A re-examination of the metaverse from the perspective of Sartrean existentialism

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Abstract. With breakthroughs in neural interfaces and holographic interaction technologies, the metaverse is evolving from a science fiction concept into a revolutionary domain that redefines human existence. This paper, grounded in Jean-Paul Sartre's existentialist philosophy, mainly focuses on the virtual-physical symbiotic metaverse at its technological maturity stage, reveals the limits of freedom and the dilemmas of responsibility within the new dimensions of digital existence. By systematically examining the validity of the three principles of existentialism (existence precedes essence, man is the sum of his actions, and freedom is responsibility) in the context of the metaverse, the study finds that while sensory simulation and digital avatars break free from physical constraints, they fall into new forms of alienation characterized by the boundaries of imagination, algorithmic manipulation, and fragmented identity. The "irresponsible revelry" in single-player mode is actually an escape from ontological responsibility, and its behavioral patterns will eventually backfire on real-world personalities; the illusion of digital immortality fundamentally undermines the authentic value of "living toward death." It proposes an "existential scheme for virtual-physical symbiosis," emphasizing that individuals must adhere to three principles within the technological framework: establishing the uniqueness of the conscious subject, acknowledging the constitutive responsibility of virtual actions, and resisting algorithmic alienation through active choice. This study provides an existentialist philosophical framework for examining metaverse ethics, revealing the crisis of subjectivity underlying the utopian façade of technology, and offers cautionary value for building a responsible digital civilization.

Keywords: Sartrean existentialism, metaverse, digital avatar, ontological responsibility, virtual-physical interaction ontology

1. Introduction

The concept of the metaverse was first proposed by Neal Stephenson in his 1992 science fiction novel Snow Crash, which depicts a virtual space parallel to the real world where users can interact through avatars. This concept foreshadowed the deep integration of digital technology into society in the 21st century, marking the first-time humanity has explored the "possibility of existence" at the level of technological imagination rather than literary fantasy. Given that tech companies have invested heavily in the Metaverse concept and current technological capabilities indeed begin to outline the future landscape of the Metaverse, 2021 was dubbed the "Year One" of the Metaverse [1]. The evolution of the metaverse can be divided into three stages: the entertainment application stage, the virtual-physical integration stage, and the virtual-physical symbiosis stage. Based on current technological capabilities, we are gradually entering the first stage. In terms of consciousness, brain-computer interfaces have begun human trials on disabled individuals and achieved positive results [2]; speaking of olfactory and gustatory senses, related simulators have also made progress in the medical field [3,4]; in terms of visual senses, VR, AR, MR, and other devices each have their own unique features; in terms of tactile senses, tactile simulation devices have begun to be developed [5]; and in terms of auditory senses, there is no need to say more, as various types of surround sound headphones are ready to simulate any realistic sci-fi scene in the metaverse together with other senses! The third stage is essentially a deepening of the second stage and requires more advanced productivity and a deeply ingrained metaverse culture; otherwise, the metaverse will merely be an advanced version of the internet.

The metaverse lifestyle in the first and second stages is merely a recursive extension of internet life into the metaverse world, so it will not be discussed in detail here. This article primarily focuses on the third stage of the metaverse, which is a technologically mature, virtual-physical coexistence social system. Within this framework, the metaverse is not merely an entertainment tool but a new dimension of human existence.

2. Re-examining the metaverse from Sartre's existentialist perspective

Before examining the metaverse through the lens of Sartre's existentialism, it is necessary to first assess the legitimacy of existentialist concepts within the metaverse—a new, highly technologically advanced domain deeply integrated into human existence—based on the fundamental concepts of the metaverse outlined above (particularly focusing on the third-stage form of the metaverse characterized by the coexistence of virtual and real worlds). The purpose of this examination is to confirm whether the core concepts of existentialism remain applicable to this new dimension of existence characterized by the coexistence of virtual and real worlds and the shift of meaning toward the virtual realm. If applicable, we will clarify them; if not, we will need to redefine them. Only then can we apply the examined or redefined Sartrean existentialist theoretical framework to conduct an in-depth re-examination of the metaverse, aiming to gain truly insightful rather than hollow perspectives.

2.1. The core concepts of Sartre's existentialism

A person is nothing other than what they themselves believe themselves to be. This is the first principle of existentialism [6], which can be interpreted and expanded upon through three aspects.

First, existence precedes essence, because if existence truly precedes essence, a person can never explain their actions by referring to a known or specific human nature. In other words, determinism does not exist—a person is free, and freedom is what defines a person [6]. This reveals the ontological status of the individual subject as self-creating, while suspending the possibility of any external meanings or values not chosen by the subject through reflection having a constitutive effect on the subject.

