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Research article

Modeling Time and Space by Artificial Intelligence in Olena Krasnoselska's Novel *SOLpik*: Fiction or Future Reality?

Oleksandra Nikolova[1] ✉, Kateryna Vasylyna[2*] ✉, Viktoriya Pogrebnaya[3] ✉

[1]Dept of German Philology, Translation and World Literature, Zaporizhzhia National University, Ukraine.

[2]Dept of English Philology and Linguodidactics, Zaporizhzhia National University, Ukraine. *Corresponding author.

[3]Dept of Journalism, National University Zaporizhzhia Polytechnic, Ukraine.

Abstract

The article studies the specifics of time and space in Olena Krasnoselska's novel *SOLpik* through the light of artistic representation of the possibilities of their AI (artificial intelligence) modeling. The article proves that in terms of modern advancements in science and technology, the methods of modeling time and space by AI depicted in the novel (their 3D printing with the help of artificial intelligence) seem to be theoretically justified and predictable. The authors of the present paper pay special attention to the analysis of the writer's philosophical reflections on the essence of time and space, as well as the consequences of active human interaction with artificial intelligence. It is noted that the image of the future presented by Olena Krasnoselska, where artificial intelligence can get out of control and begin modeling the space-time continuum, creating virtual reality, seems quite believable in the context of scientific and technological achievements of the 21st century. This story reflects the ideas of modern science and the attitude towards its attainments. The article concludes that all of the above-mentioned facts give grounds for identifying the piece by the Ukrainian writer as a 'prophecy novel'. Also, it outlines the perspectives of studies related to the analysis of the chronotope of 'science-fictional AI' in view of the achievements of modern scientific and technological progress.

Keywords*:* artificial intelligence (AI), AI narratives, science-fictional AI, chronotope, hybrid genre.

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1. Introduction

O. Krasnoselska, author of the novel SOLpik writes:

> Impossible events are those that cannot occur, even if they have already been invented by someone. But if they have already been invented, then are they possible?
>
> (Krasnoselska, 2023, p. 329)

In recent years, everything related to the capabilities of artificial intelligence (AI) has caused a surge of interest both in the scientific community and among the general public. Reflections on the incredible potential of artificial intelligence, which can significantly facilitate professional activities in many fields, are accompanied by serious fears about its threats to humanity, claims to restrict artificial intelligence research and to formulate the laws regulating its use. The discussion around this matter has not, however, diminished the demand for artificial intelligence applications, especially those that support 3D and 4D modeling procedures to produce 3D spatiotemporal models.

The topic of artificial intelligence is also addressed by art, which is always highly attuned to social trends. This is evidenced, for instance, in contemporary literature by the emergence of the phenomenon known as science-fictional AI (Hermann, 2003, p. 319), which is considered a substantial part of a larger corpus of AI narratives (Hermann, 2003, p. 319). According to I. Hermann (2023),

> SF, however, is not a foresight or technology assessment but tells dramas for a human audience. To make the drama work, AI is often portrayed as human-like or autonomous, regardless of the actual technological limitations. Taking science-fictional AI too literally, and even applying it to science communication, paints a distorted image of the technology's current potential and distracts from the real-world implications and risks of AI. These risks are not about humanoid robots or conscious machines, but about the scoring, nudging, discrimination, exploitation, and surveillance of humans by AI technologies through governments and corporations. AI in SF, on the other hand, is a trope as part of a genre-specific mega-text that is better understood as a dramatic means and metaphor to reflect on the human condition and socio-political issues beyond technology (p. 319).

Writers' ideas about the future role of artificial intelligence in people's lives may seem incredible, but history proves that science-fiction phenomena often become a regular part of everyday life over time (K.Čapek's robots, R. Bradbury's headphones, H. Wells' laser, etc.). So who can nowadays state with 100% confidence that images of science-fictional AI will not materialize in the future? Neural networks can already create objects that visualize spatiotemporal changes (for example, 3D and 4D models in construction), so why cannot one imagine that someday they will be used to alter the time and space of our world/Universe?

