

The Metaverse Dimension of Archival Resource Development: Cultural Spaces for the Public

Authors: Xuan Shu, Guo Langrui, Song Qianqian, Xie Shiyi, Guo Langrui

Date: 2023-04-18T00:00:00+00:00

Abstract

Archival resource development constitutes a critical mission for exerting the cultural functions of archives toward the public, wherein development objects encompass both archival information content resources and the archival undertaking itself as a social resource. Under the metaverse dimension, limitations inherent in current archival resource development endeavors can be effectively resolved, enabling archival institutions to thereby construct cultural spaces oriented toward the public. Drawing upon the novel opportunities afforded by the metaverse in promoting developer productivity and optimizing public cultural experiences, the archival cultural space may be expanded through implementation pathways such as enhancing exhibitions and displays, intensifying science popularization and publicity, and revitalizing cultural and creative products.

Full Text

Metaverse as a Dimension of Archival Resources Development: Cultural Space for the Public

Xuan Shu¹, Guo Langrui², Song Qianqian³, Xie Shiyi²

¹School of Physical Education, Liaoning Normal University, Dalian 116029, China

²School of Social Science, Soochow University, Suzhou 215000, China

³School of Life Science, Liaoning Normal University, Dalian 116081, China

Abstract

Archival resources development is a critical task for archives to fulfill their cultural functions for the public. The objects of development encompass not only archival information content resources but also the archival undertaking itself as

a social resource. From the metaverse dimension, current limitations in archival resources development can be effectively addressed, enabling archival institutions to create cultural spaces oriented toward the public. Based on the new opportunities that the metaverse provides in promoting developer output and optimizing public cultural experiences, the cultural space of archives can be expanded through implementation pathways such as strengthening exhibition displays, deepening popular science propaganda, and activating cultural and creative products.

Keywords: archival resources development; metaverse; archival culture; archives cultural and creative

Classification Number: G279.2

With the development and transformation of archival undertakings, the forms and content of modern archival work have expanded considerably. Public demand for archives is growing daily, and public awareness of archival culture is becoming increasingly prominent. As public cultural institutions, archives have a responsibility to strengthen the development of archival resources and provide rich, high-quality archival cultural services to the public, thereby building an archival culture industry and satisfying public cultural needs. Traditional forms of archival resources development have primarily focused on compilation, targeting relatively specialized groups. However, against the backdrop of Terry Cook's identification of "community" as the fourth paradigm shift in archives [1], the public attributes of archival activities have been increasingly strengthened, and the development of archival resources has turned its attention toward a broader public. Currently, archival institutions across China have conducted extensive public-oriented archival resources development, creating open and diverse cultural experiences for the public through exhibitions, propaganda, and cultural creative products. These achievements have been considerable, laying a practical foundation for further expansion of archival cultural space. The arrival of the "metaverse" has revolutionized traditional methods and models of archival resources development and utilization. As a "second" virtual space opened up within the real world, the metaverse resolves practical issues such as temporal-spatial limitations and resource shortages, compensating for existing limitations in current archival resources development work and creating and continuously expanding cultural spaces oriented toward the public.

1. Current Status and Cultural Effects of Archival Resources Development Practice

The *14th Five-Year National Archival Undertakings Development Plan* states in its section on "Increasing the Intensity of Archival Resources Development" that we must "continuously produce archival cultural products with broad influence through exhibition displays, new media dissemination, compilation and publication, film and television production, public lectures, and other means..."

strengthen the development of archival cultural and creative products, and explore industrialization pathways” [2]. Based on this policy orientation, archival institutions nationwide have conducted various forms of public-oriented archival resources development practice, enhancing the dissemination power of archival culture. First, archival institutions have established open exhibition halls to hold permanent or special exhibitions, displaying thematically significant archives to the public, such as the large-scale thematic archival literature exhibition “A Century of Prosperity” curated for the opening of the new building of the First Historical Archives of China [3], and the “Maritime Silk Road Memories” silk and overseas Chinese archives documentary heritage exhibition held in Suzhou [4]. Second, archival institutions have conducted popular science propaganda and publicity about archival collection resource information content, relevant regulations and systems, and preservation and utilization methods through display panels, lectures, and other means, such as Weifang City’s distribution of publicity materials for the newly revised Archives Law in public spaces [5], and Anning City’s field Q&A sessions on archival practice at the grassroots level [6]. Additionally, archival institutions have issued numerous compilation achievements or cultural creative peripheral products based on the development of their collections, such as Guangdong Province’s compilation of *Archives Compilation of the Anti-Japanese War* [7], and the “Seventh Archives Room” puzzle book and real-life puzzle project from the China Silk Archives [8].

