

VII. THE TIME TO INVEST IN SETTLERETICS HAS COME. [\[1\]](#)

Student's question: *Where the people live?*

Teacher's answer: *People live on Earth.*

This obvious fact implies a very important conclusion. We are fatally vulnerable. If something happens to the Earth planet, our common space home, or some kind of a planetary catastrophe has happened, this will be the end of humanity as such. Unfortunately, we cannot exclude such a possibility.

What are the possible accidents with a planetary nature? How people can and should avoid them?

Catastrophes of planetary scale should be classified at least as pairs. As regards to the planet Earth, they are: (1) exogenous, i.e. external (cosmic), and (2) endogenous or internal (planetary inherent). In regard to people they are: (a) normal (true to life or natural) and (b) artificial (anthropogenic, i.e. caused by the people or by humanoid humanlike sentient beings). Therefore, only 4 possible combinations have been shaped.

What should we do? How to save humanity from impending doom, how to survive? In order to prevent possible failure of the vital unit that enters into the composition of a weak management unit, cybernetics proposed that it be "duplicated and stored as a backup. «The same thing was done by the very nature itself and life shows that this "recipe» works.

It is quite normal to assume that «duplication and the creation of reserves» of humanity, the most weak and vulnerable unit could be accomplished with resettlement in space and on other planets. First of all – within nearby cosmos, on the planets of the solar system. Later - in the outer space, in other star systems. So, if humanity «withdraw the short stick» of any of the already populated planets, it will continue to live on other planets. It will hardly die at the same time of all the planets – for this it will really have to «do his best»...

Unfortunately, the realization of such a life-saving decision, humanity is faced with insurmountable practical difficulties.

Primarily, because of that outer space is too unfavorable for the creation of a biological basis for highly organized living creatures. Protein-nucleic molecular substrate, water-lipid environment of cell wall, tuning and complexity of physiology, the narrow range of vital parameters homeostatic mechanisms preventing the free variation etc. are virtually incompatible with the physical vacuum, the cold, close to absolute zero, the massive radiation with loads and weightlessness, and other harmful factors cosmic creation of spacecraft similar to the ecosystem that exists on Earth with closed loop which ensures everything you need, together with the protection of all levels makes this project extremely expensive.

Additional complications would be created by the inevitable death of humans and other creatures that will just grow old and die and it would limit the possible range of expansion space at a speed of movement of the spacecraft much lower than that of light.

Organization generational change in the long cosmic wanderings added problems associated with inbreeding, the inevitable degeneration, psychological incompatibility and conflict in small groups; ethical problems in limiting the birth rate and forced, artificial mortality overcrowding; the risk of sudden death in an epidemic or meteorite attack etc.

The repetitively described in science fiction novels «anabiosis» does not a solution as well.

Managed by artificial intelligence spacecraft may crash in case of emergency that is not programmed in advance for this specific AI system and requires creative approach by precisely located alive and conscious reasonable person.

But even if we assume that all difficulties in this journey be overcome, it is not certain that the ultimate point that moves the ship will be a planet similar to Earth and suitable for life. We know that there are too few such planets in space and we don't have full information for them and they are too distant from each other and also from the Earth.

Having said all that, the man, as it exists today in the form of protein-nucleic primate cannot live anywhere else but Earth, who bore him and he is not designed for space travel.

We see the outcome and it is changing the shape of the human existence. In return given the nature of his body and brain with artificial. With this type of substrate material (such as silicon or graphene) for any open space, and the climatic situation on the most planets in the universe has not been harmful, but even more favorable. Our semiconductor devices work much better in a vacuum, cold and weightlessness than in an atmosphere containing oxygen, with its dirt, dust microparticles, moisture, gravity, etc.

Until recently, such a proposal (to replace the natural substrate of human with an artificial) was considered science fiction and almost a delirium. However, let's reason soberly and without emotion.

First, in terms of the nature of this no fundamental prohibitions which means that is theoretically possible.

Second, «the sensible man» through his labor and his mind transforms the surrounding nature since his appearance in that role. But if we remember that he is also part of nature, why not start to transform nature in itself, its own nature? The man actually does just that through medicine, tripling ultimately life expectancy and reproducing throughout the planet – humanity is approaching 7 billion and is now the dominant species on the planet. Only that even today's rates «cyborgization» have not been high enough in the face of danger threatening people.

Third, replacing Darwinian natural selection with artificial sociohistoric man is deprived of the opportunity to develop evolutionary naturally and may make changes in the «structure» only artificial. Natural selection may continue, but not at this rate that would be substantial and significant in the context of the problem. And the Earth cannot undergo or provide the opportunity for human natural selection and conditions do not exist in itself, but a fact in space.

Fourth, leaving the animal world and starting the rapid development in the socioeconomic aspect, as substrate and human physiology largely remains an animal (higher primate). (In our known scientific data, the human genome is different from that of the chimpanzee only three genes, which is only 2%. The average ratio for the type «one» weight to that of the brain is also an example of 2%. The efficiency of Economy - the extraction of a resource to its utilization is also of the order of 2%).

