

ЛІТЕРАТУРА ЗАРУБІЖНИХ КРАЇН

UDC 82

DOI <https://doi.org/10.32782/2710-4656/2025.5.2/01>**Abdullayeva K.**

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THE IMPORTANCE OF THE FANTASY IN SCIENCE

The article is devoted to the analysis of the phenomenon of imagination in scientific creativity. The author introduces his own definition of the concept in relation to work. It is established that the essence and features of imagination consist in the creation of images containing a holistic vision of the subject under study and the implementation of the relationship and transition between empirical and theoretical knowledge. The functions of imagination in the creative activity of scientists are highlighted and revealed. It is noted that science fiction and fantasy are two fields that, at first glance, do not have much in common. However, they are closely related to each other and mutually influence their development. Fiction, which arises from scientific knowledge and opens doors to a world of possibilities, stimulates scientific research and promotes scientific progress. It has been determined that science fiction can inspire more people to become scientists. Fantastic ideas play an important role in the development of science and scientific literature. They allow scientists and writers to conduct thought experiments, predict future technologies and social events, and explore new hypotheses and concepts. In general, fantastic ideas play an important role in scientific literature and the development of science. They stimulate scientists and writers, expand the boundaries of what is possible, and help create new ideas and technologies. It is proved that the combination of artistic invention and scientific thought is unique and essential for the development of science and literature. Inspiration from fantastic ideas can be a source of ingenuity and innovation, allowing scientists to think outside the box and experiment with new approaches to solving problems. It has been established that fantasy is an important tool for the development of science. It helps us look at the world in a new way, imagine an alternative future, and ask questions about where science might be heading. It also promotes the creation of new genres of scientific literature that allow us to expand our knowledge and the boundaries of our thinking.

Key words: science – fiction, imagination, science, utopia, fantasy, idea.

Introduction. Science fiction, as a form of fiction, can inspire scientists to create new research and discoveries. Many scientific ideas that later became reality first emerged in science fiction. Examples of such ideas include space travel, teleportation, artificial intelligence, genetic modification, and many more. Science fiction ideas helped scientists think about how they might be possible and how they could be implemented. Science fiction ideas also help society see scientists and scientific work in a new light. They can engage and interest people, making them curious and wanting to learn more about science. Science fiction works help to show science as something exciting and important to humanity [6, p. 167].

However, science fiction ideas can also provoke debate and controversy in the scientific community. They can raise questions about the feasibility of such

ideas and the limits of scientific knowledge. This can lead to further research and the development of new theories and concepts.

Fantastic ideas expressed in science fiction often penetrate the minds of scientists and influence their future work. Authors of science fiction propose unconventional solutions to problems, change the perception of the world, and provoke new ideas in readers and scientists. Science fiction inspired by science fiction often draws the line between the possible and the impossible. Researchers, guided by fantastic ideas, can look for ways to implement in the real world what seems impossible at first glance. Science fiction also promotes the development of imagination, creativity, and innovation. It helps scientists think outside the existing framework and opens up new perspectives for scientific research.

Fantastic ideas push us to develop new concepts and new technologies. Science fiction inspired by science fiction not only expands our knowledge of the world, but also stimulates thinking and creativity. It allows scientists and writers to consider possible future scenarios and ways to influence the world. Fantastic ideas outlined in modern scientific literature can become a starting point for new discoveries and achievements in the real world.

Analysis of recent research and publications.

Science fiction, including fantastic ideas, plays an important role in the development of science and it inspires scientists to find new solutions, promotes the birth of new ideas, and stimulates creative thinking. In the world literature, authors who have conducted extensive research on this topic include Reginald, R. Williams, E.M. Forster, R. Sholes and others.

Task statement. The main purpose of this research is to identify the general principles underlying the role of fantasy in the formation and development of science.

Outline of the main material of the study.

