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HUMAN AND MACHINE SINGULARITY: PHILOSOPHICAL NOTIONS ABOUT TRANSHUMANISM

If we wander in the amazing forest of „great narratives" of history it goes without saying that the subject, actor and the centre of the narratives is humanity. This historiography and history-philosophical tradition rules until now except for Herder and Hegel only the cultural anthropology has modified this picture, its interpretations focusing on human culture. In this field cultural ecology and neo-evolutionist anthropology have gone furthest putting humanity into a greater environmental system of relationships.[1] But the arts and social sciences with classical foundation have remained with the anthropocentric approach which seemingly cannot be changed by environmental ethics and the history of environment with their different point of view.

However, in the middle of the last century an idea created by natural scientists emerged, which became a more and more serious intellectual movement, even an imperativus which pointed out the direction of technological development. Although this notion is similar to the concept of development of the enlightement, positivism, linear evolutionism and historical materialism in many respects it is not their epigon, but an independent theory which focuses on the essential role of technological development in history.

The central idea of this concept comes from the tighter and tighter connection of the technical and social evolution the extrapolated process of which run towards a common point and unity in the future where the borderline between human and machine will be ceased and the abilities of humanity will become an evolutionary factor. The name of this point is singularity, which comes from modern cosmology.

Pierre Teilhard de Chardin who adapted this expression to the historical process wrote these worlds in his book titled *Az emberi jelenség* in 1940 with almost prophetical foreseeing: „Can we direct the development of our body and even our brain by learning about the hormons? And discovering the genes will we be able to control the mechanism of organic heritage? And with the near the successful of the

[1] Bohannan, Paul – Glazer, Mark (ed) 2006: *Mérföldkövek a kulturális antropológiában,* (Translated by: Ádám, Péter et al.), Budapest, Panem, 108-207., and 437-549.

synthesis of proteins will not we be able to do one day what the Earth is not able to do today: creating a new wave of organisms a New-life artificially? (…) The Thought can perfectionise even the organ of thinking artificially. The fast emergence of developed Life can be realised as a collective result of Thinking."[2]

These ideas mentioned above suit the greatest vision about the possible future of human development as a history -philosophical progress of the cosmo-, geo-, bio-, psycho and noogenesis that can reach its peak in its last phase and enter the Ómega-point. This condition may make a spiritual height, a collective spirituality as a result of the scientific-technological and social development in the human world moreover it can result in a meeting with the transcendence.[3] Chardin's theologically inspired anthropology extrapolates to the future the consequences of a scientific-technological development of humanity and the possibilities of the later one's transformation positively.

In another approach in his book titled: *A szingularitás küszöbén* in 2006 Ray Kurzweil who regards Neumann János as the inventor of the singularity idea says that when the artificial intelligence surpasses the human intelligence by trillion it will make the integration of the process of the biological and mechanical evolution inevitable.[4]

Therefore, Kurzweil's similarly optimistic opinion means that the evolution of the man-made machines will be the next step of the biological evolution which will transform the human race, our societies and our everyday life in the furthest meaning and this process, getting out to the universe will make it intelligent as well. He says: „It will be the final fate of singularity and the universe."[5]

Transhumanism - although this notion emerged somewhat earlier than the expression singularity - has similar ideas to singularity, but it considers other possibilities to reach the developed form of human existence.[6] That is to say: transhumanism has a lot of similar groups and directions. But there is a common idea

[2] Chardin, P. Teilhard de (1980): *Az emberi jelenség,* (Translated by: György, Rónay – Lajos, Bittei), Budapest, Gondolat Kiadó, 309.
[3] Ibid: 53-358.
[4] Kurzweil, Ray (2014): *A szingularitás küszöbén,* (Translated by: Publisher Ad Astra), Budapest, Ad Astra, 49-61.
[5] Ibid: 49.
[6] What is Transhumanism? https://whatistranshumanism.org (2018.07.26) and Gore, Al (2013): *A jövő – A globális változás hat mozgatórugója,* (Translated by: Péter, Hegedűs – Zoltán, Takács), Budapest, HVG-Könyvek, 259-261.

in these directions, namely that the human and machine singularity means the gate towards the transhuman existence that we must help to become realized.

