

Déméter

ISSN : 1638-556X

Publisher : Université de Lille

10 | Été | 2023

Online/Offline : Nouvelles stratégies curatoriales pour oeuvres numériques

History of the Future: Perspectives of Space, Materiality and Visualization

History of the Futur : perspectives de l'espace, de la matérialité et de la visualisation

Janet Fong

 <https://www.peren-revues.fr/demeter/1325>

DOI : 10.54563/demeter.1325

Electronic reference

Janet Fong, « *History of the Future: Perspectives of Space, Materiality and Visualization* », *Déméter* [Online], 10 | Été | 2023, Online since 01 novembre 2023, connection on 01 octobre 2024. URL : <https://www.peren-revues.fr/demeter/1325>

Copyright

CC-BY-NC

History of the Future: Perspectives of Space, Materiality and Visualization

History of the Futur : *perspectives de l'espace, de la matérialité et de la visualisation*

Janet Fong

OUTLINE

Space Correlation, (hyper)materialities, Visualizations and Narrative in
History of the Future
Conclusion

TEXT

- 1 In 2020, when the epidemic was at its height, individuals across nations and contexts embraced the virtual world, ultimately leading to a turning point in the role of virtual space in the arts. This wave opened a window for new possibilities for virtual space in artistic practices and curatorial strategies. It is only possible to assess the reach of the virtual as a space to mediate creativity, however, by paying sufficient attention to concrete practices. That is to say, physical space naturally has “physical objects”¹, while virtual space has newly created “virtual objects.” If we materialize the forms generated by artificial intelligence (AI), what will happen to our original understanding of physical matter? How can we explain installations and sculptures in an exhibition in a physical space juxtaposed with virtual reality? Under this premise, I will insist on exploring this new possibility in the perspective of space, materiality and visualization.
- 2 “F.N.S.X. @ History of the Future”² is an art exhibition related to artistic practices with digital tools and technology and held in Cloud Art Museum Shenzhen, China, from 26 June to 24 September 2023, featuring the artists Fei Jun³, Peter Nelson⁴, Daniel Shanken⁵, and Xu Yibo⁶, for which I was the curator. What is at stake in this exhibition is the creative mapping of the future coexistence of human beings and technology so as to address paths to social change. Merrill R. Smith, a professor of technology history, observes that many

writers and artists e.g. Restif de la Bretonne, Jules Verne back from 18th century to the early 20st century have emphasized the pursuit of technology and science in the interest of human betterment (intellectual, moral, and spiritual) and material prosperity; the “technological sublime”⁷ added yet another dimension to the growing popular belief in the power of technology to shape the course of human history⁸. For instance, in recent years, discussions of the “metaverse” have started to gain ground that argue for its potential to exceed the spatial limits of humankind and for its possible participation in future social practices. These proposals evidence the fast-approaching era of the “metaverse” where the rapid development of technology gradually would dissolve the boundaries between virtual worlds and physical spaces.

- 3 Today’s buzzword “metaverse” originated from the 1992 science fiction novel *Snow Crash*⁹. In the novel, the “metaverse” depicts human beings on VR devices where they interact in the digital world. A rehearsal for a world parallel to everyday reality, it foresees a time when the digital world will be more accessible to the masses. Moreover, the “metaverse” represents an idea of a hypothetical “parallel virtual world” that incarnates ways of living and working in virtual cities as an alternative to the “smart cities” of the physical future¹⁰. The metaverse is a three-dimensional, virtual space tightly connected to society, operating in parallel with the real world.
- 4 In this context, the exhibition attempts to add to the potential of humankind to connect virtual space and reality by probing into the conceptual space-explorations triggered by the metaverse and into its different forms and temporalities. It asks, how can artists, the core of the creative noumenon, deploy forms of new technologies and creative materials so that their works shine a light on the future and ask art practitioners the questions facing society today, all the while remaining anchored in the coordinates of art history?
- 5 Out of the many methods of historical interpretation, this exhibition adopts that of micro-history; against an art history context of object-and-space field, it attempts to study the possibilities the four participating artists can bring to the narration of the images, objects, and spaces created with the visual tools of new technology. My focus on micro-history stems from the fact that it “provided a revolutionary

new perspective” since “its focus was on what a specific person looked like at a particular moment,” therefore “serv[ing] as a clue leading us to the ‘culture’ of a society, and its various linked systems¹¹.” Each work exhibited can be seen as a canvas with its own characteristics and historical temporality, their individual art histories remaining the trajectories of diverse visual presentations. This curated exhibition, interpenetrated with four perspectives inspired by the works by the participating artists — space correlation, hypermaterialities, visualizations and narrative — reflects the influence their works may exert on the future of artistic exploration, and echoes the possibilities and opportunities brought by digital technology and virtual space to the research of art history.

