The artistic generation of the meta universe: Tracing the source of NFT art

Chunning Guo

School of Arts, Renmin University of China, Beijing 100000, China. E-mail: guoteacher@sina.com

ABSTRACT

NFT has become a hot topic in the art circle recently, and encryption art has also stepped on a new stage with the support of new technologies and systems such as blockchain from 2019 to 2020, NFT art showed explosive growth. Many representative cases updated the traditional definition of art source, copyright and media, and also triggered the participation and interaction of a wider audience. The author believes that this new cultural and artistic phenomenon needs to be observed from a more in-depth and comparative perspective. In a broader sense, NFT art has formed a profound intertextual relationship with the concept of “meta universe” constructed from Science Fiction Texts into reality in recent ten years. Through the discussion of digital identity, fair trade and gameplay, this paper regards NFT art as a meta universe pointing to the future, and discusses the generation and evolution of NFT as a digital mechanism from the revolution of the art world.

Keywords: NFT art; non-fungible tokens; metaverse; art mechanism; smart data

1. Introduction

NFT is the abbreviation of non-fungible token in English and translated into “non homogenous token” in Chinese. NFT is a data unit stored in digital ledger, which is better known as blockchain. Therefore, it can be determined that it is a unique digital asset rather than a homogeneous currency in the real world, and the two are not interchangeable[1]. If 2016 is the first year of virtual reality, 2018 is the first year of blockchain that attracts public attention, and 2020 can be regarded as the first year of encryption art. With the birth of encryption art platforms such as superrare, rarible and opensea, many artists, especially those in the field of digital art, have grown and developed in the market. This process has also attracted more audiences to pay attention to this field. In the whole year of 2020, NFT art achieved explosive growth in the world. The transaction value of NFT art in the world exceeded US $250 million, an increase of three times over the previous year[2]. In March 2021, Christie’s in New York auctioned every day: 5000 days by American digital artist and graphic designer beeple in the form of NFT encryption art for the first time. The first 5,000 days, the work was finally sold at a high price of about 451 million yuan. The successful auction of this work has not only triggered widespread heated discussion because of its price record, but also means that traditional art institutions have officially
joined the ranks of NFT art transactions.

2. Source, version and media: Innovation of NFT art mechanism

In the existing discussions related to NFT, the heat from operators and investors seems to be higher. In contrast, academic thinking, especially tracing and combing from the dimension of digital media, is very rare, so it is more valuable. Professor Chris Coleman from the emerging digital practice major of the University of Denver is undoubtedly a pioneer in exploring the art mechanism of NFT In March 2021, he shared his insights on NFT to the world based on the context of digital media. In the research, Professor Coleman carried out a comprehensive and in-depth analysis on NFT’s update, edition and media of art provenance.

First of all, Professor Coleman will NFT, one of the most important issues of emerging virtual things and art “The value of a work of art is always related to proving its source. Traditionally, the origin of works of art is proved by the literature and sales archives of galleries and museums.” Furthermore, “version” has become another keyword for analyzing NFT mechanism. In print art, video art and other art forms that can be easily copied, many works of art are sold as different versions or limited copies of the master works. Some specific media are easier to be versioned, thus creating different degrees of scarcity. Traditional easel painting can detect the authenticity of the original works through pigment analysis, carbon dating, tool imprinting and other methods due to the strong substantiality of the works. Its scarcity can be identified, and the storage and transfer of works of art also need a certain cost. Digital art can often be perfectly copied infinitely, without the so-called original (only the source file). The scarcity of digital art is often man-made, which is easier to store and transfer than painting, sculpture, installation and other works of art.

Based on the comprehensive innovative significance brought by NFT art, this paper regards the NFT mechanism that provides art sources, versions and more possible media as a kind of meta universe, so as to break through the technicalism that only regards NFT as a part of the blockchain system. From a more macro perspective of “data universe”, NFT will further strengthen the operation characteristics of digital fields such as security, fairness and intelligence. Through its identity construction, interactivity and playfulness, it can also highlight the art world pointing to the future. It should be said that although many people may not know the deep mechanism of NFT operation, it has attracted enough public attention and demonstrated great attraction and development potential. The important reason is that the concept of NFT, like the meta universe, is born with science fiction genes, which is the “magic” that can summon many participants. Even if these concepts are not yet mature, they have outlined a picture that breaks through the existing constraints and immerses people.

