

## ***Hypotheses.***

### **«Settlers»** <sup>[1]</sup>

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The problem with longevity is maybe the most ancient in the science. And people have always been willing to use their knowledge to be able at least to some extent, to slow aging and death. Of course, it is difficult to compare the modern theories of aging and methods of life extension with proposed in antiquity, but upon closer inspection one finds in them something commonly. On the whole, it is the disturbance of a sort: and this we tried, and that, but absolutely nothing happens...

The more energetic attempts, the more disappointment is deeper and prolonged. Thus, for example it was in the beginning of this century, when the surgeon S. Voronov announced that he had discovered a method of rejuvenation – grafting gonads (sex glands) of monkeys in a special method by which in according to Voronov the tissue has not been rejected. Ultimately, the method has proved untenable: the grafted tissue is rapidly degraded, although signs of rejuvenation immediately after surgery really occur. This is not the only sensation of this kind; and after each one begins to seem to be doing the extension of life is considered almost a humbug. But time passes and again are people with extraordinary

tenacity tackle this problem, which is worth the effort.

If we ask ourselves what of the man should be saved from destruction, then the question at first glance may seem ridiculous. The human body is a unified system: the heart, the lungs, the brain cannot live one without others. However, when this question was raised – then the cybernetics took place.

Perhaps the main achievement of cybernetics is the clear understanding of the differences between information and its material carriers. The same information may be contained in the broadcast, in an article in a magazine in a person's head, read the magazine on recording tapes on the TV screen and on any other carrier. Letters nothing like radio waves and even less – biochemical codes into nerve cells in our brain, but that did not prevent us from identifying ourselves the information content of the message. The information can be record on one to another media it does not depend on the physical nature of the object with which it is associated.

In this case, the question arises: whether what is considered to be a human person, virtually no information content of the brain and peripheral nervous system? If you reject the mystique, it must be recognized that even these higher qualities of personality as human consciousness reflect material existence. «Consciousness can never be anything other than a conscious existence, – wrote K. Marx and F. Engels, – and the people being is the real process of their life» (Маркс К., Энгельс Ф. Избранные произведения. М.: Политиздат, 1985. Т. 1. С. 14.).

Personality is formed under the influence of the external environment and society. However, the information contained in the brain, can be reproduced in the pattern of another physical base, for example with the aid of some cyber-machine. In this case you can try to keep a person's life whether science will be able to fight the aging of the body, viz. to protect human «self» with all its experience, ability, character, survivals and passions, «resetting him» in a special machine.

Even with the beginning of cybernetics there are also people came into sight who had set precisely this purpose. It is true that at that time the goal seemed so distant that were rarely found people to talk about it out loud. But the electronic technology and cyber science developed so rapidly that it seems the time is coming when there will be no technical obstacles on this path. So let's look at least some issues related to the problem of «the resettlement».

The first question that comes to mind when you start to talk to a supporter of the «resettlement» is: why is all this necessary? You can not seriously think that if you reproduced the structure of your brain and you brought it all the information it you, say you transfer in a new material shell. Well, it has appeared a copy of yourself, your counterpart; but are there few people in the world who look like you? You are you, and they are themselves. The old age will approach and your hour will come, and you will do nothing to make you easier by the fact that the earth goes someone who is exactly the same as you. It can be assumed with great approximation, that cyber counterpart will be considered for yours, but you will not feel it.

The objection seems killing, but the «settler» has already gone through this. He has an answer, and perhaps few answers. Much depends on what he says, what precedes the «resettlement» and how it occurs. The act of «resettlement» as such may be missing. Here is an example: I live a long time in a close contact with the machine. Everything that flows through its receptors, I can perceive it and the opposite, all images and thoughts arising in me become available on the machine. Gradually became such a merger, that it is impossible to determine who is the thought, whose the desire is – the machine or the human. As the academician V. M. Glushkov says: «Then maybe he will start to feel that he is he and at the same time he is the machine»! With the onset of old age more functions transferred to the machine, weakening brain off gradually, without any visible shock and anxiety, as well as in ordinary life slowly, imperceptibly disappear many of the properties of the brain in patients with sclerosis (MS). Then the man (again quoting V. M. Glushkov) «devoting consciousness, and then, and all yourself, your emotions, feelings and everything else except, of course, body wrap, becoming practically immortal.".

This sounds good, but can you unite brain machine so narrow as to obtain a thinking system? How? And what with? The left hemisphere of the brain is associated with right by hundreds of millions of nerve fibres and it becomes distribution of their functions. What powerful channels of communication are needed! How to remove information where to be introduced? Of course, so are we, engineers and scientists to create new devices, but is there at least some constructive ideas, any specific proposals? Alas, for the time being not yet...