Space Correlation, (hyper)materialities, Visualizations and Narrative in History of the Future

- 6 Art-making is a compelling approach to the exploration of the nature of virtual environments since it effectively employs virtual environments to generate and materialize new possibilities in spaces through visual practice. This approach does not seek to alter digital or physical reality, *but incorporates one reality into the other*. Through such a lens, it ultimately asks the question: should a virtual environment be seen as an extension of reality or as the coexistence of the physical and virtual environments?
- 7 “History of the Future” highlights the works of four artists to explore the correlation between physical spaces and virtual spaces. It displays the recent works by the four participating artists, who are all adept at using spaces, visual arts, sounds, and technologies to bring audiences into their expeditions bound for the future. In their works one encounters moments that dissolve the boundaries of time; in this magnetic field tinged with a sense of ritual, one touches the possibility of reconstructing a new history by drawing on previous ones. To accomplish this, the exhibition reveals the unique creative orientations of each artist. There, the audience unconsciously acquires different interactive experiences by lingering in the mixed-reality environments, outlining their own immersive “multiple spaces”. In the

ever-evolving landscape of technology, mixed reality (MR), and the manifold spaces of the physical, the virtual and the hybrid co-exist ; a realm has emerged where the physical and virtual worlds seamlessly intertwine, giving rise to immersive experiences that challenge our conventional understanding of “reality”. In this exhibition, MR environments captivated audiences by offering interactive multiple spaces that encourage exploration. Examining these experiences through a phenomenological lens means delving into the reception and perception of the interactive realms of MR. Participants navigate through these realms, each with its distinct characteristics, blurring the lines between what is “real” and what is “virtual”. This interplay of spaces creates a rich phenomenological landscape.

- 8 This exhibition also urges the audience to investigate the historical perspective of micro-history, as crafted in the unique creations of each specific artist, to discover contexts meaningful for future history – discoveries made against a contemporary background – that allow audiences to explore the relationship between the individual artist’s experiences and the historical era.
- 9 The works include three immersive pieces presented by Fei Jun, which play with the interactive experience generated by the arts. “Transplanting: Interesting Worlds (2021)” is installed on the exclusive outdoor space of the museum’s top floor. Against the blue sky, it provides a virtual interactive experience. It allows the audience to immerse themselves in a mixed reality that couples the physical museum’s natural sky setting with virtual elements floating and moving in the air. As the title suggests, the work prepares the audience for the surprises unlocked through interactions on their mobile phones, a crucial communication tool in virtual life that connects them to the various virtual objects floating in the multi-dimensional space. The participatory interaction between the work and the viewer blurs the boundaries between various spatial temporality.
- 10 Another piece in Fei Jun’s “Interesting Worlds: Installation 1” (2019) extends everyday life into the virtual and vice-versa. It invites the audience to make their own interesting worlds using apps installed on digital devices. In this “virtual space”, the audience has over 300 everyday objects recycled from the “actual world” at their disposal, the artist’s personal selection of those objects repres-

enting his own historical condition. Including a plastic lighter, a suitcase, a “Double Happiness” washbasin, and a vintage mobile phone, audience members use them to take an active role in reshaping their surroundings. The resulting design, with the audience as the creator, helps form another structure for the work. Each unique work produced by successive participants presents a different perspective and generates a new digital materiality. The characteristic of this hypermateriality is that, in the process of seeing and being seen facilitated by digital devices, the relationship between art and object and the dominant expression of the artist is transformed. This work allows artist and viewer to achieve a controllable equilibrium between passivity and activity, within interactive, virtual spaces. It is also a balanced, organic, and open environment that advocates the extension of traditional art communication framework to a possible new art communicative and interactive platform created jointly by artists and audiences. Taking into consideration my main enquiry at the introduction of this paper, which questioned the role of artists as bearers of creativity, what makes these artworks stand out is that digital technology allows a different understanding of the core role of creative noumenon: Fei Jun attempts to transfer the temporality of “originality¹²” to other participants in independent creations through their virtual and physical interactions with Fei’s work in the exhibition. This exploration illuminates the future by asking art practitioners the questions facing society today, while remaining anchored in the coordinates of art history.

11 The exhibition also displays *Gesture Cloud_Gesture Wall*, a research project co-launched by Fei Jun and Judith Doyle to explore the issue of collecting human gestures for technology research and development. The two artists attempt to discuss economic and sociological topics, such as residue value, energy conversion and the virtual labor of gesture, as well as the work itself. *Gesture Cloud_Gesture Wall* addresses the possibility of using the gestures made by participants to generate moving images and create artworks. In doing so, it extends artistic creative generation and the framework of artistic practice through audience interaction with digital tools, the one becoming intrinsically bound up with the other.

