Digital Civilization: Human Virtual Identity and Mediatized Existence in the Metaverse (Post-Print)

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Date: 2023-10-08T00:00:00+00:00

Abstract

The prosperity and "reorganization" of technology and society have propelled the concept of the "metaverse" to break through existing barriers, with people using this as a foundation to create an epoch-making digital civilization—a future world vision constituted by data, people, and relationships. Within the media environment fostered by the metaverse, human self-identity has undergone a transformation from "symbol" to "identity" , from "audio-visual" to "perception" , and from "situation" to "society" . As the representative of the third media era, the metaverse, while accomplishing the "reverse evolution" of media perception, has simultaneously precipitated a "crisis of existence" for humanity; thus, human immersive mediated existence within the metaverse must also be viewed dialectically.

Full Text

Digital Civilization: Virtual Identity and Mediatized Existence in the Metaverse

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Abstract: The flourishing and "reorganization" of technology and society have given rise to the concept of the "metaverse," which is serving as a foundation for creating an epoch-making digital civilization—a future worldscape constituted by data, people, and relationships. Within the media environment constructed by the metaverse, human self-identity undergoes a transformation from "symbol" to "identity," from "audio-visual" to "perception," and from "situation" to "society." As a representative of the third media era, the metaverse not only completes the "reverse evolution" of media perception but also precipitates an "existential

crisis" for humanity. Therefore, immersive mediatized existence in the metaverse must be viewed dialectically.

Keywords: metaverse; identity; mediatized existence

1. Digital Civilization with the Metaverse as Its Carrier

In September 2021, the World Internet Conference was held in Wuzhen under the theme "Towards a New Era of Digital Civilization—Jointly Building a Community with a Shared Future in Cyberspace." In his congratulatory letter to the conference, Chinese President Xi Jinping noted that digital technology is comprehensively integrating into all fields and processes of human economic, political, cultural, social, and ecological civilization construction with new concepts, new business forms, and new models, bringing extensive and profound impacts to human production and life. A future digital civilization landscape is being depicted, and the process of constructing this digital age cannot circumvent a key concept—the metaverse.

The year 2021 marked the "metaverse 元年" (first year of the metaverse), when the concept of the Metaverse (literally "beyond universe") successfully broke out from the tech sphere to become a subject of study in communication, economics, psychology, and other fields. Whether it was Roblox, known as the "first metaverse stock," successfully going public, or Mark Zuckerberg announcing the rebranding of Facebook—with its 2.91 billion monthly active users—to Meta, these developments all signaled the tech industry's recognition and pursuit of the metaverse concept. The term "metaverse" originated from Neal Stephenson's 1992 science fiction novel *Snow Crash*, which depicted a grand virtual reality world where people could recreate themselves and engage in social interaction. In real life, games have participated in shaping this concept as early-stage metaverse carriers. Sandbox games like *Minecraft* introduced players into virtual worlds and constructed a worldview. However, differences exist between these games and the metaverse: in sandbox games, characters are virtually symbols physically manipulated by humans, who primarily receive feedback through audio-visual channels, whereas in the metaverse, multiple senses are intimately involved, enabling social activities based on human-computer interaction—a disruptive transformation of communication media. Cultural and entertainment products like *Ready Player One* have showcased the future form of the metaverse through science fiction.

So how should we define the metaverse? In the "2020-2021 Metaverse Development Research Report" released by the New Media Research Center of Tsinghua University's School of Journalism and Communication, the metaverse is defined as a new type of virtual-real integrated internet application and social form that integrates multiple new technologies. It provides immersive experiences based on extended reality technology, generates mirrors of the real world through digital twin technology, builds an economic system based on blockchain technology,

and closely integrates the virtual world with the real world in economic, social, and identity systems, while allowing each user to produce content and edit the world. One can draw an analogy: if the combination of human society' s technology, needs, and social forms is viewed as a compressed "cosmic singularity," when the interactions among all elements reach a critical value, they will suddenly explode, forming an embryonic virtual universe coexisting with the real world—this is the meaning of "meta." In the media environment of the metaverse, the subject' s form of existence, survival rules, and modes of interaction can be redefined to realize illusory imaginations that cannot be completed in the real environment. People can vent emotions, obtain comfort, engage in virtual communication, and even achieve digital immortality.

The birth and explosion of the metaverse form are based on the maturation and application of a technology set including artificial intelligence, cloud computing, AR/VR/MR, and blockchain. Previously vertically developed technology lineages have been organized and integrated, constructing a space coexisting with the real world that relies on a technology map. In this process, content serves as the "technology connector," while humans are the "technology users" and "content consumers" operating in this space. The metaverse' s basic architecture includes display systems, operating systems, content systems, and blockchain systems, corresponding respectively to audio-visual interaction, behavioral interaction, information interaction, and economic interaction in social communication. The metaverse inherits and develops platform characteristics from the internet era—content, social networking, shopping, gaming, finance, etc. —while constructing a virtual-real integrated social system. All human activities in this system are shaping a digital civilization, a future worldscape constituted by data, people, and relationships. As more people immerse themselves in it in the future, the virtual identity and mediatized existence of humans as spatial subjects need to be reconsidered.

