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Stanisław Lem's novel *Niezwyciężony* (1964) has been subjected to several multi-media adaptations, but the most important in terms of its hermeneutic potential seems to be Starward Industries' game *The Invincible* (2023). Following the walking simulator convention, it emphasises the storyline and the immersion of the player in the created world, thus highlighting the importance of the player's ethical choices. The protagonist will lead to a nuclear attack, or to cooperation between actors exploring the planet Regis III and – as a consequence – to contact with the Alien, the fruit of inanimate evolution. Using the dialectics of immersion and emersion, and the phenomenon of the transfer of experiences (intensifying – according to Jacek Dukaj's concept – at the edge of post-literary habitus), the article attempts to interpret significant modifications in relation to the literary original and the impact on the player.

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The Possibility of Community? Stories in the World of The Invincible

Literature: *The Invincible*

We can consider Stanisław Lem's *The Invincible* (*Niezwyciężony*; 1964)¹ his fifth science-fiction novel² and one that is the clearest example of hard SF in his oeuvre. The book presents an investigation that serves as a metaphor for the cognitive process. It focuses on the disappearance of the starship *Condor* and the mystery of the planet Regis III. Although the crew of the *Invincible* uncovers the secret of the inhospitable planet, it ultimately suffers a defeat as the colonizing *hybris* characteristic for *Homo sapiens* becomes tamed. "Not everything everywhere is for us" (I, 214), says the main character, Rohan, right before the departure.

The most intriguing speculation in the novel concerns the evolution of technology, referred to as inanimate evolution or necroevolution. According to Lauda, a paleobiologist and expedition member, intelligent machines of the Lyrian civilization, long abandoned and programmed for survival and homeostasis, engaged in a struggle with the planet's fauna and themselves. As a result, the machines evolved into metallic flies, microscoping robots that base their effectiveness on a hive instinct rather than on centralized, empowered intelligence.

The Invincible belongs to one of many Lem's texts concerning self-operating systems. The analogy between technological and biological evolution defines a key issue of his *Summa Technologiae* essay,³ published the same year as *The Invincible*. Lem returned to this theme in *Weapon Systems of the Twenty-First Century or The Upside-Down Evolution* (1983),⁴ and necroevolution appears in one of his final novels,

Peace on Earth (1987).⁵

Lem wrote *The Invincible* in 1962–1963, during the space race between the United States and the USSR, and completed it six years before the success of the Apollo 11 mission, namely, humanity's first landing on the Moon in 1969. Although the descriptions of Regis III echo Jacek Żuławski's work, especially the first part of the trilogy *On the Silver Globe* (1903), Lem's setting allegorizes the fourth planet of the Solar System, which might anticipate the next stage of interplanetary expansion by *Homo sapiens*. Regis II is "the size of Mars" (I, 17) and possesses features akin to those of the Red Planet: a landscape of craters, canyons, deserts, and various shades of red. "Woolly red clouds" (3) cover Regis III, its continent appears "dull-colored" and "dotted with craters" (3), with red sandstorms (3), under "a purple sky" (6) and a red sun (6), among "black and red" rock masses (9).

There was a particular calm in the regularity of the waves of sand. At their base, they were filled with light blue shadows, while their tops were pink from the sunset, a warm, delicate tint that reminded him of colors he'd seen once in a children's picture book. *It was so mild, in such an unreal way.* He looked slowly from dune to dune, finding ever new shades of the peachy glow; the further away they were, the redder they became, being crisscrossed with crescents of black shadow all the way to the point where, merging into a single yellow grayness, they surrounded formidable slabs of bare volcanic rock jutting into the sky. (13; emphasis P.G.-K.).

Even when the crew of the *Invincible* explores the planet's ravines, i.e., its interior, they find "The strata of sedimentary rock ... interspersed with layers of ruddy-black substance" (90), and sediments in "brownish-black," and "dark crimson" (90) hues. The colors in descriptions emphasize the alien quality of the planet and its nonhuman character: "If it hadn't been for the slow, even movement of billowing layers in this mass of black that was in places inky dark, and elsewhere gleamed metallically with a livid crimson, it could have been mistaken for an unusually shaped mountain" (96).



The Invincible, prod. Starward Industries, ed. 11 bit studios, 2023.

I am interested in how adaptations of *The Invincible* reinterpret the literary source and thus generate hermeneutic potential. The first adaptation is a 2014⁶ binaural audio drama with sound effects and music by the band Ścianka. Krystyna Czubówna narrates the novel, which underlines the connection between the techno- and bio-evolution, due to Czubówna's wide recognition as the voice-over of nature documentaries.⁷ In 2019, Rafał Mikołajczyk⁸ released a comic-book version that faithfully adapts Lem's novel. The dark graphics and characters' noir aesthetics highlight humanity's defeat and the failure of its mission.

Moreover, *The Invincible* also inspired several musical impressions, namely *Sygnaty z Kondora*⁹ (Signals from the Condor) by Marek Kwiatkowski, *The Invincible*¹⁰ by Endurance, *The Invincible*¹¹ by Ma Haiping, and the official *soundtrack*¹² composed by Brunon Lubas for the video-game adaptation produced by Starward Industries. All these albums belong to the broad category of electronic music, and I designate them as "impressions" because, except perhaps for Ma Haiping's composition, they are rather atmospheric interpretations than incidental music, a feature that also characterizes Lubas's

album. This issue warrants further research within sound studies.

The appeal of *The Invincible's* adaptation lies in its compact form, compositional coherence, and subject matter concerning interstellar colonization and techno-evolution as a parallel to bio-evolution, which, after all, is characteristic of hard SF and innovative. Most importantly, Lem's vivid descriptions of Regis III, technology, and machine duels demonstrate his literary mastery, especially in the context of visuality.

Game (and Other Media): *The Invincible*

In terms of hermeneutic potential, the most significant adaptation of *The Invincible* is the video game under the same title,¹³ developed by Starward Industries and published by 11 bit studios. While the game was the developer's debut, the publisher's portfolio includes titles such as *This War of Mine* (2014), *Frostpunk* (2018), and *The Thaumaturge* (2024, developed by Fool's Theory). This adaptation of *The Invincible* belongs to the walking simulator genre with elements of a visual novel and even an interactive film. The player assumes the role of astrobiologist Yasna, who explores the surface of Regis III. The interface and game controls appear minimal, interactions with the surroundings and equipment undemanding, and the outcome of the only fight with the Swarm of flies does not hold any meaning for the plot. In fact, the game does not assume the possibility of losing at all. With its simplicity congruent with the convention of a walking simulator, this short, seven-hour narrative highlights the advanced visual and audio layers of the game, amplifying the semantics of its aesthetic and the player's choices.

