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Rebirth and Coexistence: Artistic Expression and Realistic Circumstances in the Metaverse Era

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Abstract:

Based on the discussion of the artistic expression and value, as well as the realistic circumstances of art and artists in the metaverse era, this paper puts forward two questions: "whether the virtualization of traditional entity art will eliminate the value of its existence" or "whether the participation of AI in artistic creation will subvert the subjectivity of artists". In the study of NFT cases, this paper finds that NFT realizes the rebirth of traditional entity art through the presentation of moving images, the combination of dual senses, and the addition and modification of creative elements, while realizes the coexistence with AI creation through the oil paintings of figures and landscapes, and the expression of machine emotions. Then, this paper concludes that "the virtualization of traditional entity art will not eliminate its value of existence, NFT is the re-creation and re-meaning of traditional entity art" and "the participation of AI in artistic creation will not subvert the subjectivity of artists, AI and human artists are in a relationship of dialogue and cooperation". Finally, this paper traces back to the positive prospect of the future development of art in the metaverse era.

1. Anxiety: Many Doubts Caused by Art in the Metaverse Era

There is no doubt that with the rapid development of blockchain technology, the metaverse, an emerging cyberspace based on the chain, is making a brilliant appearance in a new era of science and technology with its vigorous vitality. But the research of relevant scholars has not yet formed a special system and theoretical path. [1] However, Professor Zhou, a member of China Literature and Art Critics Association, explained the metaverse in his article, *From Virtual Reality to Virtualization Become a Reality -- The Metaverse and the "Metaversalization" of Art* (2022). He assumes that the metaverse is a digital space, which combines human perception technology with the digital Internet, so that people's body and spirit can be completely immersed in a virtual environment. [2] In this space, there are several kinds of people, desires and stories, people gather on various platforms with the help

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of Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR) and other devices, forming a relatively stable virtual reality community space.

In the new field of the metaverse, art will create a refreshing aesthetic landscape. By participating in artistic activities through immersive experience, initiators can make the perception logic form the narrative core of the metaverse, and recipients can exercise their aesthetic power through the metaverse. Taking NFT as an example, it can recognize the uniqueness of the work and determine the author and subsequent owner of the work. In addition, NFT also has the characteristics of decentralization, no license requisition, broad forms of creation, open and effective value measurement and so on. What is NFT then? The full English name of NFT is Non-Fungible Token, its development source is blockchain technology, and it has forward-looking applications in different scenarios. In 2021, American artist Beeple's NFT work, *Everydays: The First 5000 Days* (2007-2021)*,* won a high price of 69 million dollars when it was auctioned online at Christie's in Britain, which triggered worldwide extensive attention and discussion on the relationship between NFT and art. Moreover, many NFT art trading platforms have become popular abroad, such as SuperRare, Opensea, Foundation, etc.

But new things are always accompanied by doubts about the unknown. NFT, which was born in the era of the metaverse, has caused a series of anxieties and questions while being highly praised. For example, "whether the virtualization of traditional entity art will eliminate the value of its existence" or "whether the participation of AI in artistic creation will subvert the subjectivity of artists", and questions about the artistic expression and value, as well as the realistic circumstances of art and artists in the metaverse era. In the study of NFT cases, this paper focuses on the above two questions, hoping to find the answers from the specific works of art.

2. Rebirth: The Re-Creation and Re-Meaning of NFT to the Traditional Entity Art

In pace with the ceaseless upgrading of digital technology, people usher in the epoch of virtual digital network. In various fields, such as aerospace military engineering, design and entertainment manufacturing, information management trading, insurance and medical caring, education and training, remote control operation, information visualization, communication technology and so on, it seems that virtual digital technology has been added to the development ranks, of course, art is no exception. The encouragement of digital technology for virtual art undoubtedly has a great impact on the creation of entity art, which involuntarily arouse people's thinking about the value of the existence of it. Through analysis, this paper finds that some NFT artists, such as Carlos Marcial, Trevor Jones, and Slime Sunday, are expert in changing forms and adding meanings based on traditional entity art, and they realize the rebirth of it in the era of the metaverse through the presentation of moving images, the combination of dual senses, and the addition and modification of creative elements.