This assumption is creatively represented in the novel *SOLpik* (2023) by the modern Ukrainian writer Olena Krasnoselska. Her aspirations for the possibilities of artificial intelligence application in the field of time and space experiments are supplemented by deep philosophical reflections

about the limits of such research, the ramifications of time travel, and the very essence of the categories of time and space.

The purpose of the article is to characterize the time and space in O. Krasnoselska's novel *SOLpik* through an artistic portrayal of the potential of their modeling by artificial intelligence.

Several factors define the relevance of this present paper. First, there is a necessity to study the specifics of AI narratives generally and science-fictional AI specifically, to which O. Krasnoselska's novel belongs. Secondly, there exists a need to consider the topic of 'Time and space in literature' in the aspect of modern scientific gains, which also affects its interpretation by writers of the 21st century. Thirdly, the novel *SOLpik*, which lacks a comprehensive examination, deserves attention as an interesting example of hybrid prose that naturally combines art, philosophy, and science.

2. Literature Review and Methodology

The question of the representation of time and space in art and literature frequently attracts the attention of scholars. So, for example, P. Ricoeur (1984) in his famous study *Time and Narrative* points out that time becomes human to the extent that it is articulated through a narrative mode, and narrative attains its full meaning when it becomes a condition of temporal existence (Ricoeur, 1984, p. 52).

M. Bakhtin (1981) offers a holistic concept of chronotope as a unity of artistic time and space and argues

> In the literary artistic chronotope, spatial and temporal indicators are fused into one carefully thought-out, concrete whole. Time, as it were, thickens, takes on flesh, and becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot and history. The intersection of axes and fusion of indicators characterizes the artistic chronotope (p. 85).

This renowned literary critic also distinguishes and analyzes the types of chronotope typical of certain genre varieties of the novel.

P. Ricoeur's and M. Bakhtin's studies traditionally serve as theoretical reference points for those who turn to considering space and time in various literary pieces and genres. Given the huge number of such research, it is hardly possible to cover the issue comprehensively within one article as well as to present a complete overview of works on artistic time and space in science fiction, which is exemplified by O. Krasnoselska's novel, chosen for analysis in this paper. Therefore, we will narrow the research by mentioning a few resources in this section that are specifically relevant to the study's subject.

Firstly, it is necessary to mention the profound monograph *Worlds Enough and Time: Explorations of Time in Science Fiction and Fantasy (Contributions to the Study of Science Fiction and Fantasy)* (2002) edited by G. Westfahl, G. and D. Leiby. Its chapters are focused on time travels: *Arrows and Riddles of Time: Scientific Models of Time Travel* by G. Slusser and R. Heath (2002), *Impossible Times: Some Temporal Labyrinths in Science Fiction* by R. Saint-Gelais (2022), *The Jaws of the Intellect Grip the Flesh of Occurrence: Order in Time Travel* by D. Leiby (2022), etc.

Secondly, there are the papers by O. Chigyrynska, as well as I. Kolegayeva and G. Oleynikova. O. Chigyrynska (2008) examines the specifics of the chronotope of fiction as a whole. According to the scholar, there are three ways to construct an impossible chronotope: a place that does not exist (an impossible place), a time that does not exist (an impossible time), and an impossible thing in an emphatically real chronotope (Chigyrynska, 2008, p. 1). I. Kolegayeva and G. Oleynikova (2009) pay special attention to the time and space of sci-fi and single out such a special feature as the presence of shift. The scholars claim that

> First of all, it is necessary to emphasize the principle of "shift" as the dominant principle in the construction and representation of space, time and actants. The shift implies a departure from the real spatial-temporal coordinates and away from the time of creation of the piece of literature (to the future or the past), away from the Earth as a planet, away (up or down) from the surface of the earth as a standard location of the actants of the literary work and the communicators themselves (p. 113).