2. Virtual Identity in the Metaverse

Manuel Castells notes that identity is the source from which people derive meaning and experience in their lives; it is the consistent experience of personal self-identity, status, interests, and belonging. Individuals achieve self-identity through receiving information and self-presentation, and strengthen social identity through social interaction. In the Web 3.0 era, internet society is redefining users' virtual identities through the internet and new media, and recreating personalized virtual group identities. Consequently, humans possess multiple subject avatars in virtual environments. Based on research into the characteristics of the metaverse system, this paper focuses on exploring humans' virtual self-identity in the metaverse.

2.1 From "Symbol" to "Identity" : Recognition of Self-Image Construction

In an era of highly developed simulation and interactive technologies, humans are no longer satisfied with existing environmental survival and their inherent roles and images. Instead, they shape anonymous, symbolic identities through internet social channels. Unlike internet-based virtual socializing and gaming, subjects in the metaverse not only possess social attributes, but also have highly simulated perception and behavioral systems that break down the boundaries between virtual and real. In Erving Goffman' s "dramaturgical theory," individuals in "front-stage" activities no longer exist merely as symbolic information in the form of text and images, but rather engage in concrete identity performance through custom images constructed by simulated sensory and interactive systems. In this environment, based on rules that humans participate in constructing, self-shaping and confirmation transcend gender, race, and skin color, breaking free from nature' s constraints on the physical body and achieving the concrete realization of self-consciousness. This realization not only shapes a symbol but also includes a spatial self that approximates reality in terms of role, appearance, perception, and experience. In this new identity recognition, humans fulfill their long-held wishes for self-transformation in a virtual manner.

Through the virtual social system created by the technology set, individuals re-perceive their environment and re-cognize themselves, directly or indirectly participating in socio-economic activities and seemingly integrating into another idealized world. Consequently, human virtual images complete the evolution from "symbol" to "identity." Moreover, when humans invest themselves into social interactions with this new identity, they receive information feedback from the "other' s" virtual identity. When everyone views the "other" from a "putting oneself in another' s shoes" perspective, social identity for humans in the metaverse becomes confirmed, and human social existence throughout the digital civilization tends toward authenticity.

2.2 From "Audio-Visual" to "Perception" : Recognition of Self-Social Expression

Abraham H. Maslow' s hierarchy of needs categorizes social interaction as a fundamental human need; people expect to confirm their sense of belonging through socializing. Understanding and expression are necessary activities for social interaction, with media serving as the hub for information exchange in this process. From early human physical expression to textual expression in the print era, and through to the internet era, social products like WeChat and TikTok have progressively transformed social methods. The temporal and spatial barriers between people have been broken, with symbols such as sound, images, and videos all becoming social media. In the metaverse, however, social understanding and expression shift from information dissemination to perception itself.

In the first and second media eras as defined by Mark Poster, humans transmitted information and maintained social relations through physical and electronic media, with perception directly derived from the media rather than the information itself. With the arrival of the third media era, human perception undergoes a "reverse evolution" : perception of physical media tends to weaken while perception of information itself becomes clearer. Against this backdrop, humans are immersed in the metaverse, living and interacting within a media environment. Media seems to constantly surround them yet remains invisible and intangible, while their perception of information transmitted by others and the environment becomes exceptionally sensitive, as if they were physically present. For example, two people thousands of miles apart can converse and even embrace in a metaverse environment without sensing the media itself.

This re-created perception is both an imitation and return of human perception in real environments, while also strengthening virtual identity recognition for humans in the metaverse. Moreover, social expression in the metaverse involves not only heart-to-heart collisions but also interweaving between humans and social robots. Future NPCs (Non-Player Characters) in the metaverse will likely evolve human-like minds through countless interactions with humans, much like the protagonist Guy in the movie *Free Guy*, and begin participating in social interactions. Interaction with social robots may be purer or more complex than human-to-human interaction. Faced with machine-evolved minds, humans' recognition of self-social expression and their identification with others and the entire digital civilization will become even stronger in the metaverse environment.

2.3 From "Situation" to "Society" : Recognition of Self-Social Identity

Yu Guoming notes that the evolution of the metaverse represents the organic integration of all internet elements—the "re-organization" of digital society. This "re-organization" creates a social system that is highly consistent with and even surpasses the real world in certain aspects. Before the metaverse, human activities in internet society often occurred in "binocular-accessible," "situational," "small spaces" with systematic barriers, where spaces were connected through mouse clicks or finger touches. The metaverse gradually completes the evolution and transcendence of internet space, shaping a panoramic, open, and round-the-clock social system connected through brain-computer interfaces.