12 To fully understand the scope of the artworks mentioned, it is necessary to briefly examine the engagement of the broader artistic land-

scape with hypermateriality. Over recent decades, the artistic field has been slowly adapting its practices to convey processes of rematerialization, meaning “the way that the ‘material’ and the ‘social’ intertwine and interact with the material in all manner of promiscuous combinations”¹³. Dematerialization, meanwhile, refers to the “absolute or relative reduction in the quantity of materials used and/or the quantity of waste generated in the production of a unit of economic output¹⁴”, both of which address the significant status hypermaterialities occupy in human history. When a sculpture, a typical form of traditional art — and once an art extraordinarily significant in human social and cultural life — has information of the virtual world seamlessly superimposed onto its physicality via new technology, it provides users with the experience of reality beyond sensory experience¹⁵. Launched in 1985, Jean-François Lyotard’s exhibition “Les Immatériaux” brought attention to this. Lyotard argued that the immaterial is matter subjected to interaction and conceptual processes. Bernard Stiegler too believes that there is nothing that is not ultimately in a material state, discussing the “hypermaterial” as a complex source of energy and information in which it is no longer possible to distinguish matter from form¹⁶. Glancing back at Fei Jun’s productions allows for a fuller understanding of how the virtual aspect of his productions interferes with the material in practice. Once physical sculptures take a virtual shape as an extended sculptural volume in an illusionistic vision, they push the limits of materiality, because they transfer that most primary quality of the sculptural work — sensory experience — onto their haptic quality or lack thereof in the mixture of reality and virtuality.

- 13 Daniel Shanken’s *Flesh Projections* engages with such concerns by creating new potential spaces and materialist forms both virtually and physically. The piece is generated by GAN (Generative Adversarial Network)¹⁷. The artist collected thousands of “objects” through 3D-GAN, ranging from a Paleolithic stone tool to an information-age mobile phone and laptop. Through 3D technology and scanning, which are combined with technology training and learning, Shanken’s work created new “objects” or sculptures in various shapes using digital tools, their meanings expanding the limits of the conventional co-relation of form and matter. Artificial intelligence enables us to process great quantities of image data at a

time. Shanken's approach to the digital allows this process to come to life by presenting a platform equipped with new modeling structures and techniques for sculpture creation. A new media virtual video made by Shanken in the Cloud Art Museum evidences the artist's unique approach to play with sculpture. In a looped video projected on a wall measuring 2.5m x 8m, the artist creates a virtual space which, while increasing the immersive sensation for the audience, also confuses its sense of temporality by interweaving real and virtual time and space. In the installation, GAN-generated object occupying the center of the video and changing shape every few seconds directly interferes with the two physical sculptural works in front of it. Taken together, the different pieces composing the installation enlarge the spatial imagination and activates a time lapse. As they slowly rotate 360 degrees, the physics of the sculptures suspension makes possible contemporary forms of the time-honored matters of art from materials relating to economic and social outputs in human history and daily life to become a new possible "hypermateral" that does not distinguish matter from form and hybridizes virtual and physical volumes.

- 14 *Crash Tests*, another work presented by Shanken, further explores the lapse of time by exploring images of car accidents that could be sourced through different search engines including Google image search, Yandex, and Bing and to bring attention to tragedies related to technology. It is made up of six standalone pictures composed of 3,000 images of vehicles and crashes found online and processed by an AI machine-learning tool. These six images printed directly on cold aluminum panels are deliberately placed a relatively narrow exhibition space in the museum. At first glance, viewers are impressed by the gorgeous colors, but, on closer inspection, they are alarmed by their violent contents, reminding them of the vigilance required to confront the dangers of daily life that every second could befall any one of us.
- 15 While Shanken's piece articulates the hypermateriality of daily life through artificial intelligence, Xu Yibo fully inserts the real world into the virtual by his own perception of combining traditional art forms with digital tools. As Andrew Burrell explains:

The affordances offered by each of these interfaces between the virtual and the physical (virtually real and the actually real) differ and provide unique ways of interacting with the virtual. The virtual environments themselves are also created and experienced with differing technologies, though each of them share affordances unique to virtual environments.¹⁸

