

Constructing New Identities: Cizhou Kiln Ceramics in the Augmented Reality Era under a Constructivist–Interpretivist Lens

Abstract

This study focuses on the recontextualisation and innovative transmission of Cizhou kiln ceramics through the integration of digital media technologies, such as Augmented Reality (AR). Anchored in a philosophical framework that combines constructivist ontology and interpretivist epistemology, the research systematically explores how ceramic culture, with its dual material and immaterial attributes, is collaboratively reconstructed by diverse actors within the contemporary digital ecosystem. Utilising methodologies including in-depth interviews, participant observation, and textual and case analyses, the study provides a comprehensive examination of the interactions between craftsmen, handcrafted products, and audiences within AR environments. It delves into the cultural status and value transformation of traditional crafts, analysing how technological empowerment and social negotiation contribute to the redefinition of their cultural significance and standing. The "cultural authenticity" of Cizhou kiln ceramics is depicted not as a fixed attribute but as a dynamic construct interwoven with digital interventions, social memory, and personal values, thereby generating multi-layered new cultural identities. While AR offers younger audiences and international communities enhanced levels of immersion and interactive participation, it may also raise concerns about whether technological intervention diminishes the essence of craftsmanship. Through collaborative dialogue among multiple stakeholders and ethical considerations, this

study demonstrates that digitalisation processes can achieve sustainable innovation when they respect the agency of craftsmen and the historical context. Consequently, Cizhou kiln ceramics can be revitalised with contemporary vitality and influence. Philosophically, the essay affirms the importance of social constructionism and multiple interpretations. Practically, it proposes viable strategies for digital heritage management, museum exhibition design, and the value enhancement of craft communities, thereby expanding both the academic boundaries and application prospects of digital heritage research.

Keywords: Cizhou Kiln Ceramics, Augmented Reality, Constructivist Ontology, Interpretivist Epistemology

1 Introduction

1.1 Research Background

With the ongoing progression of globalization and modernisation, the effective protection and transmission of Intangible Cultural Heritage (ICH) within the contemporary digital ecosystem has become a pivotal issue in both academic and practical domains (UNESCO, 2003). Cizhou kiln ceramics, as a uniquely distinctive branch in the history of northern Chinese ceramics, hold a significant position in the annals of Chinese ceramic art due to their strong decorative qualities, rich patterns, and profound regional cultural symbols (Zhang,2000) . The cultural connotations and craftsmanship embodied in Cizhou kiln ceramics represent not only an aesthetic presentation at the material level but also encapsulate unique social memories and historical identity (Harrison-Hall&Jessica,2011).

However, traditional offline exhibition methods—such as static displays and textual descriptions—often fail to enable contemporary audiences, particularly the younger generation, to deeply appreciate the cultural diversity and intangible knowledge systems underlying these ceramic works (Lian&Xie, 2024). In this context, digital media technologies, especially Augmented Reality (AR), have opened new possibilities for the protection and dissemination of cultural heritage (Todorova - Ekmekci and Mirena,2021). AR is capable of overlaying virtual information while preserving the authenticity of the physical world, thereby creating a multi-layered and immersive interactive environment (Kaitane et al,2024). This feature is expected to transcend the informational limitations of traditional two-dimensional displays,

allowing audiences to "immerse themselves" in understanding the evolution of ceramic patterns, craftsmanship processes, cultural symbols, and even historical narratives.

Nevertheless, some scholars express concerns that the digitalisation process may lead to the "dematerialisation" or "formalisation" of cultural heritage presentations, reducing the intangible knowledge originally embedded within the artefacts and their contexts to superficial visual symbols, thereby diminishing their historical authenticity and cultural depth (Cameron et al. ,2007). Furthermore, this issue extends beyond a mere practical exploration of technological applications and exhibition strategies; it also involves a philosophical understanding of interpreting and explicating the "existence," "meaning," and "authenticity" of ceramic art.

1.2 Research Problem

This research will concentrate on digital media technologies, such as Augmented Reality (AR), to digitally reconstruct and contemporarily reinterpret the patterns, forms, and cultural symbols of the ceramic art produced by the Cizhou Kiln. The aim is to engage and inspire a diverse audience, particularly the younger generation, while preserving historical authenticity and craftsmanship. By examining this research subject, the study's questions will not only address the instrumental role of digital media technologies in the dissemination and recreation of cultural heritage but also investigate how digitalisation has subtly influenced our cognitive foundations and value judgments regarding the nature and perception of traditional culture. This analysis will be conducted from a philosophical standpoint, encompassing ontology

and epistemology. Specifically, the research will explore whether digitalisation has altered the public's traditional understanding of the "essence" of ceramic art and how such changes can be interpreted within the frameworks of constructivism and interpretivism.

1.3 Research Aims and Significance

Although digitalisation has been extensively utilised in museology, archaeology, and other cultural heritage research fields, there remains a lack of systematic and in-depth digital studies concerning traditional crafts such as Cizhou kiln ceramics, which are characterised by their strong decorative features and distinctive local craftsmanship. This essay endeavours to integrate Augmented Reality (AR) technology with ceramic art analysis, thereby offering new theoretical and empirical insights to this domain.

