The “metaverse society”: Beyond the discourse intrinsic potential and transformative impact

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ABSTRACT

With the full-scale development of the new digital revolution, with mobile Internet, application ecology and holographic Internet as keywords, and the leapfrog development of media technologies such as virtual reality, immersive environments, blockchain and open source, as well as the gradual emergence of user-produced content and interesting communities as mature online cultural production mechanisms and main organizational methods, the metaverse has “emerged”. The metaverse is now historically positioned as a new stage embedded in the entire sequence of Internet and digital development, and has been given social significance and future imagination beyond the level of discourse. As can be seen from its inherent technologies, mechanisms and value assumptions, the metaverse, as a utopian social vision and social practice still carrying the Silicon Valley discourse, presents a potential and transformative impact to be stimulated in three areas: production and creation, cognition and experience, and community and identity. However, this potential and transformative impact is constrained by the material world, and metaverse societies thus show inextricable connections to the real world.

Keywords: metaverse; digital revolution; virtual worlds; open-ended games

1. Introduction

With Zuckerberg’s business changes and a new round of capital market frenzy, the “metaverse” has become a popular concept in industry and academia. However, the “metaverse” is not a “new invention” with a historical break, but an “old concept” that has been discussed and practiced for 30 years or more and is already known to us but not known to us. Therefore, the historical and theoretical construction of the metaverse will be a stage summary of the beginning of the digital revolution, and a vision and imagination of the future direction of the Internet.

Haraway has pointed to three crucial boundary breakdowns in American scientific culture in the late twentieth century: firstly, the breakdown of the boundaries between man and animal; secondly, the blurring of the boundaries between man, animal and machine; and finally, the interpenetration of the material and immaterial worlds, the continued dissolution of which has made possible the imaginary of the “cyborg human”[1]. The continuous erosion of these three boundaries has made it possible to imagine a “cyborg human”. As the second decade of the 21st century begins, the collapse of these tri-
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ple boundaries has broken through the boundaries of space and time to come to each of us, so when we discuss the metaverse, we are not just talking about the future direction of the Internet industry or the next windfall for capital investment, but about the possibility of alternative social practices and how the human species can live with technology, live with machines and work with code. It is about the possibility of alternative social practices and how the human species can live with technology, live with machines and work with code in a post-human situation.

2. The origin of the discourse and historical narrative of the metaverse

The term “metaverse”, as a term and conceptual import, corresponds in its native context to “metaverse”, a term that does not have a clear connotation or specific reference, in addition to which it is also used as a term for “super-universe”, “post-universe”, “metaphysical universe”, “metaverse”, “supersensible space” and “imaginary space”. Among the many translations, I believe that the term “metaverse” more accurately refers to the key meaning of the concept, i.e. the field beyond the sub-dimensions. The word “metaverse” is itself a combination of the prefix “meta” and the suffix “vers”. Thus, it literally means “the universe beyond the physical world”. More specifically, this “oververse universe” refers to the digitally generated world, and is at the same time distinguished from the metaphysical or “spiritual” concepts that also transcend the physical realm.

Much of the contemporary conception of the metaverse can be traced back to Neal Stephenson’s 1992 science fiction novel Snow Crash. The concept first appears in the novel on a business card: “On the back of the card was a jumble of contact details: a telephone number, a global voice telephone location code, a post office box number, six web addresses on electronic communication networks, and an address in a ‘metaverse’[2].” In the novel, Stephenson’s imagined metaverse is both formally and operationally essentially a vast and overcrowded virtual world, rather than a gaming environment with specific parameters and goals, and it operates more as an open-ended digital culture operating in parallel with the physical realm[3]. Stephenson’s imagining of the “metaverse” remains embedded in the sequence of the new technological revolution of the 1990s, marked by the “digital existence”.

Stephenson’s narrative of the metaverse has inspired the creation of subsequent virtual games, such as the 1995 virtual world Active World, based on the novel Snow Crash[4], and the 2003 open-ended game Second Life, which was also influenced by Stephenson[5]. Thus, there is another line of inquiry into the history of the metaverse—open-ended games and virtual worlds. The interactive text-based games that emerged in the 1970s, such as 1974’s Dungeons and Dragons, were also influenced by Stephenson[5]. Thus, there is another thread in the history of the metaverse—open-ended games and virtual worlds. Text-based interactive games that emerged in the 1970s, such as Dungeons and Dragons in 1974 and Colossal Cave Adventure in 1975, were prehistoric narratives of the metaverse. As computing power and computer graphics advanced in the 1990s, text-based interactions evolved into virtual worlds based on 3D images and open social networking, such as the multiplayer social game Web World in 1994 and the content creation virtual world Active World in 1995. The 21st century has seen a boom in massively multiplayer online digital games and open-ended games, including Second Life, which was once studied as a sample of the metaverse in Western academia, and Roblox, which marked the debut of the metaverse in the capital and industrial worlds.

