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Militarizing and Colonizing Outer Space as a Video Game.
Ender's Game and Astroculture

The author of the article analyzes Orson Scott Card's *Ender's Game*, focusing her attention on the relationship between the key motif of the novel – gaming – and the tendency to militarize and colonize outer space highlighted by astrocultural scholars. Card's novel follows the astrocultural pattern of setting future wars in space, but introduces an important novelty: games of various kinds, including video games, become a mediating element between the characters and the real experience of space war.

The theoretical framework for the analysis is provided by the insights of astrocultural scholars such as Alexander Geppert, Tilmann Siebeneichner and Alice Gorman. In analyzing *Ender's Game* and, to some extent, its 2013 film adaptation, the author examines the protagonists' relationship to space, which is shaped by the game's setting. It is here that military and colonial themes are most prevalent. The first part of the paper presents the main contexts of the motif of the militarization of outer space and its close relationship with video games. These contexts provide an important background for the analysis of the motifs of games and outer space in *Ender's Game*. Selected reflections from the field of ludology are helpful in interpreting Card's use of video games not only as a theme, but also as a structural principle of his novel's settings. In the last part of the paper, the author considers the transformation of the militant motif taking place in the novel's finale into a narrative focused on the colonization of outer space, as well as the transformation of this narrative that occurred in Gavin Hood's film adaptation. The goal of such an interpretation is to show the story created by Orson Scott Card as entangled in a dynamic relationship with the video game medium that was developing at the time of its creation and with the changing trends of astroculture.

KEYWORDS: *Ender's Game*, astroculture, video games and literature, outer space

In the introduction to the 1991 edition of *Ender's Game* Orson Scott Card revealed that the first element he created in the universe[1] in which the action of his future novel would be set was the battleroom[2] – the space where the title character and his schoolmates train their tactical and combat skills in preparation for the final battle against an alien species called the

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[1] Currently, the saga consists of sixteen novels and thirteen short stories. In this paper, I will focus on the 1985 novel and, to a small extent, on the 1977 novelette that preceded its publication. This decision is based on the fact that the relationship between games and the militarization and colonization of outer space is a relevant theme to these texts.

[2] See O.S. Card, *Introduction*, [in:] *idem*, *Ender's Game*, London 2013, p. x.

buggers,[3] who had attacked the Earth years earlier. The idea was conceived in the mid-1960s, while the future writer was attending Brigham Young High School in Utah, more than a decade before the publication of the novelette *Ender's Game* (1977) in *Analog* magazine and two decades before the publication of the novel of the same name (1985). When the teenage Card came up with the idea for battleroom, NASA was busily preparing for the launch of the Apollo Program (1966–1972), and the Vietnam conflict was still claiming many lives. The Cold War was in full swing, and it was hard to imagine its end (or at least: its happy ending). In the first half of the 1980s, when the author was turning his short story into a novel, the conflict in Indochina had already ended, as had the Apollo missions, but it was clear that both events had permanently changed (not only American) culture.[4] Meanwhile, the media, still dominated by television, saw the emergence of a new player: video games, which were increasingly attracting the attention of young people. It was the gaming motif that would be one of the themes of Card's original novelette to be most developed in the 1985 novel. After all, the author himself worked as a game critic.

It is clear that *Ender's Game* is a novel shaped by the times in which it was written. In this paper, I will focus on the theme of the militarization of outer space, which by the time of the Space Race and the Cold War had become a prominent cultural plot motif of the science fiction genre. It is interesting to note that *Ender's Game* not only demonstrated literature's ability to transform outer space into a battlefield in the collective imagination, but also established video games as a mediating element in this process.

In Orson Scott Card's novel, gaming plays an important role not only as a motif but also as an organizing principle for the plot. Games function here on every level; after all, this is a story about gifted children (overwhelmingly: male), isolated in a Battle School located in Earth's orbit, who train their tactical skills by participating in various games. Although they also participate in regular school activities, no one doubts that gaming is the most important thing: "But the games – that was what they lived for. That was what filled the hours between waking and sleeping."[5] It is the battles of the students divided into armies and governed by military hier-

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[3] As we learn in the subsequent parts of the Card's series of novels, the formal name of this species is Formics, but in *Ender's Game* the aliens are consistently referred to as buggers. Consequently, this is the lexeme I will use in this paper.

[4] Marina Benjamin writes about the significance and cultural implications of Space Age in her book *Rocket Dreams. How the Space Age Shaped Our Vision of a World Beyond*, New York 2003.

[5] O.S. Card, *Ender's Game*, *op. cit.*, p. 46.

archy and discipline that are the main focus of the children and teachers. Much of the conversation in the novel revolves around them, and it is their results that determine the development of the plot. Moreover, in their free time from studying and training, the children have a number of games at their disposal, including a special fantasy game that interacts deeply with their inner worlds in order to help them with their personal development. Beyond the explicit level, much more calculating games are played: the head of the Battle School, Colonel Hyrum Graff, his superiors and staff manipulate Ender in order to make him an ideal commander, knowing that the boy's psyche is likely to be severely damaged in the process. Games of deception are also played on Earth by Peter and Valentine, Ender's siblings, who lead a campaign to prevent global conflict, and by Ender himself, who uses techniques learned from his teachers to hone the skills of his subordinates – sometimes brutally, but always effectively. Finally, the narrator plays a game with readers, revealing only in the finale that the bugger battles Ender fought were not simulations, but authentic events in which the title character committed xenocide, by destroying the enemy's home planet, he wiped out the entire species.

The gaming motif in Card's novel has been discussed extensively in philosophical and educational contexts (both Western and Eastern[6]). Henry Jenkins and Kurt Squire argue that "Card's novel anticipates many of the challenges and opportunities we face as we harness this powerful medium for pedagogical purposes."[7] Andrew Zimmerman Jones explores, from a game theory perspective, "the importance of understanding others to Ender's military brilliance."[8] Matthew Brophy focuses on "the masquerade of war as a game and how it manipulates human psychology to effectively accomplish destructive goals,"[9] while Brendan P. Shea examines "the role that games play in Ender's development as both a military commander and as a human being."[10]

In my analysis, I would like to focus on the (as yet undeveloped) relationship between this motif and the tendency to militarize outer space

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[6] See M. Deane, *Forming the Formless: Sunzi and the Military Logic of Ender Wiggin*, [in:] *Ender's Game and Philosophy. The Logic Gate Is Down*, ed. K.S. Decker, Malden, Oxford and Chichester 2013, pp. 79–88.