As intended by the game's creators, *The Invincible* merges the narrative quality with immersion based on visuality. Marek Markuszewski from Starward Industries explains that "The Invincible is first and foremost a narrative-driven game. ... While

playing, we want players to be transported to a different world. To give players as much of *a sense of being someone else*, we centered our gameplay around immersion."¹⁴ The feeling of immersion comes from the world design and character construction, namely their motivations, personalities, and choices.¹⁵

The creators intended the immersive effect to also generate emotiveness: "Each successive episode brings the player closer to the truth and awakens inner reflections, providing a great emotional charge."¹⁶ Noteworthy, narrative displacements play a crucial role in the interpretation as the game does not adapt Lem's novel faithfully but constructs a story constituting something between a prequel and an alternative story in relation to the original.

In *The Invincible*, immersion arises primarily through the first-person perspective (FPP). The player inhabits Yasna and explores the planet through her perspective, discovered artifacts, and radio contact with the astrogator Novik. Visual and audio effects complement the immersive quality. They include the constant outline of the helmet and microphone, and Yasna's heavy breath while running, humming when alone, and speaking to herself. The closed world of the game constitutes another complementary aspect. Yasna follows predetermined routes and moves with limited freedom in each location. The contrast between the planet's vast landscapes and the sensation of confinement in both the area and the helmet creates tension and facilitates the player's empathy toward the character. High-quality graphics and minimalist means of expression, i.e., a simple interface, narrative focus, and the absence of combat, further reinforce immersion.

The game adaptation of *The Invincible* depends heavily on visuality. The first level of visual reference remains internal, focused on the diegetic interface that delivers information about the world to both Yasna and the player. This level has strong connections with retrofuturistic atompunk aesthetics that also define technological limitations: the player receives data through recordings and live transmissions from flying probes controlled by Yasna, slides retrieved from devices investigating Regis III, maps that aid navigation on the planet's surface, and documents found in the Alliance base or aboard the *Condor*. We can adopt a similar approach to Yasna's memories, which, previously erased from her mind after the Cloud's intervention, return to her at specific moments during the game. Most of these elements operate on a visual level. However, the game conveys some information in textual or auditory forms, such as recorded conversations or Novik's voice that accompanies Yasna through the radio almost constantly. Furthermore, game progression unlocks a non-diegetic comic, available from the main menu, which summarizes the narrative course of the game. The graphic-novel format may allude both to Rafał Mikołajczyk's adaptation and to the genre itself, widely popular in the second half of the twentieth century.



The Invincible, prod. Starward Industries, ed. 11 bit studios, 2023.

The second level of reference concerns Stanisław Lem's oeuvre. In other crew members' notes, Yasna discovers sketches of figures resembling those from *Fables for Robots* (1964) and *The Cyberiad* (1965), illustrated by Daniel Mróz.¹⁷ Moreover, numerous other references to Lem's works appear in the game, some more overt¹⁸ and others more complex.¹⁹ Through such procedures,²⁰ Starward Industries expands Lem's universe. The third level of reference concerns broader contexts, such as the

atompunk aesthetics and other manifestations of popular culture.²¹

These layers allow *The Invincible* to cocreate a transmedia world that originates in Lem's novel. Transmedia narratology, positioned within postclassical narratology, offers a productive framework for literary consideration. Transmedia narratology investigates narrative beyond the linguistic paradigm, prone to "assuming various forms. This approach foregrounds the relationship between narrative and medium with its own possibilities and limitations."²² Therefore, "The convergence of media around a common center that we may call 'narrativity' – a center that is itself organized around a storyworld" invites the question: "What can medium x do in terms of storyworld creation (or representation) that medium y cannot,"²³ technologically, semiotically, and culturally?

Two texts remain fundamental in this field: Henry Jenkins's *Convergence Culture*,²⁴ describing the nature of transmedia storytelling,²⁵ and Lisbeth Klastrup and Susany Tosci's concept of transmedial worlds, defined as "abstract content systems from which a repertoire of fictional stories can be actualized or derived across a variety of media forms."²⁶ These shared mental constructs generate particular worldness.

I reference this context to indicate my focus on how the story of the *Invincible's* crew transforms across the media, and how different media influence this story, considering primarily literature and video games. Through adaptation, the game *The Invincible* shifts the tone of Lem's novel, which constitutes a case of transmedial narrative. This shift matters, since "the choice of medium makes a difference as to what stories can be told, how they are told, and why they are told. By shaping narrative, media shape nothing less than human experience."²⁷ The analysis of such narratives involves tracing diegetic and non-diegetic elements, crucial for generating meaning.²⁸ Furthermore, the study concerns the question of how each

medium's sign systems construct storyworlds,²⁹ and, significantly for my perspective, how the immersion characteristic of transmedia storytelling influences the audience.

Immersion and Empathy

In simple terms, immersion denotes the phenomenon of entering a fictional world.³⁰ One may experience it while listening to a story told by a campfire, reading a novel, playing a video game, and, potentially in the future, using virtual reality, with hardware transmitting stimuli directly to the cerebral cortex. The Wachowskis' *Matrix* and Lem's concept of phantomatics in *Summa Technologiae* provide the most recognizable examples. The reduction of cognitive distance intensifies in proportion to technological refinement: from orality through literacy to VR. Thus, immersion depends on the quantitative, multisensory, and qualitative engagement of the senses, and on interactivity. As technology advances, the medium itself seems increasingly transparent.³¹

What intensified critical reflection on immersion were developments such as technological progress, the worldbuilding turn, the overcoming of verbal hegemony, and participatory strategies of cultural engagement. Krzysztof M. Maj proposes interpreting immersion as a new style of reception connected with worldness.³² Definitions proposed by Maj in his monograph *Światotwórstwo w fantasyce* (Worldbuilding in Fantasy) solve the problem with spelling immersion as *imersja/immersja*³³ in Polish. Maj defines *imersja* as "a subjective experience of reduced cognitive distance that accompanies the entry into a fictional world ... identical with a medium free style of reception characteristic of worldbuilding narratives."³⁴ *Immersja*, on the other hand, denotes "the phenomenon of immersion in digital media, especially virtual worlds and video games,"³⁵ which leads

to worldness.³⁶

In his project on the hermeneutics of video games, Michał Kłosiński offers one of the most interesting studies of immersion.³⁷ Kłosiński analyzes and interprets previous theoretical approaches through the phenomenon of illusion, baroque *trompe l'oeil* painting, and Jean Baudrillard's theory of simulation:

This distinction clarifies that scholars interpret immersion as *a new mode of art reception* ([Marie-Laure] Ryan), as *a scale measuring the reduction of medial distance* ([Michael] Heim), as *a factor that transforms human perception* ([Joseph] Nechvatal), as *a new, non-illusionary style in contemporary art* ([Olivier] Grau). All these approaches reveal that immersion closely depends on two defining scales: *interactivity and the sensory saturation of the medium*.