In addition to drawing on two fields, literature and games, for the historical narrative of the metaverse, an industrial perspective is also a window into the concept. Some studies have historically staged the metaverse according to the degree of virtual immersion experience, specifically into a period of no immersion (before Facebook acquired Oculus in 2014), a period of primary immersion
(2015–2018 saw the birth of the first generation of VR products), and a period of partial immersion (2019 to 2021 when 5G develops and the virtual reality ecosystem takes shape)\(^6\). As can be seen, the current industry habit of drawing analogies between the ongoing ecological construction of Internet platforms and the metaverse is part of the ongoing Silicon Valley discourse. The metaverse is more like a series of high-tech “dotted lines”, where many technology companies join together to embrace a fresh, vague concept that, like big data and the Internet of Things in the old days, sounds both sufficiently futuristic and fresh enough to appeal to investors who like big scenes. In this discourse, the metaverse is seen as a vehicle for the production, living and survival of a full digital migration of humanity, and as a new medium with transcendent power.

What is clear is that discussing the “metaverse” in the current context of the new technological revolution through successive iterations, and indeed the “metaverse” born in the context of Stephenson’s time in the 1990s, has a transcendent difference in connotation and extension. The metaverse is a concept with transcendent differences. However, in the course of these 30 years of development, discussions of the metaverse have often been entwined with similar concepts such as virtual reality, digital games and applied ecologies, such as the 2007 book The Second Life Herald: The Virtual Tabloid that Witnessed the Dawn of the Metaverse, which is based on the open-ended game The Metaverse. Metaverse, for example, was based on the Second Life Herald, a virtual newspaper in the open-ended game Second Life. The 2012 collection Virtual Worlds and metaverse Platforms: New Communication and Identity Paradigms, a collection of papers on virtual reality and metaverse, includes a number of case studies on the open-ended game Second Life and the interactive multiplayer game World of Warcraft. The study of the metaverse is a good example. It is therefore important to clarify and summarizes the concepts and characteristics of metaverse in order to discuss the differential power of metaverse as opposed to the previous concepts.

3. Clarifying the concept of “metaverse” and summarizing its characteristics

In order to distinguish the metaverse from existing figurative concepts such as “virtual reality” and “open gaming”, it is necessary to look at the intrinsic nature of the metaverse for some more abstract definitions. A 2003 NSF-funded computer study concluded that the essence of a metaverse is a collection of networks characterized by low-cost, self-configuring and immersive environments\(^8\). A 2013 research paper published in the Journal of the Association for Computing Machinery also defines
a metaverse as a collection of networks, i.e. “a subset of virtual reality applications, which are computer-generated three-dimensional objects or simulated environments with seemingly real or direct, physical user interaction”[3]. This integrated network requires progress in four areas: immersive realism, universality of access and identity, interoperability and scalability.

The interactive, borderless exploration of metaverse systems undertaken is extended and expanded in 2018. Nevelsteen uses rooting theory to sample technology as a way of defining a virtual world as a simulated environment that consists of many data spaces, the collection of which should constitute a shared data space, a “persistent shard”[9]. The paper points out that the major difference between the metaverse and the previous Internet is that the metaverse supports “real time”. Similar to Nevelsteen’s view of the metaverse as a collection of data, Ryskeldiev et al. define the metaverse as a persistent and continuously updated collection of mixed reality spaces that can be mapped to different geospatial locations, a virtual space created by archiving, mapping and sharing between different applications, decentralized, peer-to-peer shared, interoperable and with mixed reality. interoperable, complex systems that composite real applications with a sense of mixed reality presence[10].

