

Destiny of Mankind

Alexander Tutukov

Institute of Astronomy of Russian Academy of Sciences, Russian Federation

ABSTRACT

The absence of signals of other civilizations with many suitable for life planets in Cosmos is a long and deeping with time mystery. The possible answer is a short, lifetime of a developed civilization, consisting only several hundreds or thousands of years. Ten possible hazards on the way of the Earth civilization capable to reduce its lifetime are named in the paper. The result consists of the conclusion on a deep necessity to organize the international cooperation for the search of rules of "civilization hygiene" to increase lifetime of Earth civilization.

*Corresponding author

Alexander Tutukov, Institute of Astronomy of Russian Academy of Sciences, Russian Federation.

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Introduction

A man is permanently rushing into Future. He always wants to know what will be tomorrow?

A Week later? A Month later? An Year later? And, finally, what will be after us?

Attempts to foresee the future not yesterday have begun and not tomorrow will be finished.

Another direction of our active search was always the investigation of space of surrounding our world. What is on neighbourhood street, city, country, in the world, what is in us Universe? Astronomy, probably, is the best instrument for the orientation of man in the search our place and the place of the Earth biosphere in the Time and in the Space.

The discussion of cosmic aspects of the Life and of necessary conditions for Origin and Existence of Biospheres on other planets is and will be the subject of many papers and books. For Soviet and Russian readers Professor Iosif Shklovski book "The Universe, the Life, the Intellect" was and successfully remains a guiding star on this remarkable and unlimtily important way. Similar role in the English language world during begin of cosmic times have had books of Carl Sagan on possible contacts with other cosmic civilizations.

Great Successes of USSR and USA at the begin of the second half of twenty century in cosmic study had inspired and are expiring us on multilateral Study and Search of the Place and the Role of the Intellect in the Universe. The presence of a large number of planets in the Universe were admitted even before twenty centuries on the ground of some common consideration of uniformity of the Universe and place of our Sun among other stars. But the progress of cosmic instruments at the begin of our century has helped to find thousands of planet systems around stars what are close to Sun. And now we can conclude that about a half of all stars of our and other galaxies have planet systems. The number

of planets in a planet system can be up to about ten. Therefore, the number of planets only in our Galaxy can be of the order of trillion what consists of about one hundred planets for every man of the Earth. And the number of planets in the limits of observable Universe $\{\log N=23\}$ creates a problem to find an evident sample for a comparison.

The chemical and structural uniformity of the Universe, the intense growth of informational and communicative instruments of modern man inevitably give birth the fundamental question about of reasons of the cosmos "silence". Enrico Fermi in 1940-s was the first, who has put this question to the common attention. A high, but still numerically unknown, probability of life and civilization origins admits the possibility of appearance and existence of a common informational field with our Earth always plunged in. But cosmos remains silent!

The experience of the Earth life and creative fantasy propose several, on today, possible explanations of the recorded signals absence of other civilizations in spite of a long time of the very careful and multilateral search of these signals.

The God's choice of the Earth and our civilization will possibly satisfy of a part of people. One God has created one Civilization in whole Universe and Nothing else! Such religious answer is psychologically well reliable. A religion is the mostly efficient instrument of psychotherapy and spiritual stability and as such one it is irreplaceable one. But, as has shown the recent history, the great endeavor to realize christian ideals of a Paradise on the Earth under pseudonym of Communism has appeared unrealizable because of the nature of the life motivation of a man. And a qualified researcher knows well the place of our Earth in the Cosmos and in the Time, so a religious answer on reasons of the uniqueness of Earth civilization cannot be for him well extensive and exhaustive one.

Another variant of the answer about a reason of "the silence" of the Universe consists of our "deafness". That is, some information field in the Cosmos really exists but we are not yet mastering to the level, what is necessary for its registration. In other words, there is some "cultural" horizon, limiting our possibilities in the mastership of registration of such signals, what really from olden times fill our Galaxy. This variant of the answer is rather realistic one in spite of on all scientific and informational arming of the modern man. For example, just recently astrophysicists have realized that the centuries-old study of stellar and galactic worlds of the Universe on the ground of the photon information field use only a small part of whole flux of the energy, radiated by these objects in the course of their evolution.

