

**INTERNATIONAL SOCIETY OF  
PHILOSOPHY AND COSMOLOGY**

**PHILOSOPHY &  
COSMOLOGY**

**Volume 28**



Kyiv, 2022

**Philosophy and Cosmology, Volume 28**  
**Academic Journal**

ISSN 2518-1866 (Online), ISSN 2307-3705 (Print)

The State Registration Certificate of the print media KB No. 20780-10580P, June 25, 2014.

<http://ispcjournal.org/>

E-mail: [bazaluk@ispcjournal.org](mailto:bazaluk@ispcjournal.org)

*It was printed in the manner of scientific-theoretical digest "Philosophy & Cosmology" since 2004.*

*It was printed as Academic Yearbook of Philosophy and Science "Философия и космология/  
Philosophy & Cosmology" since 2011.*

*It was printed as Academic Journal "Philosophy & Cosmology" since Volume 12, 2014.*

Printed according to the resolution of the Scientific Board of International Society of Philosophy and  
Cosmology (Minutes of meeting No 5 from January 19, 2022)

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Central and Eastern European Online Library (CEEOL); Citefactor; Directory of Open Access Journals (DOAJ); Directory of Open Access Repositories (OpenDOAR); Directory of Research Journals Indexing (DRJI); EBSCO; ERIH PLUS; Index Copernicus; Open Academic Journals Index (OAJI); Polish Scholarly Bibliography; Registry of Open Access Repositories (ROAR); ResearchBib; The Philosopher's Index; Science Index; Web of Science; WorldCat; Ulrich's Periodicals Directory

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# Table of Contents

<b>Section One.....</b>	<b>5</b>
<b>INERT MATTER</b>	
<b>Oleg Bazaluk .....</b>	<b>5</b>
Philosophy of the Cosmos for a Discursive “Thinking Through” of the Chronology of the Universe	
<b>Svitlana Pylypenko and Olha Ivashchenko.....</b>	<b>22</b>
A Philosophical Discourse of the Earth	
<b>Guido J.M. Verstraeten and Willem W. Verstraeten.....</b>	<b>32</b>
Accessing a Big Bounce Universe with Concealed Mass and Gravitation	
<b>Iliana Vladlenova and Eduard Kalnytskyi.....</b>	<b>42</b>
Models of the Universe: Ontological and Physical Problems	
<b>Section Two.....</b>	<b>51</b>
<b>INTELLIGENT MATTER</b>	
<b>Svitlana Balinchenko.....</b>	<b>51</b>
From Paradise Lost to Paradise Conceptually Postponed: What Makes Scenarios of the Futures Being Staged	
<b>Oleksandr Horban and Mariia Maletska.....</b>	<b>63</b>
Space Age Grand Narratives in Videogames	
<b>Liubov Lohvytska, Antonina Rozsokha and Channa Azman .....</b>	<b>73</b>
Can Moral Values be Formed without Influencing the Development of an Individual’s Worldview?	
<b>Vadim Rozin.....</b>	<b>93</b>
Particularities and Nature of Space Projects: Engineering or Social Architecture?	
<b>Raushan Shindaulova .....</b>	<b>107</b>
Noohumanism as a New Worldview Paradigm of the 21 <sup>st</sup> century	
<b>Larysa Soroka, Anna Danylenko and Maksym Sokiran .....</b>	<b>118</b>
Legal Issues and Risks of the Artificial Intelligence Use in Space Activity	
<b>Kostyantyn Zakharenko and Hanna Strohanova .....</b>	<b>136</b>
Balancing European Security Governance: Policy Networks and Correlates of Deliberate Harm	

<b>Section Three.....</b>	<b>146</b>
<b>COSMOS AND HISTORY</b>	
<b>Sergii Rudenko and Yaroslav Sobolievskiy.....</b>	<b>146</b>
Sergei Vsekhsvyatskii's Studies on Philosophical Issues of Cosmology and Cosmogony	
<b>Pavlo Sodomora and Lyubov Gutor.....</b>	<b>159</b>
Truth and Falsity: Whether they Overlap or Possess Distinct Borders	
<b>Aleksandr Yeremenko.....</b>	<b>168</b>
World Kaleidoscope	
<b>Authors .....</b>	<b>185</b>