- 16 Xu Yibo presents *Pandora Cube*, a work featuring a tangible cube on which various traditional art forms from real spatial experience interact with the virtual spaces projected using technological means. The visual information derived from the virtual is seamlessly superimposed on the real world, showing not only real three-dimensional sculptures but also virtual images. The overlaps and combinations between the virtual and the physical are reminiscent of how digital synapses perceive and shape the world. The audience can now grasp another possibility or extension of sculpture, and harvest a sensory experience that transcends the ideas of matter and form they acquired from their appreciation of traditional sculpture.
- 17 Another work presented by Xu Yibo is —*Yi(one)*. The installation integrates the kinetic mechanical techniques derived from the realm of multi-mediums with the visual presentation of digital images of multi-dimensional space interactions. It also examines the impact on the boundary under the fusion of various forms. Unlike *Pandora Cube*, which translates the knowledge of material into the visual and expands spatial imagination, —*Yi(one)* accentuates the “transformation of things” or an “oblivion of things¹⁹,” and the path of space limitation. “—” is a fundamental stroke in Chinese script; in this work, it assumes the shape of the “—” in the Official Script of Chinese calligraphy. The array of many yi — produces a sonority similar to gentleness and rhythms of water waves or a cloudy sea; meanwhile, each yi—can still be perceived individually. Perhaps this mechanical motion installation profoundly embodies “唯达者知通为一，为是不用而寓诸庸” (Only the wise know how they are melded as one. By this it is not used, yet lodges itself in the commonplace) , an ideology proposed by and interpreted by Hsu Fuquan in his book *The Essence of Chinese Art* that states that only the truly enlightened can discern the mysticism of “all are one.” The enlightened does not see all things as what they would wish they were in the fluctuating mind; rather

they see all things as what they naturally are, in the stillness of mind. All things are created for certain uses, and, in this sense, they are all equal. *All are one*²⁰. The numerous appearances produced by the application and fluctuation of the mediums in yi — somehow conjure up a vibe of purity and simplicity. Highlighting traditional Chinese culture and aesthetics, this multi-dimensional kinetic installation extends the concrete into the real space unconventionally, so one can naturally follow the rhythm of the other, ultimately dissolving the boundaries of originality. Stillness of mind allows the heart to flow outwards, the audience being invited to attain the inner depth of such a mental state on this basis²¹.

- 18 Xu Yibo's *Transparent Society: Covenant*, in turn, tackles the seemingly conflicting relations between human vs. society, human vs. digitization, and privacy, which occur in the multi-dimensional spaces of the post-artificial intelligence era. The artist also deploys a darkly humorous digital narrative animation to set an imaginative visual story at the core of his work, so as to urge the viewer to contemplate and debate against the background of a satire on the inexplicable injustice between the consumers and the monopolist in virtual culture.
- 19 Visualization is a vital tool for data analysis, and its role is well established in the exploratory and the final presentation stages of a statistical workflow²². *The Visions of the Last Forest King* is Peter Nelson's latest 2022 creation. Against the white background of the Cloud Art Museum, Nelson conveys an imaginary story of a computer that recovered memory fragments from an Anglo-Saxon king²³ living in the English forest during the invasion of William the Conqueror in the 11th century²⁴. By reconstructing this story via visual forms, it organizes a new narrative about history that focuses on the relationship between individual memory, imagination and historical account. Because such knowledge is conditioned by the virtual memory of the computer, the artwork brings attention to the intimate links between digital materiality and human memory. Further inspection of the work elucidates this point. In the work against a black wall, Nelson uses machine learning to make the computer continuously reconstruct the throne of the Forest King and the trees in his forest. As Peter Nelson states,

[u]sing a 3D machine learning algorithm trained on a dataset of 8000 3D models of chairs, this animation shows results from the system trying to synthesize new chairs. I've rendered it in reference to Francis Bacon's reworking of Velasquez's portrait of Pope Innocent X. It is part of the exhibition 'Visions of the Last Forest King'.

- 20 In this exhibition, the reconstruction is displayed by morphing 3D animations on a vertical TV screen. In total there are eight scrolls displayed on both sides. Each scroll features the combination of an ink painting drawn by the artist and an image from the *Bayeux Tapestry*²⁵ printed by a computer in 2022. Invisible to the naked eye, the illustrations from the *Bayeux Tapestry* can only be seen in ultraviolet lights that oscillate on and off, enabling the audience to catch glimpses of two sets of images. This switch between metaphorical narrations and the time lapse of the space through images with the help of ultraviolet light, conveyed by the animation in the middle of the screen featuring the continuous transformation of the thrones, opens a door for the audience in the actual space, encouraging them to read the new field of historical narrative through imagination and virtual space²⁶. Against the black colored space of the physical museum, it enhances the immersive experiences of the viewer as they visualize the process of exchange between digitization and re-materialized "objects" from the virtual space on the screen to become an actual "object" in the physical space.
- 21 This series of work continues, connecting Nelson's memories of reality and of historical experience within an uninterrupted exploration of landscape. The work provides information for creations of virtual "new trees," generating each unique "tree" with digital GAN technology coding, projecting them onto screens and juxtaposing them with 3D-printed "material trees" or sculptures within the exhibition space. These two types of trees, occupying different "spaces" yet coexisting in the same physical exhibition, suggest that the "hypermateral" will be excavated in the constant reshaping and experimenting processes participated in by human, nature, multidimensional spaces and technologies. Here, the proposition of transforming the relationship between mankind and the nature/space

environment through the virtual allows audience to glimpse a history that never surfaced in their consciousness before.