[7] K. Squire, H. Jenkins, *Harnessing the Power of Games in Education*, "Insight" 2003, no. 3, p. 8.

[8] A. Zimmerman Jones, *The Enemy's Gate Is Down: Perspective, Empathy, and Game Theory*, [in:] *Ender's Game and Philosophy…*, *op. cit.*, p. 56.

[9] M. Brophy, *War Games as Child's Play*, [in:] *Ender's Game and Philosophy…*, *op. cit.*, p. 67.

[10] B.P. Shea, *Do Good Games Make Good People?*, [in:] *Ender's Game and Philosophy…*, *op. cit.*, pp. 89–90.

highlighted by astrocultural[11] scholars. Card's novel follows the pattern of setting future wars in space, but introduces an important novelty: games of various kinds, including video games, become a mediating element between the characters and the real experience of space war. The choice of such a creative strategy makes it possible to view *Ender's Game* not only as a science fiction novel, but also as a kind of gameplay – a record of the game in which the title character participates, overcoming one by one "levels" of increasing difficulty and completing successive missions. This perception of the plot is also fostered by the 2013 all-star cast[12] film adaptation of the book, which used CGIs and whose structure strongly marks the successive stages of the game in which Ender participates, not always aware of the rules in force. Produced almost three decades after the novel's publication, Gavin Hood's film does not abandon the militant motif, although it gradually shifts the emphasis to exploration rather than conquest of outer space. Like Orson Scott Card's novel, the movie is representative of militant astroculture, "that is, astroculture which renders space imaginaries into battlefield scenarios and dwells on weapons, warfare and violence in space."[13] According to its rules, the cosmos – which most of us (like the characters in Card's novel!) experience only through mediatized images and narratives – functions as a kind of virtual "playground,"[14] on which humanity projects its ideas, and in this particular case: presents space wars, which are nothing less than "Earth wars in disguise."[15] From the perspective of militant astroculture, the universe is in fact one giant battleroom.

The theoretical framework for my reflections comes from the insights of astrocultural scholars such as Alexander Geppert, Tilmann Siebeneichner and Alice Gorman. In analyzing *Ender's Game* and, to some extent, its

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[11] Following Alexander Geppert, I understand astroculture as „a heterogeneous array of images and artifacts, media and practices that seek to assign meaning to space while stimulating both individual and collective imagination." A.C.T. Geppert, *European Astrofuturism, Cosmic Provincialism: Historicizing the Space Age*, [in:] *Imagining Outer Space. European Astroculture in the Twentieth Century*, ed. A.C.T. Geppert, New York 2012, p. 8.

[12] In Gavin Hood's film, the role of Colonel Graff was played by Harrison Ford, linking *Ender's Game* on a casting level to the *Star Wars* saga, in which the actor created the character of Han Solo. In addition to Ford, the cast included Academy Award winner Ben Kingsley (as Mazer Rackham) and rising stars of the younger generation: Asa Butterfield (Ender), Hailee Steinfeld (Petra) and Abigail Breslin (Valentine).

[13] A.C.T. Geppert, T. Siebeneichner, *Spacewar! The Dark Side of Astroculture*, [in:] *Militarizing Outer Space. Astroculture, Dystopia and the Cold War*, eds. A.C.T. Geppert, D. Brandau, T. Siebeneichner, New York 2021, p. 18.

[14] See A. Soucek, *The Cultural Dimension of Space*, [in:] *Outer Space in Society, Politics and Law*, eds. C. Brünner and A. Soucek, Wien and New York 2011, p. 40.

[15] A.C.T. Geppert, T. Siebeneichner, *op. cit.*, p. 17.

film adaptation,[16] I will focus on the protagonists' relationship to space, which is shaped by the game's setting. It is here that military and colonial themes are most strongly present. In the first part of the paper, I will present the main contexts of the motif of militarizing outer space and its close relationship with video games. These contexts will provide an important background for the analysis of the motifs of games and outer space in *Ender's Game*. Selected reflections from the field of ludology will be helpful in interpreting Card's use of video games not only as a theme, but also as a structural principle of his novel's settings. Finally, in the last part of the paper, I will consider the transformation of the militant motif taking place in the novel's finale into a narrative focused on the colonization of outer space, as well as the transformation of this narrative that occurred in the film adaptation of Card's novel. The goal of such an interpretation will be to show the story created by Orson Scott Card as entangled in a dynamic relationship with the video game medium that was developing at the time of its creation and with the changing trends of astroculture.

Level 1: Prepare yourself for space combat

According to Orson Scott Card, the source of the battleroom idea as the cornerstone of *Ender's Game* was a reflection on the training of soldiers adapted to fight future space wars:

> I wondered: how would you train soldiers in the future? [...] Soldiers and commanders would have to think very differently in space, because the old ideas of up and down simply wouldn't apply anymore. [...]. Three-dimensional warfare would need to be practiced in an enclosed space, so mistakes wouldn't send trainees flying off to Jupiter. It would need to offer a way to practice shooting without risk of injury; and yet trainees who were „hit" would need to be disabled, at least temporarily. The environment would need to be changeable, to simulate the different conditions of warfare – near a ship, in the midst of debris, near tiny asteroids. And it

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[16] The movie was accompanied by a vigorous promotional campaign that included the release of the board game *Ender's Game Battle School*, the creation of a number of websites showcasing the film and novel universe, and consideration of sequels that could have contributed to turning the universe into a transmedia story. This process was halted by moderate box-office results and ambivalent critical reception of the film, as well as controversy over the boycott of the film by the Geeks OUT group, which protested Card's statements about his disapproval of certain rights of the LGBT community. Although not all of the filmmakers' plans were realized, I find it necessary to refer to Gavin Hood's movie in this paper, as the form of the adaptation and its relationship to the original helps to identify the transformation of certain astrocultural trends.

would need to have some of the confusion of real battle, so that the play-combat didn't evolve into something as rigid and formal as the meaningless marching and maneuvers […].[17]

The tight coupling of the ideas of war and space in the mind of the future author of *Ender's Game*, while visionary in its details, proves that already in the 1960s, at least in Western culture, space was being mentally mapped as a potential territory of war.[18] Astrocultural researchers note that under the influence of various discourses – including ideological ones – the cosmos is a construct, a collection of images and narratives, a stage on which futuristic visions are played out.[19] Since, as Daniel Sage puts it, the cosmic ideas that we encounter in media are closely linked to earthly geographies: nations, places, locales, relationships, organizations, landscapes, museums and popular cultures,[20] traces of various political, ideological, religious, racial or gender discourses can be seen in outer space. Motifs of (anti)capitalism[21] and (neo)colonialism are recurrent in critical reflections on outer space. The latter is particularly relevant in light of the themes explored in *Ender's Game* and its film adaptation.