While speaking on the importance of the fantasy in the science, some researchers shows two types of scientists: one of them possesses a rich imagination and the other is deprived of such a rich imagination. Fantastic ideas influence the development of scientific thought, as they stimulate scientists and engineers to think creatively, breaking the boundaries of what is already known. Science fiction works often pose questions about the future, technological progress and the nature of man, which helps them see problems and tasks with a fresh look. Science fiction literature also serves as a source of ideas for various scientific studies. Many inventions that were previously considered purely fantastic are gradually becoming reality. Robots, artificial intelligence, space travel – all this was considered and described in science fiction long before their implementation in scientific achievements.

With the appearance of new ideas in fantastic works, new directions of scientific research are actively mastered. Thanks to fiction, we begin to ask questions about the future, about possible technologies and achievements of science. Fiction is able to take commonly accepted scientific terms and concepts and transfer them to an unknown future. Such works help researchers and scientists to expand their boundaries and explore new areas of knowledge. On the basis of fiction, new genres of scientific literature are created. For example, "science fiction" combines scientific facts and principles with fantastic ideas and situations. These works help us

consider scientific problems from different sides and put ourselves in the place of researchers. Another example is the "alternative history" genre, which is a version of the outcome of historical events based on fantastic assumptions. This allows us to look at the past from another point of view and ask questions about the possible consequences of various decisions and events. Thus, fiction is an important tool for the development of science. It helps us look at the world in a new way, imagine an alternative future and ask questions about where science can move. In addition, it contributes to the creation of new genres of scientific literature, which allow us to expand our knowledge and intellectual boundaries.

The roots of the fantastical can be traced back to ancient times; however, the formation and development of the concept of the fantastical go hand in hand with the process of demythologization – the liberation from and loss of the sacred meaning and magical nature of images. The similarity of plotlines and artistic techniques found in myths and fairy tales depends on the creative potential, imagination, and the opportunities available to a person in a given context. The uniqueness of fantastical images lies in the fact that they are created and perceived as works of art existing in a special symbolic reality associated with fantasy – which, in turn, is based on the freedom and desires of its creator.

The similarity of plotlines and artistic techniques found in myths and fairy tales depends on the creative potential, imagination, and the opportunities available to a person in a given context. The distinctive feature of fantastical images lies in the fact that they are created and perceived as works of art that exist within a special symbolic reality associated with fantasy – which, in turn, is based on the freedom and the desires of its creator.

Fantasy is a genre that combines real and supernatural elements, through which the writer creates a sense of ambiguity and a special emotional involvement for the reader. Moreover, Nodier argued that the fantastical is not just a type of literature, but also a way of perceiving our reality – a unique way of looking at the world. He believed that the fantastical is merely one of many tools for exploring the unknown and mysterious aspects of existence.

Fantastic literature, including fantastic ideas, plays an important role in the development of science. It inspires scientists to search for new solutions, promotes the birth of new ideas and stimulates creative thinking. Fantastic ideas offer alternative worlds where new technologies, incredible phenomena and impossible situations exist. Often these ideas are the result of

the imagination of the authors, but it is precisely in them that the great power of fiction lies. Scientists take these ideas as a basis and investigate whether it is possible to translate them into reality. One of the examples of fantastic ideas that have become a stimulus for scientific discoveries is the idea of time travel. Many fantastic works described the possibility of moving to the past or the future, and this prompted scientists to study various aspects of time and develop theories related to its concept. Another example is the development of artificial intelligence. Many fantastic works describe supercomputers that can think and make decisions like a human. This idea became the impetus for the development of real algorithms and programs that allow computers to imitate the human mind.

There is a true scholarship, the thought and heart of which are bright, productive and noble, and also there is a fake scholarship, the thought and heart of which are dark, active but ineffective! The representative of the first one may be Faust and of the second one may be Wagner, the prototype of limited, narrow-minded, weak minded, cold, hard-hearted precisian without fantasy, the soul and heart of which are deprived of warmth and eagerness" [1, p. 437-438].

All of the above may clearly prove that the ability of fantasy or imagination in human is a talent that possesses a broad sense.

Creative fantasy is an inseparable close friend of the advanced science, advanced art and literature and advanced thinking. Creative fantasy serves to generalize great ideals generated from the life. It is one of the main qualities which distinguish human from animal.

