

The impact of Rapidly Growing Technological Progress on Men

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This work deals with the issues of scientific and technological progress highlighting both the positive and negative trends of civilization and globalization from a sociological perspective. Nowadays, there is an obvious conflict between man and modern technology. Never before has human degradation been as pronounced as it is in this technologically advanced era. With technological progress, the complex relationship between humans and technology is not always taken into consideration. The nature and nuances of technological processes should always meet the demands and objectives of society. Technology must remain under human control but not vice versa. When this balance is lost, it poses a serious threat to humanity and its existence. In a technological civilization, only those changes, transformations, and advancements that align with human interests and remain within society's adaptive capacity should be encouraged. © 2025 Bull. Georg. Natl. Acad. Sci.

AI, modern technologies, innovative person, innovation, technical civilization

At the current stage of the socio-historical development of mankind, among the factors determining the peculiarities of the most complex social processes, the noteworthiest role is assigned to the mental, rational, and practical use of technological advancements. Naturally, the scale of the application of the results brought forth by the progress of science and technology in various spheres of public life and the intensity and depth of the impact created by the aforementioned progress is the subject of special attention and interest of researchers.

Our century is marked by great changes, groundbreaking scientific discoveries, and the

adoption of cutting-edge technologies and adoption of the latest technologies. However, it poses several urgent political, moral, psychological, medical-biological and other dilemmas to humanity, without systematic research of which it will be difficult for us to fully dive into the essence of the most difficult modern era.

Materials and Methods

The famous psychologist Erich Fromm writes about the undesirable consequences of the development of science and technology: "In the 19th century, the great dilemma was the 'death of God'; in the 20th

century, it became the 'death of man.' In the past, inhumanity was defined by cruelty; in modern times, it manifests as schizoid, pathological self-alienation. While the danger of the past was that people might become slaves, the danger of the future is that they may become robots [1].

O. Spengler has a negative attitude toward technology. He believes that technology has divided people into rulers and subjects, masters and slaves, and has dispossessed humanity of the ability to understand each other, i.e. the forerunner of human tragedy [2].

Each era faces distinct anthropological, philosophical, and psychological challenges. The modern age is no exception – it is characterized by the recognition of the spiritual and cultural crisis of humanity and the search for ways to overcome it.

In the industrial era, with the limitless advancements of science, a situation arose where “intellectual” activities of men were frequently directed against them. This significantly restricted personal freedom, led to harmful consequences, ultimately separating them from the possibilities of creative activity.

There is a certain limit to the changes in the environment (and we can define it) to which the human body can adapt. By increasing these changes unhindered without setting these limits in advance, we may have impacts on large masses of people that they simply cannot bear. “We risk a lot when we put people in such an unusual situation, which I call the future shock,” says E. Toffler [3].

At the early stages of technological and scientific development, in a less stressful and safer technological environment, people had a clearer vision of the prospects and future of the further development of technology. Thus, in different times and eras, people and society, were essentially different.

In the context of technological civilization, as we understand and analyze its outcomes, the issue of preserving the nature of humanity has become an urgent concern. From this perspective, it is essential to investigate the essential psycho-social processes in the human psyche that result from scientific and

technological progress. This, in turn, has led to the changes and peculiarities in the complex hierarchical structure of the personality and its characteristics. The challenges of today are as follows:

1. The problem of human alienation. Certain public relations, in many cases, are directed against human freedom and distort its true nature. In the course of work, a person will objectify his or her labor power. The alienation of individuals poses a real danger of degeneration. Consumer tendencies are on the rise, with people increasingly seeking comfort, while a continuous process of forming a pragmatic psyche threatens humans as creative and active beings. The need for a revaluation of spiritual values has become more urgent, as technical progress allows for both moral and non-moral actions

2. Among the global challenges brought about by technological civilization, the issue of maintaining a person as a biosocial entity is particularly significant. Humanity struggles to control the natural and technological environment it has created, leading to an anthropological crisis.