The process of (imagined) space colonization began long before the appearance of real man-made objects, such as the Voyager probes, in it. Alexander Geppert notes that: "Imagining and re-imagining space and furnishing it time and again with one artifact after another, be they mental or material, has had a doubly paradoxical effect. As outer space became increasingly cluttered, it simultaneously became more and more concrete, and, concomitantly with such imaginary colonization, regarded in ever more

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[17] O.S. Card, *Introduction…, op. cit.*, pp. x–xi.

[18] In writing about mental mapping, I follow the reflections of Tom Conley, who reports the views of the author of this concept, Christian Jacob, as follows: "mental mapping is constituted through the spatial representation we make in our minds of the acts and actions taken in our everyday lives. In our imagination we plot our activities with reference to «a mental projection and even to a mental world map», a psychic surface that «[i]n a complex way […] mixes the individual and intimate traits with all forms of knowledge and with images that circulate in a given society and culture» […]. The mental map belongs to the individual and cannot be translated into general terms even though its substance is made from a mixture of personal and collective impressions. […] it might also be a set of variants selected, consciously and unconsciously, from masses of images with which we construct the geographical illusions that are vital to our lives." T. Conley, *Cartographic Cinema*, Minneapolis and London 2007, pp. 18–19. See also: Ch. Jacob, *The Sovereign Map: Theoretical Approaches in Cartography Throughout History*, trans. T. Conley, ed. E.H. Dahl, Chicago 2006.

[19] See A.C.T. Geppert, *op. cit.*, p. 3.

[20] See D. Sage, *How Outer Space Made America: Geography, Organization and the Cosmic Sublime*, Furnham and Burlington 2014, p. 4.

[21] See F. MacDonald, *Anti-Astropolitik: Outer Space and the Orbit of Geography*, "Progress in Human Geography" 2007, vol. 31, no. 5, pp. 592–615.

spatial terms."[22] The picture, however, is by no means homogeneous. At least two main trends can be identified in it: "An entire geography of outer space […] presented itself as a continuation, if not a logical extension of earlier geographies of imperial expansion and colonial domination. At the same time, outer space developed into one of the major sites of twentieth-century utopian thinking, where relations *vis-a-vis* science, technology and the future were positioned, played out and negotiated as nowhere else."[23]

A special case with such games and negotiations is the process of the militarization of outer space. By "militarization" I mean "the contradictory and tense social process in which civil society organizes itself for the production of violence," or "the process by which war and national security became consuming anxieties and provided the memories, models, and metaphors that shaped broad areas of national life."[24] As Alexander Geppert and Tilmann Siebeneichner note:

> The lines between astroculture and power politics had been blurry before, but with the onset of the Cold War outer space gained unprecedented attractiveness and relevance. It was the battlefield central to all future warfare. In view of the evolving global confrontation, techno-fantasies previously dismissed as fringe were now imbued with a new sense of political urgency. Both man and machine must adapt to meet the demands of future extraterrestrial warfare.[25]

The peak of militant astroculture occurred in the 1970s, not coincidentally with the rapid development of science fiction cinema.[26] This happened despite (or perhaps as a result of) diplomatic efforts, such as the *Outer Space Treaty* signed in 1967, which banned weapons of mass destruction and prohibited the testing of weapons or military maneuvers in space. There are strong reasons to believe that:

> Rather than curtailing the accrual of militarization efforts, the impact of this body of laws proved primarily symbolic. Clinging to traditional doctrines of earth-bound confrontation without outlawing military activities *per se*, international legal debates conceptualized space as an extension of terrestrial warfare, despite all sweeping astrofuturist rhetorics *á la* "battlefield of the future."[27]

Ronald Reagan's famous 1983 address known as the *Star Wars speech* only reinforced the military bias within astroculture, leading critics to read the

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[22] See A.C.T. Geppert, *op. cit.*, p. 3.
[23] *Ibidem*.
[24] A.C.T. Geppert, T. Siebeneichner, *op. cit.*, p. 10.
[25] *Ibidem*, p. 12.
[26] See *ibidem*, p. 19.
[27] *Ibidem*, p. 16.

conflicts depicted in science fiction cinema as "earthly wars in disguise." Nevertheless, the editors of *Militarizing Outer Space* warn against a premature and superficial assessment of these phenomena: "Scrutinizing astrocultural imaginaries and ideologies of technoscientific progress in a global perspective suggests that the militarization of space is neither the «evil» twin-brother of space utopias nor a mere epiphenomenon of the Cold War. Rather, from the outset it was part and parcel of the production of twentieth-century space itself."[28]

The contribution of video games to the militarization of outer space began as early as 1962, a time when "*Spacewar!*, one of the very first video games, proclaimed the imminence of, simply put, space war in its own name, underlined by an exclamation mark."[29] Promoted in the late 1960s and early 1970s, *Spacewar!* paved the way for subsequent productions that are still being released today, such as *Space Invaders* (1978), *Doom* (1993) and *Dead Space* (2008), in which the experience of outer space is closely tied to the combat. Of course, these are not the only possibilities. As Natalija Majsova points out, in addition to shooters such as *Spacewar!*, "video games explicitly focusing on the subject of outer space can be divided into the following categories: space flight simulators; space mission and space systems simulators (these generally exhibit high levels of realism and a steep learning curve); games, where the idea of outer space is part of the narrative or background settings, such as the RPG *Final Fantasy* franchise, strategy games like *Civilization*, and Sid Meier's *Alpha Centauri*, or *Pimkin*."[30] It is significant, however, that the first video games with gameplay set in outer space were military in nature. The consequences of this fact are still felt today. In fact, as Majsova rightly notes:

> Games focusing on outer space […] seem to concentrate on issues like flight techniques, strategic and military planning, virtual combat techniques, and maintain narratives such as that of infinitely dreadful, lonely, and dangerous space beyond the orbit of the Earth, or that of the imminence of man's gradual colonization of outer space.[31]

Significantly, all of the motifs mentioned by the author appear in *Ender's Game*. After all, it is the training of strategic skills and the refinement of virtual combat techniques that Andrew Wiggin's education at the Battle

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[28] *Ibidem*, p. 10.

