
**PEDAGOGICAL AND PSYCHOLOGICAL DESCRIPTION OF
FUTUROLOGICAL ANALYSIS AND RELATED CONCEPTS**

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Abstract:

In this article, the historical development of the mechanism of futurological analysis and today's trends, the relevance of futurological views today are covered from the pedagogical and psychological point of view.

Keywords: VUCA, futurology, RAND, artificial intelligence, foresight anticipation, intuition.

Changes in the international community are taking place with high trends. Every field and every system is undergoing changes and updates. To describe today's environment, scientists use the abbreviation VUCA. This concept is volatile; Uncertain - uncertain; Complex - complex; Ambiguous - not having a single meaning, came from a variable with two meanings, as a description of an ambiguous, complex and two-sided world. This formula began to be used by the military in the late 1990s and reflected an unpredictable, ungovernable world [1]. The level of development in each country is directly related to the structures that make it up. The development of special education is in line with the demographics of the population, economic growth, attention to social protection, the ratio between people of retirement age and youth, national mentality, and other important indicators. The need for personnel who can analyze changes in society, think innovatively and creatively, and have inductive and deductive and analytical thinking is increasing day by day. Realizing that the changes that will occur in the system in the future will start from today's steps, many developed and developing countries are funding a number of agencies, non-governmental organizations, and international institutions on a large scale to develop a futurological analysis of possible changes and innovations. coming out

Futurological analysis is part of every science, it includes the future appearance of this science, the possibilities of its use, new branches and perspectives that may arise in the science.

Futurology (Latin "futurum" - future and "logos" - teaching) studies and analyzes various possible scenarios of the future based on historical laws, social trends and technological achievements. The subject of futurology research is models of the future logically derived from today's reality[2].

The term "futurology" was proposed by the German professor Osip Flextheim in the mid-1940s, as a scientific discipline in the 1960s from the RAND Corporation (RAND is an American strategic research center, created in 1948, which focuses on the construction of aircraft, rocketry and satellites. Since the early 1960s RAND specialists have been involved in computing and programming) was formed thanks to the efforts of Herman Kahn and a number of other scientists.

The main question in futurology is whether artificial intelligence (AI) will be created, which will surpass humanity in all aspects and improve itself? Or will there be an environmental crisis? If created, when will this result be achieved? This question is the most important question, because this question directly affects the dangers that humanity may face in the future and the perspective of eternal life. If artificial intelligence is not created, perhaps this indicates limited technological progress in the near historical perspective or, as noted by R. Penrose, the existence of unknown processes in the human brain, and some fundamental philosophical and methodological difficulties in the creation of artificial intelligence informs about

The task of futurology is global forecasting, that is, predicting the fate of mankind for a certain period of time. The scope of futurological predictions is quite broad and includes economic, environmental, political, sports, pedagogical and medical sectors. At the same time, it is forecasted through statistical data collected from these networks.

Views of futurological forecasts:

1. Short period (3-5 years).
2. Average period (10-25 years).
3. Long-term period (40-100 years)

Short-term forecasts depend primarily on the current political and economic situation, and they are necessary for any human activity. Five years is a very clear period, within which one can see the situation in its main details. In a five-year forecast, we can safely assume that the world will be roughly the same.

25-year medium-term forecasts are forecasts at the level of governments and global corporations. It becomes clear as the moon that futurological analysis is not an abstract thing at this time, and huge amounts of money are spent on its financing. Of course, someone is engaged in futurology for someone. In practice, such period forecasts help companies to formulate long-term strategies. These predictions are directly related to values.

The first models for predicting the future belong to Thomas Malthus. In his 1798 work entitled "On the Law of Population...", if there are enough resources and environment for the population, it doubles every 25 years. But it has a linear character, explaining the idea that if resources run out, natural regulators: war, disease, and famine will come into play.

Another important futurological model we find in the works of Karl Marx. There are utopian elements in his vision of the future. In this case, the present and the future serve as a model that connects utopia. This path consists of certain stages: workers' movement - revolution - socialism. Marx considers technology, which he calls "productive forces", to be the main driving force of progress. Marx also showed the inevitability of cyclical crises under capitalism.

Based on extrapolation, Marx correctly predicted that as a result of the development of the productive forces, a few percent of the workers would be enough to create all the necessary material goods. Indeed, in most European countries today, the unemployed can live and enjoy their pension better than any worker in the 19th century.