22 In this context, visualization also serves as a bridge between visual practices and human understanding for exploration on data analysis. In the exhibition the artists attempt to transform complex ideas with datasets into visual representations employing technological tools; it also seeks to communicate the artists' findings effectively to a broader audience to afford insights that might otherwise remain hidden. Likewise visualization becomes an immersive narrative-telling tool that enables visitors to deepen their experience of the artworks and engage with the fusion of physical and virtual space in the exhibition.

23 At the same time, in the entire exhibition-making of "History of the Future" space correlation functions as a curatorial strategy on spatial arrangement to also expand human experience. On entering the MR environment, participants often confront establish a duality of reception. On the one hand, they bring with them their preconceived notions and perceptions of the physical world. On the other, they must adapt to the immersive, digital environment presented to them. This duality sparks a cognitive dissonance that fuels curiosity and exploration. The exhibition also unveils a multifaceted landscape of perception, interaction, and immersion. It challenges us to reconsider our definitions of reality and invites us to explore the profound possibilities of human experience in interactive multiple spaces with individual artworks. MR technology continues to evolve in parallel with our understanding of the intricate interplay between the physical, the virtual, as well as with their hybrid.

Conclusion

24 This article highlights the possible explorations of space and time triggered by the extension of reality through virtual space through the four participating artists' experimentations with the subject in the exhibition "F.N.S.X @ History of the Future". It argues that these artists expand the core of the creative noumenon by combining "objects" of new technology and creative materials and media, including the possibilities developed by artificial intelligence (AI), with traditional concepts of physical matter in art and history by

deploying not only artworks made with digital tools but also sculptural and installation pieces in a physical exhibition space featuring virtual reality. Interpenetrating the perspectives of spatial correlation, hypermateriality, visualization and narrative conveyed by the four artists' visual representations of artistic exploration, the exhibition also draws attention to possibilities created by digital technology and virtual space in researching methodologies of art history through visual practice into the narration of images, objects, and spaces. As shown above, each work exhibited is seen as a medium with its own characteristics and historical temporality, with individual art histories that can be seen as the trajectories of varied visual presentations.

- 25 The sensory and phenomenological experience of the audience in exhibition-making impacts significantly on the curatorial strategies that explore the overlapping and combination between virtual and physical space as a multifaceted experience that engages the senses and the mind in unique ways. Entering the exhibition viewers are immediately confronted by a hybrid environment that blurs the boundaries between the virtual and physical worlds. The visual practices employed in the exhibition seamlessly integrate digital projections, augmented or virtual reality with physical art installations, objects and other art creations. This fusion creates a dynamic and immersive atmosphere that challenges traditional perceptions of space.
- 26 The audience's sensory experience is enriched by the interplay of light, sound, and texture. The virtual elements cast vibrant, ever-changing patterns onto the physical surfaces, eliciting a sense of curiosity. The soft hum of projectors and the subtle soundscape generated by the visual practices of the four participating artists can further immerse audiences in the curated world with its hybrid spatial experience. This experience is deeply personal and subjective. Each viewer may perceive the interactions between the virtual and physical realms differently. Some might feel a sense of disorientation as they navigate through the hybrid space, while others may embrace the freedom to explore and interact with the exhibits according to their own narrative. The combination of the virtual and physical worlds also prompts philosophical contemplation: audiences may ponder questions about the nature of reality, the malleability of

space, and the role of technology in shaping our perceptions. This intellectual engagement adds layers of meaning to the experience, inviting viewers to reflect on the intersection between art, technology, and the human psyche.

- 27 Lastly, the sensory experience of the audience in the exhibition as it explores the overlapping and combinations of virtual and physical space is a rich and transformative encounter. It challenges conventional boundaries of perception, inviting museum-goers to engage with art and technology in ways that are both thought-provoking and emotionally resonant.

BIBLIOGRAPHY

Zaheer Allam, Ayyoob Sharifi, Simon Elias Bibri, David S. Jones, John Krogstie, "The Metaverse as a Virtual Form of Smart Cities: Opportunities and Challenges for Environmental, Economic, and Social Sustainability in Urban Futures", *Smart Cities*, vol. 5, 2022, p. 771-801, <https://doi.org/10.3390/smartcities5030040>

Karen Bakker and Gavin Bridge, "Material worlds? Resource geographies and the 'matter of nature'", *Progress in Human Geography*, vol. 30, n°1, 2006, p. 5-27, <https://doi.org/10.1191/0309132506ph588oa>.