The more power given to the individual scientific and technical progress, technique and technology, culture and civilization, the more noticeable and significant becomes the gap between «biological» and «social» beginning of man. In the last 300 years since developed «modern science» and especially in the last 50 years, according to Vernadsky humanity has become planetary geological force and has acquired the real possibility of selfdestruction. This selfdestruction may be as fast (through wars and technogenic catastrophes) and slowly – through the destruction of the ecology of the planet and their habitat. At some point may happen that an unthinking, emotional, instinctive, close venal, frankly «animal» act of someone «decides», can one movement «keying» and trigger such scientific technological sequence that will destroy him.

Fifth, imperceptibly, but too quickly, the technique and our technology «become smarter»; they have acquired a «nervous system» in the form of the Internet, with «artificial intelligence» in the form of supercomputers; «chipping» is in our daily routine. It may happen so that «our smart houses», «our smart cars» and «our smart factories» one day to acquire a planetary consciousness. They will also coordinate human effort that we ourselves will send this more sophisticated than us kind of intelligent beings to utilize space, but already without us.

While this has not yet happened, the same equipment and technology today gives humanity a unique chance to «replaces the natural body and brain with artificial» and the chance to make a complete «cyborgization».

Then, how to take advantage of this chance, how to implement it and thus be saved from

impending doom?

The author of this article raises questions outlined here, for ten years offering [1-13] to create a new interdisciplinary science for solving this problem. Even then he offers it to be called «**settleretics**»

, from the English word «settler». The author has in mind a «transfer» («resettlement») of the information from the brain of a man on structurally and functionally equivalent, but not biological substrate using a fundamental attribute of the information to be «invariant regarding the carrier». (Mathematical it is displayed with graph, the so-called «square commutative diagram» and is expressed in terms adopted in «the theory of categories», as a «functor»).

Existing at this time discrepancy between the wide, safe, but not so precise tomography scanning of the whole brain and the introduction of strong influence and few traumatic electrodes in the brain tissue, is decided by the author through his proposed using multiple microelectrodes or so-called sensor-«spies».

Quantity will correspond to the quantity of studied objects (e.g. in the range of 50 billion neurons in the human brain) that will not traumatize and will not affect the normal operation of the object (excitatory formations), because of its small (micro and nano) size, but will run around the clock monitoring throughout the life of the organism.

This kind of nanoneurosensors must have a «synergistic attribute/characteristic», i.e. to organize themselves and to form a working system where they will be stationed after their passive delivery (for example in the form of capsules) with blood flow. Or, in their active transport through the bloodstream and site assembly from micro-, nano-robots or biological cellcarriers (including viruses). These sensors will be an artificial membranes with graphene skeleton (tubular or spherical), which will further acts as a semiconductor device.

The input of a large amount of information has to be structured in a hierarchical network with stepwise sequential compression of data so that the outside body to transmit a small amount of aggregated data (e.g. the changes in the coefficients of the approximating curves, the functions of an I/O of the «black box»). The actual reception/transmission by means of radio or optical communication channel can be carried out through an embedded in the neural tissue chip-transmitter.

According to the information received from the sensors the superneurocomputer, which will be located outside the research organism, by set of special mathematical methods laid down in the relevant software, interactive and iterative shall rebuild the studied natural neuralnetwork in artificial model – its copy, as will further adjust the copy to the original, while the gap between them in structure and functions becomes negligible.

Working simultaneously, the original and the copy will exchange information between them and will form a parallel system, which is called «system with hot reserve» in the theory of reliability. When the natural neurocells fails, their functions shall be taken by the artificial model of that neurocell. At some point, instead of 100% natural defunct cells begin to work 100% artificial cells and the organism as a whole will not even notice this replacement.

In practice this means that the man will obtains «practical immortality». It will have the ability to choose «body-carrier», which will best match the specific environment that he will live. It can be combined with many other representatives of «electrical-digital/Digimatic» mind in a general supersystem in planetary superbrain. Will be able to build in the bowels of the supercomputer as he wants the comfortable virtual environments that will inhabit. Will be able to solve all the current problems associated with limited resources, socioeconomic, political, psychological, biological and others inequalities. And finally, to start cosmic exodus.

The most profound regret, understanding the extent justified thesis in the title of this article and in the foregoing it remains available only for the author and the few his fellow transhumanists [\[2\]](#)
[1](#)

They do not have enough financial and political opportunities to be able to put into practice ideas proposed by the author. During this time, the momentum of humanity momentum of existence in «traditional» way may soon destroy as humanity itself and the planet. According to assumption of futurologists, become known to the author, that date is approaching and they believe that it will occur in the first quarter or first half of the 21st century. This means that we ourselves will we live to see it...

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