The acceleration of the biological and social evolution and the transformations caused by them have begun and will proceed of the parallel progress and synergy of the three great fields of the informational technologies, such as: genetics, nanotechnology and robotics – says Ray Kurzweil. This is the GNR-revolution. He is not only a direction founder and theoretician who wrote the greatest theoretical book in this field, but an inventor and interpreter who contributes to the further development of informational technologies and the coming age of singularity.[7] Thus, we will think about his ideas first of all from the point of view of philosophy of history, environmental ethics and philosophical anthropology.

Kurzweil starts from the speciality, showing complexity and regularity of the biological and technological evolution that he considers as a consequence of the exponentially accelerating development of information-adaptation mechanisms from the cosmic basic condition till man-made technology. Therefore, in the first three epochs of the evolution the capability of information-capturing of matter and energy were developed by the emergence of life and DNA that were given a new speed by the appearance of the brain and human mental models. In the fourth epoch man-made technology was able to recognise, keep and make an interpretation of more complex information-patterns. After this, in the fifth epoch human technology and human intelligence will be merged and with this, singularity will begin. And finally, in the sixth epoch of the evolution this new fusioning intelligence will find a path to the universe.[8] Nevertheless it will happen in the future...

Kurzweil shows the timely acceleration of the developments and inventions of the five epochs or paradigm-changing mentioned above on linear and logarithmical time scales in a convincing way. The development of information-adaptation technics is described by the speed-growing of the mass expansion of the emblematical tools of the 20th century such as the telephone, radio, television, personal computer, mobile phone and the internet. All in all Kurzweil extrapolates from the 20th century to the 21th century the duplication of calculating capacity in around a year and the general use of the new tools and applications in almost a decade.[9]

[7] Kurzweil (2014): 111-120. and 763-764. and 814. and 822.
[8] Ibid: 40-49.
[9] Ibid: 44-47. and 85-109. and 737.

In his opinion the genesis of the change is „the law of the accelerating refunding" that is a concept which elaborates on the famous Moore-law even further. The exponential acceleration of the rate of cost and achievement of information technologies in respect of speed and effectiveness is true for the evolutionary processes and other technology-based innovations like the branches of electronics, DNA-secvention, communication, the image-creation of the brain, the revelation of structures and the work of the brain and miniaturization. Moreover, this is true for the economic processes and the growth of productivity. These were visible on the linear and logarithmical scales as well. The market competition catalyses „the law of accelerating refunding" and it helps singularity to become realised because the innovation will be refunded numerately.[10]

Kurzweil puts it clearly that by the time singularity has arrived machines will have developed up to the human level and beyond.[11] And in about 2045 singularity will begin: the overpass of our biological heritage by the machines as a consequence of the experienced advantages and the destruction of the earlier barriers of evolution-said Kurzweil who regards himself as a singularitarian.[12]

Ray Kurzweil's concept of philosophy of history is suggestive and demonstrative. The process of the natural and human evolution and the significant events of nature and human history can be understandable by the formation of the bigger complexity and regularity and the evolution of information-adaptation within that. Indeed, there are plenty of social, economic and cultural progresses with the character of exponential growth. He seems to be right again that despite „the law of accelerating refunding" namely the price-reduction of the products of information-technology the economic rate of this economy sector is growing because of the maintenance of the demand for the new products. A trade-oriented consumer society provides an efficient background for the necessary investment in further innovation: this is another catalyser of the superexponential growth during the 20th century.

It is almost sure that without system-level crisis and profound changes in the attitudes of consumer society the trend will remain in existence and will be decisive in the case of GNR (genetics, nanotechnology and robotics) revolution. Besides these arguments our serious dilemma can be drafted.

[10] Ibid: 85-120. 137-152.
[11] Ibid: 75-76.
[12] Ibid: 192-194.

That is to say Kurzweil does not speak about population growth and the crisis of environment except for some environmental adaptation of future nanotechnology and biotechnology. Since the publishing of his book these problems have become extremely serious. World population had two duplications in the 20th century besides the extremely rapid growth and the forecasts prognosticate increasing population in the 21st century with a little bit of slowdown in its speed.[13] It is a real exponential increase, which in itself may not slow down the technological innovation but the economic development may have problems from the political tensions coming from provision troubles.