Andrew Burrell, "Between the physical and the virtual: The present tense of virtual space", *Virtual Creativity*, vol. 11, n° 1, 2021, p. 91-109, https://doi.org/10.1386/vcr_00044_1

Cutler J. Cleveland and Matthias Ruth, "Indicators of Dematerialization and the Materials Intensity of Use", *Journal of Industrial*, 1998, p. 15-50.

Denise Doyle, "Travel, space and transformation", *Metaverse Creativity*, vol. 6, n°1-2 p. 25-36, https://doi.org/10.1386/mvcr.6.1-2.25_1

Jonah Gabry, Daniel Simpson, Aki Vehtari, Michael Betancourt, Andrew Gelman, "Visualization in Bayesian workflow", *Journal of the Royal Statistical Society: Series A, Statistics in Society*, vol. 182, n° 2, 2019, p. 389-402, <https://doi.org/10.1111/rssa.12378>

Angela Harutyunyan, "Landscape and Its Double: The Technological Sublime", *ARTMargins*, vol. 10, n° 1, 2021, p. 66-76, https://doi.org/10.1162/artm_a_00286

Michael J. Lewis, Gale R. Owen-Crocker, Dan Terkla (eds.), *The Bayeux Tapestry: New Approaches*, Oxford, Oxbow Books, 2011.

Sarah Maza, *Thinking About History*, Chicago, University of Chicago Press, 2017.

Gideon Parchomovsky, Alex Stein, "Originality", *Virginia Law Review*,

vol. 95, n°6, 2009, p. 1505-1550, <https://doi.org/10.5040/9781350088764.0008>

Christiane Paul, "Digital art now: Histories of (im)materialities", *International Journal of Digital Art*, vol. 5, n°5, 2020, p. 202-211, <https://doi.org/10.11588/dah.2020.5.75504>

Merritt Roe Smith, "Technological Determinism in American Culture", in *Does Technology Drive History? The Dilemma of Technological determinism*, Merritt Roe Smith and Leo Marx (eds.), Massachusetts, MIT Press, 1994, p. 2-34.

Neal Stephenson, (<https://doi.org/10.11588/dah.2018.3.32473>) *Snow Crash* (1992), Chengdu, Sichuan Science and Technology Press, 2018.

Giuliano Toraldo Di Francia, "What is a Physical Object?", *Scientia*, n° 113, 1978, p. 57-65.

Zeyin Yang, "Application and development of digital enhancement of traditional sculpture art", *Scientific Programming for Fuzzy System Modeling of Complex Industry Data*, vol. 2022, Article ID 9095577, 2022, p. 1-8, <https://doi.org/10.1155/2022/9095577>

Shih Ying-Ting, "Technology and human: From seeing all discussions about things equal toward seeing all things equal", *Journal of Cyber Culture and Information Society*, n° 5, 2003, p. 226-233, <https://doi.org/10.29843/JCCIS.200307.0008>

NOTES

1 Giuliano Toraldo Di Francia, "What is a Physical Object?", *Scientia* (Milan), vol. 72, n° 13, 1978, p. 57.

2 About the exhibition: <https://m-news.artron.net/news/20220709/n1974353.html?platform=toutiao&os=ios>

3 About Fei Jun: <https://www.chinesenewart.com/chinese-artists17/feijun.htm>

4 About Peter Nelson: <https://www.peteracnelson.com/>

5 About Daniel Shanken: <https://www.dshanken.com/>

6 About Xu Yibo: <https://baike.baidu.com/item/%E8%AE%B8%E6%AF%85%E5%8D%9A/8030470>

7 In "Landscape and Its Double: The Technological Sublime", Angela Harutyunyan argues that the historical condition of representation in our present while invoking the modern experience of the sublime. Zeyin Yang In the wake of the failure of a transformative praxis to bring about a new social order, the technologically hyper-mediated engagement of man with nature under the conditions of extreme alienation and reification results in the

production of the aesthetics of destruction experienced as “supreme pleasure,” Angela Harutyunyan, “Landscape and Its Double: The Technological Sublime,” *ARTMargins*, vol. 10, n° 1, 2021, p. 66. doi: https://doi.org/10.1162/artm_a_00286

8 Merritt Roe Smith, “Technological Determinism in American Culture”, in *Does Technology Drive History? The Dilemma of Technological determinism*, Merritt Roe Smith and Leo Marx (eds.), Massachusetts: MIT, 1994, p. 3-8.

