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Advancement of Humanity from Technological Imperialism to the Stage of Technical Singularity

Abstract

The uninterrupted connection between human evolution and technology shows that throughout their evolution, humans have been in a consistent struggle towards owning tools and devices which make their lives easier and better by the use of technology. These consistent struggles and inventions mainly aim to make people's work faster, more effective and safer. Looking at the general evolutionary path of human and technology, it is clearly seen that technology has become a means of overcoming the limitations and physical capabilities of people. In this regard, doing more, learning the past and future faster, interacting with people in other parts of the world in an easier way, having geopolitical advantages and various benefits, such as imperialism; can only be realized by using the capabilities of technology. When considering the constant competition between global powers in order to take advantage of technological advantages in line with the interests of imperialism, it becomes clear that in fact, in the essence of this competition, it needs to look for the reasons which characterize the rapid development of today's technology. Within the subject - considering today's technological development as tools of imperialism of the future, we have tried to explore the problem from a new and different context, especially by analyzing the approach of artificial intelligence to technological singularity through analysis, synthesis, and synergistic methods.

Keywords: *technological, imperialism, singularity, artificial intelligence*

İnsanlığın Teknolojik Emperyalizmden Teknik Tekillik Aşamasına İlerlemesi

Öz

İnsan evrimi ile teknoloji arasındaki kesintisiz bağlantı, insanların evrimi boyunca teknolojiyi kullanarak hayatlarını kolaylaştıran ve iyileştiren araç ve gereçlere sahip olma yolunda sürekli bir mücadele içinde olduklarını göstermektedir. Bu tutarlı mücadeleler ve icatlar, esas olarak insanların işini daha hızlı, daha etkili ve daha güvenli hale getirmeyi amaçlar. İnsan ve teknolojinin genel evrimsel yoluna bakıldığında, teknolojinin - insanların sınırlamalarını ve fiziksel yeteneklerini aşmanın bir yolu haline geldiği açıkça görülüyor. Bu bağlamda daha fazlasını yapmak, geçmişi ve geleceği daha hızlı öğrenmek, dünyanın başka yerlerindeki insanlarla daha kolay etkileşim kurmak, jeopolitik avantajlara ve emperyalizm gibi çeşitli faydalara sahip olmak ancak teknolojinin imkanlarını kullanmakla gerçekleşebilir. Emperyalizmin çıkarları doğrultusunda teknolojik avantajlardan yararlanmak için küresel güçler arasındaki sürekli rekabete bakıldığında, aslında bu rekabetin özünde, günümüz teknolojisinin hızlı gelişimini karakterize eden nedenleri aramak gerektiği ortaya çıkıyor. Konu kapsamında, günümüzün teknolojik gelişimini geleceğin emperyalizmin araçları olarak ele alarak, özellikle yapay zekanın teknolojik tekilliğe yaklaşımını analiz, sentez ve sinerjistik yöntemlerle analiz ederek sorunu yeni ve farklı bir bağlamda keşfetmeye çalıştık.

Anahtar Kelimeler*: teknolojik, emperyalizm, tekillik, yapay zeka*

Introduction

Today, we live in an era where technological boundaries are crossed and technological development is happening at an extraordinary speed. This is related to the technical limit problem, which indicates the point at which technical limits are crossed and unlimited technological progress emerges. In this case, humanity's technological advances can be potentially problematic because it is unprepared for the consequences of these advances or lacks the mechanisms to effectively manage their effects.

The term technological imperialism refers to the tendency of powerful technological companies or countries to technologically influence or control other countries or cultures. The term implies that those with technological advances may have the potential to oppress or influence those who are economically, politically, or culturally weaker.

Technological imperialism can affect or has the potential to affect the new world order. Developed countries are deepening inequalities in technology transfer and digital divides by trying to control technological innovation and knowledge and aiming to maintain their global power.

On the other hand, as the diffusion and availability of technological progress increase, more countries may be able to benefit from technological progress. This can lead to the strengthening of emerging economies and a shift in the global balance of power. Breaking technical boundaries and technical singularity marks an era of rapid development of artificial intelligence, robotics and other advanced technologies. The technical singularity refers to the point at which artificial intelligence can surpass human intelligence and improve itself someday. This situation can lead to important ethical, social and economic problems. At the same time, it should be noted that technological developments benefit broad sections of society and correspond to the principle of equality. The problems of technological imperialism and violation of technical borders are important issues to be considered at the global level. Development of ethical frameworks and mechanisms for managing the social, economic and cultural effects of technology, as well as establishing international cooperation, are some of today's pressing issues.