According to the studies described earlier, metaverse points to an interactive, immersive, composite, collaborative collection of networks or virtual spaces, but the materiality and dependence on the real world behind the metaverse is still not negligible. Duan et al. then propose a three-layer architecture of the metaverse from a macro perspective, namely infrastructure, interaction and ecosystem, and state that the structure is based on the overlap and separation of the material and virtual worlds[11]. This three-layer metaverse architecture is based on Jon Radoff’s seven-layer metaverse architecture, which is based on the following bottom-up layers: infrastructure, human-machine interface, decentralization, spatial computing, creator economy, discovery and experience[12]. However, Duan et al. argue that the seven-layer structure is constructed by an industry sector that is below the value chain of the intended market[11]. Based on this, we can also see that the construction of a metaverse must be done through the collaboration of multiple domains at the macro level, which is perhaps another meaning of the so-called “synergy” of the metaverse.

As an imported term, metaverse is still at the stage of theoretical inception and construction in the domestic academic community. Therefore, the existing discussions on metaverse in China are more focused on the industrial level of business dynamics and capital movements, and there is less theorizing on the concept. In his limited research, Yu defines the metaverse as “an open-source platform constructed by a closed-loop economy with a high degree of interoperability between the virtual and the real”, and believes that the core attributes of the metaverse are “synchronization with the real world and high fidelity”, “Open source and innovation”, “sustainable development” and “a closed-loop economic system”[13]. Unlike Yu, who sees the metaverse as an interaction between the virtual and the real, Zhu sees it as a parallel existence independent of and with reference to reality—the “metaverse” is a virtual space parallel to and independent of the real world, an online virtual world that maps the real world and is increasingly real. It is an online virtual world that maps the real world, a digital virtual world that is increasingly real[14].

A review of the literature on concepts and characteristics related to metaverse reveals that it is still considered a stage in the evolutionary sequence of the Internet, and that most studies do not fully distinguish this new stage from previous concepts related to virtual reality, open gaming, VR, AR, Internet platforms, user-created content, etc., but more like a mishmash and collection of concepts. From an industry perspective, none of these Silicon Valley luminaries, from Meta’s Zuckerberg to Microsoft’s Nadella, seem capable of painting a coherent vision for the look or feel of their
metaverse, but instead are merely working on a collection of perceived market opportunities, publicly proclaimed utopias and old science fiction tropes.

Thus, based on the embodied properties of the metaverse (a persistent, simulated and immersive environment, computer-generated real-time interaction, multiple users experiencing and acting in avatars, a sense of space existing outside their environment, etc.), the author abstracts the metaverse as a comprehensive digital media system based on a networked collection, through which an alternative form of economic operation, social organization, cultural production and human existence can take place. All this presupposes that this digital collection is organic, interconnected, stable and cyclical, and that under the epiphenomenon of everything being digital, a more available infrastructure of computing power, cloud, communication and energy gradually becomes invisible, but more important than any previous stage of Internet development. The Internet is more important than any previous stage of development. When we consider all the above, material, immaterial, internal and external to the metaverse, the social potential and transformative impact of the metaverse beyond the level of discourse is given full scope for discussion.

4. The inherent potential and transformative impact of the “metaverse”

As a new picture of information technology that has already taken place and is being practiced, it is impossible to disassociate the metaverse from the exploration of its inherent potential and the possibility of intervening in real society. In the current literature, research on the transformative impact of metaverse is often based on existing examples, such as Second Life and other virtual worlds developed by Linden Lab at the beginning of the 21st century, but also online multiplayer games such as World of Warcraft. Although it is inevitable that a future vision of the metaverse based on typical examples of these open-ended games or virtual worlds may be a bit cut and dried, it is still possible to use them as coordinates and references for determining the possibilities of the metaverse, and to outline several important aspects of the metaverse’s impact and influence, which I have summarized as: production and creation, cognition and experience, identity and community.

4.1. Production and creation

“User-produced content” is no longer a new concept today, especially when many UGC-based Internet platforms have shown mature industrial closure and profit models. It seems that the meaning of “user-generated content” has slipped from being transformative and futuristic when it was first proposed to being commercialized and modeled. This creative mechanism, which was once seen as the most representative of the Internet’s utopian vision, has been increasingly bogged down and lost its vitality under the constraints of platform capital, algorithmic rules and policy control. As a result, when the advocates of the metaverse once again propose the creation of a digital ecology based on “user-produced content”, everything is likely to be a repeat of the current Internet reality, which no longer offers the emancipatory pleasure.

