

Metaverse: The Re-Confirmation of Human Subjectivity

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Abstract

The metaverse is a major product of the entry of human beings into digital civilization. Under the spirit of Report of the 20th National Congress of the Communist Party of China, the wave of information revolution and the new model of “metaverse+”, it is a major issue to promote Chinese path to modernization and create a new form of human civilization, and it is important to discuss the re-confirmation of human subjectivity in the metaverse, and it is important to answer a series of questions such as what is human and what is the role of human subjectivity in the metaverse. This paper takes the environment and characteristics of human beings as the starting point to answer the question of human subjectivity, and analyzes the confirmation of freedom and consciousness in choosing living space, the confirmation of autonomy in switching cognitive perspectives, the confirmation of dynamism in expanding social interactions, and the confirmation of creativity in empowering digital technology in the metaverse, and deeply examines the relationship between human beings and the metaverse.

Key words: Metaverse; Subjectivity; Reconfirmation

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The wave of information revolution has accelerated the innovation of modern information technologies such as Internet, big data, cloud computing, artificial intelligence, blockchain and even ChatGPT, providing favorable conditions for the development of metaverse. The metaverse has become a hot issue of common concern in many fields and is increasingly embedded in social development, with new models of “metaverse+” emerging (Lu, 2023). But metaverse itself is not only a technology, but also a concept and idea that integrates multiple technologies. With the deepening of the Digital China Strategy, the “Chinese style metaverse” (Hao & Xue, 2022) called for by experts and scholars in many fields and the Chinese path to modernization pointed out in Report of the 20th National Congress of the Communist Party of China “is a modernization with a huge population, a modernization with common prosperity for all people, a modernization with coordination between material and spiritual civilization, and a modernization in which people and nature coexist harmoniously and a modernization that follows the road of peaceful development” concept (Xi, (2023). We have reasons to believe that the metaverse can drive the “new form of human civilization”. How to decode the metaverse and explore the relationship between human beings and the metaverse is an important breakthrough in the construction of a Chinese metaverse, and it is of guiding significance to re-examine the value of human beings as human beings in the context of the metaverse and consider the future direction of the relationship between human and human.

I. REVIEW OF RESEARCH AND FORMULATION OF QUESTIONS

1.1 Development of the Idea of Subjectivity and Its Related Research

Fundamentally, human subjectivity is a philosophical concept. By combing through the historical development

of subjectivity in the history of Western philosophy, we can easily find that the issue of subjectivity is one of the core issues of philosophy. Subjectivity sprouted in early ancient Greek philosophy, Aristotle's "man is a rational animal" first used the category of subject, believing that any entity can be a subject, and any other natural object is a subject. This is a solid metaphysical thinking that erases the particularity of human beings and does not reflect the status of human beings as subjects and human subjectivity, and thus does not explore the true subjectivity. Modern philosophy treats human beings as subjects, and individuals are gradually given the connotation of subjects, and the category of subjectivity, which is dedicated to expressing the dynamic creativity of human beings, is precipitated. The "father of modern philosophy" Descartes' "I think, therefore I am" highlighted the independent status of the subject and made this independent status the basis of all thought or understanding, thus establishing the principle of subjectivity, arousing the awakening of subject consciousness and laying the foundation of the concept of subjectivity. Kant's "man-made nature legislation", Hegel's "absolute spirit", Fichte's "self-consciousness" and Feuerbach's "sensible entity" are ontological and epistemological perspectives on the subject, thus giving rise to the philosophy of the cognitive subject. The cognitive subject in modern philosophy is a kind of a prioriism that creates the problem of subject-object division and opposition, and essentially fails to find the real subject that drives the development of human history.