Beneath these rich cultural achievements, public-oriented archival resources development has accumulated substantial practical experience, and its industrial development has begun to take shape. However, there remains a certain distance from forming a well-developed and complete cultural industry, and the cultural space awaits further expansion. First, the overall forms of development remain relatively traditional and conservative, resulting in relatively limited public acceptance, with the influence and reach of archival resources needing improvement. Additionally, due to the institutional attributes and systemic constraints of public archives, many cultural products cannot truly circulate in the market, creating certain limitations for the cultural dissemination of archival resources. Finally, archival resources development has mostly focused on the information content resources within archives, neglecting the fact that the archival undertaking itself is a social resource oriented toward the public. The key cultural significance of public-oriented archival resources development has two aspects: first, improving archival utilization rates, giving archives more opportunities to approach and reach the public, and fully realizing the potential cultural value of collection archives; second, using archival culture dissemination to enhance public “archival knowledge” and “archival awareness,” helping them better understand the content and functions of archival resources and familiarize themselves with the operation of archival institutions and archival work. Insufficient attention to the latter has also led to problems in cultural practice where archival characteristics are not prominent enough and the “archival flavor” is not strong enough, with relatively homogeneous products and industrial development still needing improvement [9].

Essentially, public-oriented archival resources development is an interactive process between archival culture and popular culture that can elevate the status and influence of archives in the public mind, promote archival information dissemination and cultural diversity, and expand archival cultural space. Using archival resources development as a pathway to disseminate archival culture can export the core values of archival culture, help the public rationally understand archives and archival work, and ultimately form cultural identity [10]. Based on the nature and characteristics of the metaverse, archival culture has considerable development potential in aspects such as excavation, output, utilization, and dissemination, because the ideal metaverse, as a virtual world parallel to the real world, will reconstruct social organizational structures and compositions in various fields, while simultaneously providing new “breakthrough” solutions for traditional disciplinary fields. The relationship between the metaverse and archival resources development will fundamentally address constraints such as product homogenization from an innovative perspective and with innovative methods.

2. New Opportunities for Archival Resources Development from the Metaverse Dimension

“Dimension” means perspective or dimensionality [11], differing from mere development “direction” or operational “environment,” representing a structural breakthrough. The metaverse brings new opportunities for archival resources development. From the metaverse perspective, archival resources development work will welcome technological innovation and methodological transformation, breaking through limitations in traditional work forms and achieving transcendent development of cultural functions. Metaverse development can break the boundaries between reality and virtuality, endowing archival cultural space with new dimensions and bringing entirely new possibilities. Within the metaverse dimension, developers can produce richer and higher-quality achievements, and the public can also obtain better cultural experiences.

2.1 The Metaverse Promotes Developer Output

The virtual environment provided by the metaverse makes archival resources development more convenient, reducing the human, material, and financial costs of archival resources development and improving efficiency, thereby facilitating the output of more cultural practice achievements. Based on the “trans-temporal” characteristics of metaverse virtual space, archival resources are no longer limited by the difficulties of organizing and searching physical archives or the vulnerability to tampering of electronic archives. Instead, they combine the materiality of physical archives with the informatization advantages of electronic archives, breaking through temporal-spatial limitations of natural conditions. This cultural practice of archival resources development can better escape some material constraints in the real world [12]. Whether “sourcing” archival resources or selecting presentation forms for achievements, the virtual

environment constructed by the metaverse offers more possibilities. Archival resources can be uploaded to virtual platforms constructed in the metaverse, where resources can be organized and preserved, utilizing the immutability of the metaverse to ensure the accuracy of archival resources, and integrating technical and personnel advantages across different archives to achieve deep excavation of archival resources. This represents an opportunity for “supply-side” reform in the cultural industry. Virtual space helps produce richer content and more advanced forms at lower costs in the cultural practice of archival resources development, which can in turn have profound impacts on reality.

