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Gamevironments from the perspective of an actant. ChatGPT (prompt: "gameenvironments").

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Gamevironments Revisited

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Ludonarratology and Gamevironments in Dialogue

Zhang Ni

Abstract

This article argues that game studies will benefit from an acute attentiveness toward religion, and that a gamevironments approach refined by insights generated in the recent developments in ludonarratology is what we need to study religion, a phenomenon and force diffused in the technical and cultural environments of games and gaming. Kerstin Radde-Antweiler (2024) emphasizes that a research design taking a gamevironments perspective must consider gaming, gaming-related actants, and gaming-related media practices, all located in the unity of technical and cultural environments. This holistic approach resonates with ludonarratologists' attempt to dissolve the divide between technical systems and cultural narratives.

Ludonarratologists such as Brendan Keogh (2008) and Weimin Toh (2008) specify what Radde-Antweiler calls actants as mediated (or embedded, enacted, and extended) bodies beyond the human. In this light, we may consider shifting from actant-centeredness to a focus on the embodied experiences of gamers, developers, branders, and other gaming-related practitioners, and the affective force that brings them and various media objects together. Moreover, following the lead of Tison Pugh (2019) who, among many others, applies ludonarratology to the study of narratives in general, we may proceed to discuss the mediatization and gametization of entire societies, a commitment shared by both gameenvironments and ludonarratology. It is to be added that while we can discern a gaming structure in all kinds of narratives and other human endeavors, gamification as a labor paradigm, business strategy, and governmentality needs to be considered if we intend to study games as not just reflections of but part and parcel of reality. To demonstrate why the study of religion and gaming needs the gameenvironments-ludonarratology paradigm, an analysis of *Black Myth: Wukong* (2024), China's first AAA game inspired by *Journey to the West* (Wu 1592), a vernacular novel that has been transforming in the environments of Chinese religions, politics, and economy, is provided.

Keywords: Ludonarratology, Narrative, Narratology, gameenvironments

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In their inaugural essay for the journal *Gamevironments*, Kerstin Radde-Antweiler, Michael Waltmathe, and Xenia Zeiler (2014) behoove that scholars working on religion and video games learn from the debate between narratologists and ludologists and consider both game content and gamer experience to locate the impact of religion, which is not only a reservoir of symbols for world-building, but also a set of embodied performances comparable with, if not overlapped with, interactive actions of the player. They propose the analytical concept gameenvironments, which consists of both the technical and cultural environments of video games and their players. Ten years later, Radde-Antweiler (2024) offers a revision of gameenvironments in her article published at the beginning of this special issue. She emphasizes that a research design taking a gameenvironments perspective must consider gaming, gaming-related actants, and gaming-related media practices. She no longer treats the technical and cultural environments of games and gaming as two separate levels. Moreover, her approach is focused on all actors directly or indirectly related to not just gaming but also the production and reception of gaming. These actors are not limited to the human, and they include, for example, hardware, software, and data – that are also carriers of communicative practices – and thus should be better described as actants.

Since ludonarratology, a similar attempt to bring together technology and culture, is not invoked in the new article, I will give a survey of ludonarratology's developments in the past ten years, compare ludonarratological approaches with gameenvironments, and make suggestions about how to further refine the conceptualization of gameenvironments. Three questions are to be addressed: What can ludonarratologists learn from a gameenvironments approach? How can the latter be improved in the light of the latest discussions in ludonarratology? What is still missing and needs to be considered in both fields? The goal of putting ludonarratology and gameenvironments

in dialogue is to argue that game studies will benefit from an acute attentiveness toward religion and, to treat religion in terms of its full complexity, we need to take a gameenvironments-ludonarratology approach.

To review the debate: ludologists once argued that narratives play nonessential functions in games, that narratology is an inadequate analytical framework to analyze games, and that scholars working on games need to ward off the theoretical imperialism of established disciplines such as literary studies and media studies.¹ It has already been demonstrated that games can engage in storytelling and that the rigid divide between games and narratives is untenable (Kapell 2015). Moreover, the version of narratology under attack is a distorted and outdated simplification, especially since narratologists have gone beyond old models based on print literature to develop renewed conceptualizations of narrative. For instance, narratologists such as David Herman (2009) and Marie-Laure Ryan (2006) have redefined narrative as a cognitive frame for the (re)construction of mentally projected worlds in various semiotic environments. Narratologists are not imaginary opponents but allies with ludologists in their shared quest to explore the affordances and limitations of different types of media.

Responding to ludologists' hostility toward old interpretive models, the ludonarratologists I survey in this article hold a range of positions such as 1) striving to separate videogames, defined as technological systems, from other forms of narrative, 2) emphasizing the multimodality of videogames and the impossibility of studying them as isolated from other modes and media, and 3) using insights generated in the study of digital gaming to rethink traditional narratives. I point out that a gameenvironments approach is more sophisticated in that it 1) goes beyond focusing on technological systems/environment as distinct from their cultural

counterparts, 2) acknowledges the multimodality and transmediality of not just games but also other practices related to gaming, and 3) broadens the scope of research to consider the mediatization and gametization of entire societies.