Metaverse in English is composed of meta and verse. Meta stands for transcendence and verse stands for the universe. The combination of the two means “beyond the universe”, that is, an artificial virtual space running parallel to the real world. The concept of the meta universe was first proposed by American writer Neal Stephenson in his science fiction Snow Crash. Among them, he created an Internet that human beings have never imagined. The story of the novel is set against the background of extremely serious inflation and the sharp depreciation of the US dollar, so people mostly use digital currency in transactions. In this meta universe, people can communicate with each other through their “avatars”, which can not only control their income at will, but also have leisure and entertainment, and even uphold justice. This science fiction closely connects social reality with digital fantasy. In the real world, people isolated from each other can perform various activities in the meta universe through their own network avatars, and can also use virtual currency for trading.

Over the past two decades, the metauniverse has shown a rapid and strong ability to spread and
expand across media. From science fiction to film and television works, from video games to the art field, while making this concept pointing to the future audio-visual, the creator also highlights the strong viscosity between this originally fictional concept and various technological innovations in the real world. Looking back on the development of computer and digital technology, from heavy and large machines to private computers advocating friendly interface, from local area network to World Wide Web and even the mobile world of interconnection of all things, the immersion of human digital interaction has gradually increased, and the distance between virtual and reality has gradually narrowed. Under this trend, the meta universe with peak immersion and participation may not only be the “ultimate form” of the Internet, but also build a new reality due to the support of new systems such as extended reality (XR) and cloud native.

On March 10, 2021, the game company Roblox was listed on the New York Stock Exchange, further becoming a spokesman for the future of metauniverse. Its system standard includes eight main dimensions, namely identity, friends, immersion, low friendship, diversity of content, anywhere, economy and safety. It is worth noting that in the “eight dimensional” space of the meta universe, “identity” is as important as “source” is to the art world. The construction of identity or the network personality provided by the meta universe is the key to understand the NFT art mechanism.

3. Digital identity: NFT as the synchronization and pseudo reality of the meta universe

The quasi metacosmic characteristics of NFT art and trading mechanism and the prototype shaped by the game world are important reasons why NFT makes the public feel “fun” and charming. Video game space is a virtual world built by people based on the simulation, extension and imagination of reality. The “Avatar” and “virtuality” generated by it are extended to a wider field, making NFT an NFT art work “encrypted punk” (Figure 1) created by larva labs studio, including 10000 bits pixel avatar is similar to the basis of social networks in the metauniverse.

![Figure 1. NFT art work “encrypted punk”, created by larva labs studio.](image-url)
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or game image. By virtue of their virtual identity, they meet new partners in the game community and form a social network in the game space. Because the value of NFT’s “identity” and “art works” in the game have risen widely, even on the basis of this “identity” mechanism. For example, for the NFT art work cryptopunks developed by larva labs studio[6], the developer initially released a limited number of 10,000 encrypted pixel images on the Ethereum blockchain, of which 9,000 are open to anyone who owns the blockchain e-wallet to claim and obtain ownership for free, and the claimed works can also be traded freely. Each avatar is generated by computer algorithm and has its own characteristics. There are no two identical avatars. It is this scarcity that makes the claiming and trading activities of avatars like “blind box” lottery and treasure digging games. The limited free and later bidding games also gradually evolve into rounds of avatar competition.

Secondly, from the perspective of “digital identity”, we can see another layer of deep meaning in encrypted punk Long before the first coin (ICO)[7] and cryptokitties[8] became popular, the larva labs team created 10,000 tokens of cryptopunk using erc-20 standard[9]. Thus, the virtual identity avatar and digital token are combined. In other words, each “punk” is a pixel art image generated by artificial intelligence, and each “punk” has a unique digital identity on the blockchain. When Ethereum wallet users who use virtual avatars enter the market as players, they also bid for virtual avatars. Each avatar represents not only digital art works themselves, but also digital assets with value-added potential.