# Space Age Grand Narratives in Videogames

**Oleksandr Horban**

Doctor of Philosophical Sciences, Professor,  
Borys Grinchenko Kyiv University (Kyiv, Ukraine)  
E-mail: [gorban\\_oleksandr@ukr.net](mailto:gorban_oleksandr@ukr.net)  
<https://orcid.org/0000-0003-2321-5963>

**Mariia Maletska**

Borys Grinchenko Kyiv University (Kyiv, Ukraine)  
E-mail: [m.maletska@kubg.edu.ua](mailto:m.maletska@kubg.edu.ua)  
<https://orcid.org/0000-0003-3123-9500>

Horban, Oleksandr and Mariia Maletska (2022) Space Age Grand Narratives in Videogames. *Philosophy and Cosmology*, Volume 28, 63-72. <https://doi.org/10.29202/phil-cosm/28/6>

*The phenomenon of outer space has become ingrained in the various levels of human culture. A feature of modern views on the phenomenon of outer space is its human-sizedness. It consists in a person's subjective cultural experience of their relationship to outer space and allows the modeling of possible future states of outer space on the basis of comprehending the regularities of its development. With the beginning of the Space Age, the peculiar "accessibility" of space gives rise to new forms of cultural development of this phenomenon, where videogames occupy an important place since they allow a person to freely fulfill their most daring cosmic fantasies. The problem of representing outer space in videogames remains insufficiently studied. The authors' hypothesis is that videogames reflect not only the physical characteristics of space, but also the grand narrative of space exploration and the unity of mankind in the implementation of the global task of space exploration. The authors have concluded that the grand narrative of space exploration is largely legitimized through videogames. The perception of reality, patterns of behavior, and a view on culture and science are formed through videogames. The legitimization of technical and social progress as a way to achieve significant success in space expansion is observed in most videogames where "outer space" is not only the setting, but also a part of the game mechanics. Interactivity as a central feature of the videogame phenomenon allows not only to describe and explain the idea of the physical properties of outer space or the operation of devices and mechanisms in these conditions, but also to participate directly in the development of such devices, as well as to be involved in simulators of real stay in space conditions.*

*Keywords: cosmos, outer space, videogame, grand narrative, space age, game mechanics, videogame space, interactivity*

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Received: 1 December 2021 / Accepted: 23 December 2021 / Published: 27 January 2022

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## Introduction

For thousands of years, people have been thinking about the structure of the Universe, endowing it with various properties and characteristics while looking into the starry sky. In attempts to comprehend the essence of the surrounding space, people have developed astronomical knowledge as the basis for understanding the material structure of outer space.

The concept of outer space appears in the era of the birth of ancient philosophy and culture. For most ancient Greek philosophers, κόσμος is an ordered, harmoniously organized world that originated from disorganized chaos. As a category of ancient philosophy, the cosmos not only embodied the astronomical designation of the Universe, but also possessed ethical, aesthetic, socio-political significance. Based on direct contemplation, the ancient cosmos tended to construct its finiteness in time and space, often perceived as a kind of huge piece of art (Losev, 1993).

The ancient point of view on the phenomenon of outer space dominated in philosophy and culture for a long time, its apogee can be considered the classic work “Cosmos: A Sketch of the Physical Description of the Universe” by Alexander von Humboldt, in which he included the entire natural world around people in this concept.

The concept “cosmos,” “outer space” has acquired the meaning of a space outside Earth’s atmosphere with the beginning of the Space Age in the history of mankind, which started with the moment of the first launch of an artificial Earth satellite, and then, the first human space flight was conducted. These events marked the beginning of the direct study and exploration of outer space.

A feature of modern views on outer space is its human-sizedness. It consists in a person’s subjective cultural experience of their attitude and relationship to the cosmos, based on predictability, which allows the modeling of possible future states of outer space on the basis of comprehending the regularities of its development.

The phenomenon of outer space has become ingrained in the various levels of human culture. Space flights have become a phenomenon that is quite usual today. Conversations about planetary exploration by humanity have become the subject not only of fantastic plots or scientific developments, but also of ordinary small talk. The peculiar “accessibility” of outer space with the beginning of the Space Age gives rise to new forms of cultural exploration of the phenomenon of “outer space.”