The so-called subject of Marx is a "real person", a generative one, which examines the subject in social practice and historical development, emphasizes the ontological dimension of subjectivity, and pays great attention to the initiative, dynamism and creativity of man himself. Most domestic scholars follow the viewpoint in Marxist philosophy in the study of subjectivity. Li Huaichun (1996) believes that subjectivity refers to the consciousness, dynamism and creativity of the subject as expressed in the objectivity activity (Li, 1996). Guo Zhan (2011) points out that "human subjectivity is the qualitative nature of human as a subject of activity, and it is the conscious, active, dynamic and creative characteristic of human that is developed in the interaction with the object." (Guo, 2011) When Zheng Hangsheng and Yang Min (2006) examine human subjectivity from the perspective of sociology, they understand subjectivity as "human being as the subject of social life practice, whose action process embodies autonomy, dynamism and creativity." (Zheng & Yang, 2006) Subjectivity is defined in the Encyclopedia of China (second edition) as the characteristic of a person as a subject in a particular

subject-object relationship. Thus, it can be seen that academic discussions on human subjectivity are all about studying human subjectivity in activity in the process and result of activity in a particular field, highlighting the characteristics of the subject to give full play to its dynamism in practical activity, further transforming, developing and perfecting the object in constantly breaking the limitations of the object and realizing the development of its own abilities and needs.

1.2 Problem Formulation

The study of subjectivity is always based on practice and society, and thus subjectivity and a series of issues related to it are the major issues concerning the survival and development of contemporary people. Since the first year of metaverse in 2021, metaverse has jumped to be a hot topic in the technology and capital circles, and gradually integrated into people's daily life. Domestic Tencent, Alibaba, Byte Jump, etc., and foreign Facebook, Microsoft, Nvidia, Apple, Google, etc. have entered into related fields for layout, and a series of new operations such as celebrities holding concerts and buying land in the metaverse have driven technology giants and capital from all walks of life to compete in the metaverse. The metaverse is so hot that no matter how the academic community eventually defines it, we can draw an unspoken conclusion: once formed, the metaverse will bring unprecedented impact on human life and social development. Therefore, human beings have to think about the question of where man should place himself in the metaverse perspective. In studying the relationship between human beings and the metaverse, we should first clarify the relationship between the metaverse and human subjectivity, that is, what is the relationship between the metaverse and human subjectivity? How does subjectivity manifest itself in the metaverse?

With its basic features of immersive experience, virtualized bilocation, strong social attributes and open creation, the metaverse maps everything that happens in the real world to the virtual world, and at the same time reacts to the real world, making the two worlds interconnected, superimposed and intertwined, building a new structure of mutual promotion and common development, which profoundly affects the future social organization structure and social form. Compared with the existing literature, which mostly places the study of human subjectivity in the technical field (such as artificial intelligence, algorithms, etc.) and the deconstruction and reshaping of human subjectivity from the perspective of news communication media, artificial intelligence is only one of the technical support means in the metaverse perspective. In this paper, human subjectivity is placed in the extremely open, free, complex and huge meta-universe integrated system, which broadens the research perspective on subjectivity.

2. THE RELATIONSHIP BETWEEN THE METAVERSE AND HUMAN SUBJECTIVITY

The development of human subjectivity is as phased as the development of society. On the one hand, the development of society is the result of purposeful and conscious activities of human as a subject, and human development can push society forward; on the other hand, human is the product of society, and the continuous development of society makes human subjectivity play continuously, creating an environment more conducive to the free and comprehensive development of human. The metaverse is the latest product of social development, and its development originates from the practice of human subjectivity, and in turn serves people, promotes the development of the practice of subjectivity, and expands the practical space for human subjectivity to play its role.

2.1 The metaverse is a product of the times of human subjectivity

First of all, metaverse is an important expression form of human practice. Science and technology is the first productive force that drives the development of human society. We are currently in the period of information society, and the technological revolution will lead society to transition from informationization and networking to digitalization and intelligence, and the real economy, social development, global governance and even the development of human beings will be fully transformed to digitalization, intelligence and virtualization. Technologies such as 5G, big data, blockchain, artificial intelligence, industrial internet, digital twin, quantum computing and ChatGPT provide technological support for the coming of the metaverse era. Humanity has created the wonderful world system of metaverse through the practice of technological evolution, and thus metaverse has reason to be and should be the characteristic form of humanity in the new environment. In the magical and colorful metaverse virtual reality system, we need more rationality, wisdom and big picture to recognize the sociality of the metaverse, grasp the relationship between people and people, people and things represented in the metaverse, give full play to human subjectivity, and build a virtuous system that promotes social development and human development in both directions.