Neutrino and gravitational waves keep significantly more of energy, radiated by collapsing and merging neutron stars and black holes at the end of evolution of usual single and binary stars.

It is not excluded now as well that developed civilizations can put a ban for such information contacts and prevent the creation of some cosmical informational field, having the aim of the conservation of own sovereignty. The alien information, what does not adapt to the local environment, has frequently a destructive impact. There are many well-known similar examples of the destructive power of alien information in the Earth life. Thus, some informational "hygiene" can be a sufficient ground for the explanation of reasons of absence of extraterrestrial civilizations signals.

But the mostly probable explanation, from author's point of view, of the cosmos "silence" consists of a short lifetime of any developed civilization on the level, when it is able technologically to provide for the communication on interstellar distances. The size of "the information sphere" is equal to the product of civilization lifetime on speed of light. For complete filling our Galaxy by signals of other civilizations under the assumption, that every year there arises one developed civilization, it is necessary, that the lifetime of any civilization on the developed stage would be longer than about one thousand years. Let me to remind here that every year in our Galaxy arise several tens of planets. The decrease of frequency of civilization formation ten thousand times would increase the estimated limit on its lifetime only ten times, according to this, of course, very simple model. Thus, the demonstrated estimate of a civilization lifetime looks as rather stable one. And "the silence" of Cosmos in the case is result large "dead information zones" in the space of our Galaxy, where we are now.

So, analysis of possible reasons of the absence up to now signals of another extraterrestrial civilizations brings us to the conclusion about possible limits of the lifetime of developed civilization by a value of the order of one thousand years only. It is necessary now to point that they begin of the developed stage starts at the moment of achievement technical possibility to send and to get, let to say, the radio signal on the distance about 300 parsecs. The last limit is close to the size of the informational sphere what is necessary for the filling our Galaxy by these signals.

Current technical possibilities are limited by several tens of parsecs only. But, taking into account the current technical progress, the begin of "the counting down" for the Earth civilization looks now as a very close one. As the result, there is arising a fundamental question about possible reasons of limits of the lifetime of a developed civilization. Of course, this problem is not new one. This question frequently arised in our past during analysis of

current trends of Earth Civilization in material and political aspects. The astronomical "argument" under the discussion of possible limits of the lifetime of our civilization just escalates the problem. Now we can just to point here, that looking so short limit on the civilization lifetime of order of one thousand of years only still well admits the simultaneous existence of about one thousand civilizations of our level of the development in our massive enough but still rather usual Galaxy.

Possible Reasons of Limits of the Earth Civilization Lifetime

Now we can and have to analyze the experience of Earth civilization to discuss possible reasons of limits on its lifetime by the above-mentioned value of the order of one thousand years, what is too short compare to the lifetime of Sun, Earth and Earth biosphere. The latter consists of value what is well comparable to the age of our Universe, what is now close to twelve billion of years.

We shall discuss below ten factors, what are able, according author's opinion, to slow down the development of Earth Civilization and, possibly, to limit its lifetime by the value of order of only one thousand years. These factors do not exhaust of course the list of real threats to existence of our civilization but just will remind to us about their multiplicity and diversity.

The Ecology

Mankind is an evolution product of one of branches of the great "Darwin tree" of the Earth biosphere under certain ecological conditions. As the result mankind fills some ecological niche.

"Form and volume" of this niche are permanetly changing with time on some timescale. The modern man by means of the fast and accelerating in time evolution changes conditions of own existence. As the result in the process of human "progress" man can lose a natural ability to adjust himself and own niche to new world created by him. For example, computer taking many natural functions of man can appears out of human control in the service to man.

Globalization

Everything alive, according to Charles Darwin, is a product of a strong selection, accompanying replacement of generations and evolution. The modern man, is moving with an acceleration to the globalization and to a unification of the style of life. The globalization, of course, accelerates and simplifies the transition of useful experience and information all over the world. But it is worths to remember, that the globalization spreads over the world a negative, destructive information, the arm, illnesses, as well. A glance in the past of our civilization makes clear that the evolution of the mankind consisted of the permanent replacement of permanently competing cultures, people and countries. Every culture has existed in the active stage only several hundreds of years before to be destroyed. Now the globalization makes any large mistake of the civilizational development as a fatal, a breaking down and the last one. For example, permanently mutating viruses and microbes by means of the modern aviation tie our human world on the Earth in one organism during one day only. And it is evident, especially today, in corona virus times, that this timescale is many times shorter than the medical protection timescale. This timescales contradiction can appear fatal one for Earth civilization.