In the case of environmental pollution which is a form of environmental change we meet so rapid growth-rates, which are commensurable with the data of information technology. According to John McNeill's data between 1890 and 1990 air pollution has increased about 5 times, carbon-dioxid emission 17 times, sulfur-dioxid emission 13 times and the atmospheric lead emission about 8 times.[14] In case of the chemical contamination McNeill does not even give us any data because these are new products and the quantitative growth can reach up to one hundred thousand per order of magnitude.[15] The mass of artificial waste was estimated from the beginning of the 1950s to 2015. It was about 5000 billions of metric ton![16]

In the case of the devastation of nature which is another form of environmental change we meet similar rapid speed in deforestation, acidity of oceans, race extinction, soil erosion and degradation. The effects of devastation of nature appear in climate change and the field of food and drinkable water supply and they have serious influences on the social-economic system. They are today global risks. That is to say the environmental crisis has become by now a serious actor that can hinder and even destroy the technological development and economic boom at the same time. Because the decrease in basic life conditions, the food and water supply, damage compensation and the re-cultivation of environment may draw off resources from economy and investigation.

At the same time the environmental crisis makes an urge for us to find solutions. Kurzweil trusts the adaptation of cloning in food production and the

[13] https://www.worldometer.info (2018.07.26)
[14] McNeill, J. R. (2011): *Valami új a nap alatt – A huszadik század környezettörténete,* (Translated by: Melinda, Zalotay – István, Tóth Malik), Ursus Libris, 396.
[15] Ibid: 395-396.
[16] „Műanyag-apokalipszis: Ennyi műanyagot termelt eddig az emberiség." https://www.ecolonge.hu/nagyvilag/muanyag-apokalipszis-ennyi-muanyagot-termelt-eddig-az-emberiseg.

application of nanotechnology in energetics and environmental solutions.[17] Nevertheless, we can say that the wide range of applications have not been realized 12 years after the publishing of his book. Although environment protection is not the primary aim for a consumer society...

Naturally, there are eco-ethical consequences of the production of cloned meat products but it has been rejected up till now. It seems to me that the obvious, touchable biological reality is our evolutionary inheritance. Nature cannot be closed into a test-tube. And meanwhile there are positive feedbacks and synergies in the environmental crisis as well as in the case of technological development.

Transhumanism promises long, healthy life, developed abilities, abundance, new possibilities of our self-development, a new era of self-respect as the consequences of the innovation. The health-care application of biotechnological innovations is really alluring. It is enough if we read in the book about health-protection, RNS-interference, cell therapies, gene chips, somatic gene therapy, reversing of degenerative diseases, ageing, therapeutic cloning, trans-differentiation and the medical adaptation of nanotechnology.[18] Since then a more expanding plenty of later and later research and innovations, in fact adaptations that are in test phase have been heard of.

Kurzweil prognosticates the entire evolvement of the biotechnological revolution to the second decade of the 21st century as well as the energetic adaptation of nanotechnology.[19] This is a result of the duplication of calculating capacity and the growing speed of paradigm change. He bases on this calculation that the singularity is near. And here new dilemmas are emerging.

Basic problem is the inequality of the possibility of reaching an expensive biotechnology that we call „health-care chasm" as a resemblance to „digital chasm." Kurzweil is arguing for the convergence of the reaching of information technologies between developed and developing countries that can be executed in the case of biotechnology, too. But the decrease of difference does not mean the cease of inequality. Actually, the latest data show that the optimism at the beginning of our century has proved to be rather unfounded: poverty is strictly in existence.[20]

[17] Kurzweil (2014): 319. and 322. and 362-366.
[18] Ibid: 29-33. and 301-325. and 531-541.
[19] Ibid: 304 and 334.
[20] https://www.worldometer.info2018.07.26)

At the same time the new wave of the technical innovation makes new types of products which are at high level price at the market but they mean a comparative demand for the members of the lower classes. They would like to obtain them. As a consequence, the „health-care chasm" might remain. Of course, the entire equality is an illusion, but while significant economic inequality exists, only a well-to-do class will be able to keep pace with innovation. In most cases the opportunities of biotechnology for a long, healthy and active way of life will open for them, first of all. Indeed, it is only they who will be able to live with the decisive situation after singularity because the subsequent economic system will be based on market economy, too. This dilemma might lead to the bipolarity of the world-society by biotechnology, therefore singularity will not come for all human beings and this might last forever. This option will be shown by the former history of society and the extreme inequality in world-society.