Encouraged and enraptured by common scientific success, people risk becoming a uniform mass, with their interactions reduced to mere coexistence. In such conditions, all personal distinctiveness and originality fade, and humans seem to have turned into beings with only technical functions and a standardized type, due to which they become less attractive and uninteresting to one another. Based on the rise of uniform standards, human life loses the ability of self-awareness. As Nobel laureate and renowned scientist, Albert Schweitzer warned, instead of fully realizing their humanity, individuals risk becoming mere “person-objects.”

As a result of technological progress and transformation of the world, unforeseen and unpredictable social factors emerge. These factors create fertile ground for the manipulation of human consciousness posing a serious threat to the bioenergetic foundation of individuals, their identity, and the processes of socialization. These processes play a key role in the formation of a faceless, impersonal

society, which in itself is a hindering factor in the way of human existence. Often, individuals are subjected to external control – whether through implanted electrodes, restrictive commands, or coercion into conforming to collective emotions and acceptable thoughts. While such measures may be possible, they are undeniably inhumane and unacceptable. A person's emotional freedom can also be deprived by other means, such as the forced administration of special pharmacological agents designed for control and subjugation. In such conditions, where individuals face spiritual danger, it is important to recognize that these threats often exist as possibilities rather than immediate realities. However, this does not diminish the complexity or the risks posed by such circumstances.”

3. One of the key effects of technological civilization is the disruption of people's internal balance, primarily through profound psychological changes. Naturally, individuals cannot always respond to the rapid transformations brought by technological progress with complete calm. Instead, these changes often come as a shock, creating a sense of extreme situations and leading to psychological and emotional stress.

In the early stages of technological and scientific development, when the technical environment was less stressful and more secure, people had a clearer vision of technology's future prospects. Back then, progress was met with optimism and admiration for human skills and abilities. Today, however, this optimism has given way to sadness and pessimism, as humanity gradually shifts toward inhuman dimensions. In an era of globalization and rapid technological advancement, unpredictable events are becoming more frequent. Uncertainty about what tomorrow holds has led to a loss of peace and a growing fear of the future.

It is widely known that in highly automatized work environment, a person is involved in a multifaceted, new technological processes that require intense mental effort. due to constant workload, leading to a sharp decline in health, the onset of

various psychoses, and disruptions in behavior. In some cases, this can even result in psychogenic amnesia, significantly lowering intellectual productivity. Since prolonged mental stress generates negative emotions, many seek relief by turning to psychoactive substances such as depressants and hallucinogens – often leading to personal degradation and, in extreme cases, death.

This underscores the urgent need for a new type of communicative culture, as otherwise, society risks becoming the environment described by N. Berdyaev – one in which the 'inner man' gradually fades away, replaced by an external, mechanical being. As Berdyaev warned, civilization has unleashed immense technological forces that ultimately dominate humanity, turning individuals into slaves of technology and extinguishing the human soul [4].

4. One of the most pressing issues of our time is the growing gap between scientific-technological progress and humanity's ethical and moral development. While we will not fully analyze this complex phenomenon here, it is important to acknowledge the influence of 'scientistic anthropology' – a worldview that places undue faith in technological potential, universalizes a technical mindset, and glorifies scientific progress. These tendencies have contributed to the moral and cultural crisis we now face.

Albert Schweitzer once observed that our current decline in morality was not caused by war; rather, war is merely its manifestation. If we are to preserve human dignity, technological progress must remain a tool, never an end in itself. Above all else, the highest reality must always be humanity itself [1].

Science becomes a dangerous weapon in the hands of an immoral person, especially when technological progress enables both ethical and unethical actions. Now, more than ever, it is crucial to ensure that scientific research is guided by moral principles.

5. Technological progress has fundamentally altered human nature. As value systems continuously shift, the overwhelming flow of information

triggers various psychosocial changes, often occurring unconsciously. In modern society, pragmatic aspirations have intensified, and individuals have become increasingly driven by consumerist interests. As a result, values such as love, friendship, support, and empathy have been overshadowed by superficial concerns and survival-oriented goals. Today, people are more *homo faber* than *homo sapiens* – shaped by the demands of industrial civilization, which molds them into both producers and consumers, rather than thinkers and creators. At first glance, industrial institutions seem to care about people, their fate, and their future, but as a result of proper analysis, it turns out that these measures are selfish – they care about people only to the extent and in the direction that is necessary for the continuous and uninterrupted development of industry, and the development of industry when it does not take into account people's needs only serves for the deliberate emptying of a human being of all humanity [5].