Since the three foci of the new ludonarratology are system, embodied experience of the player, narratives with a gaming structure, I will compare them with the corresponding components of gameenvironments as environments, actant-centeredness, and gametization. I have chosen to introduce Hartmut Koenitz's (2023) theorization of system, Brendan Keogh's (2018) and Weimin Toh's (2018) respective projects studying the embodied experience of the player who interacts with games that employ multiple modes of communication to affect multiple senses and Tison Pugh's (2019) endeavor to apply ludology to the study of narratives in general and to trace how both games and narratives deviate from normative systems. During the process of comparison. I will use *Black Myth: Wukong* (2024) (hereafter *Black Myth*) – an action role-playing game developed by Game Science, a Chinese company, and released on multiple platforms in August 2024 – as an example to illustrate how to take a gameenvironments-ludonarratology approach in our study of religion and gaming. It is to be emphasized at the outset that religion is not a compartmentalized field but an integral aspect of interlinked environments or systems. It is not just a set of beliefs, assumptions, narratives, and worldviews but also embodied practices, experiences, and affects. Hence it is a social phenomenon and force scholars working on gamification cannot afford to overlook.

Black Myth has been selected as my example because it is not simply a technological system but should be considered in the religious, cultural, political, and economic environments of modern and contemporary China. Moreover, it is a multimodal system combining storytelling and gameplay to foreground bodily experiences, a

theme borrowed from Chinese religions, during the gaming process and to encourage online and offline practices beyond the actual play. Last, but not least, it is inspired by the vernacular novel *Journey to the West* (*Xiyouji* 西遊記) (Wu 1592), the protagonist of which is a monkey named Wukong 悟空, and invites us to rethink the gaming structure of traditional narratives as well as the mediatization and gamification of contemporary societies. The original novel tells the story of a team of Buddhist pilgrims travelling from China to India to acquire Mahayana sutras. This journey can also be read as a metaphor for the process of cultivating the mortal body to obtain immortality in the tradition of Daoist internal alchemy. Wukong is the lead warrior among the pilgrims during the demon-infested journey, who eventually becomes Buddha Victorious in Strife (*Douzhan shengfo* 鬥戰勝佛). In Daoism and popular cults, the monkey stands for the heart of the alchemical cultivator who must overcome various obstacles to achieve immortality (see Yu 2008, for a summary of Yu's work in this regard, see Wang and Xu 2016). As the novel has been extensively studied by scholars of religion and literature, an investigation into how the game borrows and transforms the novel will exemplify how to study the entanglement of religion, storytelling, and gameplay.

From Technological Systems to Gamevironments

First, I compare systems in ludonarratology and gamevironments. The subject matter of Koenitz's (2023, 62) research is interactive digital narrative, "a narrative expression in various forms, implemented as a multimodal computational system with optional analog elements and experienced through a participatory process in which interactors have a non-trivial influence on progress, perspective, content, and/or outcome." Koenitz sees interactive digital narratives, video games included, as a

product of digital technologies, something that should be studied as distinct from books and films and not simply be plugged into the theoretical assemblages of traditional humanities. Inspired by Nick Montfort's (2005) work on interactive fiction and Roy Ascott's (2003) call for a cybernetic art, Koenitz (2023) describes IDN (interactive digital narrative) as a dynamic system experienced through a human-system interaction process that results in many different products that include both recorded playthroughs and retold gaming experiences. He then builds an SPP (meaning system, process, and product) model to explain IDN.

System designates the digital artifact, which includes both software and hardware: "the executable programming code and assets – digital representations of pictures, movie clips, sounds, and text, as well as links to more resources on a local network or the internet" on the one hand, and "keyboards, mice, displays, and other hardware (e.g., sensors)" on the other hand (Koenitz 2023, 75). A process is created once a player starts to interact with the system. This process is specified as instantiation, a means by which output is generated from a computer/software system and an essential aspect of the digital medium. The same system can generate a wide variety of interactive processes for its players and instantiated products, that is, recordings and retellings, the latter may cover multiple playthroughs and contextual information.

Although only the final products mentioned above are comparable with legacy media narratives, system contains the so-called protostory carrying potential narratives for players, while process is an experience of both gameplay and narrative interpretations. Koenitz uses protostory to refer to "the concrete content, internal structure, and outward appearance of an IDN system as a space of potential narratives that is connected to any instantiated narrative through a participatory process" (Koenitz 2023, 76). I point out that these potential narratives are also

actualized narratives prepared by game designers. More specifically, for Koenitz, a protostory is made up of procedural components (game mechanics), assets (digital representations), user interface, narrative design, and narrative vectors. For these potential narratives to be instantiated, the player interacts with the system and in this process practices what is called double hermeneutics, interpretation of possibilities for interaction and interpretation of instantiated narrative. After the first playthrough, the interactor can go through the process again and again “to revisit earlier decisions, change perspectives, or visit different locations” (Koenitz 2023, 77). Double hermeneutics thus becomes triple (or multiple) hermeneutics as the player reflects on the memories of traversals and adjusts their future engagements with the artifact.

It is interesting to note that what Koenitz calls system is a technical environment in which human actors and nonhuman actants interact. His description of the process of instantiation elaborates on Radde-Antweiler’s notion of gameenvironments as a communicative figuration. However, the technical-cultural divide Radde-Antweiler endeavors to break is exemplified by Koenitz’s unwillingness to confuse digital artifacts with legacy narratives. I side with gameenvironments because in cybernetics information-processing systems can be biological, social, mechanical, or conceptual and of various scales. Cultural environments for gaming are part and parcel of system as well. Moreover, due to his narrow definition of system as a digital artifact, Koenitz’s protostory is located in the content of games, with the production of games and the prior experiences of gamers (and other actants related to gaming) left out of the picture. Similarly, when he considers the products of the interactive process of gaming, he limits his attention to recordings and retellings. By contrast, Radde-Antweiler includes the media practices of (non)players such as discussing strategies, writing fanfictions, and adapting games into other media formats. System in game studies would be incomplete without the production mechanism and reception

apparatus of gaming and other gaming-related practices. This is why we need the more expansive term gameenvironments.