And finally, this is a separate group of non-philological reflections on the parallels between science fiction and science, a discussion of the possibility of real-life experiments with time and space depicted by writers. For example, *Time Machines: Time Travel in Physics, Metaphysics, and Science Fiction* and *Time Travel: A Writer's Guide to the Real Science of Plausible Time Trave*l by P. J. Nahin (1998), *Time Travel: Separating Science Fact from Science Fiction* by J. Al-Khalili (2003) etc. Thus, J. Al-Khalili states that musings on time travel is an excellent way of getting across some of the basic ideas in two of the most fundamental theories in the whole of science: Einstein's Special and General Theories of Relativity (Al-Khalili, 2003, p. 14). The physicist notes

> I should begin by stating that not only do we know time travel to be possible, but that it has been demonstrated routinely by experiments. Of course one must qualify the last statement by pointing out that it is only time travel into the future that has actually been achieved. Time travel into the past is much more difficult, and is probably impossible. What makes it so fascinating though is that it cannot yet be ruled out (p. 14).

Interest in science fiction in the aspect of time-space themes is permanent and very strong. Our article is an attempt to understand it from the standpoint of modernity based on the material of the novel *SOLpik*, which depicts the possibility of modeling space and time travel with the help of artificial intelligence.

To achieve our goal, we used the aesthetic-functional method of analysis.

3. Time Modeling by Artificial Intelligence in the Novel *SOLpik*

Given how quickly artificial intelligence (AI) is developing in the twenty-first century, O. Krasnoselska's predictions about humankind's future as they are presented in the novel *SOLpik* look like perfectly reasonable guesses. The piece depicts the height of the third millennium (Krasnoselska, 2023, p. 20), when rapid development of the economy and science generated a super-intelligent digital society of the fifth industrial revolution (Krasnoselska, 2023, p. 20). The writer describes the world where artificial intelligence surpasses the importance of fire and electricity for humanity (Krasnoselska, 2023, p. 109) and often it is even impossible to tell whether

there is a robot or a human that you are dealing with. However, there are still certain rules for using artificial intelligence. O. Krasnoselska writes

> A special package of laws (Code of Values) regulated the development of AI technologies, it proclaimed three main principles: human life is at the center of any technology; the development and advance of technologies must be regulated by the professional community; a person is a subject, but not an object of technology, it meant complete control over the working "body" of technology (Krasnoselska, 2023, p. 25).

So, at first glance, it seems that the future predicted by O. Krasnoselska is comfortable and safe for humans in terms of their interaction with artificial intelligence.

The novel shows how artificial intelligence technologies, which lead to the digital transformation of society in the third millennium, also enable experiments with time, bringing about the development of the technologies of the reality of the past (Krasnoselska, 2023, p. 10). The main character, the scientist Mateo, uses artificial intelligence in attempt to go back in time to correct a mistake that allegedly led to the death of his beloved Sarah (in fact, the woman is alive, but he is unaware of that). This plot, typical for many works of art, relates to mankind's enduring dream to acquire the ability to influence the events that have already happened based on the knowledge and experience, attained later on. Thus, based on the terms suggested by I. Kolegayeva and G. Oleynikova (2009), it is possible to state that this is the impossible chronotope characteristic of science fiction with its shift to a time that does not yet exist (the distant future) and the character's desire to return to a time that no longer exists (the past) (Kolegayeva, Oleynikova, 2009, p. 113). Meanwhile, it is also the chronotope of the threshold, which M. Bakhtin (1981) considers to be a separate phenomenon. The scholar underscores that its most fundamental instance is as the chronotope of crisis and break in a life, which is always metaphorical and symbolic (Bakhtin, 1981, p. 248). He also states, that in this chronotope, time is essentially instantaneous; it is as if it has no duration and falls out of the normal course of biographical time (Bakhtin, 1981, p. 248). Mateo's quest to make amends for the past is intrinsically tied to his need to reflect on the loss and get rid of his guilt over Sara's death. In addition to being a trip through his inner world of recollections, time travel also catalyzes a major life change for him.