However, although both are referred to as “user-produced content”, the metaverse still presents the possibility of a new interpretation of this concept compared to the current platforms. The reason for this is that while UGC is more of an industrial development model than PGC for today’s platforms, for the metaverse of the future it may become more of an underlying logic and social order. In the metaverse, “user-produced content” may be upgraded to “user-co-created content”, from “production” to “co-creation”, adding an additional layer of production and creation community. If in the era of platforms, producers were still more atomized individuals, independent of each other and even competing with each other in their creative behavior and content, then in the era of metaverse, with the technical support of open source and blockchain, a new order characterized by co-creation and symbiosis is
expected to be realized.

“Everyone is a creator” is not just about the words, pictures, audio and video that we can imagine in the current context, but even more intrinsically, the source of information, data and even knowledge is the individual. More importantly: firstly, it presents a new orientation of human cultural production and judgement; secondly, it facilitates the construction of a new pattern of distributed decision-making and distributed communication; and thirdly, it represents the replacement of top-down centralized social structures by bottom-up endogenous social structures.

Firstly, the “user co-creation of content” in metaverse societies may lead to a new orientation of cultural production and judging standards. When the metaverse breaks away from the boundaries and limits of the physical world in its creative interface, the cultural products produced based on the social rules of the metaverse may transcend our everyday experience of reality and secular aesthetics. From existing examples, user-open games, although not exactly equivalent to a “metaverse”, are essentially an open space and symbolic world, with an inherent mechanism of user co-creation of content. For example, modding in the digital games industry is a cultural practice of user co-created content. In the early days, digital game enthusiasts modified and created their own content based on their love for a particular game and published their own modding on the Internet, with the release of id Software’s Doom in 1997 and the subsequent emergence of player-designed level editors marking the maturation of modding culture[7]. Soon, game module culture went industrial and professional, and game modules were included in the fan economy as an important source of creativity for the digital game industry.

An important source of creativity for the games industry. From an artistic perspective, Drinkall has looked at various emerging and established artists, art scenes, art galleries, houses, sculpture parks, curators, artist-run spaces and art markets in Second Life, thus sketching a picture of contemporary art practice in virtual worlds and highlighting the flourishing of new telepathic responses mediated by technology[15]. At this level, open-ended play and the metaverse are temporarily superimposed. Inspired by Second Life, the metaverse be a “window of opportunity to mobilize the creativity of the inhabitants of communication and innovation”[16]. Thus, it is reasonable to predict that in the creative activity of the metaverse as a space, symbols and meanings will once again have an implosive mediating effect.

The impact of the metaverse society on productivity and creativity is not only focused on the literary sphere, but in the future more UGC content or solutions will emerge in a wider range of areas such as digital architectural design, industrial solutions and even decision-making on social issues. The case of Second Life as a communication platform for the creation, design, development and diffusion of innovations in industry and science is used to illustrate how virtual worlds can be used not only as a communication medium but also in a variety of ways, such as e-learning tools, corporate marketing tools and areas for experimentation and scientific research, with a particular emphasis on the development of virtual worlds as a catalyst for the “diffusion of innovation”. The study argues that real-world, experience-based communication models are often unable to meet the needs of innovation communication due to time and cost issues. In Second Life, however, these products can be realistically described and simulated in a virtual process. Just as in the real world, stakeholders can actively try out new products and processes through their avatars and engage in dialogue with the companies or innovators behind them[17].

From the above example, the metaverse society actually understands and practices more accurately what innovation communication really is. Rather, on a broader social level, innovation communication is a social practice of creating shared patterns of meaning and building shared feelings of value. Consensus, in turn, requires a new mode of
social decision making and communication, the second level of influence of the metaverse of creative mechanisms proposed earlier—distributed decision making and distributed communication. The achievement of distributed decision-making and distributed communication relies on the conceptual imagination of equality, pluralism, self-organization and decentralization inherent in the metaverse.

The metaverse has been given a vision of building an equitable and sustainable society, and its autonomous ecosystem is the cradle of democratic properties. For example, in the 3D virtual reality platform Decentraland and there is a Decentralized Autonomous Organization (DAO), where users can propose and vote on policies and regulations for the running of the world. The DAO is a decentralized autonomous organization in which users can propose and vote on the policies and regulations that govern the world. At the same time, the absence of authority figures and the use of open spaces facilitate interaction between individuals, thus allowing participants to express their ideas and opinions freely[18].