Black Myth is a good example with which I demonstrate the analytical strengths of gameenvironments. The game is undeniably a digital artifact; however, this technological system is intricately entangled with the religious-cultural system surrounding *Journey to the West* and embedded within the political and economic systems of contemporary China. The protostory of the game is framed by a series of prior-stories and meant to generate gaming-related practices. The 2024 game is not directly inspired by *Journey to the West* but is immediately indebted to the modern retellings of the 16th-century novel, while the actualized narrative already prepared by game designers and to be interpreted by game players is a political allegory for the fate of the gaming industry in the political and economic environments of contemporary China.

I stress that although the 2024 game invokes religious elements from the 1592 novel in its world-building and enacts an analogy between cultivation experience and gaming experience, it is intentionally entitled *Black Myth*, with its protostory's grim and dark deviation from traditional myth highlighted. Transformations started in the early twentieth century. The 1592 novel became canonized as a masterpiece of pre-modern Chinese literature while the religious message was intentionally downplayed during the secularization processes (for the secularization of the novel, see Brose 2020). In the modern transmedia extensions of the novel, Wukong was transformed into a proletarian hero during the socialist period (1950s-1970s) and then a melancholic vagabond around the turn of the 21st century. In the early 1960s, the two-part animation film *Uproar in Heaven* (*Danao Tiangong* 大鬧天宮) (1961, 1964) celebrated Wukong as a rebel from the working classes. This hero wages a just war

against the Heavenly Court, feudal and capitalist authorities repressing the Chinese people, and triumphantly returns to his Flower and Fruit Mountain (*huaguo shan* 花果山) to start a utopia with his fellow monkeys. The sutra-seeking journey, the main storyline of the original novel, one that begins to unfold after the failure of the rebellion, was completely wiped off. In the 1990s and early 2000s, the socialist Monkey was replaced by a post-socialist antihero. In films such as *A Chinese Odyssey* (*Dahua xiyou* 大話西游) (1995) and novels such as *Biography of Wukong* (*Wukong zhuan* 悟空傳) (Jinhezai 2006), Wukong appears psychologically tormented because he becomes disillusioned in the mission of sutra-acquisition and universal salvation but is forced by the Heavenly Court to leave his lover and abandon any hope in anchoring himself in everyday life (for the 20th century transformation of Wukong, see Bai 2017, 173-237, Sun 2018, 91-118).

Following the lead of *A Chinese Odyssey* and *Biography of Wukong*, *Black Myth* portrays Wukong as a postsocialist individual suffering existential anxiety after the bankruptcy of grand narratives. The Wukong of this *black* myth completes the salvific journey, discards his hard-won Buddhahood or immortality, wages a second rebellion against the Heavenly Court, and is annihilated together with the entire monkey clan from the Flower and Fruit Mountain. In the game, the avatar controlled by the player is a new monkey named The Destined One (*Tianming ren* 天命人), whose mission is to find and piece together what remains of Wukong, the so-called Six Roots (*liugen* 六根, originally a Buddhist concept also adopted in Daoist alchemy), his sensory experiences gathered through eyes, ears, nose, tongue, mind, and body, to become a new Wukong. I notice that from *Uproar in Heaven*, *Black Myth* inherits the central theme of Wukong rebelling against the Heavenly Court, however, this court is no longer the feudal state in conflict with the proletarian Monkey but the Chinese state that suppresses the gaming industry. From *Journey to the West*, *Black Myth* borrows

the central trope of Six Roots, however, they stand for sensual distractions to be eliminated during the cultivation process in the 1592 novel but change into the very foundation for the making of a gaming subjectivity in the 2024 game. In other words, Wukong has become a symbol of gaming that depends on the generation and manipulation of bodily senses. I further suggest we read the making of this new Wukong, through both gameplay and narrative interpretation, as an allegory for the fate of the Chinese gaming industry struggling in a hostile political environment.

The Chinese state condemns games as e-heroin, a source of spiritual corruption particularly harmful to the younger generations (Cao and He 2021). Starting in the late 1970s and early 1980s, the Chinese state placed a high tax on the imports of gaming-related hardware and software, banned foreign consoles from 2000 to 2015, and strictly censored gaming contents. These restrictions did not completely stifle the Chinese gaming industry but pushed its development in unexpected directions. In the 1980s and 1990s, the unavailability of foreign consoles and games gave rise to the flourishing of counterfeit consoles and pirated games. On this basis the native production of PC games and online games began to take off in the 2000s. Around the same time the proliferation of smart phones opened the market of mobile games. (For a brief summary of how the Chinese state dealt with the gaming industry, see Konvoy 2024.) In 2024, China commands the largest share of global mobile games revenue (Interesse 2024). The government persisted in regulating the gaming industry. It imposed anti-addiction measures on PC gaming in the early 2010s, forcing game companies to follow suit by adding similar measures to mobile games. In December 2023, new rules were announced, including limiting playtime and in-game spending and banning check-in rewards. Most ironically, these restrictions were renounced two days later, after China's top gaming companies lost huge amounts of market value overnight (Hawkins 2023).