Guided by Constructivist Ontology and Interpretivist Epistemology, this research emphasises the co-construction and intersubjective processes through which knowledge is generated between audiences and cultural artefacts. Within this philosophical framework, the study investigates whether digitalisation has forged a new hermeneutic space between audiences and ceramic art, thereby challenging traditional empirical or objectivist interpretations of the "authenticity" and "existence" of cultural heritage.

Furthermore, while focusing on Cizhou kiln ceramics, this research also holds broader significance for the digital translation of similar handicrafts and applied arts. By examining the potential and limitations of AR technology's integration into

traditional crafts, the study seeks to determine whether Augmented Reality can achieve a balance between preservation and innovation. This balance would enable traditional ceramic art to maintain its regional and historical integrity while adopting reinterpetative approaches that cater to contemporary audience demands. Ultimately, the research aspires to provide practical case studies and methodological approaches for relevant museums, cultural institutions, and artistic creators, thereby contributing to the sustainable preservation and dynamic evolution of traditional crafts within the digital age.

1.4 Philosophical foundation

This study is primarily grounded in the philosophical positions of Constructivist Ontology and Interpretivist Epistemology. Constructivist Ontology emphasises that "reality" does not exist as an external, independent entity but is co-constructed through social contexts and individual practices (Lo Presti ,2013). For cultural heritage such as Cizhou kiln ceramics, their "essence" is not confined solely to the material attributes of the pottery but is continually redefined through the intricate interplay of social history, craftsmanship, and audience cognition. Building on this, Interpretivist Epistemology posits that there is no absolute objective separation between the researcher and the subject of study; rather, the production of knowledge and the generation of meaning often depend on the interactions and interpretations among various stakeholders, including researchers, audiences, and craftsmen (Trent, A., Cho, J. and Leavy, P. ,2020) . This philosophical stance implies that, in exploring the integration of digitalisation and ceramic culture, it is essential to consider how the

multiple relationships between humans, objects, media, and the environment contribute to the practice of "reconstructing cultural meaning." In other words, digital displays are not merely simple presentations of "objective facts" but represent active processes of "construction" and "reinterpretation." This perspective necessitates a focus on the dynamic and interactive nature of digital media, ensuring that the reconstruction of cultural heritage through technologies such as Augmented Reality respects and enhances the multifaceted meanings embedded within traditional crafts like Cizhou kiln ceramics.

1.5 Road Map

This essay investigates the re-contextualization and the transmission and innovation of Cizhou ceramics through the integration of augmented reality (AR) and current digital media technologies. First, the essay conducts a literature review to identify existing research gaps and lacunae in the field. Within the philosophical framework of constructivist ontology and interpretivist epistemology, this research systematically examines how ceramic culture is co-constructed by different actors in the contemporary digital ecosystem. Subsequently, within this philosophical framework, an interpretive phenomenological methodology was established using qualitative research methods such as in-depth interviews, participatory observation, text analysis and case studies. These methods were used to explore the interactions and mutual influences between the craftspeople, artefacts and audience in the AR context holistically, in order to provide an in-depth analysis of how traditional crafts are positioned and how their values are being reshaped through technological

empowerment and social negotiation. An assessment of the potential ethical issues and inherent risks associated with this research was then conducted. This includes issues such as the overprotection of cultural authenticity by inheritors or the overtechnologization of creation by innovators, which may lead to the loss of cultural authenticity. Based on these risk issues, this paper proposes various solutions and strategies to mitigate such risks. Finally, this study proposes future directions and prospects for the field, outlining potential avenues for further research and development.

2 Literature review

2.1 The integration of digital technology and intangible cultural heritage

Since the late twentieth century, the role of digitalisation in the preservation of cultural heritage has become increasingly prominent. The academic consensus holds that technologies such as digital scanning, 3D modelling, Virtual Reality (VR), and Augmented Reality (AR) enable more precise documentation and presentation of artworks and craftsmanship processes, thereby overcoming traditional temporal and spatial limitations and facilitating “remote” viewing and cultural dissemination (Wang et al.,2024). On one hand, some scholars adopt an optimistic stance: digitalisation provides traditional crafts with new channels for dissemination and interactive methods, allowing audiences to gain a deeper understanding of craftsmanship processes, cultural contexts, and historical backgrounds through multimedia means (Cameron et al.,2007). Specifically for ceramics, digitally based “virtual reconstructions” or “immersive experiences” enable audiences to more intuitively

observe internal structures, decorative composition principles, and production processes, and even afford opportunities to “personally” engage in the interactive processes of ceramic decoration techniques (Aleihani, 2022).