1.Technological Imperialism

Technology and imperialism have been central to the goals of great empires to dominate the world for more than five centuries. The policy of implementing the production of technology with the goals of imperialism has been repeatedly challenged in individual periods, as in our time. Now that imperialism has returned to the forefront of world events, it is time to reconsider the instruments of imperialism. This domination of states and companies with technological empires over other societies takes away the freedom of those countries and makes them dependent.

When we look at the access of large technology companies to people's private information and the possibility of forming new cultures, behaviors and even languages, that question arises: "Is technological imperialism a new form of colonialism?" To clarify this question, it is necessary to look at the influence of states and companies that have a technological empire on humanity, and their goals in this area.

In his work “Technological Determinism in American Culture”, Merritt Roe Smith notes importance of the idea of “technological determinism” and tries to prove with historical empirical facts how deeply this thought is embedded in American culture. He claims that in the aforementioned work “...as early as the 1780s, civil servants such as Tench Cox began to

associate the rise of the factory system with new mechanical technologies, and the technocratic spirit they represented was reaching the brink of a nineteenth-century leap, with the United States receiving the status of a world power in rapid industrial expansion" (Smith, 1994).

Apparently, one of the reasons for the spread of the ideas of ''technological determinism'' in the US society was due to the increase in the number of people aware of the technological rise, while the other reason was related to the views of political leaders who believed that the achievement of global goals in the world order was carried out through" technological imperialism". For Example, M. Smith notes that "Benjamin Franklin and Thomas Jefferson, the most important among the new nation's prophets" of progress, were true believers in the continued spiritual and material improvement of mankind. As enthusiastic proponents of the liberty case, they viewed the new mechanical technologies of the time as a means of achieving a prosperous Republican Society, the ideas of which they associated with the goals of the American Revolution. For them, progress meant engaging in technology and Science for the sake of material well-being (intellectual, moral, spiritual) for the rise of man." (Smith, 1994).

Apparently, the concept of industrialization in the United States laid the foundations for the development of "technological imperialism"and its spread in the public environment. On the other hand, the fact that Thomas Jefferson, one of the first US heads of state, valued discovery and invention and considered it a means to achieve a greater social goal shows that the development of "technological imperialism" was influenced not only by economic "tools", but also by political "tools". For Example, T. Jefferson noted that "...if the limit is exceeded in technological development, the civilizational process of large-scale technology and industrialization can easily be disrupted and collapse the moral and political economy that its contemporaries have worked so hard to build." (Smith, 1994).

From T. Jefferson's above point of view, it is clear that by his determination of the limits of technological development, he means avoiding possible future threats. On the other hand, when we consider the characteristics of the mass media transforming society on social platforms today, yet on the eve of the Industrial Revolution, the practical importance of T. Jefferson's idea of setting limits on the future of Technology stands out. Shoshana Zuboff's scientific work on "control capitalism explaining the new world order in which human behavior has become a commodity of capitalist extraction" (Adams, 2021), examples of how advanced technologies, especially those related to artificial intelligence, work at deep and complex levels, shows that a new stage in the policy of developed countries regarding "technological imperialism" is beginning. For example, Daniel Hadrick's article on technological imperialism notes that "the

first phase of European expansion, often called the 'old empires', began in the early sixteenth century with Spain's conquest of Mexico and Peru and Portuguese rule in the Indian Ocean. At the beginning of the nineteenth century, the efforts of the West in China, Central Asia, Africa and America are gradually weakening. Then, in the middle of the nineteenth century, a renewed wave of empire building appeared - New Imperialism, which lasted until the outbreak of World War II. Since the Second World War, we are in the third stage, at which the Western powers (including Russia) tried to maintain their colonies and dependencies, and even expand their sphere of influence"(Headrick, 1981). Today, the policy of technological imperialism is pursued not only by states, but also by technology companies, with the authority to set their own rules and policies, build their own independent empires and to create their own borders. Today, companies that have a technological empire possess the power to negotiate with the governments of different states and reject people's requests for their information based on their policies. For example, some CEOs of large technology companies, including Elon Musk, Jeff Bezos, Mark Zuckerberg and Tim Cookda, have had meetings with China's Minister of Industry and Information Technology in their offices, demonstrating their role and strength in the international arena. The domination and independence of these companies over the world reach such an extent that they have different relations and conflicts with many states. For example, Google's official blog report states that ''Google services have been blocked and unblocked over the years in China as a result of the transfer of Google services to Hong Kong on March 10, 2010." (Blog, 2010).