Secondly, the metaverse is an extension of the function of human subjects. The development of the human subject function is the title of the development of the metaverse. The people are the creators of history, and in terms of the development of the metaverse, it is a concept that has existed for as long as 30 years, and the technological matrix involved behind it has even been quietly developed for almost a century. In 1992 American

author Nick Stephenson's science fiction novel *Snow Crash* revealed a literary metaverse, arguing that the meta-universe is a virtual world parallel to the real world and always online, highlighting the cyberpunk literary trend. By 2020, against the background of the global new crown pneumonia epidemic, the length of Internet access for the whole society increased dramatically, with the average online time exceeding 8 hours, and a trend emerged that excluding sleeping time, the virtual world became the main world and the real world became the subordinate world, and the critical point of virtualization of human society emerged, laying the background of the era for the birth of the metaverse. Plus multiple typical events triggering expectations for the metaverse, e.g.: Travis Scott, the famous American pop singer, held a virtual concert in the game *Fortnite*, where 12.3 million gamers worldwide became virtual concert-goers; parents held birthday parties for their children in the sandbox game *My World*, which opened the door to virtual education in the metaverse; virtual finance has grown rapidly since CNBC reported on the real estate boom in the "metaverse" and the creation of the "metaverse" asset fund, with the "metaverse" asset and wealth model going virtual in all directions; Roblox surpassed 100 million monthly active players in the game, generating 18 million gaming experiences and taking virtual creation by storm, in March 2021, Roblox included the concept of "metaverse" in its IPO prospectus, and in October of the same year, Facebook changed its name to "Meta" and claimed to have spent five years building it into a metaverse company. Many practices show that, under the background of the accelerated evolution of the century-old changes and the continuous impact of the epidemic, the metaverse is changing every aspect of people's lives at an astonishing speed, and also influencing people's way of thinking, cognitive patterns and behavioral habits, constantly enhancing human beings' ability to understand and transform the world. It must be emphasized that even though the emergence and development of metaverse has a profound impact on people's life and state of being, and also shapes new types of social relations and social practices, metaverse does not essentially change human subjectivity.

2.2 The Metaverse Expands the Practical Space for the Exercise of Human Subjectivity

First, the metaverse enriches the connotation of the play of human subjectivity. Subjectivity, as the essential property of man, is the qualitative prescriptiveness of man as a subject of activity, or the fundamental characteristic that distinguishes man from animals (Guo, 2011). With the optimization of various underlying technologies of the metaverse, a virtual shared space interacting with the real society is gradually constructed, and in this process, people, as the subjects of social life practices, also reflect autonomy, mobility and creativity in their actions (Zhang,

Lu, & Li, 2022). McLuhan, the great communication scholar, asserted that “the medium is an extension of man” and that all human technology is an extension of the faculties (McLuhan, (2000). The metaverse promotes the panoramic presentation of virtual space by means of meta-medium, and makes the five senses of sight, hearing, smell, taste, and touch homogeneous by extending the sense of touch to achieve synchronous extension. From the technical aspect, the metaverse is a virtual world built by technology, based on the real world, with an independent and complete value system and economic closed loop. Technology is created by human beings in the practical activities of transforming, controlling and coordinating many elements to meet the needs of society, using scientific knowledge, which determines that technology is human as the subject, and people create and lead the development of technology. At this level of logic, the metaverse is created by human beings, and human beings are always at the core of the metaverse, so they should be and must be the subjects of all object activities in the meta-universe, and at the same time the meta-universe is a new practical space for human beings to exert their subjectivity.