[29] *Ibidem*, p. 17.

[30] N. Majsova, *Outer Space and Cyberspace: An Outline of Where and How to Think of Outer Space in Video Games*, "Teorija in Praksa" 2014, vol. 51, no. 1, p. 114.

[31] *Ibidem*.

School and later at the Command School will serve, and the novel's finale foreshadows the era of human colonization of space, the effects of which will be recounted in subsequent installments of the series created by Card.

Majsova concludes that: "The vast majority of video games set in outer space or having expansion into outer space integrated into their narrative […] appear exceptionally down-to-Earth: they appropriate conventions either of the classical Western or of narratives of colonization. They establish outer space as – necessarily – the other pole of the binary, essentially turning it into hostile «other» space which is crucial to the consolidation of «our» pole of the binary."[32] The production of space in video games thus goes hand in hand with the idea, constitutive of all astroculture, that the universe is a screen or a stage onto which earthly narratives, ideas, and problems are projected.[33]

Level 2: Win a space war

The militarization of outer space in *Ender's Game* occurs in two stages. First, real existing cosmos is transformed into a game setting – a virtual environment in which the young characters practice their combat and tactical skills; then, the game in which Ender participates is projected into physically existing outer space, where the Earth fleet is headed toward the home planet of the hostile aliens. The boy's drama stems from the fact that while he is aware of the first stage of the process, he knows nothing about the second. When his charismatic teacher, Mazer Rackham, tells him "I will program your battles now, not the computer,"[34] Ender takes him at his word, not realizing that the games he participates in are real battles being fought, that the simulator in which he spends his days is actually a command center, and that the decision he makes to use a weapon of mass destruction called the Little Doctor against an enemy planet will result in its actual destruction. The protagonist also does not know, although his brother Peter and sister Valentine are aware of it, that the war being waged in space remains closely related to the conflicts taking place on Earth, and that the fragile alliance formed to eliminate the extraterrestrial threat must collapse with the end of the war against the aliens. As a novel published in the first half of the 1980s, *Ender's Game* reflects the relationship between

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[32] *Ibidem*, p. 115.

[33] Oleksandr Horban and Mariia Maletska talk about "Space Age grand narratives" in this context. See O. Horban, M. Maletska, *Space Age Grand Narratives in Videogames*, "Philosophy and Cosmology" 2022, vol. 28, pp. 63–72.

[34] O.S. Card, *Ender's Game…, op. cit.*, p. 265.

the anxieties of the Cold War and the formation of a vision of the cosmos as an arena in which future conflicts will be fought.

One of the reasons Ender misses the point at which the game becomes a real war is that neither he nor his schoolmates have actually ever directly experienced outer space. Their contact with it was from the beginning limited and manipulated. Moving from Earth to the extraterrestrial locations of Battle School and Command School changed little in this regard: while at home, the cosmos was accessible to the characters only through censored TV reports and children's games of buggers and astronauts, beyond Earth it functions as a virtual space in which all sorts of games are played. What's more, the characters' memory of Earth is also limited and gradually suppressed – the protagonists move to the orbiting Battle School as six-year-olds and, after a few years, remember little of what it was like to live on Earth. After all, there is an unwritten rule at the school that the years spent on Earth are not to be talked about at all, nor are conversations about families (with whom contact is completely blocked) or celebrating one's own birthday accepted. The psychological consequences of this situation are only slightly less painful than in Card's original short story, in which the Battle School was located on Earth, but the students, locked inside and trained as soldiers from the day they were born, knew nothing of the outside world. In the novelette, Ender sees Earth's landscapes for the first time when he is transferred from Battle School to the space-based Command School:

> Ender Wiggins[35] was rushed from place to place so quickly he had no time to examine anything. But he did see trees for the first time. He saw men who were not in uniform. He saw women. He saw strange animals that didn't speak, but that followed docilely behind women and small children. He saw suitcases and conveyor belts and signs that said words he had never heard of. […]
> Ender Wiggins was a stranger to the world he was being trained to save. He did not remember ever leaving Battle School before. His earliest memories were of childish war games under the direction of a teacher, of meals with other boys in the gray and green uniforms of the armed forces of his world. He did not know that the gray represented the sky and the green represented the great forests of his planet. All he knew of the world was from vague references to "outside."[36]

Although most of the action in the novel takes place in the cosmos, and the characters repeatedly use space shuttles to travel between locations, there are no descriptions of interplanetary or interstellar space in *Ender's*

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[35] In the novelette, the protagonist is called Ender Wiggins; only in the novel will he become Andrew (Ender) Wiggin.

[36] O.S. Card, *Ender's Game [1977]*, http://www.hatrack.com/osc/stories/enders-game.shtml (accessed: 21.03.2024).