Important elements of the given piece of literature include philosophical-scientific meditations on the nature of the category of time and the theoretical grounds for its modifications: they set the Ukrainian writer's novel apart from the vast body of entertaining science fiction about time travel and science-fictional AI and give it essayistic qualities. The writer represents the idea of the conventional division of time into the past, present, and future, she thinks that these are all parts of the whole, and everything is present here and now (Krasnoselska, 2023, p. 110). This opinion is consistent with the famous quote by the eminent scientist A. Einstein, the author of the theory of relativity. In his letter, the scientist once wrote about death that although a person has left this world, it doesn't matter. As people, who believe in physics, know that the distinction between past, present, and future is only a stubbornly persistent illusion (Einstein, 2008, p.231).

In its original artistic form, O. Krasnoselska's novel on the level of the chronotope embodies the concept of eternalism, which essentially rejects what is known as the movement of time; this philosophical approach is based on the essential physical methodology of describing time as one of the four dimensions and regards the past, present and the future as equally real.

It is necessary to pay attention to the fact that the very composition of the novel *SOLpik* reflects the idea of an inseparable unity of the past, future, and present: this is achieved through the usage of a non-linear narrative, typical of postmodern poetics, associated with the constant movement of the fictional action in time. Besides the future, images from the 21st century (Ukraine, 2020) and the 19th century (Austria, 1843) are also depicted. Each time layer has its own story, but they all relate to what is happening in Mateo's and Sara's lives: the past determines the future and vice versa. O. Krasnoselska argues in her book that just as the entire evolution of his people is encoded in the genome of one person (Krasnoselska, 2023, p. 300), so all prerequisites and consequences of events are implicitly present at every moment in time (a sort of so-called genetic memory of time).

The ideas put forth to convince readers that time travel can be real in the future support such observations. They are voiced by the narrator and various characters. In this way, *SOLpik* appears more like a prophecy or even like a reasoned proof of a person's ability to conquer time rather than fiction.

The logic of the novel is based on the current idea of the universe as a coded information system (code-number), where nothing vanishes without a trace (scientific principle of conservation of energy). This theory is rooted in Plato's and Pythagoras' teachings. As for Plato, he speaks about the antecedence of ideas to the material world, because, as the Ukrainian author proves in her novel, matter is only an aspect of energy (Krasnoselska, 2023, p. 327). Whereas according to Pythagoras, it is well-known, everything in the world is a number. The universe is not immutable, but even in case of its demise in the undefined far-off future, it will only mark the beginning of the emergence of new forms of existence (the idea of cyclical time). The narrator of O. Krasnoselska's novel outlines that everything will die, and the cosmos will plunge into eternal darkness, leaving nothing behind, not a single atom of matter (Krasnoselska, 2023, p. 92). However, the author leaves the reader with hope and makes remark that someday there will appear a firefly of a separate particle of the world (Krasnoselska, 2023, p. 92).

The protagonist of the novel *SOLpik* claims that to bring back the past, it is necessary to start utilizing this world's eternal digital information (digital dust, which cannot be destroyed). After all, every creature and every event leaves a certain information trail in the universe and does not disappear without a trace. The novel's narrator believes that imprints of the living remain in the information field forever (Krasnoselska, 2023, p. 113).

So, to travel in time, it is necessary to restore this information: artificial intelligence technologies will be able to do this in the future. One of the characters in the novel claims that if you read the coded information of the imprints of events, decode and print it layer by layer in 3D, you can restore the past (Krasnoselska, 2023, p. 79). He states that the new printing technology makes it possible to obtain a clear sequence of time slices – the Mold of Time. 3D printing of time is a reality based on archival data of the fundamental memory of the cosmos (Krasnoselska, 2023, p. 80). His aim is to print, to grow a clot of time, as buildings and bridges are grown today, whole cities are printed and living things are cloned. Printing time from numerical (informational) dust is possible because the material is abundant (Krasnoselska, 2023, p. 114). We, the people of the early 21st century, are practically used to the fact that 3D printers create more and more incredible things, even human organs. So it is feasible that sometime in the future modeling will also become

routine because, in all cases, the processes of creating 3D replicas of objects have the same nature, which is already known to scientists and can be implemented with the help of artificial intelligence.