2.1. The Presentation of Moving Images

The presentation of moving images is favorably received in NFT art creation. However, before the birth of films in the second half of the 19th century, people could only stay in the static viewing experience and could not even imagine what kind of artistic expression the continuous dynamic narrative was. And it was not until the

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1920s that moving image art began to gain substantial development. [3] In the 21st century, as works of art created by moving images, NFT, with its virtuality, circularity, interactivity, and other artistic features, makes those traditional artistic creations that originally existed in the entity material space in a static way appear in front of the world in a new presentation mode.

Marcial, a Puerto Rico digital artist from Mexico City, has been active in NFT since his debut in 2019. At the beginning of 2020, Marcial was lucky to join the first batch of full-time NFT artists. Without suspense, his most famous NFT works are series of Duchamp urinal, which realizes an innovative transformation of Marcel Duchamp's *Fountain* (1917). The earliest work in this series is *Infinite Gesture: Dropping of a Fountain*, which was created in 2020. This work shows the conceptual and virtual destruction of Duchamp urinal, a ready-made product originally existing in the entity space, in the virtual space through the way of moving image presentation. Marcial changed the year number of 1917 on the urinal to 2009, and then let the urinal fall from the top of the screen to the ground and break into pieces of different shapes. If it were not in this virtual space created by Marcial, people could hardly imagine what would happen if the real *Fountain* on display in the museum fell heavily on the ground. In another work, *The Dialectical Possibilities of 金継ぎ* (2020), Marcial restored the fragments of urinals in his virtual space, and repaired the cracks with gilt edged decoration. Compared with Duchamp's *Fountain*, this urinal with golden border has more dramatic charm. The urinal rotates repeatedly in the moving image made by Marcial, as if to show its gorgeous appearance. Additionally, in the work *Duchamp Dreams of Skygolpe* (2020), a collaboration between Marcial and Italian crossover artist Skygolpe, it can be seen that by means of moving images, Marcial and Skygolpe jointly built a relatively closed virtual space with infinite circulation that can link Duchamp urinals. A luminous urinal is installed on the front step, while there are three other urinals on the left side and two hand washing sinks on the right. The NFT portrait works created by Skygolpe are displayed on the walls all around the virtual space. With the play of the moving image, the luminous urinal in front is gradually pushing closer to the viewers, and the portrait on the wall is constantly changing, just like a mechanical failure. When the interface of the urinal is enlarged to the whole screen, the viewers can see the pink neon halo continuously boosting and blinking, seems that they have entered a dreamy time tunnel at this moment. The pink color will then flicker between yellow, green, orange, blue and purple, and when it returns to pink again, it means that the exit of the time tunnel appears, and the viewers will enter the circular closed space again. They can click the pause button at any time to select and record their favorite frame in the whole moving image.
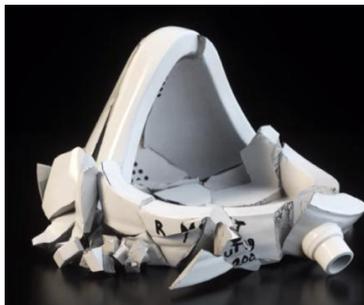
Figure 1. *Infinite Gesture: Dropping of a Fountain (Carlos Marcial, 2020).*

Figure 2. *Duchamp Dreams of Skygolpe (Carlos Marcial & Skygolpe, 2020).*

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2.2. The Combination of Dual Senses

If the development of human art records the evolution of human spirit from ancient times to the present, it also records the transition of various artistic medium. In the opinion of Professor Wang, a researcher of the Chinese National Academy of Arts, the creation of contemporary art can be called an All-Sensual Arts or a Multi-Sensual Arts. [4] Through the simultaneous use of multiple media and the combined expression of multiple senses, contemporary art has become an art of comprehensive sensory experience. But at present, it seems difficult for NFT in the virtual space of the metaverse to achieve the full sensory integration of hearing, smell, sight, taste, and touch, as it still needs to present works based on the carrier of computer, which is to say, there is a gap between it and the interactive art on the spot that can fuse the sense of smell or touch. However, NFT is quite adept at combining the dual senses of sight and hearing. At least compared with monotonously appreciating a painting hanging in an art gallery or a statue placed in a museum, NFT takes music selection and dual sensory experience as the important elements in the creation of art works.