Secondly, the metaverse expands the space of virtual-real interaction of human subjectivity. According to Marx, human subjectivity is conditioned by the state of human productive capacity and the social relations that correspond to it (Zhan, (2007). Environment is the space for human survival activities, which can be specifically divided into two categories: natural environment and social environment. The subjective activities of human beings create various social environments needed by human beings on the basis of natural environment. With the development of productivity, the metaverse is created as a human creation, which makes the space of human practical activities expand from physical space to the physical world and virtual space of virtual-real interaction. In July, Shanghai took the lead in the new track of metaverse industry with the release of the Shanghai Action Plan for Cultivating the New Track of Meta-Universe (2022-2025). The Action Plan implements the value orientation of the metaverse of promoting the reality with the virtuality and strengthening the reality with the virtuality, based on improving the production efficiency of the real economy, meeting the people’s needs for a better life and promoting high-quality economic development (Yu, 2022). Subsequently, Zhangjiang Science City built the “Metaverse Urban Space”, which upgraded the physical space of office buildings, science and technology parks, streets and shopping areas into the “Metaverse Space”, a fusion of virtuality and reality. Wang Jinsong also pointed out that after the maturity of AR glasses, people can wear glasses into the “metaverse space”, using gestures and voice for spatial interaction. Shen Yang pointed out that in the metaverse, “virtual digital humans and physical robots will share the same appearance,

interaction and cognitive symbiosis in the future.” Thus, the metaverse space breaks the limitation of space and time, and is expected to realize “multi-space and multi-threaded bilocation”, enhance the sense of presence, and put human practice in the “amphibious” space of virtual-real interaction.

3. HAS THE METAVERSE CHANGED HUMAN SUBJECTIVITY: THE MULTIPLE CORROBORATION OF HUMAN SUBJECTIVITY

Marx defines human subjectivity as man’s appropriation of the essential power of objecthood, arguing that man acts as a subject in the process of corroborating himself from himself, viewing himself as his own object. Relevant scholars point out that “human subjectivity is the autonomy, dynamism and creativity of human beings as subjects who interact with objects in all object-oriented activities.” (Zhang, 2012) Guo Zhan summarizes that human subjectivity “is the conscious, autonomous, dynamic and creative character of human beings that develops in interaction with the object.” (Guo, 2011). Freedom and consciousness are the essence of human subjectivity; autonomy is the basic feature of human subjectivity; dynamism is the distinctive expression of human subjectivity; creativity is the supreme expression of human subjectivity. On the concept of metaverse, Shen Yang’s team from Tsinghua University released the 2020-2021 Metaverse Development Research Report, defining metaverse as “a new type of Internet application and social form that integrates virtuality and reality by integrating multiple new technologies, it provides an immersive experience based on extended reality technology, generates a mirror image of the real world based on digital twin technology, builds an economic system based on blockchain technology, closely integrates the virtual world with the real world in terms of economic system, social system, and identity system, and allows each user to produce content and edit the world.” The report also identifies the “three major attributes” and “four major expansions” of the metaverse. The “three attributes”, namely extended reality and digital twin technologies, will enable the spatio-temporal scalability of the metaverse, AI and IoT will enable the human-machine integration of virtual humans, natural humans and robots, and blockchain, Web 3.0 and digital collections will generate economic value-addedness. The “four major expansions” are the expansion of living space, the expansion of sensory dimensions, the expansion of perspective dimensions, and the expansion of thought practices (New Media Research Center of Tsinghua University, 2021). In summary, it is not difficult to divide the metaverse’s re-confirmation of human subjectivity into the following aspects (as in Figure 1):

3.1 Free and Conscious Confirmation of the Choice of Living Space

First, the metaverse is able to break the traditional boundaries of space-time. “Free conscious activity is precisely the class characteristic of man.” (Marx & Engels, 2012). With its open and extensible features, the metaverse provides online three-dimensional worlds in which people can have a wide range of freedom and participation. The metaverse connects the human living space from the physical world to the biological (mental) world, and through the VR/AR/MR (Virtual Reality/Augmented Reality/Mixed Reality) interaction technology represented by the extended reality technology, it has upgraded the existing field, broken the opposition between virtual and reality in the traditional spatial sense, and built the integration and interconnection between the real and virtual space, and human beings have increasingly become the “amphibian” of the real and digital worlds, realizing the “settlement” from the physical space to the “nomadic” between the virtual and real space (Yu & Jiang, 2022).