However, if we assume that artificial intelligence will be used to create a kind of 3D model of time (a 'Mold of time'), then we also assume a future in which AI, getting rid of human control, will begin modeling time (and space) on its own, create its own virtual reality, convert the whole world into an illusion, a program. This is what Mateo discovers when using his experiments to travel to the year 3583. This character cannot understand what is happening around him; everything seems surreal. And this is AI surrealism. After all, it is not clear who now rules the world: artificial intelligence or man? Who created whom? Did humans create AI or vice versa? Mateo concludes that at present the whole world is an illusion (Krasnoselska, 2023, p. 459).

It is only natural to draw parallels, on the one hand, with the well-known cyberpunk *The Matrix* by the Wachowskis, and, on the other, with the so-called scientific *simulation hypothesis* (we are virtual beings living in a computer program). One of the most famous representatives of the latter, the Swedish philosopher and scientist Nick Bostrom (2003) expresses his opinion on a difficult issue that is of many people's concern: are we living in a computer simulation? According to this scholar, many works of science fiction as well as some forecasts by serious technologists and futurologists predict that enormous amounts of computing power will be available in the future (Bostrom, 2003, p. 243). Bostrom invites us to assume for a moment that these predictions are correct (Bostrom, 2003, p. 243). This is yet another evidence of how scientific theories and fictional narratives can intersect.

4. Space Modeling by Artificial Intelligence in the Novel *SOLpik*

A piece of fiction should also have a fictional space, i.e. a shift into a space that does not exist. But in the novel *SOLpik* everything is more intricate and fascinating. The action is set in Zaporizhzhia, a very real Ukrainian city, where, by the way, the writer O. Krasnoselska herself resides. So there is nothing that seems implausible in such a space. There are references to the real Dnipro River, which splits the city into two parts, the island of Khortytsia, located in the middle of the river, and even the factories that pollute the air of this industrial center. The novel's narrator asserts that though the city always embraced the river (or vice versa), there was never a starry sky or a fresh air here (Krasnoselska, 2023, p. 71). The digital revolution marks only the architecture: the city of the future is literally filled with Molds (3D models of space objects created with the help of artificial intelligence). In one of these fanciful structures, located on Khortytsia Island, Mateo and his team carry out experiments on time.

And on this very island, another group of scientists, led by Mateo's former friend, named Ralko, try to experiment with space. A special role in Ralko's team is performed by Max Novikov, a genius in the field of computer graphics, who started digitalizing the world around him and creating 3D models of everything he saw around from the age of four. The author of the novel draws evident parallels between the widely used technologies of digital visualization of objects of today and their potential use for altering space. Novikov commences with the virtual tours, typical for a person of the early 21st century, and ends off with a desire to visualize the whole world. Now all of us can visit museums in other countries, for example, the Louvre or the Acropolis, sitting at our

own computers. So why not assume that in the future, digital copies of spatial objects will not be limited to monitor screens? Theoretically, both processes are nearly the same.

AI technologies allow the world, depicted by O. Krasnoselska, to be modeled and conquered, spanning vast cosmic distances. Travels in space become possible due to 3D printing of space objects, fragments of the alien world (Krasnoselska, 2023, p. 27). The algorithm for their AI production is the same as for time models: collection of digital information about the object - decoding of information - printing, i.e. creation by building up layers of a three-dimensional model (the Mold). The novel crystallizes the idea that if humanity wants to touch the stars, there is no need to take long trips by spaceships, it is only necessary to remove the distance as an obstacle (Krasnoselska, 2023, p. 27).

But Ralko seeks even more; instead of *reproducing* space in digital replicas, he wants to *deform* it like some deranged god, erasing the distinction between the real and the virtual realms, combining animate and inanimate elements. To accomplish this, the Frankenstein of the third millennium roboticizes space (Krasnoselska, 2023, p. 335) by flooding the island of Khortytsia with industrial plankton ('cyber-physical dust'), which emerges as a result of the absorption of industrial energy by living microorganisms and which is used in artificial intelligence processes. Here it goes about the usage of artificial intelligence to create a robotic environment, which will alter the God-given capabilities of humans (Krasnoselska, 2023, p. 219).