Maximizing the utilization of archival resources is a key concern in both academic and professional circles, and the problems of low utilization rates and insufficient excavation depth are also major limitations in current archival resources development work. Many cultural institutions such as archives and libraries in various countries and regions have gradually promoted cross-database retrieval, cooperative collections, or collective collections [13], and the official launch of the National Archives Inquiry and Utilization Service Platform in 2022 marks a major breakthrough in integrated resource utilization in China’s archival community [14]. Current inter-agency collaboration primarily focuses on the retrieval and utilization of archival ontology information, emphasizing the realization of archives’ primary value, and the work experience gained in this area can be migrated and applied to the field of archival resources development, thereby cooperatively realizing the cultural effects of archives. The metaverse provides new opportunities for the collaborative excavation of archival resources. Based on the virtual space constructed by the metaverse, limitations of physical space can be broken, enabling “zero-distance” interaction and communication among experts from different regional archives, accelerating the integration and content excavation process of different archives, and removing spatial barriers for experts from different archives. The archival community can achieve cross-regional and cross-departmental collaboration in the resource development process between different archives under the premise of recognizing archival resource sharing, jointly fulfilling the function of excavating cultural potential across different archival repositories.

The ideal metaverse creates a virtual world parallel to the real world [15]. Due to the trans-temporal nature of the virtual world, the passage of time in virtual space carriers is the same as in the real world, but because it exists in a virtual world, characteristics unchangeable in the real world such as geography, physical properties, and distance are weakened. For example, different archives conducting joint exhibition activities do not need to cross the spatial properties of real time; they only need to transfer exhibited archives to the virtual space constructed by the metaverse. The trans-temporality of the metaverse, in a sense, expands the public’s traditional concept of time, increases work efficiency, and reduces many uncertain factors in work. Archival resources possess both rigor and practicality, making cross-repository exchange of archives under the metaverse field one of the best future processing methods. On the one hand, it increases the audience group, no longer limited by quantity or type,

and can provide richer cultural achievements; on the other hand, it ensures the security of archives during cross-repository cooperation, no longer affected by physical space factors, better conforming to the dissemination nature of archives as information resources. Alternatively, the metaverse space can serve as a new “artifact” in archival cultural elements [16], existing in three-dimensional digital archival form during transportation. When the core technology of the metaverse achieves leapfrog development, human vision’s definition of virtual and real will no longer be clear, naturally making exchanges between different collections in digital form more consistent with the characteristics required for archival exhibitions or archival exchanges. The metaverse provides the archival community with methods more aligned with archival requirements for interactive communication, more prominently highlighting the trans-temporal attributes of the metaverse.

2.2 The Metaverse Optimizes Public Cultural Experience

Metaverse technology empowerment can significantly increase the breadth and depth of public participation in cultural practice, thereby bringing better archival cultural experiences and advancing archival resources development at the audience level.

Cultural products and services produced by developing archival resources for the public in the metaverse field are three-dimensional and flexibly diverse in form, with greater probability of stimulating public acceptance willingness, while the public has more choice space to find types they personally enjoy. Therefore, a broader range of the public as potential users has more opportunities to experience archival cultural achievements in the metaverse field, providing quantitative conditions for the industrialization of archival resources development. In the process of obtaining information, the public tends first to obtain information at lower cost, and second to obtain information more immersively, pursuing experiential feeling [17]. Both of these can be achieved in the cultural practice of participating in archival resources development in the metaverse field. The maturation, implementation, and integrated application of a new generation of metaverse technology clusters—including network and algorithm technology, artificial intelligence technology, blockchain technology, AR, VR technology, and others—will construct cultural products with lower cost but higher immersion, meeting public needs and maximizing the expansion of public cultural practice space. The public can immersively enter archives, experiencing the stories they convey, the emotions they express, the scenes they present, and the memories they record. In this cultural interaction process, they become more focused, and the cultural connotations they perceive become more vivid and three-dimensional, thus achieving deeper acceptance of archival culture. Archival departments can thereby improve the development and utilization of archival resources [18].