Researchers generally agree on the scale of interactivity, yet their opinions diverge regarding the issue of illusion in terms of the scale of the medium's sensory saturation.³⁸

Next, Kłosiński turns to the dialectics of immersion (from Latin *immergo, immergere* – “to submerge”) and emersion³⁹ (from Latin *emergeo, emergere* – “to emerge”), namely, to the reduction and extension of medial distance, which activate the critical potential. Moreover, the Latin *mergere* underlines the English “to merge,” which denotes the fusion of two elements into one. Hence, “immersion involves not only submersion but also fusion ... of the experiencing subject with the experienced world.”⁴⁰

This approach implies understanding immersion “first, as a more enduring process; second, as an experience that burs. The boundaries between the subject and the experienced world; third, as a process resulting in a new, distinct person or object.”⁴¹

Ignoring the context of fusion highlights the importance of the immersion/emersion dialectic as fundamental to virtual experience. However, considering this context “invites questions about the transformation of subjectivity of those who no longer merely experience the virtual world but merge with this world.”⁴²

Such an approach entails the concepts of perceptive immersion, which suspends self-awareness, and apperceptive immersion, which “preserves one’s otherness in the face of the world’s recontextualization,”⁴³ namely, when entering VR.

Kłosiński refers to the theatrical turn and invokes the theories of Augusto Boal, creator of the Theatre of the Oppressed, who perceived the Aristotelian tragic model as the reinforcement of social structures and action serving “the interest of the functioning politics that organize citizens’ social life according to a fixed and ossified ethical model.”⁴⁴ Therefore, Boal demands apperceptive immersion, grounded in emotions born from knowledge. Thus, “emersion becomes one of the key strategies in games of the oppressed, as it exposes their social, political, economic, or gender contexts and, as a result, enhances apperception and stimulates critical thinking.”⁴⁵ In short, the dialectic of immersion/emersion, along with apperceptive immersion, safeguards us from ideologization.

The avatars’ bodies possessed by players engage in a play with mimesis: “the greater the immersion, the stronger the sense of the cyber-body’s mimetic quality; the greater the emersion, the weaker the mimetic experience of the cyber-body and the stronger the mimetic quality of the player’s body.”⁴⁶ Therefore, the game allows the player to be themselves-as-someone-else. Drawing on Jacques Derrida and Philippe Lacoue-Labarthe, Kłosiński employs the concept of *désistance* (the deconstitution of the subject) and *résistance* (resistance): “the crucial question concerns the issue of resistance, or rather the (de)constitution and deconstruction of the subject’s resistance to the virtual world.”⁴⁷ In other words, the more *désistance* stemming from immersion, the less *résistance* the subject maintains against systemic (game) mechanisms.

Generally, these phenomena stem from cultural transformations in response to the civilizational and, especially, technological transformations. Just as writing once superseded

orality, we now witness the expansion of technologies that establish and proliferate postliterate communication. I draw on Jacek Dukaj's category from his essay *Po piśmie*⁴⁸ (After Writing), in which experience is one of the central concepts. Dukaj explains: "I attempt ... to present human history as a succession of methods for transferring experience. And the driving force behind this history as an instinct to *externalize experience*."⁴⁹

The four successive methods of transferring experience include: words, figurative art, augmented reality / virtual reality, and mind machine interface.⁵⁰ Thus, the transfer can occur through low-tech means such as literature⁵¹ – hence Dukaj's fascination with Joseph Conrad's creative method⁵² – or high-tech media such as VR, which bring us closer to a utopian, unmediated transfer that might eventually bypass the senses altogether, and enable "experience itself to wander between mind without any mediators."⁵³ At that stage, humans will transmit not the sign of experience but experience itself. Currently, we find ourselves in a transitional phase between figurative art and AR/VR, as well as between literate and postliterate thinking. This stage includes immersive, narrative-driven video games such as *The Invincible*.

As Dukaj observes, "The point is not to tell a story – the story is a tool, the plot a trick – the point is to live another person."⁵⁴ Since empathy emerged as one of the factors shaping humanity alongside the technology of writing,⁵⁵ "art finds its purpose precisely in using the most advanced technologies to empathize with the fate of others."⁵⁶ Thus, if "we employ the category of 'empathy,' *εμπάθεια* literally means 'in-feeling' (*Einfühlung*),"⁵⁷ "empathy denotes co-feeling: the shared feeling of the same ... state ... of anger, hatred, pain, joy, fatigue."⁵⁸ Furthermore, "to live another person, that person need not exist at all,"⁵⁹ which, through the transfer of experience, enables the reader to live the narrator living Marlow living Kurtz in Conrad's *Heart of Darkness*,

and likewise allows the player to live Yasna in *The Invincible*. Technology amplifies immersion, enhancing both empathy and the capacity to live as a fictional being.

Since "empathy involves emulating other people's experiences through circuits originally designed to sense one's own body states,"⁶⁰ and since being a subject of experience can itself be transferable, then

It suffices to induce the illusion of possessing another body in VR: you perceive it from a first-person perspective, in natural scale and resolution. This body speaks in another voice, its own voice, but VR imposes a powerful illusion that you are the one speaking. Consequently, after leaving VR, your own voice, the voice of your biological body, appears shifted toward the frequency of the virtual body's voice. *To some extent, you have already become the person you have lived.*⁶¹

Dukaj describes the ongoing transformations with his characteristic quasi-objectivism and distanced criticism. In a style typical of the futurological essay, Dukaj predicts that in the forthcoming postliterate thinking, we will become universal experiences, machines for experiencing which shed and assume "identities in stroboscopic spasms."⁶² Dukaj's "empty experienter" has much in common with Agamben's "whatever being,"⁶³ understood as a figure of pure singularity, undefined by identities or differences.⁶⁴ The subjectivizing technology will become the creator of values⁶⁵ – "that which uses us here possesses no intellect, no intuition, no will. It simply *is*; one cannot honestly say anything more."⁶⁶

However, let me return to the present stage, namely, the transition between figurative art and augmented reality / virtual reality, and between literate and postliterate thinking, and to theoretical reflections. If one understands immersion as the phenomenon of submerging oneself in a fictional world, Kłosiński emphasizes the key role of the dialectic of immersion/emersion in developing critical distance and the subject's resistance to the

virtual world. If empathy involves feeling-in a fictional character or a real person, Dukaj stresses the key role of distinguishing between the subject and object of feeling-in. Dukaj notes: "The necessary condition of empathy includes a full distinction between oneself and the other, the one empathized, as well as the awareness of empathizing itself."⁶⁷ Dukaj continues: "The necessary condition of empathetic experience requires an 'I' complex and distinct enough for another's experience to reflect within it."⁶⁸ Thus, the empathizing subject cannot become deconstitutionalized. Beyond that boundary, the subject turns into "empty experienter," devoid of *résistance*, operating only on adjectives, namely the qualities of experiences: "The very source of experiences remains beyond personal verification ... *true story* means rather the ability to move one ... to tears rather than a fixed link between the content of experience and reality."⁶⁹ The texture of experience grants it the quality of truth⁷⁰ and, as a result, the opposition truth/fiction collapses, and culture slides further into post-truth and post-fiction.