There is no doubt about the creative mechanisms embedded in the metaverse, but how vital and resistant this creative mechanism is a question we need to think about further. For example, Second Life was opened to the public in 2003, when it had only a few thousand inhabitants, and most of them were programmers, artists and creative entrepreneurs. The consensus among these pioneers was that they were not playing a game, but building a new continent that would break the limits of the physical world, one that would allow creativity, new ideas, extensive social interaction and greater wealth to take root. This was indeed the case at first, and for the next two and a half years the inhabitants of Second Life were actively busy, if unpaid, working on this utopian vision, so that “all manner of exotic buildings and vehicles appeared in space, from psychedelic to dark medieval fortresses to elaborate elven castles untouched by gravity. Artificial life forms emerge, replicate and evolve in ornate gardens, while snowboarding is dotted with ornate and elegant superhuman flying machines. Virtual sports include an elf archery competition and a giant snail race”[19]. All of these dreamlike and out-of-this-world things were present in Second Life at the time. However, as the game/virtual world grew in popularity, it also saw its one million subscribers and the invasion of the “old world”, the physical realm of large corporations, from sports brands to clothing brands to car companies. Rather than using Second Life to create something innovative, these big capitals brought old ideas from the real world into the virtual world—exotic flying machines were replaced by Toyotas; psychedelic buildings gave way to Starwood hotels; burning jet boots disappeared and were replaced by Adidas balls are models of Adidas sneakers......

In the metaverse’s current vision and promise, a bottom-up endogenous social structure is expected to be realized when the subjects of cultural production become citizens in every metaverse society and when citizens are able to participate universally and deeply in a series of activities such as standard-setting, opinion-formulation and decision-making in the metaverse society. However, can the metaverse deliver on this subversive social order? This depends not only on the technology behind the metaverse and the values and political aspirations embedded in it, but also on whether the material world and the real society outside the metaverse have also been transformed in a structural rather than a discursive sense. If not, the metaverse society will be reduced to a copy and extension of the old social order. This is not a sensationalist conjecture, but a cautionary tale from the past.

4.2. Cognition and experience

McLuhan’s famous assertion that “the medium is the message” is reaffirmed and interpreted whenever we discuss media-related issues, once in the case of electronic media and today in the case of the metaverse. “The medium is the message” means that the medium, as a mediator of perception and experience of the external world, already carries
with it a transformative meaning. McLuhan’s interpretation is still valid in the context of the influence of the metaverse on human perception and experience.

As we said in the previous section, the “metaverse” appears to be a digital/parallel/virtual world that is separate and independent from the material world from the outside, but when we look at its inner workings and support, the metaverse is extremely dependent on the infrastructure of the material world, such as energy, communication, computing and information technology, for its smooth operation, and information technology. Based on this essential mechanism of the metaverse, I believe that the key to proper perception of the “metaverse” is proper perception of the real world, and one way of achieving this perception is widely used in empirical science. People take the virtual experience of the metaverse as part of their real life and use the experience they have in the real world to structure their differentiated experience in the metaverse and vice versa. But the crux of the matter is whether our cognitive and mental processes play out with the same intensity in the same way in two worlds that seem to be parallel universes.

In response to this question, some scholars have shown, based on psychological research in virtual worlds, that real-life personalities, emotions, identities and even stereotypes do exist in a similar way in virtual worlds, so that the idea that there are potential differences between real and virtual life fails when it comes to the most fundamental aspects of these factors, and therefore the empirical science approach can be applied to explain both real-life issues and can also be used to understand problems in virtual worlds[20]. Even more, some modern neuroscientists and anthropologists have gone further: All self-consciousness and culture are ultimately virtual projections of the real in us humans. Likewise, the metaverse has also been used by neuropsychology to assess and treat cognition on the assumption that individual cognition and mental processes in virtual worlds are not much different from those in the real world. It has been suggested that virtual worlds have the potential to present cognitive research in neuropsychology in a more systematic way than traditional methods, as the reliability of affective and assessment and treatment of cognitive disorders can be improved in virtual worlds through better control of the perceptual environment, more consistent presentation of stimuli and more accurate scoring[21]. Thus, in the view of neuropsychological researchers, the virtual world is a more ideal “mimetic environment”, a more standard, stable and ecologically realistic “simulated environment” than can be obtained by traditional methods of research using artificial test environments.