Second, the metaverse can reorganize the space division. In the metaverse system, space is divided into infinite number of scene fragments, which can be reorganized and aggregated by means of scene search, calculation and perception under different needs, and the scene can be switched and transferred at any time to achieve the effect of “real-time” presence. As a result, the metaverse is detached from the previous inevitable concept of natural time, time can be infinitely shortened and extended, and the social view of time will move from order to disorder, from completeness to fragmentation. This means that people will regain control of time, breaking the traditional prescriptions of past and future time. The past, present and future will all become objective time, all objects for man to play his subjective role in constructing a living space that spans reality and life and death. In the virtual world constructed in the metaverse, the activities performed by virtual humans are not bound by the linear laws of motion in time, and they can jump and travel in the past and even in the future, realizing the “digital immortality” of human beings. As a subject, human beings can be free from the constraints of space and time and the threat of death in the virtual living space; they can carry out practical activities in real life with the help of a prosthetic body, and bring about “embodied” experiences through “disembodied” activities, it greatly expands the freedom of human practice and spatial freedom, and human beings gain unprecedented freedom. This is conducive to the human beings’ free and comprehensive development.

3.2 Autonomy Confirmation of Cognitive Perspective Switching

First, the metaverse can bring a new experience to people. By autonomy, we mean having self-awareness and emotion and being able to make rational decisions

(Yan, 2022). Autonomy is to some extent the opposite of pre-determined and monopolistic concept. According to Yu Guoming, the metaverse is a “real-time online world” “with a closed-loop economic system” (Yu & Geng, 2022). The metaverse provides a new digital experience in which people can simulate participation in various activities, detect various goals and aspirations, and better examine rationally, so as to give full play to human subjectivity and achieve optimal goals. The metaverse physical world transforms users into content producers, creating a distributed, decentralized and self-organized experience environment. The metaverse is built by thousands of individuals with full autonomy, and any individual can interact with each other freely and at any time. At present, the metaverse is still in the initial stage of development, and there are divergent views on the future development of the metaverse, but what we can make clear is that the metaverse is not hegemonic, nor is it unique, it is optional, the physical world will not be destroyed, and the metaverse only gives a plus option. No permission is required for any subject, whether they choose to join the metaverse or not, and when and where they join or exit the metaverse; immersion in the metaverse is free and easy. The metaverse relies on consensus to make rules and autonomy to follow them.

Second, the metaverse can bring innovative economic models. The “stakeholder system” allows each participant in the metaverse to enjoy a “decentralized” model of co-built and shared construction. Unlike the capital exploitation model in the physical world where the capital platform invests, the content is created by users and the value belongs to the platform, in the “decentralized” metaverse, users can participate in the formulation of rules, and each participant in the metaverse can create unique ways to play and create their own world, and the products produced, assets owned and value created by users in the metaverse are owned by the users themselves. The co-creators in the metaverse are the benefit-sharers, and there is no distinction between shareholders, executives and employees. All participants can “build, create, govern and share” together. Metaverse is a new type of virtual and real Internet application and social form produced by integrating multiple new technologies. In its original sense, it is a virtual space and virtual universe, but it maps more offline space and extends to offline space. The virtual is not fake, much less irrelevant. The metaverse is not an escape from reality, but a means of seeking solutions to real problems in the virtual world. Whatever technological path the metaverse takes to develop, it must be grounded in nature and human subjectivity. The subject of the metaverse is the human being, not the virtual world.