To what ideology encoded in the game mechanics does immersion in *The Invincible* expose us? To what ideology embodied by Yasna does empathizing with her expose us? Thus, I ask: "What do you tell me, game, about reality? How do you reshape reality? How do you configure my reality through fiction?"⁷¹

An Attempt at Comparative Analysis: The Possibility of Community

Lem employs the description of the Swarm of flies, created in the process of necroevolution on Regis III, to explore the nature of humanity. In the penultimate chapter, the astrogator Horpach forces Rohan, the main character, to decide whether the *Invincible* should complete the mission and depart or remain on the planet to search for four missing astronauts. Rohan decides: "Every man had to know that the others would not abandon him, under any circumstances. That everything could be lost, but you had to have the crew on board – alive or dead. This principle did not appear in the regulations. But without it, it wouldn't have been possible to fly." (I, 181)



The Invincible, prod. Starward Industries, ed. 11 bit studios, 2023.

N. Katherin Hayles reads this very moment as the key difference between humans and machines: "human life is precious; human solidarity depends on the crew's belief that everything possible will be done to save them if they are in peril; and every human is unique and therefore uniquely valuable."⁷² One cannot say the same about the flies: identical, mass-produced, mindless, led to destruction by the instinct that governs the swarm; therefore, "none is valuable in itself; only the swarm has evolutionary survival value."⁷³ Hayles concludes that these differences in values stem from diverging evolutionary paths.

Jerzy Jarzębski begins his reading of the novel from Lem's theory of evolution. Did Nature make a mistake by gradually complicating the early and simple, yet technologically elegant forms of life? Seemingly, it did so, as "in a hostile environment,

bacteria or insects manage to survive more easily than humans.”⁷⁴

Nonetheless, these simple organisms “cannot learn to think; homeostasis marks their highest achievement; they lack the surplus of cognitive power that enables people ... to reflect, communicate, build intersubjective bonds, namely, culture itself.”⁷⁵

This excess allows the crew of the *Invincible* to win by refusing war and avoiding the animosity implanted by the evolution of “struggle for existence,” and “the sense of beauty and emotions serve this purpose better than reason.”⁷⁶ Jarzębski continues that “if anything deserves defense in humanity, it is the psychological complexity, the entire world of emotions unknown to machines, and the unique character of each person, who carries within themselves a strictly personal cosmos.”⁷⁷

Therefore, by comparing humans and machines, Hayles emphasizes the singular and unique value of each human individual. Focusing on the evolutionary process that leads to increasing complexity in organisms, Jarzębski identifies psychological complexity as one of humanity’s defining traits. Through the sense of beauty and emotion, this quality allows humanity to triumph over the Cloud precisely by refusing to fight it. It is a matter of logic, not paradox. How does the game adaptation of *The Invincible* develop these ideas? As Markuszewski from Starward Industries remarks:

Our game’s tone is quite bitter, but not without a spark of hope for the future. It is about humanity as such, its penchant for extending the boundaries of Earth, and the consequences that follow. We tell the story of man using both elements of irony, praising his achievements, and presenting the complexity of the human individual.⁷⁸

I believe that this “spark of hope for the future” resonates strongly in the game adaptation, at least in some of its possible endings, as it envisions cooperation between human and

nonhuman communities.

The game differs significantly from its literary source in terms of plot. The main characters: Yasna, Novik, and four other members of the small research vessel, the *Dragonfly*, belonging to the Interplanetary Commonwealth, arrive on Regis III. The scientists know that the *Invincible*, a ship representing another space-exploring entity, the Intergalactic Alliance, will soon arrive on the planet. The *Dragonfly* scientists want to preempt their rivals and discover what makes the planet so vital that it attracts the attention of "a class II cruiser, the largest vessel of the fleet stationed at the base in the Lyra constellation" (I, p. 1).

During the expedition, Yasna realizes that members of the Alliance have already reached Regis III, but it is the *Condor* ship, not the *Invincible*. Thus, the *Dragonfly* arrives between the first and the second Alliance units, shortly before the rescue operation described in Lem's novel. Almost single-handedly, Yasna undertakes the entire cognitive work described by Lem. In one of the game's final scenes, if the player decides so, during a conversation with Novik and Rohytra, a survivor from the *Condor*, Yasna can choose to prevent a nuclear strike and remain on the planet to deliver her findings to the crew of the *Invincible*. This way, Yasna can warn the Alliance scientist and create a possibility of contacting the product of necroevolution.

The game's plot structure includes multiple endings based on the player's choices. Two key variables involve having a functioning lander at Yasna's disposal and, more importantly, stopping Rohytra from launching a nuclear strike against the Cloud. If Rohytra attacks, the player achieves the so-called "bad"⁷⁹ endings: flies multiply and occupy the whole planet, which may lead to the characters' death. If Yasna persuades Rohytra to defer the attack, the player unlocks the "good"⁸⁰ endings: in one of them, both characters remain on the planet, awaiting the arrival of the *Invincible*, and Yasna can reach the nest and

release the micro-robots she gathered during her research. Both scenarios significantly transform Lem's story. The pessimistic ending involving the nuclear strike traps the player within the logic of war, which Rohan and his crew reject in the novel in favor of leaving Regis III. The optimistic one, peace, and the attempt to communicate with the Swarm, guide the player toward a logic of community and cooperation, which constitutes the focus of my analysis.

The game introduces a new subject of cosmic exploration and distinctly contrasts the Alliance and the Commonwealth. The first name evokes an agreement for cooperation,⁸¹ while the second implies shared characteristics, experiences, culture, or interests,⁸²



The Invincible, prod. Starward Industries, ed. 11 bit studios, 2023.

which refers to relationality in a much stronger way. The Alliance commands powerful resources and aggressive exploration methods, and, as Novik remarks, constitutes "the master of propaganda." The Commonwealth has fewer resources at its disposal and adopts a cognitive research strategy. The contrast between the names of the units reflects their relationship: the scavenging *Condor* and the predatory *Dragonfly*, with landers *Mosquito* and *Beetle*. The insect perspective, so familiar to Lem, suggests that small, gentle, and less invasive forms can constitute a path toward cooperation. Yasna decides to help her rivals and protect them from reckless exploration.

While Lem's original story examines the problem of the colonizers' *hybris*, ultimately tamed by the Other, i.e., the product of necroevolution, the game reshapes this problem in two dynamic ways. First, by introducing the Alliance and the Commonwealth, the game adaptation frames space exploration as the logic of race, both universal and, through its retro-futuristic atompunk aesthetic, historical, echoing the space race

between the USA and the USSR. Second, through Yasna's and the player-being-Yasna's decision to stay on Regis III, the game opens the possibility of cooperation between the two factions and the novel's narrative continuation. While the "bad" ending, the nuclear strike and the Swarm's counterattack, is closed, the "good" ending remains open, and the player may even imagine that the narrative will include further interactions with the Swarm. This openness signals the potential for a continuation, and thus the creation of relational community, a value in itself.