Given the rapidly evolving technology today, Adams notes that "it is possible that the desire to dominate the production and use of artificial intelligence reveals the hegemonic impulses of the project and the neo-Darwinian line of the evolution of Science, which will "leave behind" those who do not fit to catch up with them (Adams, 2021). It is possible to expand such facts confirming the new stage of technological imperialism, but it should not be forgotten that purposefully produced technology has a greater impact on the content of communication which exists in the societies it targets. Today, the repression of technological imperialism on individuals is no less than its impact on general societies. For example, "...registering a user account for the exploitation of personal data and selling their data for advertising is a form of dehumanization of people, which reinforces the superiority of technology and its creators" (LaFrance, 2016).

After the collapse of the Soviet Union, electronic imperialism began to manifest itself in its modern form. It led to the movement towards corporate consolidation, which will determine the prevailing tactics of development of the media industry in the XXI century. All

these concepts of technological development have created a new layer on earth–the Technosphere layer. Now it is difficult to find an area on earth where technology does not exist. In this regard, the Technosphere is a physical and digital structure and includes many components such as the internet, artificial intelligence, robotics, telecommunications, energy systems, transport and other technologies. With the rapid development of technological development the Technosphere is also constantly expanding and changing. The concept of the Technosphere is an important tool for understanding and managing the impact of man on the world using technology. Today, the development of war concepts exposes the world to technological pollution. "Their main point is the influence of the Social on the content of the artifact" and not only on external factors such as the pace of development, packaging or use. This argument, contrary to the deterministic arguments of the post-war technocracy, could specifically support the Marxist account of the development of capitalist technology" (Feenberg, 2013).

But given the exponential growth of Technology, their self-realization, which rivals human intelligence, is only a matter of time. The logical result of this process leads humanity to the era when humanoids[1] will exist, combining super-intelligent technology, in which artificial intelligence is superior to human intelligence, no problem is difficult to solve. Research shows that the emergence of such super-intelligent humanoids will still take several years. Human intelligence is essential for thinking, planning, learning, communication (using the rules of natural language), perception, decision-making, the ability to manipulate objects and perform complex tasks. Quantum physics, neurobiology, neuroscience, molecular bilogy, etc. as such important areas develop, on the one hand, the boundaries between living and inanimate beings disappear, on the other hand, the natural functioning model of the human brain's perception of the surrounding world through a network of neurons is solved, and the potential of humanoids with artificial intelligence to have more opportunities than human cognition enters the realization phase. These comparisons show what is the way human consciousness works about our physical world, with a whole complex network of emotions, is the same way that humanoids, who would have artificial intelligence in the future, will have the same way of identifying objects and drawing creative conclusions about them. Those, who are skeptical about the ideas that humanoids will have greater capabilities than human potential when they are considered at the level of the requirements of the synergistic approach to the

[1]*A humanoid is the name given to a robot or similar device that looks like a human. These devices integrate the physical characteristics, movements and behaviors of people, and the fields of application of these devices are very wide*

issue mentioned above, ignore the general correlation of the successful results of Science in this area. For example, ‘’according to skeptics about humanoids crossing human potential in the future, artificial intelligence is machines that can be programmed to perform cognitive tasks, they also cannot foresee and plan the future." Ray Cruzwell, a well-known futurologist in the field of artificial intelligence in the United States, notes that “by 2030, nanorobots interfering with the human body will help people get rid of diseases. Human life expectancy can be increased more and more every year after 2030. 2029 is the exact date I predicted that artificial intelligence will pass the Turing test and thus reach human intelligence levels. I predict that the deadline for ‘‘technological singularity” will be in 2045, where we will combine and reproduce our own intelligence with the intelligence we create". (Kurzweil, 2023).

2. Technological singularity

The term ‘‘singularity’’ was first used by mathematician and physicist John von Neumann in 1958. Later, the concept of ‘‘technological singularity’’ was proposed in 1965 by the British cryptologist Irving John Good, and in 1983 it began to become more widespread, being used in several senses by the futurist Vernor Vinge.