Game. What lies outside Battle School and Command School is neither the subject of the narrative nor of the characters' thoughts, for both training institutions are designed to exploit certain properties of space in order to make them the basis of the simulation in which the title game takes place. No wonder, since, as Espen Aarseth has noted, "the defining element in computer games is spatiality."[37] The idea of Battle School as a place that transforms physically existing cosmos into a virtual construct had to be based on a specific organization of space. As Ivan Mosca explains, "Video games constitute a spatially-oriented medium because they combine the main three elements of our naïve spatiality: visual perception (shared with other visual media such as photography, painting, etc.), movement (shared with other kinematic media such as cinema, ballet, etc.) and the interaction that gives to the player the material possibility of exploring the represented visual movement (shared with games in general, not only computer games)."[38] The elements mentioned by the author: visual perception, movement and interaction are the basic components of the cosmic illusion, in which Ender and other children lose not only their spatial orientation but also their awareness of the boundaries between fiction and reality. Accordingly, the visual perception of the characters is reduced and redirected. Real cosmos is removed from it, stars and asteroids become training objects located in the battleroom, and the space fleet and – most importantly – the enemy's home planet – are now a combination of points of light in a hologram projection. Battle School's curriculum deliberately distances the experience of the game from the images of real war, which the characters learn about through (propaganda-manipulated) archival footage: "Videos of the bloody battles on space, the Marines spraying their guts all over the walls of the bugger ships. Holos of the clean wars of the fleet, ships turning into puffs of light as the spacecraft killed each other deftly in the deep night."[39] None of this resembles the games being played in the battleroom. Accustomed to the idea that the objects in the battleroom merely symbolize spaces that could hypothetically exist in the real universe, the protagonists do not suspect that the images they interact with in the Command School are no longer simulations, but visualizations of events taking place near the enemy planet.

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[37] E. Aarseth, *Allegories of Space: The Question of Spatiality in Computer Games*, [in:] *Cybertext Yearbook 2000*, eds. M. Eskelinen and R. Koskimaa, Jyväskylä 2001, p. 154.

[38] I. Mosca, *Boards, Outer-Space, and Freedom in Video Games*, The Philosophy of Computer Games Conference, Oslo 2009, https://gamephilosophy.org/wp-content/uploads/confmanuscripts/pcg2013/Mosca%202013%20-Boards-Outer-Space-and-Freedom-in-Video-Games.pdf (accessed: 15.03.2024), pp. 1–2.

[39] O.S. Card, *Ender's Game…*, *op. cit.*, p. 46.

Two other components of the game's spatiality serve to perpetuate the illusion: movement and interaction. The physical experience of the cosmos is built up in the characters based on the specific sensations of being in a space where gravity, if it works at all, is artificially produced and the architecture is alien. Their first visit to the battleroom is reminiscent of learning to swim: the students move around "like children in a swimming pool for the first time, clinging to the handholds along the sides."[40] Operating in this space means redefining basic concepts:

> For a sickening moment he tried to retain his old up-and-down orientation, his body attempting to right itself, searching for the gravity that wasn't there. The he forced himself to change his view. He was hurtling toward a wall. That was down. And at once he had control of himself. He wasn't flying, he was falling. This was a dive. He could choose how he would hit the surface.[41]

After completing his training at the Battle School, Ender is sent to the Command School, located in the asteroid belt on the planetoid Eros. Here, too, he experiences spatial alienation:

> Eros was hopeless. [...] The closed-in space was no problem for Ender – what bothered him was that all the tunnel floors noticeably sloped downward. From the start, Ender was plagued by vertigo as he walked through the tunnels, especially the ones that girdled Eros's narrow circumference. It did not help that gravity was only half of Earth-normal – the illusion of being on the verge of falling was almost complete.[42]

But even these experiences are abstracted from the physically existing outer space and shifted into the virtual reality of games. At each stage of his training, Ender learns how to navigate and interact with objects and other people, but only in ways that serve the game. "The enemy's gate is down" – the principle he comes up with for spatial reorientation during battles in zero-gravity conditions is quickly picked up by other students. Another challenge is working with the Command School's combat operations simulator, where Ender must master the ability to use the available viewpoints:

> The controls were powerful. He could rotate the display in any direction, so he could watch from any angle, and he could move the center so that the duel took place nearer or farther from him.
> Gradually, as he became more adept at controlling the fighter's speed, direction of movement, orientation, and weapons, the game was made more complex. [...]

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[40] *Ibidem*, p. 56.
[41] *Ibidem*, p. 57.
[42] *Ibidem*, p. 259.

When he mastered the one-fighter game, they allowed him to step back into the four-fighter squadron. He spoke commands to simulated pilots of four fighters and instead of merely carrying out the computer's instructions, he was allowed to determine tactics himself […].[43]

In such a depiction of the protagonist's relationship to space, it is easy to see the analogy to space games, among which "shooters usually typically rely on the first-person (interchangeably with third-person overhead) perspective, whereas strategic games provide god-view, and detailed maps of the situation […]."[44] It can be said that by graduating from Battle School and entering Command School, Ender is making his way from shooters to strategic games that offer him the aforementioned god-view in the process of coordinating battles that he considers to be computer simulations.

In the film adaptation of Card's book, these spatial relationships are altered. Where in the novel there is a theme of extreme isolation and the outside world is an almost abstract concept, in Gavin Hood's film there are spacescapes which, following Alice Gorman, can be defined as follows:

The places associated with space exploration form a three-tiered vertical landscape, starting from designed space landscapes on Earth (launch facilities, tracking stations, etc.), organic landscapes in orbit and on the surface of celestial bodies (satellites, rocket stages, landers, debris) and beyond the solar system, where only the Voyager spacecraft have yet ventured, a realm rich with associations though devoid of human material culture. […]. These places, things and ideas could be called the spacescape. The spacescape has powerful political, social and emotional associations for people on Earth, despite a general lack of direct experience or memory of space.[45]

In line with the idea of spacescapes, in Hood's film we see both futuristic launch facilities located in the midst of forests and the spaces of the orbiting Battle School, while the Command School itself is placed not within the solar system, but outside it – close to the buggers' home planet. The Earth is perfectly visible from the battleroom (which is probably meant to remind the young protagonists what the game is really about, in keeping with the general principle that "virtual game worlds are […] worlds centered around saving the earth – making it safe – and around liberating its meaning"[46]),

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[43] *Ibidem*, pp. 260–261.

[44] N. Majsova, *op. cit.*, p. 115.

[45] A. Gorman, *The Cultural Landscape of Interplanetary Space*, "Journal of Social Archaeology" 2005, vol. 5, no. 1, p. 88.

[46] M. Kłosiński, *Hermeneutyka gier wideo. Interpretacja, immersja, utopia* [Hermeneutics of Video Games: Interpretation, Immersion, Utopia], Warszawa 2018, p. 59.

and in the Command School Ender can look out the window at the unearthly landscape and watch the movement of realistic-looking spacecrafts in the simulator. The presentation of this kind of space on the screen is not only due to the need to make the movie spectacle more attractive. In the world depicted in Hood's film, there is no need to hide such sights from the characters, because the games they grew up with on Earth, as one of the first scenes of the movie illustrates, operated with hyper-realistic graphics. It is not surprising that Ender and his schoolmates did not distinguish between images of reality and simulations: after all, the simulations they had previously encountered (and which we know from modern space games) were excellent at creating the impression of reality.