It could be much easier to lay down to the machine only the basic attributes of the structure of one or another particular brain, and then, without seeking close contact, to execute the machine with human knowledge and experience, using ordinary means of communication. In many imaginative people it is observed the following phenomenon: actions of which they have heard somewhere, gradually are perceived as personally experienced. Perhaps the model of the man, created properly, which will communicate only with himself, will be «convinced» that it is continuation of the copied person. But what will think the man himself?

Perhaps it all depends on his convictions, and they are largely determined by the desire to think in one but not in another way. Why so steadily has kept the religious beliefs in some people in our civilized century? Partly because religion promises immortality of the human soul and the believer is easier in December put up with the brevity of life. But it is not output. Religion can provide real evidence of the immortality of the soul. Remains or blindly believe and mean not to think or to think, but then not to be trusted. So far there is no alternative.

The «resettlement» in a machine provided new opportunities in this course. To imagine that there is already a society in which there are saved copies, «continuing» the lives of those who have left us. The living person can communicate with each copy. If he knew the copied person may himself, without side pressure to judge to what extent the life of the copy resembles the life of the deceased person. Under the influence of these observations (which may start from childhood), under the influence of objective knowledge of what will be copied in «resettlement» in man will form his own convictions. And if according to them, his life continued in the copy, then man will believe that you will not die and will only go from one life form to another.

This way seems more real technically, but it covertly retains some mystical religious basis, and there is concern that as much as an objective, it can harm the freedom of human development and thinking.

There is one trifling question: what is this another form of life? Maybe it is better not to live than to live like this?

Probably on this occasion no two identical views. On the one hand it is difficult to disagree with I. Bunin, when he said: «What a joy to exist! Just to see, at least just to see this and smoke that light. If I had arms and legs and I could only sit on the bench and watch the sunset, I would be happy about it... » But on the other hand, if you take away a person at least one of its features – and he will suffer severe especially if other reserve that option.

What will deprive man if «goes in the machine»? What will he retain? And what might he win?

Of course, it should not think that after moving into the machine, a person will be cut off from the outside world will cease to feel, can not act to create. They will be given funds to perception, executive bodies, giving the opportunity to move and work. No doubt he will be viable only when you feel, experiencing something that is when there will be an internal world.

There is an extreme point of view, according to which should be modelling virtually all human feelings. It seems to me that this would not be the most acceptable solution. Feelings and needs of every creature should ensue from the real conditions of life, otherwise they will bring suffering as often brings belated elderly love. Sensations, feelings, needs to be natural, they must serve some purpose. And what can be the plans of the «settler»?

First, it should continue to exist. Therefore, the whole complex of pleasant sensations of facing workers «body» must be preserved, and something like the pain felt in trauma. The «settler» has to fear when it is threatening a danger and to have a sense of calm, confidence when there is no danger.

Second, the «settler» have to evolve and be refined intellectual, and perhaps physically. Therefore properties such as curiosity, thirst for something new, striving for understanding and awareness, bringing harmonically his idea of the world in him will not only continue, but will be intensified. All this is necessary for the existence confident in our complex world, the idea of which is created by logical processing of the perceived facts, and through aesthetic perception, and by sensory evaluation.

In this attitude «the settler» can have a lot of advantages. His sensory organs must be more perfect than human, the pace of thinking – faster. Without any tricks of accelerated cinema shooting he can see blossoming flower and bee waving wings. He will hear the whistling of bats in the ultrasonic range and the call of the dolphins. He will feel the approaching storm not only because of the quiet nature, but also the voltage of the electric field. And maybe it wanted a cat to curl up close to warm before the onset of colder weather conditions. And who can imagine how excited boiling air of ultra short radio waves to feel «settler»? It would not even be clear to everyone that the sunset on the shore of a mountain lake is especially beautiful in the near infrared range?

«The settler» will be the first to read in his life more than ten thousand books and might be able to understand what the world literature represent. He always will be able to think before he speak, will not happen to be angry for a word dropped inadvertently. His life has every reason to become a beautiful inner world - rich, but...

Bring the inhabitant of a lifeless despondent step in the most wonderful place on Earth and say there is no turning back. They say that this sadness never passes away. It would not happen the same with the «the settler»?

Life is not only labor, not only searching for the truth, but also entertainment. Here in front of «the settlers» there are prospects might say unlimited partly due to the richness of sensory organs, partly thanks to the high level of intelligence. In any case, it would be reasonable creatures that will not begin to say to each other «be healthy» just to be able to take a great deal of hydrofluoric acid on the spirit basis to soften their silicon brains and give rise to short-lived elation.