Exhausting Resources

Countries, people and world are proud of a fast growth of all parameters of our civilization. But it is evident that the growth

of the production, the human population, the energy production even only one percent per year leads to doubling all these values during seventy years only. The conservation of such growth rate over one thousand of years will lead to growth all above named parameters twenty thousand times. We well know from the physics, that such growth is nothing else but "an explosion", what leads to exhaustion of any resources, including minerals, fresh water and air and it leads to the destruction of the human ecosystem and man itself, who is a proud creator of this "explosion".

The Natural Selection and the Biological Degradation of Man

A woman can give birth about ten children. And women a long time before the current time did that. The Nature and the Life by many strong selection effects select to the matured, reproductive age only about two children, what are necessary for the stable replacing of parents. The modern man under the pressure of a complex of economical and cultural reasons reduces the number of children to only one- two per family. Such habit and the modern medicine practically have excluded the action of natural selection effects, what were supporting the biological stability and health of the human population. Somebody can easily find strange the application of "natural selection" laws to the mankind. But a man of modern culture well remains a biological entity. The Nature "foresees" a significant "overproduction" of descendants for the "battles" with errors of the reproduction and the Life. And the two children family, stabilizing human population numerically, undermines the biological stability of the mankind. And what is even important, who knows, how many children per a woman is necessary to support proper reproduction of intellectual level of mankind?

Modification of Chemistry

The variation of the chemistry of man environment by the industry, the agriculture and the modern medicine is accelerating with time. The modern man, producing clothes, the food, utensils, energy, medicines actively involve in our everyday life many new chemical products, what were absent or very dispersed in our life before. The accelerating with time "enrichment" of our life by a new chemistry obviously changes conditions of the human existence.

Nearby and, what is of importance, distant results of this enrichment will be recognized only in the process of the progress and the time itself. Apart that, our medicines, saving by "chemistry" and by operating people, "rejected" by the Nature and the Life, really actively influences on the process of the natural selection, what has created mankind.

Natural Catastrophes

They have deserved a traditionally high attention of the modern man, recognized on own frequently very bitter experience these dangers of the world, including now and hazards of the cosmos. Among these dangers there are the global heating, volcanic activity, earthquakes, thunami, falling asteroids. The history of the Earth life, studied by paleontology, points times of drastic changes of conditions and the face of the biological content of Earth life. Above mentioned reasons were usually named among possible reasons of these changes. It is of interest that paleontology did not find up to now any spots of other, previous Earth civilizations. Thus, we can conclude that our civilization is the first and single one, what weakens a possibility of the multiple appearance of civilization on an appropriate planet in the cosmos.

Konflicts

Among possible hazard to mankind remains, pitifully, very real the danger of a global all annihilating war. A fast development of technologies of the extinction of man and currently their wide accessibility to many countries, politician and now, even to terrorists makes the growing actuality of this hazard more and more real with time. Up to now, pitifully, there are no signatures of a serious signs to move away the edge of this deepening with time abyss, hole. Permanent efforts to deflect the attention of people and countries from solution of urgent inner problems for a search of external "enemies", what allegedly prevent to solution of these problems, are real hazards to peace and, now, to the mankind of our planet. And the permanent growth of instruments of the human annihilation is now much faster of the growth of opportunities of man's defense, as pointed by Russian Prof. Nikita Moiseev.

The Economy

A significant input in Earth civilization instability can insert, and as shows history, inserts the economy of our world, quickly moving to globalization. Nobel Prize laureate 2017 Prof. Richard Thaler divides the economy in two branches, what could be named by eternal terms "economy of the bread" and "economy of the circuses". "Economy of the bread", serving everyday needs of a man of foods, clothes, roofs, the health and the everyday business is relatively stable and, as has shown our previous experience, provides for relatively stable development of the human society. But "economy of the circuses" is, according to its nature, usually random one and frequently it is a harmful hobby of people and countries. The latter economy frequently is very capricious one and usually it is a source of the real instability of national and even, now, of all world economies.