The literary and cinematic strategies described here are related and have a similar effect to such a representation of space as is characteristic of space games. However, it's not just that they "merely reinforce existent stereotypes and preconceptions about outer space, as a dangerous, dark, and lonely environment, which humans are at some point going to colonize."[47] In both the book and the film, Ender and his schoolmates – and, through them, the audience – are confronted with the experience of outer space as a playground, which essentially separates it from the physically existing cosmos.[48] Throughout the plot, they are not given any other way to think about it. Only in a few moments does Ender have flashes of intuition about the fact that the vision of the world built in him during his time at school is limited and fragmented. Even before he is given his own army to lead, he thinks: "The Battle School was so enclosed, the game so important in the minds of the children, that Ender had forgotten there was a world outside… Spanish honor. Civil war. Politics. The Battle School was really a very small place, wasn't it?".[49] Interestingly, these thoughts only apply to life on Earth. The protagonist does not seem to remember that the outer space in which he finds himself may be different from the one whose visions are spread in the Battle School.

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[47] N. Majsova, *op. cit.*, p. 115.

[48] Espen Aarseth balks at calling spaces in computer games virtual spaces, considering the term "nondescript". The author is inclined to consider games as "allegories of space," because "they pretend to portray space in ever more realistic ways, but rely on their deviation from reality in order to make the illusion playable". E. Aarseth, *op. cit.*, p. 19. The issue of spatiality of video games is very complex, as evidenced by the essays published in *Ludotopia: Spaces, Places and Territories in Computer Games*, eds. E. Aarseth and S. Günzel, Bielefeld 2019.

[49] O.S. Card, *Ender's Game…*, *op. cit.*, p. 112.

Level 3: Colonize your own alien world

In the world depicted in Card's novel, learning is supposed to be a game, but in the end the game turns out to be war, which in turn becomes the beginning of a new colonial era in human history. The strong connection in *Ender's Game* between the theme of games and education, as Henry Jenkins and Kurt Squire have shown, may stem from Card's observations as a game critic:

> For Card, most existing educational games have been little more than "flashcards" that operate according to a drill-and-practice model, reflecting the value schools have traditionally placed on rote memorization. Instead of replacing the textbook, he argued, educational games should be more like the school corridors, where kids experiment, interact, create, and share what they create with others, outside the rigid structures that contemporary games impose. At their best, games are imaginary worlds, hypothetical spaces where players can test ideas and experience their consequences.[50]

The key plot twist in *Ender's Game* is based on the fact that the aforementioned consequences transcend the inherently safe space of the game, and the strategy chosen by Graff and his superiors from the beginning was to present Ender and his schoolmates with war as a game, which, as Matthew Brophy points out, "is a common, effective misrepresentation that allows otherwise moral human beings to commit the inhumane violence war requires. Treating hurtful actions as a «game» psychologically distances the person from considering consequences insulating them from a feeling of moral responsibility, and may protect the individual from a corruption of moral character."[51] Nothing, however, can protect Ender from a sense of moral responsibility for the xenocide he has unwittingly committed. The explanations Graff and Rackham give him do not satisfy him. As a result, the depressed protagonist sleeps through the conflict that takes place immediately after the victorious battle against the aliens: he learns from the reports of his friends that there was a five-day war on Earth, the effects of which were also felt in humanity's outposts in space, such as the Command School.

The end of the war and the beginning of preparations for the colonization of worlds once conquered by the buggers changes the cosmic line of the narrative. The military theme gives way to another, also well established in astroculture, motif of outer space as a new frontier. At the urging of his

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[50] K. Squire, H. Jenkins, *op. cit.*, p. 8.
[51] M. Brophy, *op. cit.*, pp. 66–67.

sister Valentine, Ender agrees to join the first expedition to new worlds, and for the first time has a real opportunity to explore other spaces. The cosmos is no longer a battlefield. Instead, "with its combination of exploration of new frontiers and of absence of constraints for physical movements" it becomes a "symbol of freedom and the synecdoche of the entire space."[52] Ivan Mosca states that "this de-localized place embodies the concept of objective realization of the subject's freedom" and enables us to experience space "as pure movement."[53]

The author links this symbolism to the popularity of outer space as a setting for gameplay in early video games, stating that: "Hence it does not surprise that early video games used so often the interstellar setting: the videoludic medium, involving interaction, amplifies the experience of movement inherent to every representation of outer-space. It is perhaps the artistic expression most adherent to the concept of freedom."[54] While the popularity of the space motif in early video games is a much more complex issue (related to, among other things, general tendencies toward the militarization of astroculture, the political rhetoric of the Cold War era, and the success of space sagas such as *Star Wars* and *Star Trek*), it is undeniable that the narrative of outer space as a new promised land of absolute freedom (as it once was in the American West) strongly influenced the formation of collective ideas about the cosmos. Interestingly, the finale of Card's novel reveals that this space of freedom has already been "mapped" by video games. Years later, when Ender, now an adult, arrives at the place where the insect-like aliens hid the cocoon of their last hive-queen, he sees familiar spaces:

> The Giant's corpse. He had played here too many times as a child not to know this place. […] Swings and slides. Monkey bars. Now overgrown, but the shapes still unmistakable. […]
> 'I know,' said Ender. 'They built it for me. […] I know this place […]. The buggers built it for me.'[55]

Ender recognizes the setting of the fantasy game he played at Battle School. Back then, the game was supposed to help him understand himself better, overcome his fears and unconscious traumas. Now it turns out that it has become a platform for communication with aliens who, by analyzing Ender's dreams and memories, have recreated on one of their planets the places he

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[52] I. Mosca, *op. cit.*, p. 9.

[53] *Ibidem*.

[54] *Ibidem*.

[55] O.S. Card, *Ender's Game…*, *op. cit.*, p. 319.

knows from the game, in order to entrust him with the mission of saving their species from total annihilation.