9 Neal Stephenson, *Snow Crash* (1992), Chengdu, Sichuan Science and Technology Press, 2018.

10 Zaheer Allam, Ayyoob Sharifi, S. E Simon Elias Bibri, David S. Jones, John Krogstie, “The Metaverse as a Virtual Form of Smart Cities: Opportunities and Challenges for Environmental, Economic, and Social Sustainability in Urban Futures”, *Smart Cities*, n°5, 2022, <https://doi.org/10.3390/smartcities5030040>

11 Sarah Maza, *Thinking About History*, Chicago, University of Chicago Press, 2017. The author has consulted the Chinese version : 莎拉·瑪札 (Sarah Maza)(2018), *想想歷史(Thinking About History)*, 時報文化出版企業股份有限公司 (China Times Publishing Company), Taipei, p. 303-307.

12 In *Originality*, Gideon Parchomovsky and Alex Stein stated that Originality is defined as an independent creation by the author and creativity, but treat them as continuums rather than thresholds, and then vary the rules of copyright protection and liability in accordance with the degree of creativity of works. Gideon Parchomovsky, Alex Stein, “Originality”, *Virginia Law Review*, vol. 95, n° 6, 2009, p. 1507.

13 Karen Bakker and Gavin Bridge, “Material worlds? Resource geographies and the ‘matter of nature’”, *Progress in Human Geography*, vol. 30, n° 1, 2006, p. 5.

14 Cutler j. Cleveland and Matthias Ruth, “Indicators of Dematerialization and the Materials Intensity of Use”, *Journal of Industrial*, 1998, p. 16.

15 Zeyin Yang, “Application and development of digital enhancement of traditional sculpture art”, *Scientific Programming for Fuzzy System Modeling of Complex Industry Data*, vol. 2022, Article ID 9095577, 2022, p. 2. <https://doi.org/10.1155/2022/9095577>

16 Paul Christiane, “Digital art now: Histories of (im)materialities”, *International Journal of Digital Art*, vol. 5, n°5, 2020, p. 204. <https://doi.org/10.11588/dah.2020.5.75504>

- 17 Generative adversarial networks (GAN) are characterized by its ability to train computers to generate new data based on the existing sample data. By identifying and memorizing the sample data in the training set, the generative adversarial network analyzes and grasps the distribution of the data and judges and adjusts different inputs. This neural network model brings new creative space and possibilities to many artists and designers. Nan Meng, Jia Yang, Haibo Wang, "Icon Art Design with Generative Adversarial Network under Deep Learning", *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 3499570, 2022, p. 2, <https://doi.org/10.1155/2022/3499570>
- 18 Andrew Burrell, "Between the physical and the virtual: The present tense of virtual space", *Virtual Creativity*, vol. 11, n° 1, 2021, p. 106.
- 19 Hsu Fuquan, *The Essence of Chinese Art*, Tunghai University, 1966, p. 88.
- 20 Shih Ying-Ting, "Technology and human: From seeing all discussions about things equal toward seeing all things equal", *Journal of Cyber Culture and Information Society*, 5, p. 226. <https://doi.org/10.29843/JCCIS.200307.0008>
- 21 Hsu Fuquan, *op. cit.*, p. 87.
- 22 Jonah Gabry, Daniel Simpson, Aki Vehtari, Michael Betancourt, Andrew Gelman, "Visualization in Bayesian workflow," *Journal of the Royal Statistical Society, Series A, Statistics in Society*, vol. 182, n° 2, 2019, p. 389 <https://doi.org/10.1111/rssa.12378>
- 23 Penda (died Nov. 15, 655), Anglo-Saxon (<https://www.britannica.com/topic/Anglo-Saxon>) king (<https://www.britannica.com/topic/king-monarch>) of Mercia from c. 632 to 655, who made Mercia (<https://www.britannica.com/place/Mercia>) one of the most powerful kingdoms in England and temporarily delayed (<https://www.britannica.com/dictionary/delayed>) the rise of Northumbria. <https://www.britannica.com/biography/Penda>
- 24 Artist statement on <https://www.peteracnelson.com/visions-of-the-last-forest-king>
- 25 Michael J. Lewis, Gale R. Owen-Crocker, Dan Terkla (eds.), *The Bayeux Tapestry: New Approaches*, Oxford, Oxbow Books, 2011.
- 26 Denise Doyle, "Travel, space and transformation", *Metaverse Creativity*, vol. 6, n° 1-2, p. 26 https://doi.org/10.1386/mvcr.6.1-2.25_1