3.3 Confirmation of the Dynamism of Social Interaction Expansion

First, the metaverse provides people with more creative space and freedom. The subjectivity of people is

highlighted as conscious activism, and the conscious activism of the subject is the ability of people to know the world and transform the world consciously as the subject of activity. The metaverse is a human creation, and the study of it needs to be analyzed from a social epistemological perspective. The metaverse, like platforms such as WeChat and Twitter, is an environment created by people in the process of participating in certain social interactions and practices together. Although the metaverse is manifested in the form of virtual and digital technologies, at its root, it is still a product of the practical activities and social interaction relations of human society. Second, the metaverse simplifies people's interactions. Sociality is the essential attribute of human beings, and people as social systems rely on social forces to carry out social interaction activities. The metaverse makes people focus more on the application of technology, personal value enhancement and wealth acquisition. In the metaverse, the subject expands from a natural human with a physical body to a bilocation in virtual space and a real body in real space, and the natural human (real body), virtual human (bilocation), and high-fashion human robot (fake body) are united to form a digital interaction that blends virtuality and reality, coupled with the new situation of human-medium symbiosis, inter-embedded technology, and scenario dependence that can occur simultaneously in multiple matters and scenes in multiple threads and at the same point in time, human social interaction expands from the real world to a new interaction paradigm of virtual-real interaction, which can significantly improve human productivity, perception and execution effectiveness.

In the social field, the individual is embedded in the group, and the subjectivity of the individual functions in relation to others and society. In the social space of the future metaverse, the original economic model (finite means of production; rational human assumption) can be rewritten, the means of production from finite to infinite, the rational construct of human beings is broken, and the multi-dimensional space-time and multi-human-machine collaborative forms of social interaction bring social relations into a more complex context, which requires people as subjects in the group to pay more attention to the subjective initiative of good people, actively and proactively shape new social relations and new social practices. In this process, human subjectivity is reconfirmed through the expansion of social interactions.

3.4 Creative confirmation of digital technology empowerment

First, the metaverse opens up a new realm of digital technological experience. Creative activity has the dual role of adding and opening up new realms to make the world wider, and on the other hand enriching the development of the human being itself by enabling the inner mind to experience such new realms (Arrietty,

1987). Creativity is a process of change and development from non-existence to existence, with transcendence. Creativity is not the same as creative power, which is an ability commonly possessed by human beings, but creativity is the condensation or sublimation of human subjectivity, which is based on the subject's dissatisfaction with the reality of existence and higher needs, and is the highest level of human subjectivity. The emergence of metaverse has its inevitability, as technology desires new products, capital looks for new outlets, and users expect new experiences. Based on the theory of virtual-real compensation, people will achieve compensation in the virtual world for what is missing in the real world, and also in the real world for what is missing in the virtual world. With the development of technology and the expansion of arithmetic power, people are gaining more and more liberation in the virtual world, but the metaverse is not simply a deepening of capital and technology, but a new and challenging attempt by human beings facing capital and technology that the real world is unable to compete with. The digital technology enables metaverse breaks through the limitations of previous concepts, liberates itself from the physical world R&D and digital world enjoyment, realizes data world R&D and data world enjoyment, de-platform centrist thinking, and realizes that the platform party only builds external space, instead of allowing service capital and R&D capital to be used for profit-making.

Second, the metaverse creates a new path for digital technology governance. One path to the metaverse is technology, and the essence of the metaverse is co-creation, sharing, and shared governance on top of the technology assemblage. People keep creating new technological mediums, and the mediums keep empowering people. Blockchain technology and NFT technology under digital technology empower the digital economy and catalyze the metaverse to create the value of digital-using, digital exchange value and digital added value. From the low technology and difficulty in reproducing the scenario, the science fiction literary metaverse, to the film and television metaverse that extends human's hearing by electric waves and human's visual and auditory senses by television and movies, to the two-dimensional metaverse that extends human's thinking, visual and auditory senses by Internet, and finally to the three-dimensional immersive metaverse that extends the five senses into one and synchronously by the peak of the sense of touch, which gradually confirms the creativity of human subjects.