Figure 3. *The Bitcoin Angel (Trevor Jones, 2018).*

Figure 4. *The Fallen Angel (Trevor Jones, 2022).*

Jones, an NFT artist from Scotland, as an individual who has worked at the intersection of art and technology for more than ten years, soon joined this vibrant metaverse world and initiated his art creation. He is good at recreating traditional painting or sculpture in video production. Unlike Marcial's silent moving images, Jones will mobilize the viewers' dual sensory experience by inserting background music or sound effects into the video, thus greatly increasing the receptivity of the works. For example, *The Bitcoin Angel* created by Jones in 2018 is based on the sculpture *The Ecstasy of St. Teresa* (1645-1652) from the 17th century Baroque artist Gian Lorenzo Bernini. With the singing of carols, a bitcoin, which is as giant as the sun, and the Virgin, who is in the double excitement of spirit and body, begin to rotate in the air. Immediately, countless tiny gold coins slowly fall from the heart of the saint, presenting a religious ecstasy and fascination, so that realizing the warning to those greedy and narcissistic people. Jones seems to have a passion for angels, in 2022, he created *The Fallen Angel*, which is a 58-second video. In this work, the music arrangement starts from the provocative psychedelic singing, and gradually adds the serious and solemn chorus and string music, while the image is cut from the perspective of looking up, and then upward to the hand of the angel lying on his back. When the image cuts into the panorama, the music tone starts to show an upward trend, after a few seconds, the atmosphere and rhythm become tense and compact, which means a new perspective comes, the angel sits on the Federal Reserve Bank of the United States with cracks on the exterior wall, and these bitcoins pile up on the ground just like a terrible flood. More urgent as the music becomes, a super bitcoin

surrounded by several shining rings hangs in the sky, which is like a huge meteorite about to hit the angel. Finally, the passionate music stops suddenly, and the view angle is transferred from the top to the bottom, the angel suppressed by the shadow of the bitcoin halo holds up his right hand to try to resist something, but there is nothing he can do. Apparently, Jones's ingenious control of the dual senses enables viewers to have an excellent appreciation experience, which is undoubtedly more conducive to making them resonate with the ironic feelings the works want to convey.

2.3. The Addition and Modification of Creative Elements

It is not difficult to guess that, to a certain extent, artists tend to add and modify some elements of the original works when re-creating the traditional entity art. For example, in *What is Art* created by Marcial in 2020, he changed the white ceramic appearance of the urinal to the silver metal, then planted several clusters of plants with luxuriant branches and leaves in it. Under the plants, he placed a shiny mushroom, the light of it would be reflected on the metal surface from time to time. Besides, in *The Bitcoin Angel* (2018), Jones changed the "light" made of bronze that symbolized the glory of heaven into a golden bitcoin emitting holy light, and he turned the original metal texture of the sculpture into an oil painting texture, showing the traces of carving through the changes of brushwork.

Of course, a common way to realize the addition and modification is collage of picture elements. If each element in the picture is regarded as a symbol that can convey artistic information, then the information added through collage, as a new meaning addition, can provide a way for the meaning rebirth of traditional entity art in the era of the metaverse. It is the artist Sunday who has adopted collage in the task of giving new life to traditional entity art. For example, *The Last Stand of the Nation State*, which he created in 2020, was inspired by the oil painting *The Intervention of the Sabine Women* (1799) by Jacques Louis David, a French classicist in the 18th century. Sunday endows the classical sense of grandeur in his work with the meaning of modern society by adding the ironic text message "Fiat is Violence", "Taxation is Theft", or by adding such elements as dollar bills, bitcoins, posters and so on. His other work *Uniswap* (2021) was also inspired by David's work *Bonaparte franchissant le Grand-Saint-Bernard* (1800-1801). Based on the horse in the original work, Sunday added a colored horn that symbolizes Unicorn, changed the horse's temples into bright purple. Also, he changed Napoleon's image into a new knight putting on gentle glasses and holding a shining bitcoin, which makes Napoleon's classic image of setting the world to rights turn into a lively young man freely galloping in the metaverse.

Figure 5. *The Last Stand of the Nation State (Slime Sunday, 2020).*

Figure 6. *Uniswap (Slime Sunday, 2021).*

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It is easy to see from the above artwork cases that there exist the possibilities for the artist to re-create entity art through NFT under the background of the metaverse. In addition to realizing dynamic artistic creation through artistic expression of moving images, NFT also pays attention to the dual experience of auditory senses and visual effects, and based on the traditional entity art, it adds a new interpretation of contemporary social meaning and artistic thinking, thus realizing the new value and vitality. To sum up, with the flourishing progression of virtual art, artists can still find many ways to show the lively breath and dazzling light of traditional entity art again. Therefore, this paper believes that the virtualization of traditional entity art will not eliminate its value of existence, NFT is the re-creation and re-meaning of traditional entity art.