6. Another significant transformation in human behavior under technological civilization is the emergence of a cold, indifferent attitude toward everything and everyone – an attitude rooted in absurdity. This detachment arises when individuals are unable to act according to their unique skills and abilities, instead being forced into conformity by various factors, including the formation of a standardized, uniform human type. In such a state, a person finds themselves trapped in an absurd situation of their own making.

The perspective of French writer and philosopher Albert Camus, a key figure in the philosophy of the absurd and a Nobel laureate in literature, offers valuable insight into this concept. According to Camus, absurdity arises from the contradiction between a person's fundamental aspirations and their actual abilities. More broadly, absurdity manifests in the relationship between humans and the world, as the world resists and rejects humanity's essential intentions, goals, and desires [6]. If we understand the problem of human alienation, it turns out that in the end, their indifferent attitude

towards everything is directly responsible for almost all immoral and vicious acts and their consequences, which are going on in the social and technological world of their own creation.

In the conditions of technical civilization, the problem of artificial intelligence, the possibility of its creation, and the perspective of its necessity came into focus.

With the advancement of technology, a new term emerged at a certain stage of computer development – 'artificial intelligence.' This concept refers to a flawlessly functioning computer brain that may eventually match or even surpass human intellectual capabilities in certain areas. Naturally, this has drawn significant attention to the question of artificial intelligence and the feasibility of its creation.

AI is a specialized branch of computer science aimed at developing intelligent machines capable of thinking, learning, and problem-solving – potentially exceeding human cognitive abilities. As is well known, the fundamental components of artificial intelligence include a computer, an algorithm, and data. Through these elements, AI can make 'independent' decisions, learn, and operate – though always within the constraints of predefined rules designed and understood by humans, as dictated by its algorithms.

It is only natural that discussions about artificial intelligence continue worldwide, often accompanied by contradictory opinions.

At a scientific conference in Beijing, renowned British scientist Stephen Hawking warned that AI could become the primary cause of civilization's downfall. In his view, technological advancements ultimately lead to the limitation and degradation of essential human functions, gradually reducing humanity to weak and faceless beings in relation to nature. Hawking went even further, suggesting that the development of artificial intelligence could potentially mark the end of humanity itself.

From the perspective of the relationship between humans and machines, N. Berdyaev's insights are particularly significant. He argues that humanity has become both a prisoner and a slave to its greatest

invention – the machine. According to Berdyaev, our era is defined above all by technology; it is, in essence, the 'age of technology.' He notes that people place their faith in the miracles of technology, even when they no longer believe in any other kind of miracle.

At the core of dehumanization, Berdyaev warns, is the mechanization of human life, where individuals become subordinate to machines, ultimately transforming into machines themselves. The dominance of technology erodes the very essence of humanity. In such a reality, people risk losing their integrity and identity, leading to the internal fragmentation of society.

Human mental and intellectual abilities will never be diminished on their own, as creativity is an inherent aspect of human thought. It continuously generates new systems of action and uncovers previously unknown regulatory principles governing the world around us.

At the same time, improving Georgia's economic situation and implementing a well-structured socio-economic policy remains an urgent priority [7]. The future should not be dominated by commanding robots but should instead be a space where human creativity, scientific research, and the pursuit of truth take center stage. A person is not merely a being confined to their own mind; their gaze is always directed outward, striving to manifest their abilities in the world around them."

In the 21st century, humanity must strive even harder to overcome the limitations of the human mind. We cannot afford to become complacent, passively awaiting the rise of AI-powered robots. The challenge of our time is to establish a well-defined and purposeful relationship between humans and machines, ensuring that we differentiate between what is theoretically possible and what is truly beneficial.

Although modern technological civilization has enabled humanity to achieve almost any goal it sets, we must carefully consider whether the cost of these achievements renders them ultimately meaningless.