We have many different products of a culture that describe these hopes. There are many films about space adventures, such as “Alien” and “Interstellar,” and even more books. Videogames are one of the relatively new cultural products. Interest in them rises with their development and spreads throughout the world, and, in addition, they give new tools of influencing spectators.

Despite its human-sizedness, space continues to attract people with its grandeur and undiscovered territories. Each new generation continues to dream of conquering it. After the first manned spacewalk, humanity immediately began to predict a space future for itself, where everyone would be able to travel the Universe on their own ship, discovering new worlds and spreading human civilization to the most secluded corners of the cosmos. However, despite the fact that more than half a century has passed since mankind entered space, the personal spacecraft and even space exploration in its global understanding are far from being implemented. Today we can only master the Universe in front of a computer screen, playing space videogames. The keyboard serves as a control panel for us, and the worlds that we can master are usually limited by the imagination of videogame developers.

The topic of outer space and its representation in videogames remains insufficiently studied. The main manifestations of outer space are considered as a spatial dimension, but not as a special phenomenon that is of decisive importance for gameplay and game mechanics. We formulated *the hypothesis* that videogames reflect not only the peculiarities of outer space, but also the grand narrative of space exploration. *The purpose* of our study is to analyse videogames and distinguish the main categories of videogames that can disseminate the ideas of the grand narrative of space exploration. In our study, we have used the concept of metanarrative by Jean-François Lyotard to analyse the specifics of the ideas about outer space reflected in videogames.

## Methodology

To achieve the stated purpose, it was important to theoretically analyse the phenomenon of grand narrative, its features and impact on society, in particular with regard to the grand narrative of space exploration. It was also important to study the phenomenon of videogames and those of its manifestations that allow the grand narrative of the cosmos to be implemented through this phenomenon. Thus, classification and systematization were used to study the concepts of the grand narrative and its main characteristics. To study videogames and the peculiarities of their use, both the analysis of existing works and practical involvement in the gameplay were used, since such a phenomenon as videogames can be studied only in the combination of theory and practice. According to Espen Aarseth (Aarseth, 2007), we can study videogames in three ways: firstly, considering the design, rules and mechanics; secondly, reading reviews and reports; thirdly, playing by ourselves. All ways of study are valid. However, the third is considered the best method, especially in combination with the other two ways, due to the fact that without personal experience, severe misunderstandings can be committed, even after studying the mechanics and information about the games. Looking at this phenomenon both from “inside” and “outside,” we can stay unbiased and analyse videogame from different positions. Theoretical studying videogames is possible only when we talk about the technical part of games. When it comes to the context, the absence of direct work with the game process or, at least, with the so-called “Let’s Plays” and professional reviews of games can narrow the results to one point of view without consideration of other dimensions of the analysed phenomenon.

Due to their interactive nature, videogames need to be considered in terms of their procedurality, which, in turn, changes the interpretation and perception of information (Horban & Maletska, 2019). Taking this into account is also an important aspect in the exploration of outer space as a phenomenon within the videogame space, as well as in distinguishing the transmission of the grand narrative of space through the videogame plots and mechanics. Thus, we have studied the transmission of a grand narrative of space exploration in videogames through game mechanics and content analysis.

## Grand Narrative of Space Exploration

It is often thought that the Postmodern era can be characterized as “incredulous towards metanarratives,” as Jean-François Lyotard stated. Narrative, in general, is a story. Narration is an act of storytelling, which links events into one purposeful system. Using these terms to describe human lives, Lyotard divides existence into “ordinary narratives,” personal, individual narratives, and the so-called metanarratives, grand (master) narratives, which, according to him, are systems or stories that control the individual narratives. While Lyotard

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partially distinguishes metanarratives and grand narratives, he also states that both of them have at least one common function – to legitimate ideas and beliefs (Nola & Irzik, 2003). In our study, we will use both terms to mark what Lyotard called grand narratives, because there is an only slight difference between characteristics of these terms in further scientific discourse.