As a wind vane, cryptopunk is not only a booster for the explosive growth of crypto art from 2019 to 2020, but also presents the emotional factors in NFT art collection. In the first half of 2020, the sales of cryptopunk reached 478,000 US dollars, exceeding the total sales of the previous three years. In 2020, the global sales of cryptopunk reached US $2.74 million, attracting 360 new collectors, and 1,645 “punks” were changed hands for the first time. Although larva Labs’ overall dollar trading volume increased by 700% and new users increased by 300%, the newly sold “punk” decreased by 0.9%. Due to the particularity of cryptopunk and its importance in the NFT art market, the first owners seem to have feelings for these images and are unwilling to sell their works easily. This means that more than 6,500 “punks” have not been valued since May 2017. The low liquidity of these original “punks” makes the encrypted punk project show a collection value created by man-made scarcity.

In general, with the construction of digital identity, NFT art platform has become a unique synchronization and pseudo reality platform of the meta universe. As envisaged in the science fiction avalanche, users with digital avatars can maintain a high degree of synchronization and interoperability between virtual space and real society due to the characteristics of non homogenous token (NFT)as a circulation tool. Synchronous and pseudo real virtual world is the basic condition for the composition of meta universe, and NFT art also provides the opportunity to turn artistic creativity into reality and synchronize with daily life. The author believes that this is very obvious in the NFT art work “every day: the first 5,000 days” mentioned above. Its creator beeple (Figure 2) has created one work every day since May 1, 2007. “Every day: the first 5,000 days” is a collection of pictures accumulated and completed by his continuous creation in the past 13 and a half years. It can be said that this sky-high price NFT art work is a huge reality synchronization project. The artist uploads the daily records of his creation to the network, and the works of each day in 5,000 days eventually become a grid pixel of this huge canvas. In this sense, the artist brilliantly interprets the concept of “daily life and universe”. Every day is not only the outline of art, but also the digital storage, but also an example of the construction of time and space by art.

4. Protection of ownership: The artistic driving force of open source and creation

For many artists, especially those in the field of digital art, the biggest advantage of NFT is that it
provides protection for the ownership of art works and provides a new way for digital art creators to obtain due economic returns through their works to a certain extent. Even if artists in the field of digital art are famous, there are many cases with little economic benefits. This situation has not been fundamentally improved for a long time. Many art collection institutions will buy out the paintings of artists they think have appreciation potential at a relatively low price. Even if these works are greatly appreciated in the later stage through the operation of galleries and art galleries, the economic benefits created are hardly distributed to artists.

From the perspective of wider creative dissemination, although the diversified artistic and cultural creative platform makes “everyone is an artist” a reality, many times, the creative works shared by these “artists” will not bring economic benefits. NFT has just put forward a new solution for the ownership management and protection of these creative works, which has also improved the economic income of art creators through their works to a certain extent. In the real world, the composition of the art market presents a centralized feature: art galleries, galleries, auction houses and other institutions have more voice however, NFT art based on blockchain technology is characterized by decentralization, and the display, dissemination, pricing and trading of works are no longer completely subject to the authority of traditional art institutions. In such a system, the ownership protection of art creators and the fairness of transactions have gained new possibilities.

In fact, the problem of copyright protection of digital art works was put forward by researchers as early as 2014. Represented by New York University Professor Kevin mccoy and technical expert Anil dash, they reflected on the booming phenomenon of digital art sharing based on social media at that time. Although millions of digital works are widely shared, in many cases, these works are basically unsigned or lack basic information. It seems that the
creator is really immersed in the joy of “everyone is an artist”, and it is almost impossible to expect economic returns through these works mccoy and dash are not satisfied with this phenomenon. They believe that artists should claim the ownership of their works. In other words, the ownership of the works created by artists should belong to themselves. So they designed a design called “7 × 7”. The solution of “7 × 7” proposes to generate a token representing the ownership of digital assets, and then attach the token to the blockchain that can be freely traded, so as to create a powerful track of digital ownership. It is worth mentioning that mccoy and dash could have been called the first people to design the NFT prototype, but due to the imperfection of this solution and the technical limitations at that time, it is impossible to attach the actual digital art works to the blockchain. As a result, the tokens they create can only be loosely linked with the underlying assets and can only be used as the digital expression of the actual artificial products. Even so, the artist’s pioneering ideas and experimental projects basically predict the fair and safe transaction that NFT brings to art creators and buyers today.