The public can experience archival cultural practice online through the metaverse without temporal-spatial limitations. During the experience process, the

public's various sensory organs can be maximally activated by metaverse technology, with vision, hearing, smell, touch, and others remaining highly active during this process, thereby generating strong immersion and fully indulging in the images displayed by the exhibition [19], bringing qualitative change to public cultural experience. Immersion consists of two parts: consciousness immersion at the cognitive level and perception immersion at the sensory level. Consciousness immersion refers to immersion in terms of brain cognition, which can enhance audiences' sense of identification with and empathy for archival culture, allowing them to more profoundly understand archival themes. Perception immersion involves changes in the audience's perspective, smells, and feelings through the concrete manifestation supported by metaverse technology. Such perception immersion can transform the public's "consciousness imagination" into "perceptual accessibility," thereby obtaining richer cultural experiences and generating new understanding and insights [20]. When immersion effects are good, audiences enter an optimal experience state of complete engagement and immersion in an activity or scene, known as flow state [21]. For example, the immersive technology and art special exhibition of "Along the River During the Qingming Festival" represents an excellent attempt at existing cultural forms supported by technologies including artificial intelligence, virtual reality, motion capture, and immersive multi-sensory interaction technologies contained in the metaverse, creating an immersive cultural experience for audiences [22] that allows them to enter flow state and deeply immerse themselves in diverse arts. In summary, immersive experiences better help the public experience archival culture at lower cost and increase participation, providing opportunities for expanding archival cultural space at the audience level.

3. Expanding Archival Cultural Space from the Metaverse Dimension

Under the metaverse dimension, archival cultural forms will welcome major transformation. Taking metaverse characteristics and applications as the development focus to implement specific pathways such as strengthening exhibition displays, deepening popular science propaganda, and activating cultural and creative products can expand archival cultural space through metaverse "empowerment."

3.1 Strengthening Exhibition Displays to Activate Cultural Perception

Archival exhibitions possess important cultural dissemination performance. Archives should not only guarantee their original information use functions but also need to provide certain cultural dissemination services as social development requires, making archival exhibitions an important development issue [23]. As metaverse and related issues have attracted academic attention and achieved qualitative leaps in multiple fields, the metaverse will also technologically empower archival exhibition development to better achieve

information dissemination and cultural exchange [24]. Existing archival exhibitions primarily conduct cultural dissemination by displaying original archives or replicas in museum-like exhibition forms, which in the new era can be enhanced with metaverse technology to strengthen archival exhibition display effects.

First, utilizing the big data background of the metaverse to provide visitors with personalized exhibition viewing needs and achieve diverse archival cultural dissemination has important practical significance [25]. In the virtual world built by the metaverse, visitors can set exhibition themes according to their own archival cultural exhibition preferences, requiring only that exhibition organizers classify archives and input them into databases. All archives are naturally categorized in databases, and visitors can achieve specific-themed exhibition viewing services after selecting themes, satisfying personalized exhibition viewing needs.

Second, applying the metaverse's trans-temporal nature to realize remote exhibition viewing services in different locations [26] reduces the cost of viewing archival exhibitions. From today's perspective, the popularity of archival exhibitions remains relatively low, partly because the public has stereotypical impressions of archival exhibitions as relatively closed and confidential, and partly because most people do not proactively prioritize visiting archival exhibitions in their leisure time scheduling. Therefore, virtual space-based archival exhibitions in different locations become the most effective solution. Compared with real visits, visitors in metaverse scenarios can participate in exhibitions at lower cost and with greater convenience, better serving visitors' learning needs regarding archival resources.

Finally, satisfying visitors' curiosity needs for direct contact with exhibited archives. Existing archival exhibitions do not allow touching: on the one hand, to protect the cleanliness and integrity of original archives or replicas and avoid shortening their lifespan; on the other hand, to prevent archives from being stolen or damaged. In the virtual world built by the metaverse, archival cultural products exist in digital coding form [27], which can still guarantee archival security needs while satisfying the requirement for direct contact between visitors and exhibited archives. Archival exhibitions are one of the effective channels for maximizing archival resource utilization and have received support and calls from many relevant scholars in recent years [18]. With the gradual construction and promotion of the ideal metaverse, the premise conditions for ensuring archival exhibition development can effectively expand the audience for archival exhibitions and reduce exhibition viewing costs, thereby stimulating the learning interest of curious observers about archival culture.