Advanced technological systems may surpass certain thresholds of complexity, even exhibiting traits that resemble 'individuality.' This is why we must remain vigilant, prepared for unforeseen developments that seem unimaginable today but could become reality tomorrow.

In this era of rapid technological progress, it is essential to distinguish between what can be done and what should be done. The future of humanity largely depends on making rational and responsible choices in this regard. Every technological innovation – whether already realized or still in development – should be a testament to human intelligence, wisdom, and ingenuity.

Conclusion

A civilization rooted in high culture should inspire individuals to see themselves not merely as consumers but as intellectually and emotionally rich beings. The true goal should be enhancing human capabilities, not the boundless expansion of artificial intelligence. Cybernetic systems must support human intelligence rather than replace it – otherwise, we risk creating powerful machines while weakening people.

The essence of human existence lies in the ability to select the most meaningful and beneficial advancements from technological progress. If this principle is ignored, humanity may fall victim to the manipulative forces of unchecked innovation.

In a technological civilization, only those changes, transformations, and advancements that align with human interests and remain within society's adaptive capacity should be encouraged. This is why the need to subordinate scientific research to practical reason and moral principles is becoming increasingly relevant.

This issue holds equal significance for scholars in the humanities as well as for experts in technology and the natural sciences, as the ethical direction of scientific progress shapes the future of society as a whole.

სოციოლოგია

სწრაფმზარდი ტექნოლოგიური პროგრესის გავლენა ადამიანებზე

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საქართველოს ტექნიკური უნივერსიტეტი, საინჟინრო ეკონომიკის, მედიატექნოლოგიებისა და სოციალურ მეცნიერებათა ფაკულტეტი, თბილისი საქართველო

(წარმოდგენილია აკადემიის წევრის ა. სილაგაძის მიერ)

წინამდებარე ნაშრომში განხილულია მეცნიერულ-ტექნოლოგიური პროგრესი და გამოვლენილია, რომ ცივილიზაციისა და გლობალიზაციის პროცესს გააჩნია ორივე, პოზიტიური და ნეგატიური ტენდენციები სოციოლოგიის მიხედვით. დღეს ადამიანებსა და თანამედროვე ტექნოლოგიებს შორის მკაფიოდ არის გამოვლენილი კონფლიქტი. თვით ადამიანი არ იყო ასე დაკნინებული, როგორც დღეს თანამედროვე ტექნოლოგიურად განვითარებულ ეპოქაში. ტექნოლოგიური პროგრესის პირობებში გარკვეული ურთიერთობები ადამიანებსა და ტექნოლოგიებს შორის და მათი შესაძლებლობები არ არის ყოველთვის გათვალისწინებული. ტექნოლოგიური პროცესის არსი და ნიუანსები ყოველთვის უნდა ემსახურებოდეს სოციუმის მიზნებსა და მოთხოვნებს. ტექნოლოგია უნდა იყოს ადამიანის კონტროლის ქვეშ და არა პირიქით, ადამიანი ტექნოლოგიის კონტროლის ქვეშ. ამ უკანასკნელის შემთხვევაში, ეს იქნება სერიოზული საფრთხის შემცველი კაცობრიობისა და მისი არსებობისათვის. ტექნიკური ცივილიზაციის პირობებში, მხოლოდ ისეთ ცვლილებებს, გარდაქმნებს აქვს არსებობის უფლება და მხოლოდ ისეთი პროგრესი უნდა წახალისდეს და შეეწყოს ხელი, რომელიც შეესაბამება და შეესატყვისება ადამიანის ინტერესებს და მოიაზრება ადამიანთა ადაპტაციის უნარის ფარგლებში, ამიტომაცაა, რომ დღეს მეტად აქტუალურია პრაქტიკული გონების პრიმატის, ანუ, ზნეობის მიზნებისადმი მეცნიერული კვლევების დაქვემდებარების პრობლემა. ეს პრობლემა ერთიანად მნიშვნელოვანი და საყურადღებოა, როგორც ჰუმანიტარული დარგის მეცნიერთათვის, ისე ტექნიკურ-საბუნებისმეტყველო მეცნიერებათა სფეროს წარმომადგენელთა შორის.

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