A grand narrative is one that claims to explain various events in history, gives meaning by connecting disperse events and phenomena by appealing to some kind of universal knowledge or schema (Branco, 2014). Sometimes, it is thought that metanarrative is the “narrative about another narrative,” which is indicated by the part “meta” in this term. Grand narratives are fundamental, and they usually become foundational in the history of society and even civilization. Such comprehensive narration limits people’s lives to achieving one specific purpose, which is common for the whole social group (Sim, 1986).

Lyotard shows the difference between ordinary narratives and grand narratives with the use of the following characteristics: 1) they are comprehensive and cover many various issues and areas; 2) there is a greater explanatory ability, in contrast to ordinary narratives, which are usually descriptive; 3) legitimation of claims within the scope of a grand narrative can be traced. Legitimation is the most important here due to the fact that with the help of grand narratives, ideological attitudes and political beliefs change social behavior.

In their analysis of narratives, Kate McLean and Moin Syed (2015) reveal additional principles that describe grand narratives:

*The principle of utility* means that grand narrative gives people a foundation of how they should understand and define themselves. They provide general information about the goals, values, identities of a group, history and development, etc. With the help of a master narrative, a person can find one’s way in society and construct a personal narrative on its basis.

*The principle of ubiquity* is about the spread of a grand narrative through the social group, because to work properly, master narratives must be ubiquitously shared by at least group of people with a shared culture. If the master narrative is not shared and is not perceived since early childhood, it will not determine the social group’s life and choices.

*The principle of invisibility* describes the hidden nature of grand narratives. People usually act unconsciously within such narratives, they do not need to make efforts to be a “good” member of a culture; grand narratives are adopted automatically and unconsciously. However, they may become visible and perceived consciously when a person violates them or negotiates with them.

*The compulsory nature* of grand narratives is revealed namely after their violation. This principle shows that grand narratives are not value-neutral; they have ideological messages and norms that tell us what we are supposed to do and how we should feel in different situations. In case that we do not correspond to given rules, we may be excluded from a social group or may feel discomfort due to our non-conformism.

*The principle of rigidity* means that grand narratives have great staying power, and even if they change, it happens slowly, thus making their violation insecure. Their content and structure are not unchangeable. However, it happens very slowly while the grand narrative is in a powerful position.

These principles expand the concept of grand narratives significantly, revealing the specifics of their legitimizing power. It is through invisible impact and compulsory nature that grand narratives substantiate the necessity of generally accepted behavior and views. Different moral norms are inherent in grand narratives, helping to justify one types of activities and blame other ones. A wide range of thoughts which includes Marxism, religious



doctrines, belief in progress, universal reason, and others can be named grand narratives as far as they connect different events into one universal line and ground the modern state of affairs by an appeal to the Reason (Kubsch, 2008), at the same time being based on a myth transmitted through products of culture, sources of knowledge, etc.

Lyotard proposes the idea that such authoritarian universalizing narratives would be no longer viable in postmodernity, which heralds the emergence of “little narratives”: localized representations of restricted domains, none of which has a claim to universal truth status. However, as we can see, this idea has failed to correspond with reality and, in the 20<sup>th</sup> and at the beginning of the 21<sup>st</sup> century, new grand narratives have emerged. One of them is the grand narrative of space exploration.

All achievements of humanity in the area of space exploration did not make it less interesting to people. Through the first 50 years of the Space Age, all spacefaring nations have used different rhetorical strategies and invoked specific archetypes to construct a master narrative of the history of space exploration. These archetypes are: the myth of the founding father, the claim of indigenous creation, the connection between spaceflight and national identity, and the essential need to justify space activities (Dick, 2008).

The grand narrative of space exploration is not only a story of human growth from dreams of space to flight and exploration, but also a way to legitimize some norms of behavior.