The upper classes of the world-society can reach the possibilities, thus they will be able to develop their health conditions by generations that can be converted into economic and social positions, especially after the development of cognitive capabilities. The inequality will only be accelerated by this. Especially the success of the ageing researches will be the factor that, expanding the active life can increase the controversy of generations and it can fix the gained social status.

The inequality is our historical heredity that is such a complex phenomenon that could be reduced only by the rich, welfare states limited to geographical zones and time-scale. Today we can hear about the crisis and the destruction of the welfare state. At the same time the societies of all time contain power relations, from the origin of the social structure independent of the character of the social structure. The success of the GNR-revolution can create such an abundance that could not be seen before, but the question is whether the members of the top of the social and economic structure will be willing to share the results of the biotechnological revolution with the members of the lower classes. Or they will aim for keeping their acquired advantages.

The change of the inherited social structures has never been without conflicts not even in the societies with the greatest social mobilization and democratic political system. The larger part of the world-society does not live in the rich, democratic countries. What serious social conflicts can be expected after the first stage of singularity?

According to Kurzweil the annihilation of the biological heritage of humanity has already begun but above all, it will become complete in the world after

singularity. What is at the beginning a medical treatment, later it will become a coexistence with the machines for the advantages especially the nanobots that make diagnoses and treatment in our blood-stream. It will be followed by the neurological implants. After this, the development of the future man and the substitution of several organs and textures with a-biotics will be possible. Thus, the human lives created in this way will be extremely long with developed abilities and actually lives without illnesses. It (we) will be a cyborg. It will be the homo sapiens 2.0.[21]

In the last phase the nanocell directs all part of the transformation of the body. This will be the integration of the molecular nanotechnology (MNT) based production and the human body. The human will remain only as an intellectual activity after the revelation of the brain-activity and the whole process of emulation of the brain in a full-grown, plastic, changeable shape far from the biological form. This kind of human being will not have biological limits mentally and physically. This form of existence will be able to copy itself so it will be immortal, actually. It can reach the whole knowledge of humanity up till that time, it can exist both in the physical and virtual reality, it can share its experiences with everyone across the cyberspace. At last it can start the conquest of the universe. It will be the homo sapiens 3.0.[22]

Ray Kurzweil's vision may have the greatest dimensions up till now, others are thinking in smaller perspective of the development/training. But the fundament of this intellectual movement is common: the transformation of the biological heredity, a long healthy life, developed capabilities and changed interactions.

In connection with this, new dilemmas have emerged.

Kurzweil is right that the transformation of the biological heredity of humankind has already begun: there have been medical equipment, machines, implantations and medicines existing with us in holdable or built-in form. Today, the amount of money that is spent on medical treatment and the improvement of life quality can be counted in world economy scale. The intention for the long, healthy life is steady. Or for the immortality. One of the most significant members of the transhumanism Nick Bostrom said the overture of the idea of transhumanism is there

[21] Kurzweil (2014): 432-447.
[22] Ibid: 447-475. and 483-528.

already at the dawn of civilization: the Gilgames epos and the search for immortality within that.[23]

Today the cultural attitude of modern societies built on the humanist conception supports in almost every case the improvement and the wider application of extensions of human life conditions and possibilities besides the research for them, independent of political ideologies, cultural identity and religious thoughts. That is to say transhumanism can expect natural alliances from all segments of the society: the elderly, patients, deficients and those who want to acquire new experiences or exploit the advantages.[24] In this respect the homo sapiens 2.0 is not so bizarre as it was at the first sight. Only we have to accelerate the transformation.

In our opinion the most serious danger is the phenomenon of „the slippery slope" that can be known from the debates of euthanasia. It means: the weaker the control of biotechnological applications is, the more people will use it. In this case the advantages will be obvious. If we think further the consequences of the developments, it can be imagined easily that the society will become more mosaic-like than it is now. The society will become a mass of multiplicated identities with new conditions.