At the same time, because NFT art transactions are based on smart contracts, artists can automatically obtain certain benefits every time their works are traded (Figure 3). Due to the transparency and openness of blockchain, the details of each transaction can be checked NFT art platform can not only support artists to make profits, but also obtain certain economic benefits. With the technical support of blockchain decentralization, the threshold of art market in the traditional sense will be greatly reduced. Both artists and buyers can trade conveniently through NFT art trading platform at any time.

In the mechanism of NFT art, the participation of users, players or fans has become a rewarding behavior. In this open organization mode, we can build a richer relationship network among artists, sponsors and player users to enhance the potential of art creation and dissemination. It is worth mentioning that the mechanism of NFT art does not block the publication and wide dissemination of works, nor “bury” the pleasure and social links of sharing works on the Internet. NFT works can still be shared publicly. Right click “save as” to get a copy. Because of the popularity of NFT encryption art, the ownership and collection value of art have won more public attention and respect.

Figure 3. Digital image of fathe’s bomb.

The NFT mechanism supported by blockchain technology provides a real sense of open source. This kind of open source actually means the open source of technology and platform. Through the smart contract, the transaction of NFT encryption art has set new “standards” and “protocols”. Therefore, the interactive participation in NFT encryption art is actually a creative process. Users with different needs can form an original virtual world through art creation, sharing and purchase in the meta universe, and continuously expand this virtual reality. Such artistic generation is sustainable the meta universe platform will not “pause” or “end”, but operate in an open-source manner and continue indefinitely.
5. Reflection

It is undeniable that while bringing innovation to art creation and trading, NFT has also caused many problems and challenges. The most important one is the environmental problems caused by the huge workload of running NFT. In addition to NFT, the two main cryptocurrencies are bitcoin and Ethernet. The total amount of bitcoin is limited and getting more and more difficult. The New York Times once pointed out that “the carbon footprint of a bitcoin transaction is equivalent to 735,121 visa transactions, or watching 55,280 hours of youtube videos”. Ethereum is driven by the “gas fee” paid to “miners”, and the “gas fee” fluctuates with the demand of transaction volume. Globalization has shifted the “mining” behavior of obtaining digital currency to places where electricity is cheaper. Only 26 countries in the world use more electricity than the “mining” industry of cryptocurrency.

The scarcity caused by some NFT projects mentioned above is also a double-edged sword. Although this scarcity can enhance the value of digital art, it runs counter to the purpose of digital art and the Internet. The pursuit of high-priced works of art is bound to prevent more people from participating. Of course, what is more dangerous is the harm of hype to art. On the one hand, the gimmick of cryptocurrency has a great impact on works of art, especially the evaluation and definition of art need to accept more and more complex standards. On the other hand, the market is highly manipulated to benefit the platform and future business model. In this sense, the concept of “meta universe” itself is indeed being promoted to become the goal of capitalization and branding.

Therefore, the author proposes that it is necessary to look at the constructiveness of NFT as a meta universe based on the dimensions of dynamic, generated and reflection. A “clean NFT” must be constructed in the context of reducing carbon emissions of global concern. At present, there are some positive solutions to this problem, such as digitizing the gallery, requiring the provision of workload certificate and holding certificate for cryptocurrency, strengthening the support for the cooperation and non commercialization of works of art, etc. From this point, we can expect that the future artistic creation and trading will be further presented as an ecological footprint of human beings. Human beings will be able to renew themselves in the construction of real life and virtual reality, and express their awe and love for the universe and life with art.

Conflict of interest

The author declares no conflict of interest.

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