The issues of virtual and reality, entity and existence, cognition and consciousness, which have long been the focus of scholarly attention, can now be newly attempted in the context of metaverse, and most of them tacitly assume that metaverse or virtual reality can be an adequate alternative to the real world. This assumption is premised on the re-definition of “universal human existence” by current digital developments. In the material world and in modern society, a series of artefacts or information credentials that can represent the “I”, centered on our bodies, permeate all aspects of social life, serving as proof of individual existence, with identity cards, bank cards, work permits and even mobile phones becoming our spokespersons. The combination of these endorsements constitutes our entire existence. However, with the development of big data technologies, data related to our personal identity has begun to converge in the household, healthcare, financial and other information spaces, so it can be said that as the integration and interoperability of identity information fragments gradually increases, a universal, ubiquitous “e-existence” around each individual emerges from it[22]. In this sense, the individual in the metaverse is no longer physically present but expresses the “I” in the effective integration of data and information, and it turns out that this transformation is happening fast.

The borrowing of virtual reality technologies by neuropsychology and cognitive science and
the pervasive presence of the digital self under data interoperability blur the boundaries between the material world and the virtual world, between reality and the metaverse, and by implication, the metaverse’s breakthrough of established experience—space and boundaries are rewritten. The inhabitants of the metaverse are not so much digital beings as they are hybrid subjects with both physical and digital identities, i.e. nomads hybrid[23]. These “nomadic hybrids” live in both physical and digital space, and for them both spaces are available, accessible, and can serve as places of psychological support and emotional placement. However, these two spaces do not contribute equally to experience, and indeed space in the metaverse is not the a priori condition for constituting experience as Kant and Schlemmer would have it—a “pure space”[23]. On the contrary, the space of the metaverse becomes the main object that constitutes the experience in which the inseparable individuals who exist in multiple identities live and create and reconstruct their subjects and incarnations in the metaverse; in the process of creating the self, a digital virtual living space is created at the same time, and it is here that the new world of experience takes place.

In a metaverse that breaks away from “pure space”, the reconceptualization of “space” is based on the disappearing of “boundaries”. Some scholars asserted at the turn of the century: “In the future, porous borders are the most important thing to study and understand”[24]. The “Zapping Generation”[25], as nomadic digital natives, are constantly roaming, ignoring borders, looking for new spaces to satisfy their interests and desires, to host their emotions and aspirations, and are therefore constructing objectivity and subjectivity from a hybrid dimension whose borders are constantly permeated.

The understanding and definition of boundaries is related to the transformation and innovation of human cognitive experience; after all, to defend the boundary between virtual and real endeavor is to locate certain types of experience in a certain dimension. In previous research on HCI games there is a view that the space of digital games is in fact an extension of the digital virtual into the physical realm, and that there are three parts of the game space: the mental space, the commercial space and the hybrid space[26]. The process of forming a hybrid space in the metaverse, i.e. the fusion of the physical and virtual worlds, is not an arbitrary crossing of the two spaces, much less a simple transport of physical space into digital space. The author prefers to understand this process of boundary dissolution as the encroachment of the virtual world on the physical world. The gamification of real life means that the rules of the virtual world take over the operation of the real world, which is manifested by the increasing frequency of game mechanisms in the physical world, such as the rules of point redemption of merchants, or the incentive rewards for personal lifestyles. incentive reward mechanisms, etc. There is no doubt that the digital world has already changed our perceptions and experiences, and that its impact is felt at all levels of everyday life: optimists see this change as a progressive force, such as a “digital wisdom” (digital wisdom)[27], i.e. a new generation of digital natives who speak the digital language of computers, video games, mobile phones and any other easily accessible digital technology as their mother tongue. In a highly digital environment, these adolescents are characterized by a multitasking cognitive style, a short attention span during learning, and an exploratory and discovery approach to learning. Critics worry that people may pay less attention to real-life social issues because they see Second Life as their chance to have a more ideal life[18]. This indifference to real-life issues and cynical posture may then be exacerbated when the future metaverse has a higher level of immersion, realism and more complete facilities than Second Life. Thus, while extending the space of life, the metaverse is also silently encroaching on the space in which we gain experience in the material world, underpinned by an eternal contradiction inherent in the metaverse—infinte space and finite time; and as the metaverse transforms the space-time relationship of human life, traditional philosophical discourse also seems to lose its explicative power in
the face of the metaverse.