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Futurology took the next step in the late 19th century thanks to the works of science fiction writers G Wells and Jules Verne. In his writings, Verne predicted inventions in various fields, including scientific discoveries such as scuba diving, television, and space flight. Wells created a universal "futurological weapon" - a time machine. It allows you to know everything that will happen in the future. In fact, it was Wells who designed the "future" as a separate space. He put forward the idea that fantasists do not predict the future, they invent its images.

In 1901, G. Wells wrote the work "Forecasting: The Influence of the Development of Mechanics and Science on Human Life and Thought". In this work, he theoretically commented on the human ability to forecast. In this work, he described his vision of life up to the 20th century.

Wells foresaw the development of suburban settlements, the military defeat of Germany, the growth of sexual freedom, and the creation of the European Union. But

he predicted that the first airplane would fly in 2050, and that submarines would be mere pieces of cloth for drowning their crews.

By the 20th century, rather than ideas about technological evolution, ideas about human evolution began to play an important role. Friedrich Nietzsche put forward the idea of a superman, which is the basis of modern transhumanism.

As an alternative to Nietzsche's views, the position of Russian scientists-cosmists, first of all, Siolkovsky, was created. He created the metaphor-utopia of "radiant humanity" - he put forward the idea that people will master the expanses of space in new places with a new body.

The techno-apocalypse genre began to develop in the 1950s amid the threat of nuclear war.

In 1957, Hugh Everett proposed the idea of the existence of quantum many worlds.

In 1959, Richard Feynman, studying at the California Institute of Technology, said, "There are so many places down there!" announced the idea of nanotechnology to the public in a lecture called "The word 'down' in the title of the lecture means 'in the very small world'." Then Feynman said in his lecture, "For example, one day in the year 2000, people will wonder why no one took the nanoworld research seriously in the 1960s." According to him, if a person can easily take over the nanoworld, if he can create a small but functional robot-machine capable of creating a copy of himself.

Even today, futurological predictions are spreading rapidly. Because it is an important factor in strategic planning for society and the state. The concept of "foresight" exists in the management system of developed countries, and the word "foresight" means "looking into the future" in English. This social technology involves predicting the development trend of industries in a certain country or region based on the mutual cooperation of the participants and agreeing on the desired future based on this.

Basic principles of foresight:

- the future can be created and it depends on the actions performed;
- the future does not grow from the past. Maybe it depends on the decisions of interested parties;
- some branches are predictable. But the whole future cannot be predicted with certainty. It is necessary to prepare for such a future, or we must create this future ourselves [3].

According to the literature analysis, futurology is interpreted as prognostics, predictions in several literatures. "Getting ahead" of others manifests itself in different forms: feeling in advance, being able to foresee, predicting in advance, being able to tell in advance and being able to predict. The concept that fully includes the factors reflecting this future is called anticipation.

Anticipation comes from Latin "anticipatio" - moving forward, French "anticiper" - prevention, English "anticipate" means to see in advance. Anticipation is defined as its ability to move forward based on the stimulus affecting the brain at the same time[4].

Feeling in advance - in our language there are sentences like "my heart is troubled" and "my heart is upset", which appear in the context of feeling the situations that may

happen. Precognition is the feeling of the organism in a neutral state without fully realizing the positive and negative events that may occur in the near future. In this situation, a person has a predominance of emotional states.

Foresight develops during making conclusions about the future activity of the object based on observation. Foresight appears in two forms in scientific literature.

1. Prediction with an emphasis on intuition (Intuition is Latin "Intueri" - means "to look carefully");

2. It is a concept close to scientific prediction, and the process of obtaining a forecast has a purposeful character.

Foretelling is a form of reflection, and reflection is mainly in the form of words. Comprehension consists of forecasts that are difficult to explain. The basis of the prediction remains abstract.

Predicting in advance - this concept has a special meaning, and the prediction is based on a complete prediction (found or not found). The emphasis is not on the object, but on the knowledge that leads to progress. The previous prediction is not based on any scientific basis, but is based on random information that is not understood.

Prognostication is a special scientific research that takes into account the speed of development of events. "The science of pedagogy today solves the complex tasks of providing education with new innovative technologies. It is absolutely impossible to design new technologies, improve the content of the educational process, and set new goals and tasks without determining which professions will be in high demand in the future. Future development cannot be managed without scientific forecasts in the field of education" [5].

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