—protons, electrons, helium and other nuclei, as well as elementary particles—neutrino, pion, kaon, muon, tau and zeta, too. Besides these, it is also necessary to speak about the dark matter and the dark energy. Their nature and role are not known yet. It is supposed that the dark matter is in dynamic connection with its visible concrete matter and the dark energy is the energy carried by dark matter. Finally, the gravity between two bodies might be influenced by their dark matter composition [4] [5].

The relationship between matter and energy was quantified by *Albert Einstein* in his famous equation  $E = mc^2$ , where  $E$  is for energy,  $m$  for mass and  $c^2$  is the square of the speed of light [6].

## 2. The Life of Our Earth

### 2.1. Its First Period—Physical Life

The life of our Earth, which was born as a glowing pile of matter and energy in the Universe can be divided into two main parts. The first part is its *sterile physical life*, during which its constituent elements evolved—atomic evolution on the basis of the theory of *György Marx* [7] and its surface became solid, on which the substances and environmental conditions which were necessary for the appearance of the first living entity slowly formed in consequence of the earthly

chemical evolution and the effects of both the external and/or the internal own energy of the Earth only on physical-chemical ways.

## 2.2. The Non-Sterile Biological Life

The second one is *its non-sterile biological life*, which began with the birth of the first living unit/cell. This unit was a bordered temporary substantial structure/matrix which needed and could accept the external—electromagnetic, chemical or cosmic—energy and which was suitable to maintain a life-long continuous electron and ion transport that is its own metabolism and entropy, further was able to develop and change—mutation—had the ability of reproduction, as well as to produce different compounds containing built-up energy, emitted CO<sub>2</sub> and other compounds of its metabolism.

### 2.2.1. The Effects of Living Organisms on the Original Natural Material and Energy Connections

The formation and the life of the first living unit resulted in a decisive change in the former physical life of our Globe.

- Because due to its metabolism utilization of some sort of carbon compound and other atoms as well as some external energy began.
- As production of energy-containing compounds in biochemical ways that is *bioaccumulation of energy* also started.
- Finally, decomposition and utilization of the substances of its surroundings as well as loading its environment have come into existence.

The environmental and energetic importance of the living unit has continuously increased due to its *multiplication* and *evolution*. The appearance of *photo-synthetic* and *oxygen-producing* organisms has meant a great step forward in the evolution because they were able to utilize and store in biochemical way the Sun's photons and this was a quite new and significant form of energy storage. Besides this, they helped the development of oxygen-demanding organisms, too. A further change was the appearance of warm-blooded organisms the metabolism of which significantly risen the biological heat production and evaporation ensuring their own thermal equilibrium. Both processes have steadily increased in relation to the number of these organisms. The propagation of aquatic and terrestrial organisms resulted in the accumulation of significant quantity of organic substances with energy and in consequence of their death these substances and energy accumulated in the sediments of water bodies and due to various geological changes in the deeper layers of the soil also, which process led to their removal from the natural material and energy cycle. Their absence together with other events—for example, hits of meteor, strong volcanic activity, etc.—affected the extent of earthly biological life which happened thought naturally, but had significant effects on the Earth's climatic conditions, leading to climate changes and ice-ages (The organic substances and their energy content stored are the non-renewable energy sources of today. When their substances—including carbon and other elements and energy—previously omitting from the natural ma-

terial and energy cycle—are burnt and liberated at present they have returned into the cycle in the form of carbon dioxide, etc. and heat which remained from their energy used by living organisms, have resulted in the opposite processes which had happened in consequence of their getting out from that cycle. This process is one of the causes of the recent climate change).