If all changes are legal, the notions of the human race will be expanded towards a genetically developed, but still organic or more and more organic-mechanic so called cyborg existence. This is said frankly by Kurzweil. In the case of homo sapiens 3.0 the biological heredity will be ceased and it will be transformed to an alloy of an MNT-structure and a human+AI-intelligence and personality. In our opinion it means the emergency of a new race. It is contradictory to Kurzweil's idea who tries to separate the notion of human from the biological origin and to define the human as a continuous self-creating and forming open entity.

But what will happen to those who cannot or who do not want to live with the possibility of transformation? If the present world has lots of burdens from the many unsolved controversies what can be expected in the relationship between developed human and the others? Does the tolerance of the infinite variabilities or such a dystopic future mean that the conflicts of races in the 20th century will return in an even more intensive and killing form?

[23] Bostrom, Nick: „A History of Transhumanist Thought"
https://nickbostrom.com/papers/history.pdf (2018.07.26)
[24] András, Kánai (2018): *Holnap történt – Öt sci-fi téma, amely valósággá válhat,* HVG Könyvek, 150. o.

But these can affect not only those who are living at the moment of singularity but the next generations, too. That is to say the enormously expanded active age can accelerate tensions between the generations, moreover it can make a burden to the relationships within the family. At a political level it can conserve a dystopian political regime till almost eternity – said Yuval Noah Harari thinking about the possible consequences of the biotechnological revolution.[25]

And finally, we have to mention the dilemma coming from the transhumanist human-definition mentioned above. That can be felt in Kurzweil's intentions. This means there is an intention that the traditional human-definition has to be changed for another one according to the evolutionary tasks and the coming transformations of the ontological situation of humankind. Kurzweil's singularitarianizm can see the essence of human existence in the capability of changing but not a basically traditional human-notion determined by the biological conditions, socio-cultural background, individual experiences, attitudes, emotions, demands and moral intelligence.

Of course, there are many problems in the process of the emulation of the brain, especially in the field of emotional and moral intelligence that is indispensable to singularity. Kurzweil is aware of this, but he does not think it is impossible.[26] However, if we stop to think about this, not even the most intelligent and best educated people can realise in every case the clearest moral decisions. Moreover, we can quite often see that people tend to choose among some narratives, prejudices and preferences in their moral decisions. It means maybe we select among some algorhytms almost like machines do. Maybe our imagined complexity is only a result of a biological and cultural evolution and the technological evolution may catch up with that later on.

Transhumanists can be accused of reductionism and instrumentalism but is it sure that we are so complex, individual and unpredictable? And where is humanity altogether? Was there any development in morality during the human civilisation up till now? Instead of this we can say that Kant was right, we have been civilised but not moralised.[27]

[25] Harari, Yuval Noah (2017): *Homo Deus – A holnap rövid története,* (Translated by: Péter, Torma), Budapest, Animus, 27-34. and 264-340.
[26] Kurzweil (2014): 205-290.
[27] Kant, Immanuel (1995-97): *Történetfilozófiai írások,* (Translated by: Miklós, Mesterházi – Katalin, Vidrányi), Budapest, Ictus, 53.

The dangerous but tempting possibility claimed by transhumanism in the case of its realization can profoundly transform all that we mean about human existence. For example, will not a radically longer, healthier human existence with more developed abilities reinterpret our being-in-world and being-towards-death? The ontological situation of humanity can be changed in a way that has not been experienced in the theological and philosophical thinking. We can reach such a level of freedom that has been a dream up till now. And we can create such a dystopian future that has not existed yet. Nevertheless, modernisation can show us some pre-existing pictures of both possible scenarios by the destruction of traditional societies and the brutal events of the 20th century.

In our opinion the main factors of the historical turning point will be the creation of the AI at human intelligence level and the expansion of biotechnological applications needed to realise homo sapiens 2.0. When machines have passed the Turing-test they will not be different from human intelligence. It is not important whether it can be proved that they have consciousness or not, we will not be able to make a difference between their responses and the reactions of human beings. On the other hand, the expansion of biotechnological applications will start a chain-reaction: nobody wants to be ill, aged and live in an invaliding state. Nobody will want their children to start their lives with earlier biological defects. It would be important to think about how to handle the GNR-revolution before reaching the two turning points. Because it is not sure there will be a way back from there.