The Chinese state is ambivalent toward games because it is committed to *both* moral-political control *and* promoting economic development. On the one hand, its mission to keep games under control is rooted in a deeply ingrained hostility toward commercial entertainment in Confucian orthodoxy and socialist ideology. It is worth mentioning that Qian Daxin 錢大昕 (1728-1804), a Confucian scholar and educator, urged the imperial state of the Qing dynasty (1644-1912) to ban vernacular novels, considering them the fourth religion of China in addition to Confucianism, Buddhism, and Daoism and warning against the moral corruptions this heretical religion helped to spread (Shahar 1996). Similarly, leftist intellectuals of the early twentieth century condemned popular martial arts fiction and films for leading the masses astray by promulgating feudal superstition and heterodoxy (Hamm 2019, 136-140). The fate of digital artifacts had been predetermined before their invention in the second half of the 20th century as they were treated as legacy narratives updated and more damaging by the censoring state. Moreover, the fate of novels, films, and games has always been intertwined with that of religion. 94

On the other hand, the still-expanding revenue generated by the gaming industry has helped it to secure a position in the state's economic restructuring plan. After China established itself as the manufacturing powerhouse of the world, the state was eager to pursue "a purposeful transition from the export-and-investment-driven growth to a consumption-based and innovation-driven economy" (Hong 2017, 3). The gaming industry has been recognized as a pillar industry to achieve the transition from a "Made in China" economy to a "Created in China" model (Cao and He 2021). In August 2024, the release of *Black Myth* was followed by public and state media praise, in contrast to the harsh media criticism the entire gaming industry has been facing. While articles, videos, and live streaming made by ordinary fans and influencers flooded social media platforms, official newspapers and TV stations also

ran reports to celebrate *Black Myth* as the first AAA game (a blockbuster requiring a lot of budget, resources, and team efforts to make) created in China.

It is worth noting that AAA is a commercial concept and is specifically linked to the envisioned upgrade of the Chinese gaming industry from the domination of mobile games and online games to the rise of high-end games of technological and cultural sophistications, which are projects of high risk but will be highly profitable if approved by the market. Moreover, the Chinese gaming industry is developing into a transmedia industry extending both on various media platforms and into the offline world. Rumor has it that *Black Myth* will soon be adapted into a live-action film, while current media reports encouraged players, or anyone interested, to travel to heritage sites, Buddhist and Daoist temples, featured in the audio-visual representations of the game. While in-game check-in and spending are restricted by the central state, real-world tourism is passionately promoted by local governments. On the ideological level, official and grassroots media practices converged to stress the link between *Black Myth* and *Journey to the West*, overlooking the darkness of the former's protostory so as to praise the game for kindling an interest in traditional culture among the youth and proselytizing Chinese culture to foreigner players. To legitimize the stigmatized games and the gaming industry, the marketing strategies of *Black Myth* were to ignite nationalist sentiments and to appeal to the state's eagerness to increase China's soft power on the global stage.¹¹ Most ironically, games were celebrated as a vehicle for reviving Buddhist and Daoist philosophies, now a platform for the display of China's national wisdom, not a dangerous deviation from proper teachings. In sum, the case of *Black Myth* supports ludonarratology instead of ludology per se, as what helps the gaming industry to survive and thrive in the Chinese gameenvironments – a series of interlinked systems – is precisely the nonplay

components and contextual factors of the game, as to be discussed in the next section.

Play and Nonplay Components and Embodied Experiences of Actors/Actants

In contrast to Koenitz's preoccupation with the technical system, Keogh (2018) and Toh (2018) shift their attention to the human player and their embodied experiences. Most interestingly, Keogh pushes back against ludologists who consider videogames as a subset of game and a type of complex systems. He acknowledges that this focus on the gameness of videogames has indeed helped game studies to gain academic relevancy and disciplinary independence. However, this line of investigation, while reacting "against the idea of videogames as 'mindless,' 'addictive,' and, broadly, merely carnally and sensuously satisfying" (Keogh 2018, 10), has overlooked the playing body and its pleasures. For him, videogames should be studied within the ecology of other media forms. Both the differences and similarities between videogames and other media matter. They are all creative works that require the making of an embodied and situated audience. What is to be accounted for is the material entanglement between the playing body and the noncentral – that is, nonplay – components of a videogame such as verbal and audiovisual representations that build its virtual world and give rise to the emergence of the player's embodiment through the videogame. In Keogh's words, "[t]o perceive through a videogame is to incorporate it into a distributed, immanent, and partial lived experience; to experience videogame play is to take on an imperfect and unstable cyborgian embodiment of flesh, hardware, and audiovisuals across worlds and bodies" (Keogh 2018, 199).

Toh is also primarily concerned with the player experience, defined as their understanding of the entire game structure which encompasses gameplay, narrative, and contextual factors such as the player’s personality traits, gaming experience, and situatedness in social reality. Given his interest in the player experience, he not only studies video games as actualized products/texts/objects but also considers the process of gaming. More specifically, on the one hand, he sees each game as a multimodal ludonarrative, analyzing its components and their relationships, while on the other hand observes gameplay, interviews the players, and analyzes the recordings of gameplay. For him, multimodality means “the multiple modes of semiotic resources such as language, sound, image, and action”, all of which are deployed to make possible “interactivity or the players’ physical and psychological engagement with media” (Toh 2018, 23). The study of videogames needs a ludonarrative model that duly recognizes the multimodality of games and “account(s) for both the narrative representation of the video games and the aspects of action and player agency that are unique to the game form, and more importantly, the interplays between these components” (Toh 2018, 34).