### **2.2.2. The Role of Human Beings and Their Industrial Revolution**

The other decisive change began with the appearance of *conscious humans*, who realized the advantages of using fire. In consequence of the multiplication of human beings they have needed food, water and other substances as well as heat in a continuously increasing quantity and besides this their wealth accumulation desires have also formed. More needs could be ensured with the domestication of animals, the transformation of the natural environment for housing, agriculture, transport, industry and mining, etc. These actions have meant the beginning of the destruction of nature which process is still taking place today. That originally slow process because of the discovery of the first steam engine which happened in 1778 has turned into a continuously faster one, which has been even intensified by the over-optimism of the 1940s. The name of that process is *Industrial Revolution*. This is how we arrived at today when the number of the world's population was 7,929,714,000 on 13th February 2022, and that number is rising by one in less than a second at a continuously accelerating rate. Besides this, the substantial and energetic demands and effects of the present population are far greater and steadily increasing in comparison with the individuals who lived or still living in natural tribal form. The needs of people of the world must be supplied with food, water and housing at least, and each inhabitant emit carbon dioxide, heat, vapors and other excreta which ought to be neutralized by the nature. And we haven't even mentioned the consequences of agriculture, industry, transport, etc. As a result of all these causes, climate change has now reached a critical extent. A further major problem is that all these processes are happening in a closed system with limited substantial and energetic possibilities. The development of the present situation has been strengthened by a scientifically worked out, Nobel Prize-winner, profit-orientated economic system. Besides some countries have wanted to dominate the world which requires production of immensely expensive military instruments and maintenance of the necessary military background. In addition to these, there are unrealistic illusions about sustainable development, the conquest of Mars, etc. and there is an organized less than 10 minutes long travel into the space for a horrendous price of 134,000 dollars per person when large parts of overpopulated people on the world are starving and living in dire poverty.

We have collected the data of the last 243 years available and added our calculations to them. On the basis of all that we have declared that from 1778 such energy and matter changes have happened which had not occurred in any time during the previous life of our Globe. The causes and consequences of these changes can be classified into three groups.

### 2.2.3. The Present State of the Earth and Its Atmosphere

- The *first group* includes the justified and unjustified wants and needs of the growing number of people and their animals living in a closed system. These are in headwords: food, drinking water, energy, habitation, clothing and social needs, etc. These demands can currently be ensured only by the operation of industry, agriculture, transport, education, health, social and municipal services, police and defensive organizations, and by the maintenance of various research institutions. During their operation, a wide variety of solid, liquid and gaseous metabolites, man-made and other waste materials, hazardous wastes, heat, light and noise, etc. get into the environment. The various research institutes are involved in the synthesis of plastics, use of nuclear energy, isotopes and performing space experiments, as well as gene modifications. Everything is directed by the profit-oriented economic policy and the endless demands of the people in the closed system of our Earth.
- The *second group* includes the man-caused changes on the Earth's natural surface. These are settlements, constructions—like buildings, roads, etc.—deforestation, development of agricultural lands and reservoirs, as well as mines, ports, airports, and pollution of surface water, etc. all denature the surface of our Globe. These changes do not only affect the absorption, adsorption, utilization, reflection of the Sun's light, radiation of incoming as well as own earthly and living organisms produced thermal energy but also the temperature and movement of waters. They have a major detrimental effect on the previously natural climatic conditions and the ecosystems, changing the flora and reducing not only the number but also the kind of animal species.
- The *third group* includes loads of the Earth's atmosphere with various non-inert gases (CO<sub>2</sub>, methane, NO<sub>2</sub>, SO<sub>2</sub>, etc.), gaseous substances/vapors, and solid substances originated from various combustion and other processes of industry, agriculture, residential buildings, or that of motor vehicles, aircrafts and rocket engines, as well as debris of space experiments. These loads have modified the composition, state and movement of the atmosphere in consequence of which changing of the previous manners of arrival of external energies, the way in which terrestrial heat leaves, the streams of oceans and sea as well as the character of process of the *water cycle* and thus the climatic conditions of our Earth. In addition, foreign substances in the atmosphere can have a direct detrimental effect on various living organisms and may increase the likelihood of spontaneous mutations [1] [2] [3] [8]-[13].