Second, a person is nothing more or less than the sum of their actions; they are the totality, organization, and set of relationships that constitute these actions [6]. This emphasizes the inescapable absoluteness of choice and its direct constitutive effect on the subject.

Third, the core idea of existentialism is the absolute nature of freely assuming responsibility; through freely assuming responsibility, anyone who embodies a human type also embodies themselves [6]. This establishes the mutual binding of individual choice and the destiny of humanity as a whole.

2.2. Examining the legitimacy of Sartre's existentialism within the metaverse domain

We examine this by comparing the above three basic principles with the technical characteristics of the metaverse in the virtual-physical symbiosis stage, such as sensory simulation, free shaping of digital avatars, cross-level social interaction, and virtual native economy and culture.

First, existence still precedes essence. This is the core proposition of existentialism. Unless humans are proven to be created by God or some transcendental law is discovered, the relationship between existence and essence cannot be truly shaken. However, both of these scenarios are currently untenable at the level of foundational science and logic. Even in the future metaverse of the virtual-physical symbiosis stage—where humans achieve high immersion and consciousness control through advanced technologies such as neural goggles—their cognitive patterns will remain anchored in the biological foundation of the human brain. Sensory experiences, at their core, are merely stimuli to neural signals, rather than the creation of entirely new perceptual categories. Human imagination and creative behavior still rely on experiences and concepts from the real world. Therefore, to overturn this fundamental principle, we would have to wait until human consciousness can completely detach from its biological carrier and acquire a god-like intuitive cognitive ability—a prospect far beyond the current or foreseeable scope of metaverse technology.

Second, humans remain the sum of their actions, and thought can be directly and efficiently transformed into "action" within the metaverse. The concept of "action" is greatly expanded and reinforced in the metaverse. In the pre-metaverse era, action required a physical intermediary, even when using the internet, which necessitated keyboard and mouse operations. However, in the metaverse of the virtual-physical symbiosis stage, intent can almost instantly be transformed into the rich behaviors of a digital avatar. However, this ability to instantly reflect thoughts as virtual actions is highly dependent on technological infrastructure, such as computing power, algorithms, sensory simulation devices, and virtual social environments, including community rules, economic systems, and cultural norms. Thought itself remains profoundly influenced and shaped by these technological frameworks and social structures. This unprecedented freedom of action and the deeper limitations of human existence it implies—such as technological dependence, algorithmic guidance, and the internalization of virtual social rules—are critical issues that require clarification.

Third, does responsibility still need to be borne by the subject? Or does responsibility itself still exist in virtual actions? This point needs to be clarified most in the metaverse, especially in its single-player or seemingly anonymous interaction mode. Because within the metaverse, users can do anything to NPCs (non-player characters) or virtual environments in single-player mode without worrying about affecting other real users. First, it is important to clarify that the term "responsibility" has a specific and profound meaning in existentialist philosophy: when we say that a person makes choices, we indeed mean that each

of us must personally make choices and also make choices for everyone else. Because in reality, every action a person takes to become the kind of person they wish to be is simultaneously creating an image of the person they believe they should be. In choosing between one image and another, he also affirms the value of the chosen image... Our responsibility is thus far greater than previously imagined, as it involves the entire human race [6]. In short, in shaping myself, I shape humanity [6]. This responsibility is not merely a matter of moral condemnation or legal accountability, but rather refers to the fact that every choice an individual makes defines the possibilities of "humanity" and shapes an image and value standard for humanity as a whole. In the single-player mode of the metaverse, users choose to experience sadism, extreme sensations, or indulge in reconstructed virtual relationships, which, on the surface, seem to concern only themselves. However, even in the seemingly closed single-player mode, existentialist "responsibility" still exists and cannot be avoided. Avoiding this deep sense of responsibility is itself a renunciation of subjectivity. This will be discussed in detail later.

After this triple examination, we can confirm that the basic principles of Sartre's existentialism remain firmly applicable within the third-stage metaverse, a domain of deep symbiosis between the virtual and the real. Moreover, in this new context of highly developed technology and highly liberalized action, its implications (particularly regarding the boundaries of freedom, the essence of free action, and the universality of responsibility) have expanded into broader, more complex, and more urgently relevant problem domains.