3. Coexistence: The Dialogue and Cooperation between AI and Human Artists

In the 1950s, John McCarthy first proposed the term "Artificial Intelligence" (AI). In recent years, AI represented by AlphaGo has become one of the major topics of discussion in the academy and industry. As science and technology fleet as the wind, AI has been gradually applied to various fields and participated in many aspects of human work or life, bringing numerous surprises and shocks while making human life more convenient. To put it simply, the main purpose of AI is to build a mechanical brain by imitating the human thinking process, and if it especially emphasizes the creative thinking, then art is obviously one of the most representative creative practices of human beings as conscious organisms. In people's inherent cognition, the perceptual thinking of art and the instrumental rationality of machines repel each other. Art creation is not a data processing production, but a high-level labor that gathers artists' thoughts and feelings. [5]

However, in addition to the use of common intelligent technologies such as voice and face recognition, AI has gradually stepped into the field of human art creation, making art reproduction easier and faster, so that the barrier between artistic sensibility and instrumental rationality seems to be breaking. [6] Even, news and reports about AI's participation in artistic creation are just a matter of common occurrence for now. The typical case in point is Generative Adversarial Nets (GANs), which can imitate human art by composing of a generator and a discriminator. Its working mechanism includes three steps: first, to input and learn a quantity of information elements; second, to simulate the creation after learning; finally, to make a comparative judgment to identify whether there are some artistic elements of a given style in the generated works. In other words, when the artistic work generated by the generator passes the style identification of the discriminator, it represents the completion of artistic creation of GANs. In the metaverse, there are many artists working together with AI to complete their creation of NFT. These works jointly created with AI constantly show people what artistic creation will become after the emergence of AI technology in the metaverse full of infinite possibilities, such as creation of the oil paintings of figures and landscapes, and the expression of machine emotions. Through these works, artists may hope to give their own viewpoints of the realistic situation of creative subjectivity in the face of rapidly changing intelligent technology.

3.1. The Oil Paintings of Figures and Landscapes

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As an AI prodigy, Robbie Barrat breaks through the boundaries between neural networks and traditional art world by training AI to create art works, including *AI Generated Nude Portraits* (2018) and *AI Generated Landscapes* (2018). The series of nude is created by GANs after learning thousands of nude portraits from the corpus, however, from the works finally presented, these portraits cannot be regarded as clearly defined or realistic. Because the naked body in the picture has a fuzzy texture, especially in the border part, the pulled and separated lines become more obvious, making the overall picture a little primitive erotic. In addition, due to certain procedural rules of GANs, almost every nude series works has produced a kind of surreal meat pieces, and the shape of them seems to be two tightly hugged bodies, which makes people recall the lovers embracing each other intimately in *Der Kuss* (1908) from Gustav Klimt. In terms of picture layout, the works of this series, like *Der Kuss*, also tend to emphasize the main characters in the center of the picture, while the background is relatively simple. Perhaps people can interpret this eclectic expression of nude portraits as a unique way for AI to observe human beings. Of course, the landscape series also shows surreal artistic features, such as the pictures of intertwined branches and trunks and flowing color effects.

Figure 7. AI Generated Nude Portraits (Robbie Barrat, 2018).

Figure 8. AI Generated Landscapes (Robbie Barrat, 2018).

Figure 9. Sophia is painting the self-portrait (pictures from the network).

Figure 10. Sophia Instantiation (Sophia, 2021).

Actually, there is an AI artist called Sophia, who enjoys the great fame and reputation in the real sense, as a humanoid robot developed by Hansen Robotics headquartered in Hong Kong. She is famous worldwide for her excellent dialogue ability, smooth movement display and diverse facial expressions. Since the activation in 2016, Sophia has often appeared in talk shows and conferences, and even become the first robot with Saudi Arabia nationality. David Hanson, the creator of Sofia, once said that Sofia has put forward many questions to people, such as what is the meaning of human beings, what is or is not true, and what is the reality that does not exist in the future, which represent the intersection of human beings and technology. In 2021, with the cooperation of Andrea Bonaceto, a partner and artist of a blockchain

investment company named Eterna Capital -- Bonaceto would first make a portrait of Sophia, and Sophia would process this portrait through her neural network then make her own composition -- a self-portrait *Sophia Instantiation* painted by Sophia was sold at Nifty Gateway for 688000 dollars.