While mode is explained as “a socially shaped and culturally given semiotic resource for meaning-making”, Toh introduces module, a higher-level concept than modes, or, “a combination of elements, actualized elements, modes, and submodes” (Toh 2018, 22). In his ludonarrative model, narrative and gameplay are the two primary modules. The ludic module is the interaction facilitated and hampered by game mechanics, procedures, and rules; the narrative module is the player’s interpretation of the story given in the game. Both gameplay and narrative in a single game are multimodal in themselves and linked together by various shared modes. Since the player perceives game components as a whole, “there is no strict division between elements under the narrative and gameplay modules and depending on the players and the game’s

design, it is the degree of how much narrative and gameplay is present in the different video games” (Toh 2018, 47). One case in point is that when the player relates their cognition of narrative events to gameplay actions through causality, the plot in the narrative module can be realized as a quest or mission in the gameplay module. Toh acknowledges a continuum of relationships between narrative and gameplay, with *ludonarrative resonance* and *ludonarrative dissonance* located at both ends, and *ludonarrative (ir)relevance* stretching in between the two types. For instance, in games of ludonarrative resonance, the actions a player performs may align perfectly with how the player character is being presented in the narrative part of the game, allowing the player to experience emotional identification with their character in their cognitive reconstruction of the game narrative. In some other cases, depending on “the game system’s control and the players’ perceptual focus and actions” (Toh 2018, 35), the module of gameplay may become more salient while narrative recedes into the background.

I see the focus on embodied experiences introduced above a nice supplement to the actant-centeredness of gameenvironments. The two foci are not incompatible. The body for Keogh is a human-nonhuman assemblage made of carnal, mechanical, and representational parts, while Toh sees the body as situated in social contexts. This body is an actor interacting with nonhuman actants, an actant encompassing human actors, or a system bringing together various binaries and embedded in larger systems. Scholars adopting a gameenvironments approach may want to zoom in on the embodied sensual experiences of various actors/actants, as embodiment is a key topic in both cognitive science and affect theory, both lines of inquiry may be inspiring if we would like to make the research design of gameenvironments more sophisticated. What is more, the study of religion has also seen attempts to centralize affects and experiences. For instance, Donovan Schaefer (2015) argues that religion

does not always operate on the cognitive plane and needs to be approached as embodied, lived experiences prior to, underneath, or outside of the regime of linguistic and rationalistic constructions. Similarly, Ann Taves (2009) focuses on experiences in her study of religion and understands them as not intrinsically religious but becoming religious after people deem them so. That is say, the embodied experiences of storytelling and gameplay and religious experiences can always transform into one another.

Narratologists have embraced cognitive science and discussed how the embodied mind, or the body per se, helps to create narrative forms, shape reader receptions, and interpret individual stories. To repeat, narratologists have expanded their scope to consider literary, audio-visual, and interactive narratives and reconceptualized storyworlds as not linguistic but mental constructs. For instance, Herman (2013) sees storyworlds as products of mental processes not only embodied but also intersubjective, processes molded by our everyday engagement with the natural and social worlds. Marco Caracciolo (2019, 127) further argues that “there is a fundamental continuity between our imagination [in response to a text] and the patterned nature of our embodied, social cognition” and that storyworlds are enacted by readers/viewers/players and thus “fluid, unstable constructs that build on and mirror the affective and embodied structure of our interactions with reality”. The underlying assumption of his argument is that world and subject are interdependent and co-emergent. The reader/viewer/player explores and experiences the actual world and the worldlike fiction alike, both groundless and revealing themselves to an experiencing subject that is forming itself in this very process. This resonates with Radde-Antweiler’s (2024, 8) point that digital games do not simply reflect reality that exists allegedly separate from them. Games and reality are co-emergent for embodied actants.



When players open up a game, they open up a “form of relation” to it to become involved in this system and a set of “complex affective relationships that develop between players and video games, across bodies, code, molded plastic, and screens” (Anable 2018, 131-132).

It is worth noting that Anable’s affective systems far exceed Koenitz’s digital systems/artifacts and, if compared with gamevironments, evolve around the bodies as always already mediated. Anable argues:

“Video games are not technologies capable of autonomously and unconsciously rewiring our bodies; rather, they are a particularly popular form of representation through which we can trace and analyze how affect moves across bodies and objects in the present. Furthermore, bodies and subjectivity have long been, or perhaps have always been, coassembled with technologies of mediation.” (Anable 2018, 132)

This is why she turns to affect theory to examine the links between affect and representation. For her, affect is not “a virtual process running in the background or alongside bodies, but as the embodied capacity to feel – that which simultaneously opens us up to the world as relational beings and reminds us that our own sense of individuation and connection is always partial and extremely limited” (Anable 2018, xix).

Anable is discontented with the Deleuzian lines of affect theory that emphasize affect as untethered from language and mediation and instead prefers to invoke Silvan Tomkins who keeps discussion within the realm of feelings tied to individual bodies, linguistic and other representations, and everyday life in various contexts. With her focus on collective and articulated emotions or feelings, Anable studies how affect, a relational force as it were, runs around, across, and through various bodies, which are

moving and being formed, in what can be called gameenvironments. How affect shapes the interacting actants (bodies as subjects and objects) to reinforce normative ideas and practices and to make possible deviations and disruptions is a question scholars interested in an a gameenvironments approach may want to consider.