What is Singularity? The word ‘‘Singularitas’’ (singularitas) means ‘‘loneliness’’ in Latin. ‘‘Singularitas technica”, on the other hand, means "technological loneliness". The term singularity is widely known in connection with the idea of the so-called “technological singularity”. This idea is used in the sense that at some point in its rapid development in technology, technology is “separated” from people. At this point, artificial intelligence will enter the phase of revolutionary changes, surpassing human intelligence and intellectual abilities, and people will no longer be left out of improving technology. This idea is also supported by technology experts such as Ray Kurzveil.

This means that the technology has an unusual feature and gains unique opportunities. Technological singularity is a hypothetical vision that implies the unlimited technological development of super artificial intelligence. According to this approach, the expanding activity of an upgradeable intelligent agent[2] will more and more quickly create robots with super-powerful intelligence which can qualitatively surpass all human intelligence.

"Technological singularity" is achieved when ultra-intelligent artificial intelligence can overcome all the intellectual activities of every smarter person. According to many experts who

[2]*Intelligent agents are often equipped with advanced technologies such as artificial intelligence technologies, data analysis and machine learning. Through these technologies, agents can learn and gain experience so that they can become smarter, more flexible and effective. For example, virtual assistants like Siri or Alexa can be thought of as a kind of smart agent. These assistants are programmed to answer the user's questions, follow instructions, or perform certain tasks, and have learning capabilities to meet the user's expectations.*

predict such rapid development, if ultra-smart technology can design artificial intelligence even better than itself, there will certainly be an "explosion of intelligence", and a person's intelligence will lag behind. This will be the last invention of mankind. For example, Stephen Hawking, one of the most influential physicist theorists of Modern Times, notes in his latest book "short answers to Big Questions" published in 2018 that "artificial intelligence used as a toolkit enhances our existing intelligence and paves the way for breakthroughs in every area of Science and society. However, it will also bring dangers. While the primitive forms of artificial intelligence developed so far are very useful, I fear the consequences of creating something that can match or surpass humans. The concern is that artificial intelligence will evolve on its own and redesign itself at an ever-increasing rate. Limited by slow biological evolution, humans could not compete and were replaced. In the future, artificial intelligence can develop its own will, with a will that conflicts with ours. Others believe that people can control the speed of technology for a long time and realize the potential to solve many of the world's problems with artificial intelligence. Although I am known as optimistic about the human race, I am not so optimistic when I consider the future impact of artificial intelligence on a person" (Hawking, 2018).

If we briefly interpret the conclusions drawn above from Hawking's ideas, it becomes clear that concerns about technical singularity have serious grounds. Such rapid development should be regarded as a new stage in the pattern of development of technological determinism. However, Hawking argued that the potential risks of superintelligent machines should not block or delay the enormous benefits of the advanced artificial intelligence technologies for humanity. In particular, Hawking drew attention to the issues that artificial intelligence technologies developed in medicine, science and other fields can save human lives, helping humanity to have a healthier, longer and happier future.

On the one hand, understanding the boundaries and consequences of future technological advances becomes an important requirement as the concept of "technological singularity" replaces the futuristic views that technology can soon overtake a person, and on the other hand, various platforms appear related to discussions around the future development of artificial intelligence and other technologies. However, some critics argue that "technological singularity" is unrealistic and that the risk of artificial intelligence getting out of human control is exaggerated. However, renowned experts such as Raymond Kurzveil see "technical singularity" as a positive and desirable event. Although there are few people who share this optimism, there is a general agreement on the uniqueness and uncertainty that the indisputable

and exponential[3] rapid development of technical progress will evoke in the future. I think that instead of stopping this development and reducing the pace, it would be more useful to prepare humanity to eliminate its negative consequences, to carry out work in the direction of providing it with the necessary resources.

Raised as a major problem by a group of scientists working at the Silicon Valley Industrial Center, "technological singularity" became a school of thought in the 2000s. The excitement created by the" technological singularity " about the future is similar to the warning received by a person traveling through a space void about the depletion of reserves in an oxygen balloon. However, we should not forget that the arm of our intellectual capabilities has been connected only with the technological tools we have acquired. For example, one should not forget that one of the important reasons for the transition of our great ancestors from a skilled person to an intelligent person was associated with the improvement of labor tools. Even 5 thousand years ago, the first writing technology was a step forward in human cognition. All this suggests that the technologue was not formed outside human cognition, but was organically connected with the development of one and the other.

The evolution of man through technology can be seen as the next stage in human evolution. Singularity is a milestone that arises from the combination of rapid development in artificial intelligence, neuroscience, quantum physics, neuroscience and other related fields. This stage denotes a single form of intelligence, which will arise from the fusion of the creative intelligence of mankind with the intelligent intelligence of machines.