The game adaptation of *The Invincible* amplifies Lem's distinction between machines and humans. The novel's characters move beyond the logic of war: we cannot regard the problem in terms of revenge or payback for the *Condor*, for the fate of its crew. That would be no different than whipping the ocean for having sunk a ship and drowned its sailors" (I, 119–120). At the same time, Yasna (the player-being-Yasna) moves beyond the logic of race, guided by empathy and a sense of community. Yasna and the player's decision stems from what Jarzębski calls the psychological complexity of the human being and what Hayles identifies as the awareness of every person's uniqueness. Simultaneously, the insect-like strategy of gentleness, subtlety, and cooperation, combined with human traits, enables victory over the logic of machines and over the logic of antagonism and competition that drives colonialism. Only if the player-being-Yasna decides so.

I want to compare how, through specific systems of signs, each medium renders these two narratives, literary and video game, and their differences in one of the novel's final scenes, and the final scene of the game. During his solitary search for the missing crew, undertaken after speaking with the astrogator Horpach, Rohan unexpectedly comes into contact with the Swarm of flies (I, 211–214). First, two Clouds appeared, and soon "the two sides of the black ocean joined together and interpenetrated one another (212). Soon, Rohan "spotted an immense *human figure*,

the top of its head extending into the darkness, that was gazing at him without moving And again several seconds went by before he recognized his *own reflection* floating in the empty space between the dangling sides of the cloud" (212; emphasis P.G.-K.). Then, a rain of flies fell on him. Therefore, "he took one of the triangular crystals gingerly between his fingers; it came to life, as it were, blew a gentle puff of warmth on his palm, and rose into the air when Rohan instinctively opened his hand" (213). The fallen flies take flight again, and the Cloud returns and performs a combat spectacle: "He felt he was watching a battle, that the other clouds had expelled the inanimate insects from their midst and cast them to the bottom of the ravine in an effort to get rid of them; but the conflict was only illusory. The clouds parted and there was no trace of the sphere. They had absorbed it into themselves" (214).

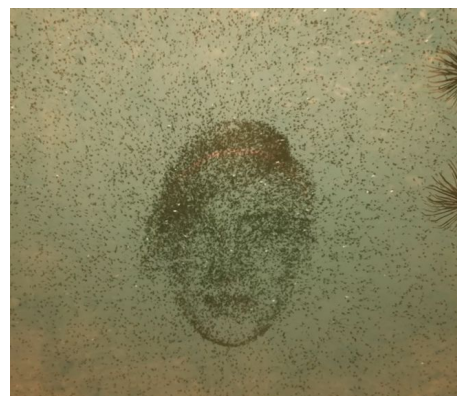
I describe this scene in such detail as I consider it exceptionally necessary. First, although Lem depicts the Swarm as an intelligence driven by survival instinct, it clearly sends Rohan a message meant specifically for him. "He recognized his own reflection," which suggests the possibility of communication. Second, by staging a mock battle after Rohan touches a fly, the message serves as a warning, or at least Rohan interprets it that way: "he felt unnecessary in this landscape of perfect death" (214). Moreover, from that moment, Rohan will "demand that the planet be left alone. Not everything everywhere is for us, he thought" (214). Third, the Swarm communicates through figurative art, as it stages an encounter and then a performance of a duel to convey a feeling and emotions. According to Dukaj's typology, the Swarm uses the second of the four technologies for transferring experiences. Rohan "wished to participate in this ever more shadowy mystery, whose meaning – of this he was certain – he would never comprehend" (213), and he "knew that none of the scientists would be capable of sharing

his feelings" (214).

Rafał Mikołajczyk's comic closely follows Lem's vision.⁸³ On the textual layer, the comic combines fragments taken directly from the novel with reflections on leaving the planet. The visual layer depicts the swirling Swarm and the sitting figure of Rohan, as well as the moment he touches the fly, though it omits the staged fight.

In contrast, in the final episode of the game, after the decision to stay on Ragis III until the *Invincible* arrives, the player experiences a short scene in which Yasna climbs through a dark canyon towards Swarm's nest. When Yasna reaches the top in the open space, she releases dozens of flies collected during her prior exploration of the planet, and, in turn, they quickly merge with the Swarm and form her likeness, visible for a brief moment against the bright sky. The scene's significant visual and emotional tone stems from the movement from the dark and confined space onto the vast hill. However, the main difference arises from the fact that flies do not perform a fight, and they do not form a human figure, but the *face* of the main character. This difference suggests much more clearly the possibility of establishing communication both with Yasna, who remains on Regis III, and with the approaching crew of the *Invincible*, and thus with *Homo sapiens* in general.

As in Lem's novel, the Cloud sends a message encoded in an image. However, in the game, the Cloud also acknowledges in its own way the release of the captured microrobots. Both elements, i.e., the act of communication and the symbolic recognition of the bond with the lost flies, extend beyond the Swarm's previous



The Invincible, prod. Starward Industries, ed. 11 bit studios, 2023.

behavior, namely, the lack of subjective intelligence and emotionality, and treating flies as insignificant parts of a greater whole. Could Yasna's decision, or the player-being-Yasna's decisions to cooperate with the Alliance, to prevent the nuclear strike, to remain on Regis III, and finally to release the flies affect the Swarm? Could these decisions redirect the course of the Cloud's necroevolution?

An Attempt at Interpretation: Against the Frozen Imagination

The aesthetics of the game refer to the 1960s, the decade when Lem wrote *The Invincible*, and the period of the Cold War and the space race. The game reflects that era with the design of the expedition crew's uniforms and equipment, and the interior of the *Condor*, explored by Yasna near the end. Such a creative choice may constitute a tribute to the literary source, but it may as well stem from the worldbuilding limitations. Updating the visual layer would require consistent technological upgrades for both the Alliance and the Commonwealth, which would in turn reshape the methods of exploring Regis III and ultimately transform the entire fictional world. The game's developers mention inspirations ranging from American and British artists such as Sydney J. Mead (1933–2019), Chesley Bonestell (1888–1986), and Christopher F. Foss (b. 1946), to Soviet technology produced at that time.⁸⁴

Thus, we can consider the game adaptation of *The Invincible* as an example of retro-futurism based on past ideas of the future, and more specifically, atompunk, a dystopian aesthetic founded on technology of the 1960s and often treated anachronistically as a derivative of cyberpunk. This creative choice may reveal the frozen futurological imagination characteristic of today's cultural realizations, shaped by the unprecedented pace of current civilizational and technological changes, which significantly

impedes futurological extrapolations. However, a more promising interpretation sees this aesthetic as a deliberate reference to the Cold War to imply a rivalry between two major subjects engaged in space exploration, thus evoking a political context, essentially absent in the novel. By referring to this context, the game either constructs an allegory of the modern race between large corporations to colonize Mars or searches for a universal truth about the colonization process in general.