For instance, the content of the fantastic story "The Stolen Bacillus" by Herbert Wells, the famous fiction writer, tells: Harry Heeks, the famous English bacteriologist cultivates cholera bacillus in order to massively kill the people from the other nations. While Harry is engaging in his experiments in his laboratory in London, an unknown tall, thin, pale guest enters and presents a letter. The letter is written by one of his old friends. The old friend asks him to respectfully entertain the guest he sent and to notify the guest on the result of his experiment. Taking one of the bottles full of different microbes, which were aligned in the laboratory, Harry explains: Look. They are terrible cholera bacillus and detained here temporarily. Now try to break this bottle and under the strongest magnifying microscope order these small organisms "breed, increase"...Do you know what you will see then? A secret, terrible, cruel, fast and dishonest death will immediately grasp this big city and search its

countless victims...It will take children from their moms, husbands from the wives.

Another important aspect of the influence of science fiction ideas on the development of scientific thought is the stimulation of public interest in science and technology. Many people, having read a science fiction book or watched a film, begin to think about how real the technologies presented in the work can become. This leads to public support for scientific research and innovative projects, and also motivates young people to choose science as a profession. Thus, science fiction ideas play an important role in the development of scientific thought. They inspire scientists and engineers, stimulate creative thinking, help generate new ideas and offer a path to a future that is still only a dream. Science fiction is not just entertainment, it is a wonderful bridge between art and science, a way to move the boundaries of reality and open new horizons for scientific research.

Harry's strange guest is also an Englishman, but an anarchist. He is in search of a means in order to kill all London inhabitants and become famous. Getting an opportunity he steals one of the bottles full of microbes and runs. While the guest is leaving, Harry understands his malice...He throws himself to the street, getting on the carriage he follows the carriage of the guest. It is very interesting: many people of the city hustling into the carriages follow Harry. Assuming that his husband becomes mad, the wife of the bacteriologist goes to find him. Harry is afraid that the guest is from the other nation and kills the English with the microbe he cultivated. The guest is also afraid that the crowd will take the bottle from him and he will be subject to live without fame. The anarchist drinks down the bottle full of microbes, gets out of the carriage and tries to mix with the crowd so that the microbe will be infected to them. But then it becomes clear that because of being in a hurry he took a bottle of microbe that paints blue the skin of the living organisms. After knowing this, Harry tells his wife that it becomes so interesting. You remember that I made this experiment only on the animals, but now the experiment has been made itself on human. Let alone outlook, subjective desires, dreams of the author of this story, this science-fiction, first of all, objectively tells us in which direction modern bourgeois fantasy moves. Bourgeois fantasy serves to massively kill the population. This is provocative fantasy.

In other words, fantasy in bourgeois system, as being in imperialist countries may serve to kill, disable people and ruin the life. On the contrary, it may also serve to bring the greatest happiness to the

people, beautify the life and turn the night into the day. In the first case it is provocative and in the second case it creative fantasy.

Fantasy starts to operate from early ages of a person and generally, creative abilities show themselves together with them. Revelation of creative talent namely at early ages of many prominent scientific and artistic figures proves this. Imagination or fantasy from early ages of a person has two types: one of them is imagination on existing things, and the second one is imagination on non-existing, but desirable things that it is already creativity! If we do not take into account rare, exceptional cases, almost all children are much interested in fairy tales, short fantastic stories, and they are not only interested, but they are in special need of them, because the talent of fantasy requires certain nourishment. Undoubtedly in that period children are told fairy tales, fantastic short stories in order not to teach them art of magic. But such tales and stories cause fast development, sharpening and intensifying of the talent of imagination in children. Therefore to tell such tales and stories to the children in that period are extremely useful. But besides being fantastic, these tales should have high educational value: they should educate strength of will and ability to overcome difficulties in children, humanist feelings, feelings of patriotism, labor of love, friendship and loyalty and create enthusiasm and optimism.

Besides caring the development of human fantasy from early ages, it is required to pay serious attention to directing their talent toward proper perception of life realities. Besides paying attention the development of ability of fantasy, it is required to take notice of informing in accordance with their levels on the social, political environment and on the nature covering them.