This appears, at first glance, to be just another fanciful idea. It is noteworthy that this year Elon Musk's company Neuralink carried out successful 'robotization', synthesis of animate and inanimate stuff. This involved implanting a chip into the human brain to connect it with a computer and aid in the treatment of physical and mental problems. So why not assume that in the future it will become a true mainstream in various fields of human endeavor and lead, among other things, to the modification of space?

Such experiments will have unpredictable implications. There is a belief in O. Krasnoselska's book that they can jeopardize the existence of the world, leaving open the question of the possibilities of interaction between humans and artificial intelligence, their productive symbiosis, or mutual destruction, she is not sure whether the artificial will absorb the living or vice versa. (Krasnoselska, 2023, p. 469). The writer believes, that new technologies will transform not only what we do, but also who we are (Krasnoselska, 2023, p. 469).

In this regard, another deeply philosophical idea of the novel related to the understanding of the nature of time and space is revealed. The book proves that the changes that inevitably await humanity in the process of communication with artificial intelligence will also affect the time-space continuum, which is merely a product of our consciousness. Time and space do not exist as unchanging, objective, physical items, they are subjective categories defined by the deceptiveness of receptions in an illusory world, where everything material is only a weak reflection of eternal Ideas (according to Plato), a manifestation of Number-codes (Pythagoras). According to the novel, any boundaries in space are only boundaries in our heads. A person can join space and time by mind, and move them with the help of their will (Krasnoselska, 2023, p. 136).

So, in her novel, the Ukrainian writer combines different components: philosophical concepts of various thinkers, associated with the attempts to understand the essence of time and space, the

laws of the functioning and development of the Universe; scientific theories and information about the achievements of modern artificial intelligence technologies; artistic fantasies about the possibilities of modeling time and space and their implications. This is done to convince the recipient that AI-assisted experiments with time and space are more than just an original construction. By defining the genre of *SOLpic* as a *novel* (*premonition*), the author herself directly outlines to critics and readers that her own vision of what is depicted is potentially possible, and may be a future reality. This is demonstrated by the entire plot of the piece as well as by the narrator's and characters' repeated reflections.

According to the author, the very fact of the existence of the book *SOLpik*, the fact that we can read it gives the most compelling evidence. If the book is real, then everything it depicts is real, including the experiments with time and space. O. Krasnoselska is sure that if someone reads this Book, it means that humanity has transcended the imaginary boundaries and established contact with the Numbers (Krasnoselska, 2023, p. 461), that is, it has learned to read the information code of the Universe.

O. Krasnoselska gives no promise of the leveling of humanistic values in the future. And though it suggests a possible AI's getting out of human control through experiments with time and space, it does not eliminate a mutually beneficial symbiosis of man and artificial intelligence (AI). And it also leaves room for art (literature, music, painting) in the future. In this regard, the novel *SOLpik* appears to be quite optimistic when compared to other creative predictions of futurologists, the writers of science fiction.

5. Conclusions

So, the problem of interaction between humans and artificial intelligence is extremely topical nowadays. Artificial intelligence technologies are used in many areas of our society, while the attitude towards them is controversial. On the one hand, people admire the new possibilities that such interaction opens up and hope that they will make life easier because artificial intelligence allows us to solve complex tasks and can save a person from monotonous work. On the other hand, there are supporters of the theory of the 'threat' of artificial intelligence, who predict that artificial intelligence will seize power over people, and they warn against the uncontrolled use of the mentioned technologies.

Art in general and literature in particular react to all trends with sensitivity, so it is only natural that the topic 'Artificial intelligence and people' attracts the attention of writers in the 21st century. There is even a separate group of literary works known as AI narratives, science-fictional AI. I Hermann (2023) argues

> Currently, with the rapid progress in the field of AI, it seems as if the SF genre with its stories about intelligent machines is being caught up with the present. Thus, SF analysed as a part of an AI narratives frame is supposed to reflect the hopes and fears of the technology and thus treated as a type of foresight or technology assessment (p. 326).