The Invincible represents a video game with strong immersive potential, which, by its very nature, engages players more deeply than literature. The scale of immersion depends on multiple factors, mostly subjective, as well as on technological limitations, as we still use a mouse and keyboard or a controller, and receive stimuli with our senses. Just as emersion, in a dialectical entanglement with immersion, builds the subject's resistance to deconstitution and systemic influence, as Kłosiński argues, and just as the awareness of a distinct empathizing subject conditions empathy, as Dukaj claims, the hermeneutic process likewise functions as a defensive action.

Since we experience contemporary culture, games included, in an active way, and since "each year we spend a greater part of our lives not acting in matter and learning the rules of victory in nature but acting within fictional worlds and learning rules from their designers,"⁸⁵ we should be especially cautious. As Dukaj remarks, fictional and virtual worlds constitute the beginning of "soul engineering practice that eventually leads to the art of glass beads,"⁸⁶ namely, a game with our cultural values, designed by Hermann Hesse in *The Glass Bead Game* (1943), as "an act of literary prophecy: an ethos and a language of virtual world design as a form of sculpting humanity."⁸⁷

The interactive, multisensory narrative of the game updates the story set in the world of Lem's *The Invincible* on technological, semiotic, and cultural levels. Thus, the game generates new meaning and, as a result, new hermeneutic processes.

Furthermore, the game reveals competition as one of the driving forces of *Homo sapiens* colonization and expansion as both the Alliance and the Commonwealth race to uncover the mystery of Regis III. From that premise, a choice emerges for the player immersed in the fictional world and inhabiting Yasna: should they allow Rohyta to launch a nuclear strike on the Swarm, a pessimistic solution even Lem never pursued? Should the player help establish cooperation between the two organizations and, eventually, create a relational community – a community of an insect-like character, yet founded on the belief in the uniqueness of each individual, combining relationality and humanity? Which values will the player choose? Which glass bead will the player turn between their fingers? As long as immersion remains balanced by emersion, as long as the player has read Lem's novel and listened to declarations about the conquest of Mars, and as long as they remain aware of empathizing, while clicking in front of the screen, it is the player who interprets and decides.

What if Yasna stays on the planet and waits for the *Invincible*, and simultaneously, the Swarm shows her an image of a human face? Does that gesture invite cooperation and a human-non-human communication? Do these decisions influence the necroevolution of the Swarm? Such a vision of a relational, trans-species community is utopian. However, precisely through that utopian quality, it resists the frozen imagination. Nonetheless, another outcome remains possible. Perhaps humanity will never escape the cursed circle of violence and competition, and the data provided by the *Dragonfly* will only encourage the *Invincible* to conquer the planet. The player concerns undertakes the interpretative effort and decides how, and whether at all, the system (of the game) reshapes their thinking.

- 1 Page numbers for citation in parentheses within the main text refer to the edition. Stanisław Lem, *The Invincible*, trans. Bill Johnston (The MIT Press, 2020).
- 2 The other novels include *The Astronauts* (1951), *The Magellanic Cloud* (1955), *Eden* (1959), *Return from the Stars* (1961), and *Solaris* (1961). I do not take into consideration *Memoirs Found in a Bathtub* (1961), which constitutes rather a political, or existential, satirical dystopia.
- 3 Stanisław Lem, *Summa technologiae* (Wydawnictwo Lubelskie, 1984). Lem introduced significant changes in this edition.
- 4 Stanisław Lem, "Weapon Systems of the Twenty First Century or The Upside-down Evolution," in Stanisław Lem, *Biblioteka XXI wieku* (Wydawnictwo Literackie, 2003), 366–397.
- 5 Stanisław Lem, *Pokój na Ziemi* (Wydawnictwo Literackie, 2022).
- 6 Stanisław Lem, *Niezwycięzony*, directed by Grzegorz Pawlak (Audioteka, 2014), accessed March 24, 2025, <https://audioteka.com/pl/audiobook/niezwyciezony>.
- 7 This becomes evident in the novel's first scene, when the *Invincible* lands on Regis III and Lem describes the cruiser like a living organism: "lights began to wink at one another from the consoles," "programs were slowly drawn in by one piece of equipment after another, the commutators gave off sparks, and current flowed into the cables with a hum," "one of the automatons swallowed its program tape and sent a signal to the control center of the hibernation chamber;" I, pp. 1–2.
- 8 Rafał Mikołajczyk, *Niezwycięzony. Na podstawie powieści Stanisława Lema*, (Booka, 2022).
- 9 Marek Kwiatkowski, *Sygnal z Kondora*, Marmel Records, 2019, <https://open.spotify.com/album/0tpkiSY0jW6FeccWSjXaty?si=VOC8P6qCQxuMYIHX-6W8wQ>, accessed March 24, 2025.
- 10 Endurance, *The Invincible*, Records DK 2020, https://open.spotify.com/album/4006tryqoBkaF3ndruE9zp?si=FDhbj0sPOy21uxPHB_ebuw, accessed March 24, 2025.
- 11 Ma Haiping, *The Invincible*, Seclusion 2022, <https://open.spotify.com/album/09gohjrANIPzuLb9cJB3ut?si=W50KKcmvQaaBPLPxSSnrIA>, accessed March 24, 2025.

- 12 Brunon Lubas, *The Invincible. Original Game Soundtrack*, Black Screen Records, 11 bit studios, 2023, <https://open.spotify.com/album/4AKXBIPXLh7DQcV8Jv7KSG?si=HLC1qQ2WS8uRjHL66c1-AQ>, accessed March 24, 2025.
- 13 *The Invincible*, Starward Industries, 2023.
- 14 Marek Markuszewski, "The *Invincible* Interview: A Completely Immersive, Consequential Retro-Futuristic Adventure," interview by Michael Cripe, *The Escapist*, February 15, 2022, www.escapistmagazine.com/the-invincible-interview-marek-markuszewski-starward-industries-gameplay, accessed March 18, 2025 [emphasis P.G.-K.].
- 15 Markuszewski, interview.
- 16 Ibid.
- 17 Daniel Mróz's illustrations for Stanisław Lem's books are available on the website <https://solaris.lem.pl/galeria/rysunki-mroza/category/57-daniel-mroz>, accessed March 28, 2025.
- 18 Game characters smoke cigarettes named "Lems."
- 19 For example, Novik tells a story about his planned participation in the expedition to the planet Eden (the novel *Eden*, 1959). On board the *Condor*, Yasna finds a project for creating an e-book reader (opton) and an audiobook reader (lekton), accompanied by the note: "The bold fantasy visions by the writer working under the pseudonym Lem can, in my view, become reality. All the wisdom of the cosmos will no longer record itself on materials of natural origin. Books will function as crystals inscribed with meaning" – a reference to, among others, *The Magellanic Cloud* (1955).
- 20 On the official website of the game, <https://invinciblethegame.com> (accessed March 28, 2025) the developers share a short comic that expands the story presented in the game and recounts the experience of one astronaut rescued by a robot. Moreover, a new edition of the novel appeared, illustrated with images from the game: Stanisław Lem, *The Invincible. Niezwyciężony* (Wydawnictwo Literackie, 2024).
- 21 An example of such a reference appears when, aboard the *Condor*, Yasna discovers *Astrophysics* by Sheldon Cooper, the character from the sitcom *The Big Bang Theory*, USA, 2007–2019.
- 22 Katarzyna Kaczmarczyk, "O podstawowych założeniach narratologii transmedialnej i o jej miejscu wśród narratologii klasycznych i postklasycznych," in *Narratologia transmedialna. Teorie, praktyki, wyzwania*, ed. K. Kaczmarczyk (Universitas, 2017), 22. The scholar continues by noting that a new model of the relationship between narrative