It often seems that the pleasure is not necessary knowledge. This is not so. Chess player, reached in his field level, of course, how much more enjoyment delivers chess master than a dilettante. In various entertainments «the settlers» can prove masters. But will they have they need of entertainment? One of the objectives of any entertainment is slight, unobtrusive development or physical or mental abilities; so the need for games in «settlers», of course, must exist. Yet the first goal of the entertainment is the rest, and is there a need break of «settler»? Who knows...

New creatures have to live in society. Their own prosperity will largely depend on how will treat them public. Therefore, in the main «settlers» will be the public feelings, such as feeling of duty, sympathy, compassion or speak in a broader sense, love of neighbor, love of country. In terms of our society, in which no merciless struggle for survival, the balance can be moved strongly in the direction of social feelings and this will allow the new feelings to manifest more easily and naturally, without agonizing doubt and struggle with himself. In true balancing feelings developed clever «settler», always sincere, compassionate you, ready for you many things have become a desirable member of society, so that people overcome negative attitude towards those who do not like them. Prejudices, as history teaches us, cannot be defeated immediately, but sooner or later justice prevail.

People's attitudes to each of us a great extent depends on how useful for the society. In this connection it is interesting another motive that attracts the idea of □□ «relocation» and more new supporters motive seemingly convincing, but closer analysis raised serious concerns.

They say that the modern scientist that absorbs a huge amount of knowledge he needed to work too late, when the creative potential is going to zero. Amount of knowledge rapidly growing life expectancy – not. If so, it will be a time when real scientists will be able to call only the elders...

Prolongation of life or «resettlement» is considered by some experts to almost the only acceptable way out of the emerging impasse. In this often forget a fundamental fact: science is particularly sensitive to anything new, and the new ideas, new thoughts, as a rule brings them new generation. Slowing generational change may negatively impact on the development of science. And the problem here is not that old age generates a stubborn. Reluctance to adopt the new is largely determined by those internal successes that led to human understanding of the world, to a coherent picture explaining the known facts. The better is completed this painting, the man reluctantly accepts the new.

Many questions can be asked about the «resettlement» of personality and is very difficult to get a definitive answer at least one of them. How seriously, how can actually put this issue today?

From a technology standpoint, there are hardly any principle intractable problems; As for the modeling of the human person, it can make any certain statements now seem difficult. Only in recent years appear cyber technique allows to reproduce real-time parallel processes of information processing, analogous to those processes that occur in the nervous system. Of course, human thinking has been modeled before, but the poverty of the models is not allowed to say anything definite about their relevance. Already in the nearest decade will probably be new models, which will make it possible to conclude that it is possible «relocation» at least in principle. But anyway, many researchers see their

purpose in addressing this problem and work towards this objective.

Revealing gerontologists: they are caused by aging of the body and methods to combat aging. From different directions unfolds yet another offensive to this very old problem that concerns human reason.

Everything is forgotten in the bustle of everyday life, but sometimes, as evening falls asleep, a man suddenly felt his heart contracted with grief: «Is there remains so little?»

Will you ever release people from feeling heartburn?

**«The electronic equipment is rapidly developing...»**

**«To imagine that a few years ago a famous inventor has created TV principle of imaging. To explain the principle, he cuts through a dark lane narrow gap, light a candle and directs the light beam to the wall. Then, by moving the candle and from time to time she closed his hand, he began to explain to viewers how by flashing speck of light that creeps on the wall can be given targets paintings, how the future people in each home will begin watch scenes from the life of animals and events occurring during the last day. You can imagine the reaction of the opponents of this performance.**

**Today we model the processes of human thinking, the formation of his personality, but sometimes forget that the best of our machines inferior speed of the human brain much more than light gives way to modern TV. The problem is that the brain processes information in parallel, and the machine – sequentially. The electronic equipment is quickly evolving, already appear machines running in parallel. Will take some time and the problem of reproduction of the human person in the machine will no longer look fantastic.**

*With the advent of such options (which is at issue in the printed article below) will occur very psychological, moral, ethical issues and it is time to reflect on them.»*

Academician of AH YCCP [\[2\]](#) N. M. Amosov.

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[1] Куссуль Э. М. «Переселенцы». //«Химия и Жизнь», 1986, № 2, С.56 – 60.

[2] АН УССР (from Russian: Академия наук Украинской Советской Социалистической Республики) – The Academy of Sciences of the Ukrainian Soviet Socialist Republic (AS USSR) – *translator's note*.