3.2 Deepening Popular Science Propaganda to Achieve Cultural Education

The metaverse can enrich the content and forms of archival propaganda, thereby deepening archival popular science propaganda and making archival culture more deeply rooted in people's hearts. Although China's archival popular science propaganda has achieved certain accomplishments, certain limitations still exist at the current stage. In this regard, metaverse-ization of archival popular science propaganda can effectively achieve breakthroughs. Traditional popular science propaganda forms have relatively limited reach, and from the perspective of public acceptance, the effects are not ideal. Although new media propaganda and popular science have certain progressive qualities, there remains considerable room for improvement. In an ideal "metaverse" environment, archival culture obtains diverse presentation methods through digital technology. Archival departments can use the metaverse to more vividly inform the public about the content of archival resources, the work forms of archival departments, and how the public can participate and utilize them. Integrating the utilization of archival resources into the daily lives of the public with the metaverse as the technical support point, archival departments can, according to propaganda and popular science themes and using metaverse technology, form precise popular science for the public from different regions, with different interest orientations, and with different educational levels. Popular science content can be personalized and precisely customized according to public profiles. In this way, using virtual space as a carrier to achieve strong-interaction, immersive, and thousand-people-thousand-faces popular science output can make relatively dry content in archival culture, such as laws and regulations, achieve highly precise popular science. Simultaneously, metaverse data description and extraction modeling can be implemented to constitute a digital twin scene, using scene fusion to allow the public to choose or establish their own virtual avatars and immersively simulate archival utilization processes, deposit processes, and explain utilization values in virtual space. Such more humanistic popular science can help the public better enter archival culture, making archives truly become deservedly popular cultural resource treasure troves for the masses.

The metaverse provides new directions for the construction of new infrastructure for archival popular science propaganda and new fields for the archival culture learning process. Relative to the limitations of converged media and traditional media, the metaverse offers more choices for popular science propaganda methods. Through technologies such as virtual projection, tools, models, or some 3D video virtual constructions beneficial for conducting popular science propaganda can be added on the basis of the real world. Archival departments can use visualization technology in the metaverse to integrate archival information, acting together with data analysis, organization, and excavation on content production and knowledge aggregation, thereby providing multi-dimensional, multi-faceted, and personalized knowledge services that broaden depth and expand extension for popular science propaganda. Additionally, VR technology

forms a composite space deduction by overlapping virtual and reality through computer-generated 3D dynamics and user action tracking systems [28]. Because the physical attributes of matter itself can be ignored, the labor input for archival culture dissemination, utilization, and reconstruction and reproduction is reduced, while monetary and energy costs can be lowered, ultimately achieving a “win-win” situation—for archival culture propaganda personnel themselves, the presentation of popular science propaganda is enhanced. Utilizing multiple senses for knowledge learning and understanding helps form networks in brain memory. For the public, after situational teaching applying metaverse-related technologies, immersive interaction can be achieved, thereby better absorbing archival culture theoretical knowledge. Simultaneously, the public can achieve space shuttles through external devices from different cities to ultimately appear simultaneously in the same place to conduct learning, which has important implications for the convenient dissemination of archival culture.

Archival popular science propaganda work is about to face entirely new transformations under the metaverse torrent, therefore requiring strengthened integration of theoretical practice with cutting-edge technology, seizing opportunities for technological transformation, and achieving synchronization between archival undertakings and era development. Based on the current feasibility of visualizing archival resources, the embryonic form of combining the metaverse with archival popular science propaganda can be glimpsed. Therefore, new-era archival popular science propaganda work can use the metaverse as this virtual world to provide users with story-based experiences in contextualized spaces, achieving value excavation of archives and thereby promoting archival culture to shine with splendor in China’s social civilization process.

3.3 Activating Cultural and Creative Products to Enhance Cultural Experience

In the process of fully developing archival resources and achieving mass cultural dissemination, archival cultural creativity is a key component, and using the metaverse as a medium or platform to activate archival cultural creativity will effectively broaden archival cultural space. In recent years, as the public exposure rate of archives has increased, archival-related cultural and creative products have gradually gained official and public attention. Cultural and creative products derived from collection development are primarily consumer products using material products as carriers and bearing the function of disseminating archival culture [29]. However, existing archival creativity in cultural product development suffers from insufficient innovation and effectiveness, with serious homogenization problems compared to cultural and creative products in other fields. Based on the background of integrated development of cultural and creative products and the metaverse, new development and new dissemination of archival cultural creativity can be achieved to satisfy public desire for and experience of archival culture, achieving cultural identity in the public mind.