In this artificial social system, the decentralized and traceable features of blockchain technology construct the credit and economic systems of the metaverse; the immersive interactive characteristics of AR/VR/MR build its perception and content systems; cloud computing, 5G, and even 6G technologies construct its information system; and artificial intelligence technology builds its interaction system. Under the collaborative construction of multiple technologies, the rules for social activities that people participate in within the metaverse become clearer and more transparent. Consequently, individuals can engage in necessary entertainment, learning, work, and other social activities to

demonstrate their social attributes and values, thereby achieving expected goals. When human social activities in the metaverse reach a degree comparable to those in real society, a digital civilization can be said to have been established, acquiring high recognition of human self-social identity. Moreover, the more comprehensive the functions, detailed the rules, and frequent the interactions of the social system constructed by the metaverse, the stronger the sense of gain, authenticity, and identity that people experience through participation.

3. The Metaverse in the Third Media Era: Exploring Immersive Mediatized Existence

While immersed in the realism brought by the metaverse, people cannot help but wonder: are individuals in this space "truly existing"? Szegedi Lukács, building upon Marxist dialectical materialism, divides human existence into natural existence and social existence, where natural existence is the foundation of social existence, and social existence is the leap from natural existence. In other words, in the metaverse, humans depart from physical natural existence and participate in practice in the form of social existence. Twenty-five years ago, Nicholas Negroponte predicted this disembodied "digital existence." From a media perspective, information technologies such as cloud computing, the Internet of Things, big data, mobile internet, and artificial intelligence have enabled media technology to exert more extensive and significant influence on human social existence, and humans have in fact entered a state of mediatized existence. Mediatized existence, simply put, is a lifestyle centered on media. Currently, some scholars believe that mediatized existence will positively contribute to the evolution of the media ecosystem, while others adopt a critical stance, arguing that media precipitates an "existential crisis" for humans. In the future digital civilization constructed by the metaverse, human mediatized existence must be viewed dialectically.

Marshall McLuhan once stated that "the medium is the extension of man." In an era of technology empowerment where everything is media, the metaverse becomes the carrier of human consciousness and the extension of human vision, touch, hearing, and other senses. It connects the self with others, humans with machines, and individuals with society, guiding people into what Li Qin defines as the "third media era" through its intermediary characteristics and immersive communication form. The third media era refers to an era of pan-mass communication characterized by ubiquitous networks and big data as its physical foundation and immersive communication as its hallmark. The metaverse conforms to the pan-mass, experiential, shared, and co-creative features of media in the third media era, making it a typical immersive medium.

Immersive mediatized existence in the metaverse also causes a "reverse evolution" in human media perception. In the first and second media eras as divided by Mark Poster, humans transmitted information and maintained social relations through physical and electronic media, with perception directly derived from the media rather than the information itself. After the arrival of the third

media era, human perception undergoes reverse evolution: perception of physical media tends to weaken while perception of information itself becomes clearer. Against this backdrop, humans are immersed in the metaverse, living and interacting within a media environment. Media seems to constantly surround them yet remains invisible and intangible, while their perception of information transmitted by others and the environment becomes exceptionally sensitive, as if they were physically present.

Mediatized existence emphasizes audience dependence on media, which reveals from another perspective how new media penetrates and attends to audiences' daily lives. The immersive and pervasive penetration and attention of the metaverse not only positively influences human social life but also indirectly creates an "existential crisis." First is the deconstruction of the rational self and the indulgence of irrational behavior. The metaverse creates a platform for "virtual, anonymous, casual, and everyday" discourse and behavior, which invisibly deconstructs the rational self of real humans, causing a lack of rationality in users' communication and activities, as well as tendencies toward catharsis and responsibility deficiency. When individuals shuttle between the metaverse and real space, they struggle to switch freely between the two roles, leading to a social-emotional crisis. Second is the weakening of social activities in real environments and the reinforcement of "real social phobia." While the spatiality, authenticity, and immersion of the metaverse reduce social costs, they inevitably weaken social activities in real environments, causing an imbalance in spatial preferences for social interaction. Behind the prosperity of "virtual socializing" lies the spread of "real social phobia." Over time, people become unwilling to leave their homes, and social activities cease to flourish.

Thus, it can be seen that the media environment created by the metaverse presents both advantages and crises for humanity. To enable the metaverse to better serve humanity, multi-party collaboration is still needed to construct corresponding institutional norms, thereby creating a healthy, "human-centered" digital civilization.

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(Copy Editor: Li Jing)

Note: Figure translations are in progress. See original paper for figures.