There are many fantastic tales in the treasury of folk art, which familiarize people with society, life, public relations and scientific issues. And these tales are too close to today's modern science fiction as to many aspects, both artistic form, maneuver and content. This event, first and foremost, confirms that the necessity, benefit and great importance of science fiction in formation of the society are reality perceived not only in our time, but also some thousand years ago. There is a need for such works in the formation of the society that they should serve to develop the ability of fantasy and provide people with extended knowledge on nature and society – the genius of the people has comprehended this reality long ago.

Ability to imagine starts to rapidly develop from early ages and mainly appears as a form of creativity.

In this period there are innumerable reasons and types of influence which contribute the development of human fantasy. Subjects such as, natural sciences, geography, mathematics, artistic literature and etc. which are studied by children at school in that time cause functioning of fantasy in each step. Development of creative fantasy is closely associated with psychic abilities, especially memory. It is known that, personalities who are famous in science and art were distinguished by the presence of a strong memory from early ages. But in children with weak memory the creative fantasy also develops well. Children should observe and hear much and keep in his or her mind a lot of things in order to strengthen and enrich their memory [2, p. 137].

Because the only and powerful means which activates and inspires the fantasy and provides its richness and breadth is superiority and depth of knowledge on social life and nature, in other words, is strong mind. Otherwise, worthless, passive fantasy dominates as a result of the limited knowledge on the life and nature and weak mind that it leads to dreaminess. This condition may be encountered in each age stage of a person. Lack of life experience, limited knowledge on society and nature, weakness of the mind, narrow-mindedness, especially inability of deeply and properly perceiving the life and being far away from the modern ideas lead to dreaminess. And dreaminess is too dangerous and deleterious in our busy life which requires work, bravery, dedication, vigilance, activeness and diligence in each step.

Dreaminess does not mean that the brain is free from all sorts of thinking, imagination, illusion and etc. Perhaps the brain, thinking and imagination of the dreamer work faster than that of the others, he or she may think of everything – near and far, easy and difficult, but can achieve nothing. In order to form the society fairly, the first thing to do is to teach the youth the advanced sciences of the life and time, provide them with the principles of the knowledge and train them as scientists. Science fiction written in the spirit of patriotism is of great importance in terms of this aspect. Also, such works are needed for this reason that, only fairy and fantastic tales are not enough for the development of human fantasy in proper and vital direction. People fly on “flying carpets”, walk fast by wearing “fast going boots”, water of life is spattered on the dead and big palaces are built in the tales. Tales have a positive influence not only on children, but also on elders and writers. Acquaintance with inexhaustible treasury of folklore is extremely useful for new young writers. A tale may develop the fantasy of the writer; compel him or her to evaluate

the necessity of imagination for the art and most importantly, enrich his or her poor lexicology or poor language [3, p. 11].

Fairy tales have a very strong influence not only on the fantasy of human, but also all of his or her psychological and intellectual life. Thus functioning of human imagination, fantasy in various directions leaves various influences on human mood. Many scientific experiments prove that, imagination even may cause psychic, as well as serious physiological changes in human body. All of these show that, imagination is an essential ability associating with human morality, human activity and creativity and many aspects of human life.

Only fairy tales are not enough to develop human fantasy from early ages. It is not enough even if they have substantial, eligible content. The need for science fiction is generated from here. Science fiction serves the development of ability of fantasy on one hand and on the other hand, provides a wide range of information on the development of sciences, new discoveries, the known new achievements and desired, expected achievements of the science, on nature, social life, public relations, technical miracles and etc. and accelerates the preparation of high-cultured, vigilant, realistic, active society founders of the future from them. It is noteworthy that, because there are various types of fantasy, fantastic work also has various types. Many classics wrote fantastic works.