Rapid progress can be achieved in archival cultural and creative product devel-

opment and dissemination pathways with the metaverse as the core [30]. First, developing NFT archival cultural and creative digital collections in the metaverse field [31], whose essence is using the immutability concept of blockchain technology to develop cultural and creative products using cultural elements from collection archives as the core. This thereby reduces the cost of cultural and creative digital collections, lowers the threshold for archival cultural and creative product resource development, and achieves more comprehensive cultural inheritance through cultural creativity. Second, in the metaverse field, no longer constrained by physical limitations such as carriers and space, cultural and creative products are no longer confined to the design and production approach of reduced replica copying. Instead, physical archives or large-scale objects such as archival buildings recorded as information resources can be directly replicated at equal scale in the metaverse field as artworks to perform functions such as scene decoration and cultural education, breaking spatial limitations on cultural and creative products and increasing the diversification of archival cultural and creative products. Third, it facilitates more flexible and variable cultural and creative products. Based on various characteristics of the metaverse, cultural and creative developers can choose more sci-fi methods or measures in the metaverse world to achieve creative development of cultural and creative products.

4. Conclusion

Combining the advantages of traditional archival resources and advanced metaverse technology, archival resources development has welcomed major innovation from the metaverse dimension. The opportunities provided by the metaverse in promoting developer output and optimizing public cultural experiences offer new solutions for the diversified development of archival resources development. The ideal world under the metaverse is about to become possible and will also become one of the opportunities for archival resources development and utilization and archival culture dissemination and inheritance. Therefore, firmly grasping the significance of the metaverse for archival resources development will also become an important issue for the archival community.

References

- [1] COOK T. Evidence, memory, identity, and community: four shifting archival paradigms[J]. *Archival Science*, 2013,13(2/3):95-120.
- [2] General Office of the Communist Party of China Central Committee, General Office of the State Council. 14th Five-Year National Archival Undertakings Development Plan [A/OL]. (2021-06-09) [2023-02-08]. <https://www.saac.gov.cn/daj/yaow/202106/899650c1b1ec4c0e9ad3c2ca7310eca4.shtml>.
- [3] “A Century of Prosperity—Large-scale Thematic Archival Literature Exhibition” Opens for Individual Reservations for the First Time [N]. *China Reading Weekly*, 2022-07-13(1).
- [4] Ma Cuiying. “Maritime Silk Road Memories—Silk and Overseas Chi-

nese Archives Documentary Heritage Exhibition” Opens in Suzhou, Jiangsu Province [N]. China Archives News, 2022-12-15(2).

[5] Han Xianji, Zhang Xiejun. Weifang City Conducts Publicity Activities for the Newly Revised Archives Law [J]. Shandong Archives, 2020(6): 71.

[6] Anning City Archives Actively Conducts “Archives Law Publicity Enters Military Camps, Villages, and Communities” Activities [J]. Yunnan Archives, 2020(2): 13.

[7] Guangdong Provincial Archives. Witnessing Anti-Japanese War History, Promoting Anti-Japanese War Spirit: Guangdong Provincial Archives’ Compilation Achievements and Experience of Archives Compilation of the Anti-Japanese War [J]. China Archives, 2022(9): 38-39.

[8] Chen Xin, Yang Yun, Xie Jing, et al. Practical Path for Archives Culture “Breaking the Circle” Dissemination: A Case Study of the “Seventh Archives Room” Project at the China Silk Archives [J]. Archives and Construction, 2022(2): 51-54.

[9] Fang Hua, Chen Shuhua, Tang Lingling, et al. From “Lacking Flavor” to “Having Flavor”: A Preliminary Exploration of the “Archival Flavor” of Archives Cultural and Creative Products [J]. Archives and Construction, 2020(7): 10-14.

[10] Xie Shiyi, Ge Yue. Archives Culture Governance: Cultural Considerations on Archives Governance [J]. Archival Science Bulletin, 2023(1): 39-44.

[11] dimension[M/OL]//Oxford Learner’s Dictionaries. Oxford: Oxford University Press, [2023-02-18]. <https://www.oxfordlearnersdictionaries.com/definition/english/dimension?q=dimension>

[12] Xuan Shu, Xia Weiyang, Yu Yaoxiang. Development Status, Risk Crisis, and Optimization Strategies of the Metaverse Industry from a Blockchain Perspective [J]. Industrial and Information Technology Finance and Economics Science and Technology, 2022(6): 28-37.