Studying the grand narrative of space exploration, we can see the same features that are inherent in grand narratives in general, according to Lyotard:

1. The grand narrative of space exploration covers a wide range of human activities, from aspirations and plans to the development of science and technology. Politics and economics of many countries revolve around space exploration and sciences connected with it. The life of a single person has also changed significantly: since childhood, a person is surrounded by knowledge about space, follows space exploration, observes its constant mention in mass culture.
2. The grand narrative of space exploration has an explanatory, not just descriptive ability. It not only brings the entire path of humanity, scientific research, etc., to the single line, and also justifies the vectors of current scientific progress, project financing. Space research tries to globally explain the structure of the Universe, at least in its visible part, and ignore the gaps that become noticeable if we turn to quantum physics and quantum mechanics. This shows that the basis of the grand narrative of space exploration is the same myth about humanity as special “heroes,” capable of realizing everything, who are thinking “masters” of nature.
3. Through the grand narrative of outer space, which strengthens faith in reason and progress, legitimization of individual scientific methods and the scientific paradigm in general, as well as the policies of different states, economic activities, etc., takes place. Research focusing on outer space is popularized, while other research vectors receive minimal attention. At the beginning of the Space Race, the legitimization of the actions of the heads of different states and foreign policy in relation to the rivals of the Race took place in the same way. Even now, actions that justify a hypothetical primacy in the Space Race are much easier to implement. Although ideologies and personalities (such as Bezos and Musk) are competing at the present time, the issue of introducing and legitimizing ideas through their actions is still present.

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After the end of the Space Race, the grand narrative of space exploration has not weakened. It transformed into the idea of space conquest, penetration and detailed study of outer space. This contributed to the fact that in the mass consciousness, not only the idea of space flights and the study of nearby planets, but also the idea of a possible cosmic future of mankind, is being affirmed. The spread of mankind in outer space and contacts with extra-terrestrial civilizations are becoming frequent topics in the products of mass culture, which serves as a “repeater” of the way of thinking inherent in humans in the Space Age.

In the context of spreading the grand narrative of space exploration and not just ideas about space and the person in it, videogames are the most interesting phenomenon. Their importance is due to their basic features and the characteristics of outer space formed by the videogame. Despite the presence of these unique features, the issue of transmission and spread of the grand narrative of space exploration in videogames is hardly considered. Before moving on to a detailed look at how the grand narrative of space exploration is implemented in video games, we see it appropriate to reveal the specifics of the phenomenon of videogames and outer space in videogame cyberspace.

### **Videogames as a New Form of Implementation of Space Exploration Grand narrative**

The term “videogame” is usually used as an “umbrella term” for a wide range of digital games, regardless of the platform on which they operate. It is a general term that includes, but is not limited to, the terms “computer game,” “console game,” and “mobile game” (Šisler et al., 2017: 3859). The presence of the term “videogame” that describes a certain phenomenon of social reality allows theorizing and defining this concept. However, despite the existence of a significant number of definitions of the “videogame” concept, in scientific discourse, there is still no single common definition of the videogame phenomenon (Corona, 2020: 462). However, all these definitions have common features, the analysis of which allows us to speak about the existence of a holistic phenomenon, parts of which can be systematized.

The main feature of the videogame, which is usually distinguished by researchers, is its *interactivity*. Despite the fact that the “videogame” concept is often defined through the term “game” and the very notion “videogame” has the word root “game,” it is more correct to say that videogames are specific interactive software that can be used to tell the story, communicate with other players, simulate something, depending on the videogame genre, setting, gameplay mechanics, etc.

A videogame usually unfolds on several different levels, depending on the context and main plot. First of all, each videogame has its internal dichotomy of narrative and ludic part (Frasca, 1999) and, depending on the impact of the narration, the level of interactivity changes. In videogame genre systems, there are examples of genres in which narration or gameplay does not exist at all, and however, as a rule, a videogame harmoniously combines the narrative part and gameplay part. Their combination with the use of mechanics creates a special videogame space in which the player can interact both with the in-game world, acting as a computerized “co-player” and with other players, if the game has a multiplayer mode.

In videogames, “outer space” is a special construct. In addition to the space where the player operates, there are various subspecies of spaces, up to the space of the videogame menu (Schmalzer, 2020).

Unlike for our planet, the outer pace is not “external” but “internal” for the videogame space (Majsova, 2014). Often, in the space inside a videogame, there is no division into “inner” and “outer” worlds, although this is not always true. Such videogames as “No Man’s

Sky” give the player the full experience of the difference between being on a planet/station and in outer space. However, this line between the outside and the inside is rather easily erased, giving a sense of the attainability of outer space.