"Under the influence of modern imperialism, changes are taking place in the ratio of factors that traditionally condition the power of states. The uninterrupted connection between human evolution and technology shows that people throughout their evolution are in a consistent struggle towards owning tools and devices that make their lives easier and better by the use of technology" (Jabrailov, 2022).

These consistent struggles and inventions mainly aim to make people's work faster, more effective and safer. Looking at the general evolutionary path of Human and technology from another side, it is clearly seen that technology has become a means of overcoming the limitations and physical capabilities of people. In this regard, having various benefits, such as doing more, learning about the past and future faster, and connecting with people in other parts of the world in an easier way, can only be realized by taking advantage of the possibilities of technology. On the other hand, we cannot forget the fact that the growing influence of

[3]*Exponential growth refers to a quantity that grows at an increasing rate. For example, bacterial reproduction follows an exponential growth pattern*

technology on human evolution, past and present, has contributed to the expansion of people's experience and knowledge in various fields. For example, " many technological methods and devices increase people's capabilities by a million times, and we see that this growth is not on a trend and spontaneous level, but rather consistent and continuous. Nevertheless, when we take into account the rapidly growing role of technologies in social life, we see that technologies are developing in a direction that reduces people's physical activity and limits their social contacts" (Jabrailov, 153). As a conclusion of the study on both "technological imperialism" and "technical singularity" within the subject, we should note that today there is a suppression of countries with technological superiority over other countries.

Technical singularity refers to a situation in which people get out of control and begin to behave in the future as self-developing intellectual beings. The possible dangers of this situation are very serious and include:

- Deadly dangers: Technical singularity will cover the era that will jeopardize our lives and our existence. This can pose serious threats to our physical existence and the future of our world.
- Out of control: Technical singularity generates the fear that people will be able to get out of control and treat the person as an opposite being.
- Mutual incomprehensibility: Technical Singularity will not be at the level of mutual understanding with us, since it is not in relation to people.
- Movement speed: It will be difficult to control a singularity when it is assumed that the movement speed is too high compared to a person, which makes it relevant to think about the future dangers of singularity from now on.
- Privacy: Technical singularity can change people's thinking and information in their favor and use it against humanity.

Looking at the challenges of technological imperialism today and in the future, it is clear that these are the possible threats to national security that await states and peoples:

- Cultural exploitation: A country with a technological advantage may tend to impose its culture on other countries. This can lead to the destruction or degeneration[4] of indigenous cultures.

[4]*The term "degeneration" is usually used to mean that the quality or function of something deteriorates or decreases over time*

- Economic dependence: A country with a technological advantage can cause technological dependence of other countries. This creates economic dependence and limits the development of these countries.
- Breach of confidentiality: Some technological products, especially military technologies, may contain information from countries that must be kept confidential. If this information is seized by other countries, national security may be endangered.
- Data confidentiality: A country with a technological advantage may collect and misuse the personal data of other countries. This may result in violation and abuse of privacy rights.
- Technological dependence: A country with a technological advantage can cause technological dependence of other countries. This could limit other countries ' own technological development and hinder innovation.

The aforementioned present and future dangers of ‘‘technological imperialism’’ must be taken into account by countries with technological superiority and must share their technological developments with other countries, collaborate and protect local cultures.

Conclusion

The development of technological determinism has reached such a stage that "Super-Artificial Intelligence", created since the middle of the XXI century to combat possible catastrophic climate change and for other purposes, expresses the goodwill goals of the forces pursuing the intentions of technological imperialism in relation to the future. On the other hand, the orientation of technological capabilities to humanistic goals can significantly contribute to scientific and technological progress in the fight against such dangers of humanity as natural disasters that threaten its survival. Technology can contribute to scientific and technological advances (biotechnology, nanotechnology and neurotechnology) to increase cognitive ability and overcome the physical and psychological limitations of people based on transhumanism. Evolution has given humanity an intellectual advantage to overcome their biological shortcomings, which is more perfect than the skills used by humans on earth. But, this process did not stop, continuously human intelligence developed at the expense of experiments and irrational thinking, and as a result of it, by combining biology with technology, it had the potential to create intelligence superior to itself. Today, states pursuing their geopolitical goals with their technological imperialism should take into account the security of mankind, human rights, the right of countries to sovereignty.

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