THE EXTREMISM in our modern and very polarized society always served and serves as the source of an instability of the development of countries and the mankind. The human society is very heterogeneous one and all these inhomogeneities are, from one side, efficient stimulants of the competitive progress of our civilization but, from other side, they are powerful generators of many conflicts of the different nature: national, religious, labor-capital, trade and others. National and religious contradictions, at least partly, are smooth out now by a large atomization of the Earth human society: the number of countries in the world has increased three times during twenty century.

But the modern economy makes the existence of small independent countries practically impossible on the background of the constantly growing and complicating modern industry and agriculture.

The later actively generate the formation of economical unions of different sorts with their usual wide militarisation.

The economical extremism, political left and right extremisms, as frequent reflections of the former, are now also very important one. Too low contrast of the income and the wealth of people, as has shown the experience of USSR and other countries of "pure" socialism, leads to the loss of efficient stimuluses of a society and a country economical activity and the progress. A low contrast leads finally to the economical stagnation and to the destruction of countries. Too high contrast of the income and the wealth, as was demonstrated by Russia under Tsar at the begin of the last century, inevitably leads to destructing social revolutions and great losses. The construction and the support of a reasonable, efficient and constructive contrast of the incomes of citizens and of countries is the urgent and permanent problem of politicians and cultures, what

far not always successfully was solved and is solving now. The destructing energy of conflict unlimited armed unions, countries, cultures and social classes on the ground economical, social, trade, religious and social contradictions quickly grows in our time. The support of "an efficient" contrast of income and wealth of people and countries of the modern civilizations becomes as the absolutely necessary condition of their stable development. The progress demands the permanent harmonization of interests of people, social classes, cultures and countries.

The Civilizational Nihilism

The last in the order but not in the value danger of the existence of Earth civilization consists of the refuse of the careful analysis of possible obstacles and problems of existence and development of man on the Earth. Many people think usually, that the future is so far and is so uncertain one, that there is no a sense to analyze it now and here. Current problems prevent to see clearly tomorrow hazards. But our civilization, permanently accelerating its development, constantly sharpening old one and giving birth new problems. The tangled timely and not solved problem can be the real danger to the progress and to the existence of Earth civilization in a close future. The timely discovery and the solution of progress problems or, better, the danger of their appearance becomes an absolutely necessary rule of "civilizational hygiene" of the modern man and the condition of his progress and conservation in the world, what he has created in many respects.

What To Do?

The Mankind in the course of its progress permanently solves many current economical, ecological, political, national and scientific problems. Worthy the very wide attention an repetition the example is the very wide international scientific cooperation for discovery gravitational waves, arising in the course of merging components of close binary neutron stars and black holes, well predicted before. The very expensive, about one billion dollars, experiment of thousands scientists is grounded on the current picture of cosmical physics, what was developed during last tens of years by scientist of many countries, is very successful. This great sample of the international cooperation well has supported the current scientific picture of our Universe and has demonstrated the efficiency of cooperative forces. It is evident, that the complex international study of possible hazards on the way of development of Earth civilization is now the very important and the actual problem for contemporary countries, people and politicians. The creation of a well coordinated net of modern international institutes for a deep, multilateral and objective study of perspectives of Earth civilization development seems now as absolutely necessary one. The aim of this cooperative net will be study and estimation of probable hazards and the formulation of "civilization hygiene" rules. These rules, probably, cannot help to make our civilization eternal one but they have to increase lifetime of our civilization. Such project could help to redirect a part of world money from the annihilation of a man on the conservation of the Earth civilization.

Mankind spends so much for wars, on the annihilation of man so it is the time to think now about ways of the stable and productive development of the world and of the mankind. The above proposed net can be not only by an instrument for the analysis of the civilization progress but, as well, by an instrument of the search of cooperative solutions of common problems of different countries and cultures. The cooperative solution of common problems always was and remains the best tool of harmonization of people, countries and cultures relations. The cooperation in the conservation of civilization "health" in the current time has

no an alternative. Man has to recognize that a constant and deep analysis of development ways of our civilization is absolutely necessary condition of development and, even, conservation of our Earth civilization in the future. The blind believe in Eternity of self-organised Civilization is self-killing one [1].

Reference

1. Tutukov A (2018) Deatiny of Man, NBICS: Science Technology 2: 96.

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