4.3. Community and identity

The metaverse, as a product of media iteration, essentially deals with human connectivity, or more precisely, with the mother of modernity, the integration, communication and symbiosis in social relationships, of which strangers are the main component, since the establishment of modern society. In the digital age, the power of gathered people is what business internet entrepreneurs are really looking for (NetEase has the slogan “The Power of People”), and as Rodney Gibbs, founder of Ricochet Labs, commented on organizations wanting to introduce “gamification”: “The power of people is the power of people. As Rodney Gibbs, founder of Ricochet Labs, commented on organizations wanting to introduce “gamification”: “While they talk about game elements like avatars, reward systems and user-generated content, games aren’t really what they want. They want community. They want social stickiness. They want a digital forum that forces people, regardless of geographic location, to come together and invest in a group, an idea, a movement.”[28]

After blood, place and karma, the fun community has become the main place where people connect and socialize and culturally integrate. In metaverse societies, the funk is no longer the driving force that organizes people together, but rather a free and open-source code. The development of the commercial internet has allowed people to find their own communities in cyberspace according to their own tastes, and so internet products such as internet forums, postings, and supercomputers have been developed and maintained around karma. If what is possible on the Internet today depends on the power of the data generated by the interests of the people behind the servers, such as clicks, shares, comments and retweets, then what can be done in the metaverse in the future depends on what the people behind the servers do with open-source code. Open source technology will spread to all corners of the metaverse, and after consensus on open source standard protocols is reached, after tools for community governance structures and dispute resolution systems are built, and after clear and fair policies are established by metaverse administrators, hundreds of millions of users will use open source code to maintain their communities in the metaverse, and open source code will thus become the basis for social co-construction, boundary expansion and social activities of digital residents in the metaverse. Open source is thus the basis for social co-construction, boundary expansion and social activities of digital inhabitants in the metaverse. In a society underpinned by open-source code, the current internal self-consuming dilemma of the Internet promises to be solved by an open, creative and imaginative solution for external growth.

Once the inhabitants of a metaverse society have built their own imaginary perfect community using open-source code, the identity of the self in the community and the uniqueness, subjectivity and recognizability of this identity becomes the next issue to be addressed. Firstly, the existence of the individual in the metaverse in the form of an avatar is not an alien concept to those immersed in digital games. Incarnations can be described as “virtual selves”, i.e. each individual in the real world identifies with a unique entity (their character) in the virtual world, through which they guide all their activities in the virtual world. Thus, around the avatars, each individual is constructing their own identity that may be completely different from that of the physical world. The avatars adopt modes of communication that are distinct from the real world and present personality traits that may be very different from their real-world selves, not to mention that some demographic indicators can also be rewritten in the metaverse. The politics of identity and class that are essential to everyday experience will be rendered ineffective in a metaverse society.

In this way, how does one position the role and place of the incarnation in a virtual society? Through the process of agency. “The concept of agency is basically how a player exerts his will in the game world.”[29] From this definition of re-
search based on the virtual world, the author argues that in the metaverse, the process of agency is the process by which the individual in reality projects his or her self onto the virtualization. By means of incarnational agency, individuals in the material world make choices and operations and express their self-will in the virtual world, thus forming an authorial narrative that is the source of legitimacy for the metaverse to be established in everyone. This authorial narrative is the source of the legitimacy of the metaverse in everyone. It not only completes the subjective inquiry of the individual behind the server through the expression of a thousand faces, but also creates intersections and overlaps in a distributed authorial narrative, and therefore completes the framework of user interaction.

However, the process of interaction in the metaverse is not the same as Goffman's theatre-based theory of symbolic interaction, in which the meaning generated by the interaction depends to a large extent on the context in which it takes place, which is framed by the fact that there is already an established socio-cultural environment full of popular cultural symbols of mass society before the interaction takes place. In a metaverse, however, this context is often not given and pre-existing, but may be improvised by both parties to the interaction, which creates another aspect of the metaverse’s “openness”: in the absence of uniform cultural symbols, how and on what basis the “consensus” of the metaverse society is to be reached. This creates another aspect of the “openness” of the metaverse: How and on what basis the “consensus” of the metaverse society is reached in the absence of a unified cultural symbol.