The specifics of gaming spaces make it possible to make outer space not only a “background” but also a “participant” in a videogame. Space becomes a full-fledged, interactive scene of action, which can either unfold according to predetermined canons and mechanics or be generated randomly, thus differing from the real space. The difference in the videogame structure is usually driven by mechanics.

The concept of “videogame mechanics” (Fabricatore, 2007) is taken from the jargon of game designers and refers to how an action, interaction with objects and the game world is determined by the rules and characteristics of videogames that combine these objects into a single game process. Each of the mechanics has its own “semantics,” which determines the attractiveness of the game for the player and makes the player like or dislike this mechanic and the gameplay of the videogame as a complex process.

The mechanics of exploration and conquest are usually associated with outer space in videogames; moreover, here, we can talk about the imitation of scientific and technological progress, which, in particular, legitimizes investments in technology in the mind of the player. Also, the basis of many games, which do not even demonstrate the attack on other creatures in space, are space travel. Depending on the main genre of the game, they can be implemented conditionally (when the player sees a cut scene with a flight, as, for example, in “Starbound”) or controlled by the player (as in the case of “No Man’s Sky,” where the player also discovers the structure of the ship).

Videogames in which outer space has direct or indirect participation can be conditionally divided into *three categories*. The first is a *category of videogames with the “outer space” as a setting*, or with the use of outer space as part of the story (Lee et al., 2014). An example of such videogames is “Super Mario Galaxy,” where outer space makes the space of videogames brighter and more varied, but the plot and even game mechanics are possible in many other types of setting. Here we can also mention such series as “Prey,” where space is the place of action and the basis of the plot, but almost does not affect the mechanics.

Having identified this category, it is important to show that even though it the implementation of the grand narrative of space exploration in one form or another takes place, however, the space is presented here rather as an archetype, a myth underlying the narrative, than as a scientifically delineated phenomenon, with detailed work to build the space according to the latest research. Also, outer space can be more fantastic in such games, without not only real characteristics, but physical features.

To investigate the implementation of the metanarrative of space exploration, we need to look first of all at those videogames in which outer space is presented as a mechanic or a special type of cyberspace. Games thus focusing on outer space focus on issues such as flight techniques, military and strategic planning, and virtual combat. At the same time, it is games where space is a “participant” that rejects the idea of space as a lonely, dead place, explored and colonized only by mankind. In many of them, space appears as not just a scientific, but fantastic phenomenon and humankind is not the only race in space.

This fantastic component can be seen as a primarily explanatory feature of videogames. The scientific explanation here is replaced with a mythological one. It can be assumed that with the decline in the authority of the Christian grand narrative, in which God was outside of earthly space, and with the change in the vector of this narrative, the narrative of outer space received a similar mythologization. This is an important feature, since in the videogame

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space, in contrast to the literary space, there are quite a few plots about a completely empty hostile space. In most cases, it is inhabited or uninhabited, and a person there is one of the races, and not a supreme being, as on his home planet.

This situation somehow strengthens the belief in progress, if we are talking about *the second category of videogames*, which consists of videogames about the exploration and conquest of outer space. Among such games are strategies (“Stellaris”), videogame simulators (“No Man’s Sky”), MMO (“EVE Online”). All of them are characterized not only by space exploration, but by the clash of civilizations. Here we see the universalized claims of humanity (or a certain race) to outer space. Such videogames do not contain the specific features of the grand narrative of one state, due to the fact that here space is achieved by humanity (or a certain race), but not by one country or a similar entity. Thus, it can be told about the unification of the grand narrative, an attempt to unite mankind under the leadership of a certain universal leader. If the history of one space traveller can be seen in a videogame, as in the case of “No Man’s Sky,” the central theme is not expansion, but progress and the search for lost and new knowledge.

The characteristics of outer space in strategies can be seen on the example of “Stellaris.” Here, space is a kind of a “map” on which a player can move, and first of all, its visual features, and not physical properties, are preserved. Such a depiction of outer space shows a generalized desire to achieve it. Technological progress in such videogames usually plays a primary role, because it is through it, despite all the incredibility of what is happening, that players can get the necessary resources and seize new territories. It is important to note that in videogames, where “outer space” exists as space between planets, rather than a form of representation of space between realities, space travel is presented as the result of progress in the exploration of outer space. In case when a videogame demonstrates a conflict or a union of races, they all are developed scientifically – that is, even things that are inexplicable from the point of view of science at the moment are the result of some currently fictional achievements, and not “miracle,” “magic,” etc.