ABSTRACTS

Français

Cet article contribue à l'étude des stratégies curatoriales en explorant les relations spatiales et temporelles entre les expositions dans l'espace physique et les pratiques artistiques technologiques. Souvent qualifiée de « sublime technologique », la nostalgie et l'anticipation contemporaines ajoutent une nouvelle dimension à la croyance populaire dans le pouvoir de la technologie de façonner l'histoire, faisant de la technologie le médiateur de nos interactions avec la nature. Le sublime technologique émerge de la fusion de l'ingéniosité humaine et de la puissance écrasante du monde numérique avec des expériences permettant de créer une condition historique alternative des représentations dans la société. Il s'agit également d'une sensation semblable à celle de se tenir au bord d'un abîme numérique, où les frontières entre le réel et le virtuel s'estompent dans l'espace. Dans des discussions sur les nouvelles méthodologies dans les pratiques artistiques, des commissaires d'exposition envisagent le potentiel de la technologie de briser les limites supposées de l'humanité et évaluent sa participation possible aux pratiques sociales futures et aux démarcations entre l'espace virtuel et l'espace physique. Cet article cherche à découvrir si un environnement virtuel peut être lu comme une extension de la réalité ou comme la coexistence d'environnements physiques et numériques.

Cette analyse du fonctionnement des méthodologies curatoriales met en lumière la manière dont la société traite collectivement les interventions technologiques dans les espaces de créativité humaine, tout en révélant leurs liens inextricables. L'article soutient que l'approche ne modifie pas la réalité mais incorpore chacun dans sa réalité. Pour ce faire, l'article se penche sur l'exposition « F.N.S.X. @ History of the Future », qui explore la coexistence et la construction d'une communauté entre les êtres humains et la technologie numérique à travers le travail des artistes Fei Jun, Peter Nelson, Daniel Shanken et Xu Yibo. Parmi les nombreuses méthodes d'interprétation historique, l'exposition se perçoit comme une « micro-histoire ». À la lumière du contexte de l'histoire de l'art dans le domaine de l'objet et de l'espace, « History of the Future » tente d'étudier le potentiel que peuvent apporter des artistes à la narration des images, des objets et des espaces créés à l'aide des outils visuels des nouvelles technologies. Chaque œuvre exposée possède ses propres caractéristiques et sa propre situation historique ; les histoires de l'art individuelles pouvant être considérées comme les trajectoires de différentes présentations visuelles. Mêlant corrélation spatiale, hypermatérialité, visualisation et narration, l'exposition dépeint l'influence que la créativité peut exercer sur le développement technologique et reflète les possibilités offertes par la technologie numérique à la recherche en histoire de l'art.

English

This article contributes to the studies of curatorial strategies by exploring the spatial and temporal relations between physical exhibition-making and technological artistic practices. Often referred to as the “technological sublime”, contemporary nostalgia and anticipation add yet another dimension to the popular belief in the power of technology to shape history, making technology the mediator of our interactions with nature. The technological sublime emerges from the fusion of human ingenuity and the overwhelming power of the digital realm with experiences for creating an alternative historical condition of representations in society. It is also a sensation akin to standing on the edge of a digital abyss, where the boundaries between real and virtual blur in space. In discussions of the new methodologies of artistic practices, curators envisage the potential of technology to break through the assumed limitations of humankind and assess its possible participation in future social practices and demarcations between virtual and physical space. The text seeks to discover whether a virtual environment can be read as an extension of reality or as the coexistence of physical and digital environments

This analysis of how curatorial methodologies operate sheds light on how society is collectively processing technological interventions into spaces of human creativity, as well as revealing their inextricable links. It argues that the approach does not alter reality but incorporates each into their realities. To achieve this, the article attends to the exhibition “F.N.S.X. @ History of the Future”, which explores the coexistence of and the community building between human beings and digital technology through the eyes of artists Fei Jun, Peter Nelson, Daniel Shanken, and Xu Yibo. Out of the many methods of historical interpretation, the exhibition perceives itself as a “micro-history”. In the light of the art history context of the object-and-space field, “History of the Future” attempts to study the potential artists can bring to the narration of the images, objects, and spaces created with the visual tools of new technology. Each exhibited work follows its own characteristics and historical situatedness, where individual art histories can be seen as the trajectories of different visual presentations. Enmeshing space correlation, hypermateriality, visualization, and narrative, the exhibition depicts the influence that creativity may exert on technological development, and reflects the possibilities offered by digital technology to art history research.

INDEX

Mots-clés

spatialité, art contemporain, technologie numérique, stratégies curatoriales, matérialités

Keywords

spatiality, contemporary art, digital technology, curatorial strategies, materiality

AUTHOR

Janet Fong

Janet Fong est actuellement professeure adjointe de recherche à l'Académie des arts visuels, SCA, Hong Kong Baptist University (2020-aujourd'hui) et commissaire invitée du Musée d'art de Hong Kong (HKMoA) (2019-2022), commissaire du Musée d'art CAFA (2011-2014) et commissaire d'exposition indépendante (2005-aujourd'hui).