The relationship between real individuals and their avatars can have real behavioral consequences and social effects, so the compounding effect of the combination of the anonymity of the avatar and the specificity of the identity behind the avatar cannot be ignored. It has also been argued that even if the social relations of the avatar in the metaverse are virtual, there is still a process that can at least be described as “virtual socialization”[31]. Thus, the presence of community is necessary and certain in the construction of identity, and community plays a key role in the perception and construction of an individual’s collective identity. A critical discourse analysis based on the construction of players’ collective identities in World of Warcraft found that collective identities within guilds are primarily perceived and experienced through shared values that transcend the technical forms of the game, coupled with the construction of individual identities in virtual games as a narrative in which players combine their perceptions in the game with their relevant real-life experiences as players through their avatars, thereby proposing a rhetorical model in terms of self-related assumptions and personal identity[32]. Thus, although the “virtual” is theorized as a non-entity and non-symbiosis, and the ‘cloud community’ is seen as a loose, unstable, physically absent structure, in the construction of individual and collective identities, the metaverse still uses the real world as a referential other to complement the self-differentiation of the real subject.

The existence of cloud communities in the metaverse changes the traditional structure and definition of virtual communities, for example Moretti and Schlemmer describe learning communities in the metaverse as communities that generate knowledge, allow subjects to express emotions, and create spaces for collaboration and cooperation[33]; Grieve and Heston see the cloud community as a temporary, outsourced, emotionally connected group of inhabitants that are also not individuals in a real community, but rather mobile, multiple, distributed electronic bodies[34]. However, this does not mean that the communities in the metaverse follow a different set of organizational mechanisms altogether from the real world. A qualitative cyber-ethnographic study of Second Life’s permanent residents yielded the result that “communication and sanctioning mechanisms derived from real life are an important means of enforcing social control and group cohesion in Second Life”[35]; furthermore, technology-mediated contexts reinforce social control and provide new. In addition, tech-
technology-mediated contexts reinforce social control and provide new tools of social control (e.g. alternative avatars); inhabitants of cloud communities also use the systematic rules of the "outside world" (e.g. blogs, forums, online search engines) to punish immoral behavior in the virtual world.

In the construction of both identities and communities, the metaverse cannot avoid being connected to and learning from the material world. Therefore, even if open-source technologies are ideally transformative, they are counterproductive if they lack consensus and norms, especially when both individual identity and community formation in metaverse societies are based on source code as an infrastructural technology. The technology providers in the material world behind the source code need to be infrastructure conscious, otherwise, as in the case of the CopyBot scandal in Second Life, unlimited copies of user-created code are created and stored in the avatar’s inventory for later use, resulting in many content creators closing their shops and erected invisible walls to prevent access.[19] Thus, if platform administrators and technology providers fail to uphold proper values, the metaverse created in the name of “no walls” will also end up “building walls”.

5. Conclusion: Utopia and anti-Utopia

Previous digital revolutions have brought us into an era of digital existence, and with the proposal and construction of metaverse, the relationship between man and machine, consciousness and code, reality and the virtual, will be reconfigured. The early commercial Internet inherited the mantle of the 1960s counterculture movement, constructing a hyper-individualist discourse with alternative social practices and utopian visions, and building a digital world parallel to the real world with metaphors of opening-up new continents and new frontiers. Today, the metaverse, with its increasingly sophisticated technological underpinnings and still egalitarian and democratic values, is once again relaunching the utopian social engineering of the past. However, in contrast to the 19th century European continent, where the utopian vision was based on the transformation of the old relations of production and social structures, both the present Internet and the future metaverse seek to rebuild a new world beyond the problems of the real world, hoping to digitally migrate humanity, as in the case of space migration, from the devastated old continent to the promising new continent of the future. They hope that this virtual world will provide imaginative solutions to the problems of the real world and achieve relief from suffering.

However, it is clear from the discussion of the metaverse in this paper that the metaverse and the material world are not parallel and independent of each other, like the two planets of the home planet and the alien planet in space migration. Rather, the metaverse is built entirely on the various material resources of the real world, and it shows inextricable connections to the material world on many levels of production, experience, identity, and subjectivity. Therefore, when we see the vast amount of content envisaged in the metaverse society, we should also see the possibility of these vast amounts of content being abused by capital; when we see unlimited creativity being stimulated and new modes of communication and decision-making being realized, we should also be wary of whether these innovations in communication and decision-making are further co-opted by power; when we see the utopian imagination of the metaverse society, we should also see the anti-utopian status quo that still exists in the material world. When we look at the utopian imagination of metaverse societies, we must also look at the anti-utopian status quo that still exists in the material world. If the structures and problems of reality are ignored, the potential for change inherent in the metaverse is always at risk of being extinguished or mutated.

Conflict of interest

The authors declare no conflict of interest.
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