Before proceeding to the third topic, gametization, I revisit *Black Myth*, which is, to borrow Keogh’s expression, an ecology of multiple media forms aimed to make an embodied and situated audience, or, in Toh’s language, an example of ludonarrative resonance as the plot of the game’s narrative module is aligned with the quest in its gameplay module. Game Science commissioned an entire team of writers, artists, and musicians, in addition to programmers and technicians, to design this game. Their hard work paid off. In numerous reviews available on social media, players raved about the aesthetic and narrative properties of the game, that is, the visual effects, background music, and politically charged stories of the game. But some players did complain that they were not able to fully control the avatar to build a rapport between the actual body and the digital body. There were also people frustrated by the difficult tasks of the gameplay who turned to recorded playthroughs for strategies and tactics, or simply to watch the game in a relaxed mode. Before it is adapted into a film, the game has already been received by some audiences as a film.

I find it indicative that although the gathering of six types of bodily experiences is *both* the main story line of the narrative module of *Black Myth* and the central task of its ludic module, the game has failed *either* to build its protostory around the six senses *or* to utilize the player’s sense organs during the interactive process. In *Journey to the West*, right after he embarks on the sutra-seeking journey, Wukong kills six robbers named Eye that Sees and Delights (*Yankanxi* 眼看喜), Ear that Hears and Rages (*Ertingnu* 耳听怒), Nose that Smells and Loves (*Bixiu'ai* 鼻嗅爱), Tongue that

Attests and Desires (*Shechangsi* 舌尝思), Mind that Perceives and Covets (*Yijianyu* 意见欲), Body that Bears and Suffers (*Shenbenyou* 身本忧) (Yu 2012, 314-315). These six thieves symbolize the distractions caused by sensual indulgences that hinder one's spiritual progression. While the Wukong of the original novel obliterates them, the Wukong of *Black Myth* depends on them, which are no longer six *robbers* but six *roots*, to be resurrected in the Destined One, the player's avatar.

During the avatar's journey, the player must subdue the monsters representing the sins of these sensual indulgences to get back the roots, Wukong's sensual organs, experiences, and memories. There is a newly introduced disconnect between the six sins (six groups of monsters as the avatar's opponents in the six chapters of the game) and the six senses (six trophies awarded to the avatar after he triumphs over these opponents). While the 1592 novel condemns the six roots as six thieves stealing the heart of the cultivator, by contrast the 2024 game celebrates the six roots, once purged of the wrongdoings of the others, as an indispensable grounding for the gaming experience. Considering the stigmatization of games as e-heroin in China's political environment, the move to make a purified and legitimized version of embodied senses is understandable. However, the downside of this smart move is that the embodied senses seem to be an empty signifier floating above, that is, not properly integrated into, storytelling and gameplay. For instance, the fight for the visual remains of Wukong does not entail the training of the avatar's visual capacity to get this first root back, or the enhancing of the corresponding capacity after this root has been regained. The avatar only needs to defeat the monsters led astray by indulgence in visual delights. *Black Myth* departs from *Journey to the West* in transforming the Six Robbers into Six Roots. However, the former is not that *black*, as it is not so much an exploration of video games' potential to incite embodied sensual

experiences in the player, as an apologetic defense of the player’s embodied experiences uncorrupted by sinful sensual indulgences.

Another difference between *Journey to the West* and *Black Myth* is the order of the Six Robbers/Roots, with the sixth robber being the Body in the novel, while the last and ultimate root is presented as the Mind in the game. Apparently, the novel places an emphasis on the entire body as the bearer of sensual pleasures and worldly sufferings, while the game sees as the ultimate trophy the player’s mind, embodied and embedded of course, which emerges from bodily senses, completes the gaming subject, and continues to build fictional worlds in and outside the game. When the avatar succeeds in becoming the new Wukong by gathering his scattered bodily senses and the embodied mind in the end, the player succeeds in acquiring embodied sensual experiences to construct their gaming subjectivity, with this embodied mind interacting with hardware, software, and ideas in cultural, political, and economic systems/environments. Despite its shortcomings, *Black Myth* is what Anable would call an affective system that self-reflexively replicates the process described by Caracciolo and Kukkonen (2021), one in which the embodied mind is enacted in cognitive, affective, and intersubjective patterns and extends itself into the world through technological devices and cultural practices.

Gametization, Gamification, and Culturally Specific Political Economies

After system and embodied experiences, the third focus in ludonarratology is narratives as gametized. This approach is represented by Pugh (2019), who studies a variety of cultural forms, such as medieval romance, theatre, film, popular fantasy,

sports, and video games, as ludonarrative artifacts. He urges us to attend to the underlying structure shared by narratives and games and their increasing intersections in today's digital media landscape. He also argues that we need to unite ludology and narratology into the new paradigm of ludonarratology and promote this analytical framework throughout the humanities. Unlike Koenitz and the ludologists he is indebted to, Pugh believes that hermeneutics from earlier disciplines do not necessarily hamper inquiries into new phenomena, while new fields may benefit from the convergence of vocabularies, theories, and methods rather than an isolationist stance. In other words, Pugh is heir to those narratologists attacked by ludologists. However, instead of imposing narratology to game studies, he tries to apply ludology to the study of other media.