[13] Zhang Kang, Li Zhuozhuo, Miao Miao’er. Exploration from Cooperative Collection to Collective Collection: Reflections 80 Years After the Farmington Plan [J]. Library and Information Service, 2021, 65(20): 31-41.

[14] Wang Dazhong. Gradually Achieving “One-Network-For-All” National Archives Information Sharing and Utilization: National Archives Inquiry and Utilization Service Platform Officially Launched [J]. China Archives, 2022(8): 14-15.

[15] Chen Xiaoping. Philosophical Foundation and Ethical Issues of the Metaverse: A Discussion with Professor Zhai Zhenming [J]. Journal of Dialectics of Nature, 2023, 45(2): 9-18.

[16] Xie Shiyi, Guo Langrui. Structural Morphology and Functional Mechanism of Archives Culture: Reflections Based on the Triple Helix Model [J]. Archival Science Research, 2022(4): 38-44.

[17] Kuang Ye. Multi-dimensional Investigation of the Technical Bias in Short Video Text Production from the Perspective of 5G [J]. China Editor, 2021(1): 21-25.

[18] Qian Ting, Liu Qian. Research on Implementation Path and Promotion Dissemination of Immersive Archives Exhibition from the Metaverse Perspective [J]. Zhejiang Archives, 2022(9): 33-35.

- [19] Wu Yugong. Where Does “Immersion” Lie in Immersive Exhibitions? [J]. *Art Observation*, 2019(12): 30-31.
- [20] Zhi Fengwen, Sun Ruoyang, Yun Zhonglun. Metaverse: New Exploration of Archives Exhibition Models and Paths [J]. *Archives and Construction*, 2022(9): 32-36.
- [21] Sun Dadong, Zhao Junhang. Research on Design Strategies for Archives Cultural and Creative Products Based on Flow Theory [J]. *Archives Management*, 2021(6): 42-44.
- [22] Chen Bo, Chao Xuwei. Dimension Design and Evaluation of Cultural Heritage Virtual Scenes: A Case Study of the Dynamic Version of “Along the River During the Qingming Festival” [J]. *Journal of South-Central Minzu University (Humanities and Social Sciences)*, 2022, 42(7): 74-82.
- [23] Wang Yunbin, Ye Xi, Huang Longying, et al. Research on Overseas Promotion of Archives Exhibitions in the New Era [J]. *Archival Science Research*, 2019(3): 89-97.
- [24] Wu Jianzhong. Metaverse Makes Libraries Smarter [J]. *Library Journal*, 2022, 42(1): 4-9.
- [25] Liang Jiechun, Xu Xin. Opening the Map in the Metaverse: Construction of Libraries’ “Third Space” from the Metaverse Perspective [J]. *Library Tribune*, 2023, 43(2): 98-107.
- [26] Hu Lele. Metaverse Empowers Ideological and Political Education Work in Chinese Universities: Technical Characteristics, Internal Mechanism, Risk Challenges [J]. *Journal of Nanchang University (Humanities and Social Sciences)*, 2022, 53(6): 102-113.
- [27] Zhang Maoyuan, Huang Zhixuan. Metaverse: Fusion and Symbiosis of Technology and Society in the Digital Age [J]. *China Youth Study*, 2023(2): 23-30.
- [28] Zhu Tianmei, Jiao Yixuan. Connotation, Characteristics, and Technical System of “Metaverse + Archives” [J]. *Archives*, 2022(10): 56-63.
- [29] Wang Zhen. Development of Archives Cultural and Creative Products [J]. *China Archives*, 2015(1): 70-72.
- [30] Tang Yi, Chen Ziyang. Communication Prospects for Museum Red Cultural and Creative Products Under the Metaverse Vision [J]. *Southeast Culture*, 2022(6): 174-178.
- [31] Tang Wei, Li Yingxing. NFT Empowers Development of Digital Culture Industry [N]. *Chinese Social Sciences Today*, 2023-01-19(7).

Corresponding Author: Guo Langrui, E-mail: lrguo19@163.com

Author Contributions Statement:

Xuan Shu: Topic selection, participated in paper writing and revision;
Guo Langrui: Proposed research ideas, participated in paper writing and revision;
Song Qianqian: Participated in paper writing;
Xie Shiyi: Revision of final paper version.

This paper is one of the research outcomes of the 2020 National Social Science Fund Youth Project “Research on the Essence and Evolution of Archival Cultural Elements” (Approval Number: 20CTQ033).

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.