and medium illustrates “a terminological change, namely a move from attempts to define narrative to attempts to understand narrativity, scholars view the latter scholars as gradable” (Kaczmarczyk, “O podstawowych założeniach,” 28). This change also marks a move from plot-centered to world-centered narratology, which accounts for audience engagement and the issue of participation.

- 23 Marie-Laure Ryan, Jan-Noël Thon, “Storyworlds across Media: Introduction,” in: *Storyworlds across Media: Toward a Media-Conscious Narratology*, ed. M.-L. Ryan, J.-N. Thon (University of Nebraska Press, 2014), 3.
- 24 Henry Jenkins, *Convergence Culture Where Old and New Media Collide* (New York University Press, New York 2006).
- 25 The Polish translation of key concepts sparked interesting theoretical and literary controversies. Małgorzata Bernatowicz and Mirosław Filiciak translate transmedia story as “opowieść transmedialna” and transmedia storytelling as “opowiadanie transmedialne.” Krzysztof M. Maj proposes, respectively: “*transmedialna fabuła*” and “*narracje transemdialne*” (Krzysztof M. Maj, “*Ucieczka od linearności. W stronę światocentrycznego modelu narracji transmedialnych*,” in: *Narratologia transmedialna.*, 287), therefore, for him, storyworld means “*świat narracji*” (the world of narrative) – see Krzysztof M. Maj, *Światotwórczość w fantastyce. Od przedstawienia do zamieszkiwania* (Universitas, 2019), 325. In turn, Piotr Kubiński proposes the term “*światoopowieść*” (world-story), which, as he explains, “stems from the striving to use a neologism to emphasize the full equal value of both components of the term (‘world’ and ‘story’) whose relationship does not rely on simple belonging or subordination, as might suggest the phrase ‘świat opowieści’ (the world of (what?) the story)” Piotr Kubiński, “*Cyfrowe światopowieści. Narracyjność gier wideo*,” in *Narratologia transmedialna*, 317–318.
- 26 Lisbeth Klastrup, Susana Tosca, “*Game of Thrones. Transmedial Worlds, Fandom, and Social Gaming*,” in *Storyworlds across Media*, 296; translation: Krzysztof M. Maj, *Ucieczka od linearności. W stronę światocentrycznego modelu narracji transmedialnych*, in *Narratologia transmedialna*, 291.
- 27 Marie-Laure Ryan, “*Tuning the Instruments of a Media-Conscious Narratology*,” in *Storyworlds across Media*. 25.
- 28 Ibidem, 37.
- 29 Ibidem, 42.

- 30 See: "Immersion: A strong fantasy identification or emotional connection with a fictional environment, often described in terms of 'escapism' or a sense of 'being there.'" Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York University Press, 2006), 286.
- 31 Immersion refers to "the sensation of unmediated participation and direct presence in a computer-generated digital space, arising, among others, from engagement triggered by various factors" – Piotr Kubiński, *Gry wideo. Zarys poetyki* (Universitas, 2016), 51.
- 32 Krzysztof M. Maj, "Czas światoodczucia. Imersja jako nowa poetyka odbioru," *Teksty Drugie*, no. 3 (2015): 368–394.
- 33 I decide to use the Polish spelling "*imersja*," and not "*immersja*," although both constitute correct forms and appear in discourse. I retain the original spelling in Polish quotations, as well as in instances where I refer to researchers' findings.
- 34 Maj, *Światotwórstwo w fantastyce*, 323.
- 35 Ibidem.
- 36 It refers to "the specific immersive experience and understanding of the world: its ecology, typography, history, philosophy, and politics, connected with the xenoencyclopedic competence developing during its exploration; Maj, *Światotwórstwo w fantastyce*, 328.
- 37 Michał Kłosiński, *Hermeneutyka gier wideo. Interpretacja, immersja, utopia* (Instytut Badań Literackich PAN, 2018).
- 38 Ibidem, 107; emphasis P.G.-K.
- 39 Piotr Kubiński introduced the concept of emersion ("Efekty emersyjne," in *Gry wideo*, 69–150). Kubiński identifies and describes immersive factors, which include technical disillusion, namely the existence of poorly designed elements of the game, apparent obstacles or the effects of an unfinished film set, which reveal the dependence of the diegetic space on the device. However, creators sometimes exploit technical disillusion to semantically highlight the material dimension of the medium, corresponding to the discussed "emersion." Kubiński links the device of estrangement to the category proposed by Viktor Shklovsky and Russian formalism, namely the way to "complicate perception." Ironic distance constitutes another example of immersive factors. In the *Witcher* game series, ironic distance operates so that the message remains consistent with knowledge of the world, which generates a new model of metacommunication. The

player draws on extradiegetic knowledge, and communication between the sender and the player occurs outside the characters. Furthermore, in the catalog of emersive factors, Kubiński includes breaking through the fourth wall, playing with the narrative situation, for instance, by employing an unreliable narrator, and palimpsestic attempts arising from repeatedly loading game saves. According to Kubiński, emersion can function as a form of artistic expression.

- 40 Kłosiński, *Hermeneutyka gier wideo*, 109.
- 41 Ibidem, 109.
- 42 Ibidem, 109.
- 43 Ibidem, 112.
- 44 Ibidem, 122.
- 45 Ibidem, 125.
- 46 Ibidem, 130.
- 47 Ibidem, 133.
- 48 Jacek Dukaj, *Po piśmie* (Wydawnictwo Literackie, 2019). I comment more broadly on this concept in Piotr Gorliński-Kucik, "Nowe poetyki," in *Jutro. SF jako sposób myślenia* (Wydawnictwo Uniwersytetu Śląskiego, 2024), 243–271.
- 49 Ibidem, 186.
- 50 Ibidem, 152–153.
- 51 Piotr Przytuła describes the immersive strategies that Dukaj implements in literature, achieved through worldbuilding and stylistic techniques. Piotr Przytuła, "O naśladownictwie cech gier komputerowych w literaturze. Przypadek imersywnej fikcji Jacka Dukaja," *Media – Culture – Social Communication*, no. 16 (2020), 89–103.
- 52 Przytuła, "O naśladownictwie," 149–182; see Joseph Conrad, *Serce ciemności*, Polish adaptation by Jacek Dukaj (Wydawnictwo Literackie, 2017). Weronika Nawrocka discusses this topic more extensively in this issue of the journal in the "Panorama" section.
- 53 Dukaj, *Po piśmie*, 277.
- 54 Ibidem, 159.