3. A reexamination of the metaverse through the lens of Sartrean existentialism

3.1. The unbearable lightness of freedom

In a technologically advanced metaverse, humans are susceptible to mistaking the unprecedented yet still limited possibilities offered by technology for absolute freedom. Sensory simulations, neural goggles that construct infinite scenarios, and even potentially illegal extreme experiences create an illusion of "getting whatever you desire." However, this freedom is fundamentally constrained.

First, there are internal limitations. The boundaries of an individual's imagination are still constrained by their real-world experiences, knowledge reserves, and existing cultural symbols. Creating virtual products and environments requires physical, biological, and sociological knowledge; reconstructing idealized human or animal forms relies on past memory data; and even seeking new sensory stimuli (such as specific near-death experiences) often amounts to extreme simulations of known pain or pleasure. Users' "desires" are inherently shaped by their survival context.

Second, there are external constraints, primarily technological alienation and algorithmic prisons. The delivery of various sensory products, virtual experiences, and social interactions heavily relies on algorithms. Similar to today's short video platforms, algorithms learn, predict, and guide users' preferences based on their behavior, such as how long they linger in a particular metaverse module, which NFTs they purchase, or which communities they join. On the surface, each user appears as a unique subject of desire and content creator. However, as algorithms continue to evolve and user data accumulates, individual aesthetics and experiences are increasingly being precisely quantified, predicted, and even aggregated and exploited by platforms, capital, or power institutions to maximize user retention or specific value orientations. In a metaverse-like community society, different communities may inherently represent distinct cultural circles and rule systems, further constraining individual freedom. Thus, under the influence of multiple factors, the seemingly greater freedom offered by the metaverse may instead weave a more intricate, harder-to-escape existential web.

3.2. One entity, multiple identities

Metaverse technology enables identities to exhibit fragmented, fluid, and ephemeral characteristics [7]. In traditional reality and the internet era, individuals typically exist as relatively unified agents of action. However, in the metaverse of the virtual-physical convergence stage, digital avatar technology allows individuals to create and switch between entirely different identities across various virtual scenarios: one might spend the morning with a virtual companion observing glaciers in Antarctica, the afternoon providing design instruction services to elementary students at a creative workshop, and the evening anonymously exploring a sensory and memory marketplace... Under these primary identities, sub-identities can also exist, similar to how the same internet platform allows users to register multiple accounts. Thus, the degree of identity fragmentation will far exceed the multi-account personas of today's internet.

Although these virtual identities can each possess independent appearances, behavioral patterns, and social relationships with extreme completeness and realism, the "soul" behind them—the conscious entity that makes choices and experiences existence—remains singular: the real you. Sartre said, "Man is the sum of his actions." In the metaverse, this "sum" encompasses all the complex actions of avatars in the virtual world. This raises profound ontological confusion: Which identity is more "real"? Which actions better define "me"? This division makes the pursuit of "authenticity"—that is, remaining true to one's deepest self—extremely difficult.

Moreover, maintaining these multiple identities itself requires enormous time and effort. Carefully managing different personas across various levels, participating in interactions within different communities, and managing digital assets (such as NFTs) associated with different identities all demand sustained investment. However, no matter how advanced the metaverse becomes, the ironclad rule that each human individual has only 24 hours of physiological time available each day remains unchanged (technologies that slow down time perception, as imagined in science fiction, are not considered here). The more identities one has, the more deeply one's sense of purpose becomes tied to the metaverse world and its specific tiers, yet the total time available to invest in each identity and each action is limited. This absolute scarcity of time resources, combined with the pressure of maintaining identities, may cause individuals to become lost in the fragmented sea of identities, thereby neglecting the care and shaping of that unique, deep, and integrated "true self." Ultimately, individuals may become passive performers of different identity roles rather than active shapers of their own existence.

3.3. He dystopian utopia and the utopian dystopia

The metaverse is often envisioned as a perfect utopia detached from the hardships of reality. However, Sartre's existentialist perspective reminds us that its roots are inevitably deeply embedded in the real world, and its developmental forms are fraught with numerous possibilities.

Speculation about the form the metaverse will take should not be rooted in science fiction but grounded in reality.

From a conceptual and physiological standpoint, adolescents form their basic cognition, emotional patterns, and values in the real world rather than the metaverse. This relies on real physical interaction, education, and socialization, which form the foundation for all their behavior in the metaverse. Additionally, after removing metaverse devices, physical hunger and fatigue still exist, and interpersonal relationships remain in the real world.

From a technological perspective, advancements in materials science are highly likely to bring about interactive holographic walls and clothing, combined with neural goggles, enabling the real world to be deeply "metaversified." This fusion blur boundaries but does not eliminate the physicality of reality. This will prevent the metaverse from diverging too greatly from reality, as envisioned in science fiction.