It is interesting to note that Koenitz, Toh, and Pugh all invoke Ryan's functional ludonarrativism. Pugh (2019, 30) applies her definition of narrative to games, which, like other types of narratives, entail "a cognitive construct with an invariant nucleus of meaning, but this construct can take a variety of shapes" (Ryan 2006, xviii). Koenitz (2023, 71) further explains this cognitive construct as "a flexible cognitive frame for mentally projected worlds" that can be accessed in the recording and retelling of the player's gaming experience(s). Toh (2018, 34) takes Ryan's work on "how the fictional world or the realm of make-believe relates to the playfield or the space of agency" as a blueprint for his multimodal ludonarratology that presents the various relationships between the narrative and ludic modules as a continuum. In contrast to Koenitz, Pugh does not stress the uniqueness of the digital medium and prefers to study videogames together with legacy narrative forms. Nor does Pugh limit his scope to the narrative-gameplay interplay in different games, like what Toh has done. Pugh understands games as narratives and narratives as games, using the definition of one to rethink the other.

Pugh (2019, 24) also applies Bernard Suits' definition of game to narratives. According to Suit:

"To play a game is to attempt to achieve a specific state of affairs (prelusory goal), using only means permitted by rules (lusory means), where the rules prohibit use of more efficient in favour of less efficient means (constitutive rules), and where the rules are accepted just because they make possible such activity (lusory attitude)." (1978, 41)

Pugh (2019) argues that this gaming structure that incorporates objectives, rules, and attitudes is congruent with the demands placed on authors and interpreters. The objective of authors is to tell a tale, while that of interpreters is to engage with a text and its fabricator. Authors

"conform to the discursive expectations of genre, style, and voice necessary to communicate effectively [...] adhere to these paradigms despite the fact that artistic expression might confuse rather than clarify their message, and [...] accept the pains and pressures of authorship to advance this objective", while interpreters "employ the lusory means of interpreting the text through the hermeneutic paradigms available to them, accept the constitutive rules of engaging with the text according to its terms of discourse, and adopt the necessary ludic attitude to complete the narrative at hand." (Pugh 2019, 24-25)

Highlighting the gaming structure of narrative, Pugh expands (2019, 24) our understanding of narrative from a static text into a dynamic process not without interactivity, which operates not in a binary sense but "on a continuum, with games and narratives more closely aligned on such a continuum than some might presume." We could follow Koenitz (2023), one of the *some*, to distinguish the instantiation of different stories through the interaction of the player and the computational system from the making of different interpretations of a fixed story in traditional narratives. It is also worth considering whether we may want to expand what Koenitz means by

system to include not just computer programs but also the culturally conditioned rules, means, and attitudes, because cybernetics is an ur-science investigating circular causal systems that are biological, technological, and socio-cultural. Both the technical and cultural aspects of gamevironments can be mapped onto system. Each digital game is a cybernetic system embedded in larger systems such as social arrangements, cultural formations, and political economy, in which game designers and players are located, with both sides playing the game of fabrication and interaction/interpretation.

Even more interestingly, Pugh (2019, 2) emphasizes the need to assess each ludonarrative artifact and to move “the focus on the underlying systems governing games and narratives [to] the more idiosyncratic specimens that buck prevailing norms.” He adds the adjective queer to ludonarratology. For him, queerness is a praxis of engagement rather than an identity marker. Queer narratology studies the subversive effects of the nonnormative desires of characters/players as well as how “gaming narratives and narrative games [create] fissures of form that call into question long-standing presumptions of their cultural meaning” (ibid.). I see this queering attempt as a new task that scholars of gamevironments may want to take up.

Pugh’s effort to gametize narratives provides us with an example as how to understand gametization, study our deep gametized society, and expand system from technical environments to technical-cultural environments or entire societies. In *Gaming: Essays on Algorithmic Culture*, Alex Galloway (2006) coins *allegorithm* to emphasize that video games, narratives with allegorical meaning and gameplay governed by algorithm, require the player to learn and internalize the underlying logic of control of the informatic age. Adopting the term *allegorithm*, McKenzie Wark

(2009, 33) introduces a distinction between game and gamespace, highlighting the “gap between the intuitively knowable algorithm of the game and the passing, uneven, unfair semblance of an algorithm in the everyday life of gamespace” to argue that allegory comes back in gamespace. Pugh’s wider application of ludonarratology beyond game studies suggests that we need to study the algorithms of not just games but narratives or societies, while the complexity of gameenvironments (a better way of naming gamespace) calls for our algorithmic interpretation. Moreover, is the control episteme only present in informatic societies?

In the light of his discussion of premodern narratives, I wonder whether the so-called deep mediatization and deep gametization are merely a contemporary phenomenon. To bring up *Black Myth* one more time, which is not just a technological artifact, but part and parcel of a cultural system, or technological, cultural, political, and economic gameenvironments, I remind us that the game belongs to the story cycle of *Journey to the West*. The novel, a traditional narrative as it were, is indeed of a gaming structure and consists of stories in which the Monkey plays various types of games with monsters along the way. More interestingly, the story cycle is a gaming process in which storytellers played the game of creation, interpretation, reconfiguration, and resignification over several hundred years. It is this process that helped to spread deity cults across China (Shahar 1996). Before the novel was published in 1592, stories about the Monkey and other pilgrims had already been in circulation for centuries thanks to oral, theatrical, and ritual performances. From the sixteenth century to the present, these figures, stories, and themes continued to transform according to shifting societal needs and desires.ⁱⁱⁱ *Black Myth* is a particular game, one of the latest instantiations, within the gaming cycle of *Journey to the West* and Chinese society.