4. CONCLUSION

The metaverse provides a more open and free environment for man and opens up a new direction of development for his modernization. The subject is a subject with

characteristics that are different from those of the object. In the relationship between human and metaverse, metaverse is a product of human, human is in the position of subject and metaverse is in the position of object. No matter how technology develops, human beings have been on the way to pursue eternity, and data immortality in the metaverse brings us a practical way to touch eternity. We must fully realize that the status of human subjectivity in the metaverse has not been changed, but how to give better play to the subjectivity of human beings in the metaverse is not a matter for a part of people, much less a country, but a matter for all of humanity. Space is limited, and the author will conduct an in-depth study in the subsequent research.

REFERENCES

- Arrietty, S. (1987). *The secret of creation* (Q. Gangnan, Trans.). Shenyang: Liaoning People's Publishing House.
- Guo, Z. (2011). *Philosophy of subjectivity: Human existence and its meaning* (Revised Edition) (p.23). Beijing: People's University of China Press.
- Hao, Y., & Xue, X. (2022). Where is the Chinese meta-universe economic system headed? *Exploration and Controversy*, 2022(12), 115-126+212.
- Li, H. (1996). *The complete book of marxist philosophy* (p.859). Beijing: People's University of China Press.
- Lu, L. (2023). From the internet to ChatGPT: The technological reshaping and constructive logic of ideological and political education. *Exploration*, 2023(02), 163-174.
- Marx, K., & Engels, F. (2012). *Selected Works of Marx and Engels* (Vol. 1). Beijing: Beijing People's Publishing House, 56.
- McLuhan, E. (2000). 1969 playboy interview: "McLuhan - High priest and medium metaphysician of the cult of pop reveals his heart." In E. McLuhan & F. Chingron (Eds.), *The essence of McLuhan* (Translated by H. Daokuan, p. 360). Nanjing: Nanjing University Press.
- New Media Research Center of Tsinghua University. (2021). *2020-2021 Metaverse Development Research Report*, September 16, 2021.
- Xi, J. (2023). *Selected writings of Xi Jinping (Volume 1): Raising the great banner of socialism with Chinese characteristics to unite the struggle for the comprehensive construction of a modern socialist country - Report at the Twentieth National Congress of the Communist Party of China* (April 2023 ed., pp.18-19). People's Publishing House.
- Xu, J., & Cheng, W. (2022). From "image domain" to "mimetic domain": the change of media domain in the era of "metaverse". *Media Watch*, 2022(3).
- Yan, S. (2022). The loss and regain of human subjectivity in the age of artificial intelligence. *Science and Technology Communication*, 2022(12).
- Yu, G., & Geng, X. (2022). Metaverse: The future ecological picture of mediated society. *Journal of Xinjiang Normal University (Philosophy and Social Science Edition)*, 2022(3).
- Yu, G., & Jiang, T. (2022). The Age of Metaverse: Human Role Ascension and Map Expansion. *Journalism and Communication Review*, 2022(4).
- Yu, T. (2022). Opening the world of virtuality and reality in metaverse space. *Jiefang Daily*, 2022(2).
- Zhan, A. (2007). On Human Subjectivity: An Examination of Marx's Philosophical Perspective. *Social Science Research*, 2007(2).
- Zhang, F. (2012). Study on the subjectivity of farmers in agricultural modernization. *Scientific Socialism*, 2012(03).
- Zhang, J., Lu, N., & Li, Q. (2022). The development trend and future impact of metaverse. *Frontline*, 2022(05).
- Zheng, H., & Yang, M. (2006). The contemporary form of the individual: The century challenge of socialization theory: The new development of human subjectivity and the human-centered source of the times. *Hebei Journal*, 2006(3).