From the perspective of overall social evolution, the development of other aspects of the future world, such as productivity improvements, widespread automation, demographic changes, and educational progress, will collectively shape the form and status of the metaverse, all these will determine its trajectory, rather than inevitably leading to a cyberpunk-style dark dystopia.

The most critical factor influencing the final form of the metaverse is the cultural framework underlying its development, which can be roughly divided into three categories for discussion: If the cultural model aligns with the current internet era, people's mental states may not change significantly. Although material wealth may increase—such as ubiquitous sensory enhancement and convenient virtual socializing—issues like information silos and fragmented attention will persist, much like the current internet era where many people are addicted to endlessly scrolling through videos. If culture is tightly controlled by authoritarian regimes or capital, the consequences could be dire. The former limits the metaverse to basic entertainment experiences, which, while fundamentally avoiding a dystopian world, also abandons the immense potential value of this existential event for human civilization. The latter scenario gives rise to a cyberpunk-style dystopian society, where everything is meticulously calculated and controlled by capital. While it offers extremely rich sensory experiences and unprecedented freedom in physical senses, it ultimately plunges humanity into a deeper existential crisis. Conversely, if cultural patterns can organically coexist and develop in harmony with the real-world foundation, the ideal state would be for metaverse culture to integrate the essence of human civilization and form a positive interaction with the real world. This vision aligns with the historical aspirations for an ideal society. Such a culture could inspire individuals to creatively exist across both the virtual and real worlds.

Of course, whether the metaverse ultimately becomes a utopia for expanding human freedom and meaning or degenerates into a new cage of alienation depends on how individuals in this era of drastic change utilize their freedom to make choices and assume the responsibility of shaping the human image that arises from these choices.

4. The practical challenges of Sartrean existentialist ethics

4.1. The new illusions of the metaverse

The highly advanced technology of the third phase of the metaverse, while offering unprecedented experiences and possibilities, also easily gives rise to profound and stubborn ethical illusions. These illusions are akin to Kant's critique of "transcendental illusions" (such as God and free will), which can only exist as regulatory concepts. However, certain illusions generated by the metaverse, due to their immersive and realistic nature, pose a significant threat and mislead the subject's existential cognition and freedom of choice, and must be exposed.

4.1.1. The illusion of digital life

With the advancement of algorithms and artificial intelligence, the future metaverse will be fully capable of generating a highly realistic, emotionally expressive digital replica based on users' massive amounts of data [8]. The emotional level of such digital replicas is likely to far exceed that of current AI. Many people may view these digital replicas as a form of consciousness uploading, a continuation of life after physical death, or at least a powerful spiritual refuge. On the surface, this appears to be a positive "embracing death," confronting mortality head-on.

However, this is likely a profound illusion and form of escapism. True "embracing death" involves recognizing the limitations of life, thereby inspiring a sense of responsibility and urgency toward the present existence and freedom of choice. Placing hope in "digital immortality" may fundamentally be an escape from the limitations and pain of real-world existence, as well as the responsibility of making choices and bearing their consequences within a finite lifespan. It uses the false, technologically mediated promise of "eternity" to obscure the real, courageous necessity of confronting one's existential circumstances [9]. Even if future technology could truly "transfer consciousness" (a possibility and philosophical significance that remain highly controversial), it would be an event that completely overturns the ontological foundation of human existence, far exceeding the current scope of the metaverse. Before that, indulging in the illusion of "digital life" is a departure from the core principle that "existence precedes essence" and that humans are the sum of their current actions, weakening the sense of responsibility to shape oneself and the human image in the only real life.

4.1.2. The illusion of evading responsibility

In the metaverse, especially in single-player modes or areas with high anonymity, users may develop an illusion: my actions, such as experiencing extreme sadism, purchasing illegal near-death experience NFTs, or indulging in distorted relationships with virtual NPCs, only affect virtual objects, so I need not bear any responsibility.