This gesture seems to be as much an invitation to communicate as it is an invitation to colonize, an acquiescence to the takeover of alien worlds by newcomers from Earth. The situation evokes not coincidental associations with the process of the conquering of the Americas by European colonizers, whose first settlements were often located "on Indian communities emptied by disease."[56] The territories occupied by the Europeans appeared to them as uninhabited because they were depopulated by epidemics resulting from the arrival of newcomers from another continent. Similarly, in *Ender's Game*, humans conquer territories that until recently belonged to aliens without a fight: more planets appear to them as empty and ready for colonization, since the xenocide committed in a distant part of the cosmos has caused the death of almost all the buggers. When Ender tries to question this new cosmic version of Manifest Destiny, a significant dialogue ensues between him and Valentine:

> 'It's not my idea of freedom to go live in the house of the people that I killed.'
> 'Ender, what's done is done. Their worlds are empty now, and ours is full. And we can take with us what their worlds have never known – cities full of people who live private, individual lives, who love and hate each other for their own reasons. In all the bugger worlds, there was never more than a single story to be told; when we're there, the world will be full of stories, and we'll improvise their endings day by day […].'[57]

Valentine's statement echoes colonial ideas known from human history: the collective consciousness of the buggers must give way to the terrestrial (and *de facto* Western) idea of individualism, and in the face of the over-population of the "old world" (Earth), what matters most is the possibility of further expansion of the human species, even if under morally ambivalent circumstances. When Ender finally agrees to go to another world with his sister, he identifies his journey as a mission of historian rather than colonist. In his statement, "I stole their future from them; I can only repay by seeing what I can learn from their past"[58] there are echoes of the attitudes of the Europeans who arrived in what is now the Americas in the late 15th and early 16th centuries. Tzvetan Todorov contrasts the profiles of Christopher Columbus, Hernán Cortés, and Bartolomé de Las Casas:

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[56] Ch.C. Mann, *1491: New Revelations of the Americas Before Columbus*, New York 2005, p. 46.

[57] O.S. Card, *Ender's Game…, op. cit.*, pp. 314–315.

[58] *Ibidem*, p. 316.

"Las Casas knows Indians less well than Cortés, and he loves them more […]. Columbus's attitude can be described in altogether negative terms: he does not love, does not know, and does not identify himself […]."[59] Ender's attitude towards the buggers is supposed to be an attempt to combine love (already felt, as the protagonist says that only by loving his enemy can he defeat them) with a deeper understanding. But this does not change the fact that it is still a typical colonial perspective.

In Gavin Hood's adaptation, this ideologically disturbing overtone of the novel's finale has been toned down considerably. In the movie, there is no hint that humans intend to colonize planets previously inhabited by aliens, and Ender embarks on a solo mission to find a new home for the sole surviving hive-queen. The theme of the fantasy game changes accordingly. It still plays the role of a mental map (tellingly, the movie consistently refers to it as a mind game), but both the subject and the object of the mapping process change fundamentally. In both the novel and the movie, the game is deeply integrated into Ender's psyche. In Card's novel, it is so powerful that, if the situation demands it, it is able to bypass all access restrictions and extract the current photo of the protagonist's brother from the resources of Earth's computers. The movie talks about a direct connection between the game and Ender's brain. In both cases, the game essentially becomes Ender – it reflects his fears, longings, and traumas, it functions as a symbolic expression of his personality. It also plays a key role in his relationship with the aliens, though in different ways. In Card's novel, the aliens try to use Ender's memories of the game to establish communication with him. The result of the process is that the game (and thus Ender's identity) marks and shapes the alien worlds even before the protagonist himself physically appears in them. In a sense, then, Ender does not leave the world of the game in Card's novel, although after the xenocide he is already aware of its constructed nature. In the movie, on the other hand, it's Ender's subconscious that is mapped by the aliens, who, instead of recreating on their planets the images sublimated in the protagonist's memories and nightmares, introduce into the game the landscapes of the location of the last hive-queen. Moreover, using the image of Ender's beloved sister Valentine, who transforms into the image of the hive-queen, they instill in the protagonist the subconscious belief that humans and aliens can be united by bonds of closeness and mutual understanding. In this version, Ender is not given the opportunity to see traces of himself in the territory of the aliens; on the contrary, he discovers foreign territories in himself,

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[59] T. Todorov, *The Conquest of America: The Question of the Other*, trans. R. Howard, New York 1992, pp. 185–186.

and his final departure into the unknown can be interpreted as the real end of the game – such an understanding is fostered by the last frame, in which the dormant Ender opens his eyes and looks directly into the camera.

Like Card's novel, Gavin Hood's movie is the result of the influence of certain social, political, cultural (and astrocultural) trends. The motif of the political campaign waged by Valentine and Peter would not have been appropriate after the end of the Cold War.[60] On the other hand, the softening of the colonial overtones, manifested in the fact that the aliens in the film are consistently referred to as Formics rather than buggers, was a necessity in light of the development of postcolonial thought, as well as the criticism of the subsequent US military interventions in Afghanistan and Iraq. This does not mean, however, that the motif has completely disappeared. After all, the Command School is still located in alien buildings that were taken over by humans during the fighting, and it is not at all certain that the belief expressed by one of the characters, Major Anderson, that the children involved in the war will find themselves "back on Earth" after it ends, will come true. The narrative of exploring space in order to colonize it is still strong in astroculture, as well as in the contemporary space games.

Conclusions: game over?

"I've watched through his eyes, I've listened through his ears"[61] – the first words spoken in *Ender's Game* foreshadow one of the novel's most important themes: the problem of taking on another's perspective. The problem is not just a technical one. It's true that Ender often practices this skill: he develops techniques for reorienting his gaze in weightlessness and learns to adopt and control the perspective of his subordinates during battles in the simulator. Most importantly, however, the protagonist perfects his empathy; after all, his greatest strength is his ability to understand the people he meets, especially his enemies, including the hive-queen. In the novel's finale, looking at the war from her perspective, Ender experiences catharsis and integrates his personality, taking on the role of speaker for the dead.

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[60] The exclusion of this storyline from the plot of a potential film adaptation of *Ender's Game* was already discussed by Orson Scott Card himself in the late 1990s, as he did not consider it very attractive from the perspective of the cinematic medium: "that's just watching people type things into the computer". S. Nicholson, *Card's Game: An Interview with Orson Scott Card (1998)*, http://www.hatrack.com/research/interviews/1998-scott-nicholson.shtml (accessed: 24.03.2024).