A novel *SOLpik* (2023) by a contemporary Ukrainian writer Olena Krasnoselska can also be classified as a piece of such literature. The author's story depicts a civilization of the future in which

time and space are actively modeled by artificial intelligence technologies.

The methods of modeling time and space with the help of artificial intelligence (AI) in the O. Krasnoselska's novel *SOLpik*, seem nothing like incredible in terms of the achievements of modern science and technology: taking into account the successful development of 3D and 4D printing technologies, the synthesis of organic and technical, robotization of all spheres of life, the experiments of O. Krasnoselska's characters are thought to be theoretically grounded and predictable. In this piece of literature, numerous comments on the existence of scientific bases for these studies make the narration even more convincing.

In addition to being a fascinating and engaging story, *SOLpik* by O. Krasnoselska is also a deeply philosophical work, where the author addresses the common concern among authors of science-fictional AI: the limits, regulations, and threats of interaction between humans and artificial intelligence in the future. For us, witnesses of the ever-increasing role of neural networks in the 21st century, the danger that artificial intelligence will one day get out of control and begin to model the space-time continuum itself, creating virtual reality, looks quite plausible. Therefore, the scenario in O. Krasnoselska's novel captures the ideas of modern science and the mindset around its accomplishments. Furthermore, the philosophical aspect of this literary work is related to reflections on the essence of time and space, which are interpreted as subjective categories.

As it is widely known from M. Bakhtin's studies, the chronotope depends on the genre specificity of a piece of writing. O. Krasnoselska's novel is a special hybrid genre of postmodern literature, which combines features of science fiction, scientific essay writing, and philosophical prose in an original way. Hence, its time and space are also unique and deserve scholarly attention.

The chronotope of *SOLpik*, on the one hand, is typical of science fiction as it presents a shift into Cosmos, the depths of the Universe (the impossible space), and the distant third millennium (the impossible time), as well as a motif of travel to the past, characteristic of this type of narrative. On the other hand, the space in which the action is set is also a real Ukrainian city of Zaporizhzhia, the homeland of O. Krasnoselska herself, with recognizable geographical landmarks – the Dnipro River, the island of Khortytsia, etc. The blending of the fictional and the real in the chronotope of the novel gives the impression that the present and the future are inextricably connected, at the same time the future starts to be perceived as something quite possible, expected rather than something far-off and unattainable. The fiction takes on the form of a prophecy, or at least of an entirely logical assumption.

Thus, the analysis of time and space in O. Krasnoselska's *SOLpik* in terms of the artistic representation of their modeling by AI allows us to categorize this novel as a literary prophecy, as a foreboding novel. However, it is necessary to remember that any good prophecy, although based on the facts of the situation in the present time, indicates only one of the possible options for its development in the future. And our perspectives for the future depend on humanity's decision-making.

To conclude, it is expedient to highlight the significant prospects of further research in this field, based on the study of the specifics of the science-fictional AI chronotope in the context of contemporary scientific and technological progress.

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Oleksandra Nikolova (Dr. of Science in Philology) is a Professor at the Department of German Philology, Translation and World Literature, and a vice dean of the Faculty of Foreign Philology, Zaporizhzhia National University, Ukraine. Her research interests include Comparative Literature, Theory of Literature, and trends in the development of Modern Ukrainian Culture.

Kateryna Vasylyna (Ph.D. in Philology) is an Associate Professor at the Department of English Philology and Linguodidactics, and a vice dean of the Faculty of Foreign Philology, Zaporizhzhia National University, Ukraine. Her research interests include Comparative Literature, Intermediary Studies, Renaissance Literature, and Gender Studies.

Viktoriya Pogrebnaya (Dr. of Science in Philology) is a Professor, Head of the Department of Journalism, Faculty of Journalism, National University Zaporizhzhia Polytechnic, Ukraine. Her research interests include Modern Ukrainian and World Literature, Gender Literary Studies.