- 55 Ibidem, 227.
- 56 Ibidem, 145.
- 57 Ibidem, 162.
- 58 Ibidem, 369.
- 59 Ibidem, 163.
- 60 Ibidem, 154.
- 61 Ibidem, 154; emphasis P.G.-K.
- 62 Ibidem, 393.
- 63 See Giorgio Agamben, *The Coming Community*, trans. Michael Hardt (University of Minnesota Press, 1993).
- 64 Dukaj, *Po piśmie*, 339–343.
- 65 See Jacek Dukaj, "Jakie książki napisze nam sztuczna inteligencja," *Magazyn Książki*, no. 4 (2023), accessed March 24, 2025. Dukaj continues these reflection in one of his most recent interviews, where he elaborates on the writing potential of AI and the retreat into fiction as contemporary culture's response to the nature of reality. See Andrzej Nowak, "Anatomia zwierząt historii. Rozmowa z Jackiej Dukajem," in *Kto pisze naszą historię? Rozmowy polskie wiosną XXI wieku*, (Wydawnictwo Literackie, 2024), 65–151.
- 66 Dukaj, *Po piśmie*, 193.
- 67 Ibidem, 162. Dukaj elsewhere adds: "Empathy presupposes far-reaching differences between the subject and the object of feeling. Indeed, these differences constitute a necessary condition for empathy. We make a conscious effort.;" Dukaj, *Po piśmie*, 169.
- 68 Ibidem, 180.
- 69 Ibidem, 211.
- 70 Ibidem, 223.
- 71 Kłosiński, *Hermeneutyka gier wideo*, 28.
- 72 N. Katherine Hayles, "Foreword," in Stanisław Lem, *The Invincible*, trans. B. Johnston (The MIT Press, 2020), XII.

- 73 Hayles, "Foreword," XII.
- 74 Jerzy Jarzębski, "Cały ten złom," in Stanisław Lem, *Niezwyciężony*, (Wydawnictwo Literackie, 2015), 255.
- 75 Ibid.
- 76 Ibidem, 256; emphasis P.G.-K.
- 77 Ibidem, 256–257. Jarzębski concludes his interpretation by emphasising once more the renunciation of an anthropocentric perspective: "Therefore, one must travel the evolutionary path from the instinctive simplicity of the insect to the dizzying cerebral and intellectual complexity of the human being in order, at the end of the journey, to perceive the world as a whole reflected in one's own eyes – and to renounce the role of judgement the measure of all things;" Jarzębski, "Cały ten złom," 257.
- 78 Markuszewski, interview.
- 79 Rohytra attacks the Cloud with a nuclear weapon, as a result of which the Swarm takes control of the planet and kills both Rohytra and Yasna (1); if Yasna has access to the lander, she can escape alone and in that case, we never learn whether she survives (2); if Yasna waits for Rohytra, they both die (3); a delay in the detonation will lead to Yasna's death, regardless of whether she releases the previously collected flies (4); or not (5). Description of the endings: Filip Melzacki, "Nieoficjalny polski poradnik GRYonline.pl do gry The Invincible," *GRYOnline*, accessed March 29, 2025 www.gry-online.pl/poradniki/the-invincible/zakonczenia/z01dc5c.
- 80 Rohan does not use a nuclear weapon; deprived of a functioning lander, he and Yasna wait for the *Invincible* (1) If Yasna, while waiting for the *Invincible*, leaves the *Condor*, she reaches the Cloud's nest and establishes contact with the Swarm (2); if Yasna has access to the lander, she can depart alone either with the microbots (3) or without them (4); if, as a result of Yasna's attempts to stop Rohytra from attacking, he loses his memory, Rohytra threatens Yasna (5 and 6) – see Melzacki, "Nieoficjalny polski poradnik."
- 81 "Alliance: an agreement between states, political parties, or individuals who commit to cooperation and mutual help; also: a group of states, political parties, or individuals who have entered into such an agreement;" "Sojusz," *Słownik Języka Polskiego PWN*, accessed March 10, 2025, <https://sjp.pwn.pl/sjp/sojusz;2575768.html>.

- 82 "Commonwealth: 1. the state of sharing common features or jointly possessing or experiencing something; 2. That which unites or bonds; 3. A group of people connected by common origin, shared culture or interests, or joint ownership;" "Wspólnota," Słownik Języka Polskiego PWN, accessed March 10, 2025.
- 83 Mikołajczyk, *Niezwycięzony. Na podstawie powieści*, 207–213.
- 84 "The first of them is atompunk aesthetics, explored very widely in comic books, cinema and television, with inspiration from classic works of people like Chris Foss, Chesley Bonestell, or Syd Mead. On top of that, we actually researched the original designs of spacesuits and clothing used during the Cold War, as well as spaceships, vehicles, various tools and devices manufactured in the Soviet Union. All this has come together in *The Invincible*, creating a fresh and unique retro-futuristic visual style;" a statement by Marek Markuszewski, see. Alex Avard, "'The Invincible' is a sci-fi thriller coming to PS5 and Xbox Series X from a new studio of former CD Projekt Red and Techland developers," *Gamesradar*, September 15, 2020, accessed: March 25, 2025.
- 85 Jacek Dukaj, "Nowa inżynieria dusz," in *Antologia Frostpunk* (Znak, 2024), 613. This anthology serves as a literary extension of the *Frostpunk* universe. Dukaj's words refer to this game as a metonymy for strategy games.
- 86 Dukaj, "Nowa inżynieria dusz," 620.
- 87 Dukaj, "Nowa inżynieria dusz," 617. In the introduction to the anthology, game designer Jakub Dzierżykraj-Stokalski adds that games function as "laboratories of player values" (Jakub Dzierżykraj-Stokalski, "Wstęp," in *Antologia Frostpunk*, 12), and elsewhere, he reflects on games in the context of Dukaj's *Linia oporu* – Jakub Dzierżykraj-Stokalski, "Wyznania projektanta linii oporu. Czyli dalszego robić raczej coś niż nic," in Jacek Dukaj, *Linia oporu* (Wydawnictwo Literackie, 2024), 7–21) In a society where most activities become unnecessary due to existential security, games turn into a voluntary overcoming of unnecessary obstacles (Dzierżykraj-Stokalski, "Wyznania projektanta linii oporu," 19), and game designers act as architects of the "lines of resistance of humanity" and as craftsmen of artificial meanings. This state leads Dzierżykraj-Stokalski to a philosophical reflection on life as a game: "Games serve as a foreshadowing, an exercise for this civilizational moment when we ourselves will have to assign value to our actions" (Dzierżykraj-Stokalski, "Wyznania projektanta linii oporu," 20).

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