[61] O.S. Card, *Ender's Game…*, *op. cit.*, p. 1.

The change of perspective, the possibility of assuming different roles, is one of the key experiences of video games – and also the element of the medium that has a particularly strong influence on the process of reframing literature in a new media context.[62] This is because:

> Gamers develop a "knowing' meta-awareness of how to play against, with or despite game narrative, a playful, enacted and embodied criticality [...] that resonates with the (postmodern) "pick and mix" reader of texts – dialogic reading practices that offer possibilities for "being" that are difficult to pin down as "reception". Such [...] new moves in the game that disrupt orthodox analyses of "effects" and of reading itself – provide compelling evidence that there is no singular "way of being" in a game event. This has obvious implications for the "key concept" [...] for the broader project of bridging new literacy studies and "practical engagements" in the redistribution of cultural and symbolic forms of capital [...].[63]

At the time of *Ender's Game*'s creation, such transformations were at best intuitive, and while the gaming motif had been present in literature for some time, ideas like literary gaming, "a specific form of digital gameplay that happens when we interact with digital artifacts that combine so-called ludic [...] and literary [...] elements,"[64] were still a long way off. A manifestation of the awareness of the changes to come is that the motif of accepting someone else's perspective, which is important in Card's novel, enters into a relationship with the motif of writing/constructing a narrative. While on Earth, Peter and Valentine, under the pseudonyms Locke and Demosthenes, are engaged in a political campaign in which each of them deliberately adopts a perspective contrary to his/her own views and disposition, the space-based Ender is developing the skills that will allow him, years later, to write *Speaker for the Dead*, a book "written as if the hive-queen spoke, telling all that they had meant to do, and all that they had done. [...] From their earliest awareness to the great wars that swept across their home world, Ender told the story quickly, as if it were an ancient memory."[65] In the new world, also Valentine is writing books, working on several volumes of bugger wars history, which she publishes under the

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[62] R. Berger, J. McDougall, *Reading Videogames as (Authorless) Literature*, "Literacy" 2013, vol. 47, no. 3, p. 143.

[63] *Ibidem*.

[64] A. Ensslin, *Literary Gaming*, Cambridge and London 2014, [e-book], e-pub: 11,0 / 500. Astrid Ensslin analyzes a whole series of examples of the literary gaming phenomenon in her book. In a broader context, James O'Sullivan also writes about the impact of digital media on literature, particularly on electronic literature and literary gaming. See J. O'Sullivan, *Towards a Digital Poetics: Electronic Literature and Literary Games*, London 2019.

[65] O.S. Card, *Ender's Game...*, *op. cit.*, pp. 323–324.

pseudonym Demosthenes. Both characters seem to still believe in the idea of historical writing, even though their experiences make it clear that "there is no singular «way of being» in a game event." Maybe that's how they see their writing: as different ways of looking at the same game – Valentine, as Demosthenes, describes the bugger wars from a human perspective, while Ender, who doesn't even subscribe to his work, shows them from an alien point of view.

In the movie version, made almost thirty years later, this theme is not present at all. Ender and Valentine no longer write books; they only write emails, because it is not literature but digital games "that are their natural habitat, just as the coffee shop was man's natural habitat at the beginning of the 20th century, and cinema and television at its decline."[66] So in the film Ender doesn't think of himself as a historian of an extinct species: rather than looking to the past, he looks towards the future, carrying a cocoon with a new hive-queen into deep space. After all, his literary predecessor already knew that "games were like that, you died a lot until you got the hang of it."[67] However, the way in which the film's characters have been shaped is not only related to the fact that video games gradually came to dominate audiovisual culture at the turn of the 20th and 21st centuries, correlating with those phenomena of postmodern culture that Fredric Jameson calls schizophrenia.[68] Gavin Hood's film, visually and musically[69] indebted to the aesthetics of video games, is also a product of contemporary astroculture, which emphasizes exploration rather than the militarization of space. Hence the much greater role of spacescapes in the movie than in the novel.

In both of the astroculture texts discussed here – Orson Scott Card's book and Gavin Hood's film – video games function as a tool subordinate to the processes of militarization and colonization of space, but they operate on different levels: in the process of militarization, they are consciously used by the staff of the Battle School and the Command School to obscure the image of outer space and the events taking place in it; in the process of colonization, they operate on the subconscious level, mapping (in the novel) or projecting (in the film) worlds that the characters have not yet physically reached. In this way, they express the general tendencies of astroculture, which, on the one hand, is the field of action of various policies and strategies, and, on

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[66] M. Kłosiński, *Przygody cyfrowego tułacza. Interpretacje groznawcze* [Adventures of a Digital Wanderer: Game Studies Interpretations], Katowice 2023, p. 11.

[67] O.S. Card, *Ender's Game…*, *op. cit.*, p. 63.

[68] See F. Jameson, *Postmodernism and Consumer Society*, https://art.ucsc.edu/sites/default/files/Jameson_Postmodernism_and_Consumer_Society.pdf (accessed: 24.03.2024).

[69] The movie's music was composed by Steve Jablonsky, a composer known for his work with video game producers.

the other hand, operates in the area of collective and individual imagination, so that when we point the lenses of space telescopes at deep space and send probes to other planets, we find images that seem very familiar to us: such as Pillars of Creation, which recall the geographic and meteorological formations captured in the romantic landscapes of the American West by painters such as Thomas Moran[70] or the Martian wilderness, which, not coincidentally, looks like the deserts of Utah in photographs sent back by space probes.[71] Not surprisingly, of all Ender's memories, the buggers chose to reconstruct the one in which the playground appeared in his video game. Apparently, they knew that for humans, the cosmos is first and foremost an ideal playground, where all kinds of designs and ideas can be projected.

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[70] See E.A. Kessler, *Picturing the Cosmos: Hubble Space Telescope Images and the Astronomical Sublime*, Minneapolis and London 2012, p. 5.

[71] See O. Dunnett, *The Spaces of Outer Space*, [in:] *The Routledge Handbook of Social Studies of Outer Space*, eds. J.F. Salazar and A. Gorman, London and New York 2023, p. 86.

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