*The third category* consists of videogames about spaceflight, which often belong to the “shooter” genre. It is not outer space itself that is more important here, but the mechanism of space flights, shootings, etc. If, in the first case, outer space acts as a space for exploration, then here its elements are rather obstacles and “participants” of hostilities. However, this space is not “external” to the player either.

Many videogames about outer space have become the ancestors of modern traditions. Space, in particular, was part of the “Shoot ‘em up” genre, where the gameplay in games like “Galaxian” consisted entirely of shooting enemy ships. Later, games of this genre became part of other games, creating the phenomenon of “outer space within another space” in videogame culture (Horban et al., 2020). In fact, not being outer space anymore, such a space retained the originally integrated mechanics, thanks to which it continued to spread the relevant associations.

A videogame that is closely related to the shooter category is “EVE Online,” an MMO with a sci-fi storyline where, in addition to flying a ship and conquering, it is necessary to develop politically and economically. It also represents space exploration through scientific and technological progress, character development through research, and the accumulation of resources. Thanks to numerous players, the game evokes the feeling of a populated space even more, and its mechanics are aimed at interacting with both planets and other ships.

In all the games listed above, we can observe the immersive experience of the player’s interaction with outer space, which is presented not as “external,” as in life, but as a

“continuation of the planetary space.” Thus, space exploration becomes the norm of the player’s perception, being equated to the exploration of the home planet. Development and progress are key elements in achieving the goals in strategies and a means of improving combat power in shooters, arcade games, and others. This echoes the very essence of the grand narrative of space exploration. The norms of behavior are more revealingly demonstrated in those video games, where there are also narratives of individual characters. Everyday life, familiar to a modern person, is transferred to the conditions of space travel, and through the habits transmitted during immersion in the game, videogames introduce interaction with space outside Earth into the range of vision of a modern person, thus making everything that is associated with it legitimate.

## Conclusions

Today, ideas about space exploration continue to be more relevant than ever, although their perception in popular culture has become much more fantastic. However, even in such a fantastic, unreal form, the grand narrative of space exploration remains in force. It continues to explain the course of human development in the framework of progressive space exploration and demonstrates all scientific and technological progress as a vector applied to achieve the common goal, which is the conquest of outer space along with some other space races, represented quite fantastically.

The grand narrative of space exploration is largely legitimized through videogames. The perception of reality, patterns of behavior, a view on culture and science are formed today, in particular, through videogames. It is the legitimization of progress as a way to achieve significant success in space expansion in one way or another that is observed in most videogames, where “outer space” is not just a setting, but an important part of the game mechanics, integrated into gameplay.

Like other products of modern popular culture, videogames portray space travel as commonplace, as part of a future life, and not an exception. Their main difference is their explanatory power. The movies, and even more so the books, do not set out in detail the structure of the ships proposed to the player and the schemes with which progress in space expansion can be achieved. Interactivity as a central feature of the videogame phenomenon allows not only describing and explaining at least an approximate idea of how the device works as suggested by the developers, but also participating in the operation of this device. Taking on the role of a spaceship pilot, warlord, and even head of state or alliance of states, the player can get the feeling of a space experience while in an ordinary room.

The genre limitations of videogames in which outer space is part of the game cyberspace should be noted. While videogames where “outer space” is the setting or background can belong to almost any genre, the main focus of videogames that involve space as a part of mechanics are strategy and simulation games with action/shooter elements. These genres propose not only exploration, but also expansion, which fits into the general ideas of the grand narrative of space exploration.

The question of outer space in videogames, like space questions in general, requires further development. Mythologization and fantasy as a part of outer space seem to be especially interesting aspects, because it is they that influence the current ideas of a person about space and the Universe, which, although they do not correlate with reality, express the wildest expectations and dreams, as once fantasies about flying to the sky expressed the dreams of knowing outer space inaccessible at that moment.

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