As mentioned earlier, this is a fundamental misunderstanding of the existentialist concept of "responsibility." First, Sartre emphasized that "a person is the sum of their actions." Behavioral patterns, emotional responses, and value orientations developed in single-player mode—such as habitually seeking extreme stimulation or instrumentalizing virtual relationships—deeply shape the subject's habits. These habits inevitably permeate their online interactions and real-world behavior, and their constitutive influence on the subject is real. Second, choosing to immerse oneself in extreme, distorted, or escapist virtual experiences is itself a value choice. It implicitly accepts such behaviors as options that "humans" can accept or even pursue, and through individual practice, it helps shape the cultural atmosphere of the metaverse. This cultural atmosphere feeds back into broader communities, blurring moral boundaries and eroding the positively recognized image of "humans." Furthermore, the immersive multisensory experiences of the metaverse have a far greater psychological impact than today's internet, and the potential harm to mental health from multisensory-stimulating virtual environments is even greater. Becoming obsessed with escapist virtual behaviors may lead to dulled emotional capabilities, weakened empathy, and abnormal tolerance for real pain in the real world, constituting a deeper dissolution of subjectivity. Therefore, the notion that one can engage in "responsibility-free revelry" in a virtual single-player world is an extremely dangerous illusion, a complete evasion of the responsibility that "in shaping myself, I shape humanity," and a self-deception and gradual erosion of free subjectivity. Legal regulation is merely an external constraint, while existentialism reveals that intrinsic responsibility cannot be truly alleviated through technological means.

4.2. An ontological solution for the coexistence of virtual and real worlds

In the face of the freedom paradox, identity confusion, illusory temptations, and responsibility challenges brought by the metaverse, Sartre's existentialism offers a clear guiding principle:

Adhere to the core of subjectivity, firmly grasping the core principles that "existence precedes essence," "a person is the sum of their actions," and "freedom is responsibility." Recognize that even in the highly virtualized metaverse, every conscious choice defines who you are and, in an intangible way, participates in defining the possibilities of "humanity."

Confront others and responsibility. Individual actions are always carried out in contrast to others—whether they are real users or virtual NPCs. The virtual world does not eliminate intersubjectivity; rather, it presents it in more complex ways. Recognizing the responsibility of virtual actions in shaping the self and the human image is key to overcoming illusions.

Embrace choice and take proactive action. The metaverse is not a paradise to escape existential dilemmas but a domain where such dilemmas unfold in new forms. It offers unprecedented choice but also brings unprecedented responsibility for those choices. Do not delude yourself into thinking you can shirk responsibility in single-player mode or get lost in the fragments of multiple identities. Recognize that technology is a tool, not an end in itself, and that the real world is the foundation, not a burden.

Of course, there are also many areas for improvement in the legal realm, such as establishing ethical guidelines for neurotechnology, clarifying the boundaries of brain data usage, promoting international cooperation, such as the United Nations-

led "Declaration on Neurotechnology and Human Rights", coordinating national legislation to incorporate brain data into the core of privacy rights, and so on [10].

5. Conclusion

In the metaverse landscape where the virtual and real coexist, humanity is facing the most profound ontological transformation since the Industrial Revolution. This paper uses Sartre's existentialist theory to reveal three dimensions of ontological displacement: In the dimension of freedom, the "thought is action" model constructed by neural interface technology superficially fulfills the existentialist promise of "absolute freedom," but in real places the subject under the dual shackles of algorithmic silos and technological dependency. In the identity dimension, the infinite proliferation of digital avatars subverts the traditional framework of subject identity, leading to the deconstruction of the "self" into a collection of customizable, switchable digital avatars; in the responsibility dimension, the anonymity of behavior in virtual spaces creates the illusion of responsibility dissipation, yet fails to alter the ontological fact that "choice is legislation."

Research confirms that Sartre's existentialist principles gain new interpretive power in the metaverse domain. The proposition that "existence precedes essence" becomes more urgent in the face of digital immortality technology. When technology promises to transcend biological limitations through consciousness uploading, humanity must reaffirm the existential courage to "live toward death." The assertion that "a person is the sum of their actions" gains new significance in the era of digital avatars: behavioral data in virtual spaces are no longer harmless game records but become the core material for constructing the essence of the subject. The most enlightening aspect is the contemporary interpretation of the principle that "freedom is responsibility": the 'harmless' choice to abuse NPCs in the metaverse fundamentally contributes to shaping the cultural consensus that "humans can become slaves to desire."

What is cause for concern is that the current metaverse development driven by tech giants is overly optimistic and overlooks existential reflection. The philosophical community urgently needs to engage in interdisciplinary dialogue with neuroscientists and AI engineers to incorporate humanistic considerations into the formulation of technical standards. Future research could explore the coupling mechanisms between Heidegger's philosophy of technology and the metaverse, or Merleau-Ponty's phenomenology of perception in critiquing tactile simulation technology. Only by maintaining this critical scrutiny can the metaverse truly become a realm of existence that expands human possibilities, rather than the ultimate iron cage created by the collusion of capital and technology.

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