3.2. The Expression of Machine Emotions

As is known to all, human beings regard emotions as their own unique ability. Marcelo Soria Rodríguez, an artist with engineering background, has great interest in whether AI can foster emotions. He regards intelligent machines that can be called algorithmic talents as his partners and has together created extremely diversified NFT art works, among them, *Polycircles* (2021) and *Entretiempos* (2022) are the most representative. In the *Polycircles* series, Rodríguez starts from the abstract geometric concept and transforms the parameter values in the compiled computer system to make various circles of different sizes, shapes, colors, and patterns intersect and overlap with each other. Although Rodríguez does not use moving images, the arrangement of rings in diffusion and extension brings a kind of dynamic perception to the viewers. This is because the visual expression of *Polycircles* seems to blend the melody of classical music, so that these works are both passionate, quiet, and lively, and this feeling is familiar as early as in the abstract expressionist paintings of Wassily Kandinsky. Perhaps in Rodríguez's view, the relationship between machine rationalism and emotional sensualism is just like these ripples in the *Polycircles* series. Rodríguez's creation is constantly updated in the collision of inspiration, for example, the *Entretiempos* series adds the effect of moving images on the basis of the previous series. The moment when viewers press the play button, the geometric patterns in the screen begin to enter an automatic cycle mode of transformation, which makes viewers have a more emotional resonance with the intelligent program behind the screen. Rodríguez once said that he hoped to change the cognition of intelligent machines based on human emotions in the creation of *Entretiempos* series, so as to form a broader cognitive and emotional space of AI.

Figure 11. *Polycircle, unnumbered (Marcelo Soria Rodríguez, 2021).*

Figure 12. *Entretiempos#770 (Marcelo Soria Rodríguez, 2022).*

To sum up, based on the cooperation with human beings, AI can not only create portraits, but can also create virtual landscapes, or even, in the near future, can make amazing breakthroughs in thinking and emotions. The strength shown by AI seems to be a challenge to mankind. Human artists should feel a crisis for their unique identity. This is also a necessary consideration under the realistic circumstances of the development of intelligent technology. Whether the participation of AI in artistic creation will subvert the subjectivity of artists? This paper believes that it will not.

Even though AI has the advantages of convenience, efficiency, accuracy, and the economy of intelligence cost, etc., the finiteness of life, the experience of individuals, the volition of creation, and the existence of soul of human artists are unique values that cannot be easily matched by machines. The most fundamental motive force in these artistic creations and the connotation they want to convey will be hard for AI as a machine to copy. And the above four are not isolated elements. In fact, it is precisely because of the finiteness of life that human beings pay more attention to their individual experience, then it will give rise to different volition of creation. In the final analysis, it is the above three that together constitute the most moving point in artistic creation, that is, the existence of a living soul. Indeed, AI can replace the highly repetitive mechanical labor of human beings, and it also has higher work efficiency and more accurate computing level, and even anyone can use AI technology, such as mobile phone software, to achieve their own artistic creation, but it is undeniable that, at least for the current AI technology, it seems to be a rather difficult goal to fully replace human beings to play the subjectivity of artistic creation.

However, AI has also brought new inspiration and opportunities for human, and even helped artists break through limitations of body functions in artistic creation. With the help of AI, artists can obtain full expression and realization of creative thinking. The computer algorithm with almost no flaw in AI makes it possible to create seemingly novel and impossible arts. If human artists can return to the original intention of creation, grasp the biological uniqueness of human beings, expand the boundaries of artistic practice and the thinking of artistic creation on the basis of AI, then the participation of AI in artistic creation will not subvert the subjectivity of artists, AI and human artists are in a relationship of dialogue and cooperation.