In the present moment, I find it necessary to discuss gamification in addition to gametization, that is, to add political economy to technical-cultural environments. I have critiqued that, despite the stress on the inseparability of technology and culture, the concept of gameenvironments slides toward the technical side given its actant-centeredness. This is why I think we should pay more attention to the embodied experiences of actors/actants in terms of both cognitive and affective processes and how narratives and other social-cultural endeavors, all with a gaming structure, contribute to the construction of these experiences, which are labor experiences under capitalism. According to scholars of digital labor, gamification, defined as “the use of game design elements in non-game contexts” (Deterding et al. 2011), is a crucial means to shape the laboring subject, or the tireless producer/consumer in digital capitalism. A means of manipulation and social control, gamification is aimed to spur economic activity by creating willing subjects who are made to enjoy their playbor (playful labor). Gamification also helps to assign to commodities new signifiers and purposes and increase their values (Rey 2014). Gamification has infiltrated every nook and cranny of our digital existence beyond traditional narratives.

To radicalize Pugh’s claim, we need a new ludonarratology to analyze not just cultural texts of various media formats but also social reality as a whole. This is also the relevance of gameenvironments, with the political economic environment added, beyond the field of game studies. To push it further, how do we study factory workers who make hardware for gaming, may not have the opportunity to play on game consoles, but must perform gameified labor, that is, play the game of life the hard way? What kind of gaming-related media practitioners are they? How do we study players who are encouraged by media corporations to upload playthrough videos, do live streaming, and travel to tourist attractions to contribute their unpaid fan labor to

the gaming industry? What kind of producers and consumers who go far beyond playing the games are they? To enter the fictional world of *Black Myth*, Wukong, originally a Buddho-Daoist cultivator, after his transfiguration into a proletarian hero and a post-socialist wanderer, has adopted the new identity of a repressed gamer seeking revival (under the Heavenly Court, or the hostile Chinese state) and a digital laborer either toiling to valorize capital or dreaming about another rebellion (still under the Heavenly Court, the Chinese state playing the game of digitalization, mediatization, and datafication). It is highly symptomatic that the game designers have intentionally left ambiguous the fate of the new Wukong emerging from the Heavenly Ordained One. As the game is a new release, we will find out how players add new twists to this new Wukong in their transmedia practices in the years to come.

Last, but not least important, Pugh’s emphasis on queerness, that is, deviations, idiosyncrasies, and unpredictabilities, has the potential to help us understand systems or gamevironments as not just affective, but also complex. According to Melanie Mitchell (2011, 13), a complex system is “a system in which large networks of components with no central control give rise to complex collective behavior, sophisticated information processing and adaptation via learning or evolution.” Gameenvironments are affective, complex, and queer systems. They are shot through with affective movements to connect a whole range of actants and to maintain and destabilize individual and collective identities. They are *both* composed by *and* beyond the control of technologies, cultures, and political economies such as capitalism. They are the environments for our embodied pleasure and pain of gaming, which has become life itself.

Conclusion

To conclude, I have put into dialogue ludonarratologies and gameenvironments. While some ludonarratologists still hold a divide between technical systems and cultural narratives, gameenvironments is a truly holistic approach. However, reconceptualization of gameenvironments could benefit from specifying actants as mediated (or, embedded, enacted, and extended) bodies beyond the human and shifting from actant-centeredness to a focus on the embodied experiences of gamers, developers, branders, and other gaming-related practitioners and the affective force that brings them and various media objects together. Moreover, while we can discern a gaming structure in all kinds of narratives and other human endeavors, gamification as a labor paradigm, business strategy, and governmentality is missing in both ludonarratologies and gameenvironments and needs to be considered if we intend to treat games as not just reflections of but part and parcel of reality. Of course, as gameenvironments are complex systems beyond any centralized control, reconfigurations, realignments, and reroutings are always possible.

Finally, how to study religion and gaming with the help of ludonarratologies and gameenvironments? We do have to go beyond looking for religious symbols, themes, and other elements in the narrative module of a game or simply considering how they matter for the socio-culturally conditioned player during the gaming process. I suggest that we take a step further by studying religious traditions as complex systems entangled with gameenvironments, impacting the making of game mechanics, game narratives, and gaming-related experiences. Second, we may compare how bodies and worlds are constituted in the playing process of digital games and gaming-related practices on the other hand, and on the other, in the practicing processes of various religions of the past and present, which are not fixed belief

systems but games of regulated bodily performances utilizing our cognitive, affective, haptic, and interrelational capacities. Third, I point out that we do not have one single, unified model of religion but different models of religion as different complex systems intersecting with political, economic, cultural, and technical systems. How are gameenvironments in America, Europe, and Asian countries such as China shaped by their religions and secularisms, state policies, and economic conditions? Are religions, states, and markets actants in gamevironments? How do they enter the field of affective flow and form and transform the gaming and gaming-related bodies? These are some of the questions we may want to deal with in the near future.

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ⁱ For summaries of the debate and its aftermaths, see Espen Aarseth's (2023, 255-259) "Ludology" and Dominic Arsenault's (2023, 588-596) "Narratology" in *The Routledge Companion to Video Game Studies*; Tison Pugh and Lynn Ramey (2022, 3-5); Hartmut Koenitz (2023, 34-52).

ⁱⁱ For two examples of how the Chinese media lauded this game, see Lv, Liu and Cheng (2024) and Xie and Jiang (2024).

ⁱⁱⁱ For how the religious environment of the Ming dynasty shaped the novel before its publication, see Lam (2019). For the ritual and liturgical function of the novel in popular religion, see Brose (2018) and ter Haar (2022).