Unfortunately, the processes outlined above have started long before in the past and still going on despite the fact that the dangers were already pointed out by *Thomas R. Malthus* in 1798 [14] as well as by the *Club of Rome* which was organized in 1968 and the members of which warned the leaders of the world in 1972 [15], but there has been practically no substantial change since these warnings. This unfortunate fact is confirmed by our publications [1] [2] [3] [8]-[13] and has led to the dramatic announcement of the UN Secretary-General this

year.

The basic problem is that the experts believe that limitation of emissions to the same levels which were in the 1990s or even 1970s if this goal could be reached at all would bring some improvement. As most of the processes which are still happening today already started in 1778 and most exactly before that datum—in time of the birth of the first living cell—we think that it would be very necessary rapidly reduce our current emissions and demands to at least the levels of the 1940s and then we might hope the stop or at least significantly slowing of the unpleasant processes. It is also a fact that the concentrations of the gaseous pollutants in the atmosphere will decline only slowly and therefore the changes caused by them will not immediately disappear.

### 3. What Can We Do and What Should Be Done

At present the question is what can we do and what should be done, but very quickly? It is quite clear that the most important cause of the present problems is the population and their needs and activities. Therefore, the rapid growth of overpopulation in Africa, South and Middle America as well as Asia should be prevented. The number of inhabitants should be stabilized all over the world. In addition to this, the *minimum conditions of normal life* at the level which is appropriate to the social development and biological needs of the inhabitants should be determined and guaranteed for everybody. It must be also stated that sustainable development cannot be maintained and in the so-called “developed” countries all luxuries which are not necessary for their life should be given up. This could prevent misery and migration. The profit-oriented capitalist form of production based on overconsumption and wasting must be changed. Energy demands and heat emissions must be reduced. The use of non-renewable fossil fuels should be limited not only because they are running out, but also because their use has the most harmful environmental impact. In this respect, the use of green energy is not a solution, because the “*protective*” effect of plants only occurs during their growth and not burning. They can be utilized most advantageously as human foods and animal feeds because some of the solar energy captured and organic substances produced during their growth is used up by the living organisms throughout their life. The arrival and capture of solar energy are determined not only by the Earth’s rotation but also by atmospheric and surface conditions. In addition, it is not known what will be the consequence of artificially bound solar energy on the natural energy processes. Wind energy is harmless where conditions of wind are stable and permanent, but the effect of the generated electricity on the global energy flow is also unknown. The same is also true in the case of hydroelectric energy. Under safe conditions, the amount of electricity produced by a nuclear power station can be well controlled in comparison with the before mentioned ones, but the electricity and the heat produced by it can also influence the general natural energetic conditions.

In addition to these determining role of money and wealth, as well as that of

different political views in social life should also be eliminated. The brain drain should be stopped. People's place in a society should be determined only by their knowledge and abilities. The economic rules for sustainable biological life should only be determined on scientific basis and further destruction of nature, the place of our existence, should be limited to a minimum as the laws of physics and biology are eternal.

Our opinion is the mentioned principles could be achieved if the leaders of all countries and territories over the world could accept the current borders. They ought to sign the treaty of mutual friendship and non-aggression under the auspices of the UN. Military blocs should be abolished. All troops staying on foreign territories should be withdrawn—in case of emergency, only UN troops should carry out policing. Each country ought to have only light-armed forces in equal proportion to the length of its border to defend its own territory. Production of nuclear and heavy weapons, space and missile testing must be stopped and their stocks should be destroyed. The number of aircrafts that use gasoline and diesel-powered engines/vehicles should be drastically reduced. No one should want to exert military, economic, political and cultural pressure on another state that is all states should be independent and autonomous with friendly cooperation. All citizens, including members of minorities also, should have equal rights and the necessary autonomy. And finally, all states should equally distribute the produced goods needed for keeping human life in accordance with the personal minimum requirements for all their citizens.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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