4. Future: More Possibilities of Art in the Metaverse Era

Backtrack the development of art in the metaverse era, is it a utopia of science and technology, a disaster of art, or an extremist tendency of contemporary art? No one can give a 100% definite answer at present. But there may be some clues about the future hidden in the development history of Internet technology. Now, when we enjoy the prosperity and vitality brought by the Internet for human beings, we may have long forgotten how much social suspicion and contempt the nascent Internet technology world suffered, but we should be aware of how it has created a new era of science and technology in people's doubts, anxieties, and fears. This is also true of the arts in the metaverse era. NFT art is like a ferryman, closely related to the future existence form of art development in the rapidly developing metaverse cyberspace. [7] Art has never been as rich, diverse, complex, and unknown as it is today in human history. The future of metaverse art will be more colorful in this vast and unknown new space, as a way of thinking and a beautiful wish, it allows artists to be free. What humans call "virtual" is no longer just a mere technical illusion, it may be another reality that has changed in their living experience and perceptual memory. [8] So, despite all kinds of anxiety, please keep optimistic and imaginary, to feel, to embrace and to accept all kinds of possibilities. Future starts from present.

Conflicts of Interest

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References

[1] Yang, G. Crypto Arts: A Ferryman of Digital Art Transferring to the Metaverse. *Art Observation*, 2021, 11, 81-88.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2021&filename=MSGC202111033&uniplatform=NZKPT&v=Cn33-URu6H34MHVgkjlOCPejkz7vujUdIUH3oRHNQmdCZltRkVZPhGDz07a1l4Hc (accessed on 1 December 2022).

[2] Zhou, Z.Q. From Virtual Reality to Virtualization Become a Reality -- The Metaverse and the "Metaversalization". *China Literature and Art Criticism,* 2022, 2, 63-66. DOI: 10.19324/j.cnki.zgwypl.2022.02.014.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2022&filename=ZWPL202202006&uniplatform=NZKPT&v=neigFOb52zIbKC8sgvj5SrVh0451RMNRo7TZ6rlYUHbnJSx1VtaLOj60czovyuy1 (accessed on 1 December 2022).

[3] Sun, W.W. The Artistic Expression and Characteristic Analysis of Dynamic Image Art -- Based on Experimental Film, Video Art, and New Media Image. *Journal of Wuhan University of Science and Technology (Social Science Edition)*, 2013, 15(02), 227-232.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFD2013&filename=WHKS201302023&uniplatform=NZKPT&v=vgjLuKXDtjL3ziBwQBkZUKOw0kMBM7H3yBzV5897O_J68S1PppDsyiXTiI0PaUa_ (accessed on 1 December 2022).

[4] Wang, D.T. What is Chinese Contemporary Art? *Art Observation*, 2012, 11, 10-11.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFD2012&filename=MSGC201211008&uniplatform=NZKPT&v=y0zTi7rUhT8HQ69Ixf8qOey9mdOdG881lX0OzV3wx1YpKmsh4w9bFL3QdybX9cF- (accessed on 1 December 2022).

[5] Ye, D.Y. Identity, Self and Future. Master's Thesis, Shenzhen University, Shenzhen, 2020.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CMFD&dbname=CMFD202102&filename=1020367401.nh&uniplatform=NZKPT&v=s8J6MDtNWwmGFqCHndAWf4GxnxlYt_-dYxvZsNGb2BzGReFwylWcvMGVd_N-u1Fl

[6] Chen, J. Artificial Intelligence, Making Art Cheap? *Art Observation*, 2017, 10, 10-12.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2017&filename=MSGC201710007&uniplatform=NZKPT&v=g0OfnMzPLbB-qUWsaabVXmu_u88xtM5mF4oMJftY3Rf7AiniDLz2fVGqnoi95BVq (accessed on 1 December 2022).

[7] Yang, G. Crypto Arts: A Ferryman of Digital Art Transferring to the Metaverse. *Art Observation*, 2021, 11, 81-88.

ITS

Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbn
ame=CJFDLAST2021&filename=MSGC202111033&uniplatform=NZKPT&v=
Cn33-URu6H34MHVgkjlOCPejkz7vujUdIUH3oRHNQmdCZltRkVZPhGDz07a
1l4Hc (accessed on 1 December 2022).

[8] Zhou, Z.Q. From Virtual Reality to Virtualization Become a Reality -- The
Metaverse and the "Metaversalization". *China Literature and Art Criticism,* 2022,
2, 63-66. DOI: 10.19324/j.cnki.zgwypl.2022.02.014.
Available online: https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbn
ame=CJFDLAST2022&filename=ZWPL202202006&uniplatform=NZKPT&v=n
eigFOb52zIbKC8sgvj5SrVh0451RMNRo7TZ6rlYUHbnJSx1VtaLOj60czovyuy1
 (accessed on 1 December 2022).