Science fiction is different from them. The basis of such works constitutes, first of all, science fiction, in other words, scientific theories. But there are two types of theory: one of them is a true scientific theory referring to the advanced science, advanced outlook and the other is a pure utopian theory which diverged from the sciences [8, p. 104]. Many of the science fiction works created in capitalist countries, in the negative sense of the word, are the works written on the basis of the utopian theory and speculative philosophy. In such works fantasy of a writer is wandering far away from the life, social being, near and far future of human, in the planets, in the Mars, in the Venus, in the Moon. For instance, the novel of "War of the worlds"

by H.G. Wells is a clear sample of this. The novel talks about "the struggle for survival" between the Venus and the Mars, and generally among the planets. Inhabitants of the Mars try to attack the Earth, too... The writer's conclusion is that, "most likely, the future will belong to the inhabitants of the Mars, not to the people living on the Earth. Dark futurity is waiting for the Earth and the people" [1, p. 43].

These science fiction works, as seen from the samples above, are based on the great achievements of the advanced science and the future of this science and the great perspectives of it. In science fiction such issues are dealt with, which are still standing before the mankind and are required to be solved.

"Mankind always puts the questions before itself which only it is able to solve".

Conclusions. Science fiction is a source of unusual and innovative ideas. In it, authors can imagine worlds that are different from ours, as well as technologies and scientific achievements that have not yet been implemented in the real world. These ideas can serve as inspiration for scientists and researchers, encouraging them to create new concepts and technologies. On the other hand, the scientific community can provide science fiction authors with access to current scientific discoveries and research. Scientific data and concepts can help authors create more realistic and scientifically sound worlds and plots.. However, the interaction of the science and science fiction communities is not limited to collaboration between authors and scientists. Science fiction ideas can inspire scientific research and experiments. Scientists can take ideas from science fiction and try to apply them to the real world. This can stimulate new discoveries and advance science. Thus, the interaction of the science and science fiction communities has great potential to develop ideas and promote scientific research. By using science fiction ideas and interacting with scientists, writers can create more engaging and scientifically sound stories. In turn, the scientific community can draw inspiration from science fiction and use its ideas to advance science and technology.

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Абдуллаєва Х. ЗНАЧИМІСТЬ ФАНТАЗІЇ У НАУЦІ

Стаття присвячена аналізу феномена уяви у науковій творчості. Автор вводить власне визначення поняття стосовно праці. Встановлюється, що сутність та особливості уяви полягають у створенні образів, що містять цілісне бачення предмета, що вивчається, і здійснення взаємозв'язку і переходу між емпіричним і теоретичним знанням. Виділяються та розкриваються функції уяви у творчій діяльності вчених. Наголошується, що наукова фантастика та фантазія – це дві області, які, на перший погляд, не мають багато спільного. Однак вони тісно пов'язані один з одним і взаємно впливають на розвиток. Фантастика, що виникає з наукових знань і відкриває двері у світ можливостей, стимулює наукові дослідження та сприяє науковому прогресу. Визначено, що наукова фантастика може надихати більше людей, щоб стати вченими. Фантастичні ідеї відіграють важливу роль у розвитку науки та наукової літератури. Вони дозволяють вченим і письменникам проводити уявні експерименти, передбачати майбутні технології та соціальні події, а також досліджувати нові гіпотези та концепції. Загалом фантастичні ідеї відіграють важливу роль у науковій літературі та розвитку науки. Вони стимулюють вчених та письменників, розширюють межі можливого та допомагають у створенні нових ідей та технологій. Доведено, що поєднання художнього винаходу та наукової думки унікальне та невід'ємне для розвитку науки та літератури. Натхнення від фантастичних ідей може стати джерелом винахідливості та інновацій, дозволяючи вченим мислити нестандартно та експериментувати нові підходи до вирішення проблем. Встановлено, що фантазія є важливим інструментом у розвиток науки. Вона допомагає нам дивитися на світ по-новому, представляти альтернативне майбутнє і ставити питання про те, куди може прямувати наука. Вона також сприяє створенню нових жанрів наукової літератури, які дозволяють нам розширювати наші знання та межі нашого мислення.

Ключові слова: наукова фантастика, уява, наука, утопія, фантазія, ідея.

Дата надходження статті: 17.09.2025

Дата прийняття статті: 10.10.2025

Опубліковано: 29.12.2025