On the other hand, the drawbacks associated with the digitalisation process have also raised concerns among numerous scholars. Li (2022) points out that an overreliance on digital interaction may cause cultural heritage to become overly focused on the visual aspect, thereby further detaching it from its connections to regional spaces, social lives, and bodily experiences (such as tactile sensations, temperature, and material textures). This detachment can lead to the “distortion” or “simplification” of traditional crafts within digital contexts. Additionally, ensuring that digital resources and experiential platforms maintain cultural authenticity and artistic integrity amidst continual updates and iterations remains a frequently debated practical issue (Bradley, 2005). Once digital content is widely disseminated, ensuring the accurate interpretation of original cultural contexts or regional value systems becomes another critical challenge (Baratin, Gasparetto & Tronconi, 2023). In response, many researchers advocate for a shift in digitalisation practices from a unidirectional “preservation” approach to a bidirectional or multi-stakeholder “co-construction” paradigm, incorporating the proactive agency of heritage communities, craftsmen, and cultural groups at the core (Lukita et al. , 2024).

2.2 Augmented reality (AR) in ceramic culture

Compared to the entirely virtual environments of Virtual Reality (VR), Augmented Reality (AR) places greater emphasis on the overlay and integration of

digital information within the real world. Its prominent advantage lies in enabling users to visualize digital content directly within familiar physical spaces, thereby fostering a higher level of perception and interaction (Dargan et al., 2023). Existing studies have explored the use of AR handheld devices, such as smartphones or tablets, to add interactive “information layers” to cultural artefacts or artworks. These layers include 3D model displays, audio narrations, and animated demonstrations, enhancing the depth of audience engagement during visits (Venigalla, and Chimalakonda, 2019). Additionally, some projects have attempted to install “AR guide markers” within exhibition halls, allowing visitors to simply scan exhibits or QR codes with AR applications to view multimedia content such as craft process animations and interviews with artisans.

In contrast to most studies on Chinese ceramics, AR can provide layered or interactive explanations, enabling users to comprehend the symbolic meanings and design logic behind different motifs (Paredes-Velasco, Velázquez-Iturbide, Gómez-Ríos, 2023). However, systematic AR-based research on Cizhou kiln ceramics remains relatively scarce. Existing attempts have primarily focused on technological demonstrations and preliminary audience feedback, lacking comprehensive analyses from multiple perspectives such as cultural semantics, social memory, and user experience . Moreover, during the digital translation of ceramic culture, ensuring the accuracy of overlaid information and the depth of cultural interpretation presents unavoidable challenges (Huang et al., 2023). Scholars have pointed out that when AR excessively emphasizes the “novelty” of technology while neglecting the intrinsic

cultural context, it can lead to a “commodified” misinterpretation of traditional culture. Consequently, ceramic art may become mere “flashy displays” rather than being genuinely understood (Haydar et al.,2011).

2.3 A philosophical perspective on digital ceramic research

The digital presentation and interaction of ceramics are not "objectively neutral" factual reproductions but rather reinterpretations undertaken by researchers and technology designers based on their subjective understanding of "traditional culture" (Gong et al., 2022) . In past studies of material culture, ceramics were often regarded as objectively existing archaeological or artistic objects, with researchers approaching their study from an empirical or realist perspective, positing that research into ceramics could objectively reveal their origins, craftsmanship, and functions (Albero Santacreu, 2014). "Authenticity" is not limited to the mere objective reproduction of traditional craftsmanship's "factual reality" but also involves how cultural subjects activate their own emotions, memories, and cultural identities within a digital context.

Early research on traditional crafts typically employed objectivist or positivist methods, attempting to objectively "restore" craftsmanship processes or artistic styles through external observation and measurement (Hamid reza Arami parche baf and sajad moazen, 2020). However, the rise of digital media has increasingly drawn academic attention to the importance of audience experience and subjective interpretation. In AR interactions, the dialogue between the audience, craft objects, and digital interfaces often constitutes an individual's "reinterpretation" based on their own cultural background and experiences (Adi Badiozaman, Segar and Hii, 2022).

Compared to studies on blue and white porcelain or Jingdezhen ceramics, academic research on the application of AR to Cizhou kiln ceramics remains in an exploratory phase. Current related studies or projects predominantly focus on the technological demonstration aspect, lacking systematic evaluations of the diverse interpretations and depth of audience experiences. Additionally, there is a deficiency in in-depth discussions from a philosophical standpoint regarding the "essence" and "meaning" of digitalisation and ceramic culture.

3 Ontological position

3.1 Definition of ontology

From an ontological perspective, researchers must clarify their fundamental assumptions regarding the objective world and the subjects of their study: Does the world (or the research objects) possess an "objective existence" independent of human subjective consciousness? Or is "reality" co-constructed and imbued with meaning through human social interactions, cultural backgrounds, and historical contexts? These questions are particularly crucial in the fields of art and cultural heritage. Traditionally, ceramic art has been regarded as relatively objective material relics, with researchers focusing on the objective measurement of their form, craftsmanship, age, and technical identification (Hamid reza Arami parche baf and sajad moazen, 2020). However, as digital media technologies gradually alter the ways in which culture is displayed and experienced, it becomes increasingly necessary to re-examine from an ontological perspective: Is the essence of ceramic art merely the artefact itself, or is it a dynamic cultural entity that is continually "reconstructed" within a digital

ecology and social context?

The "existence" of ceramics is not solely a material presence but is a product of interactions between humans, nature, technology, and culture. For example, the production, decoration, and function of pottery result from dynamic interactions between potters and their social environments. Elezi and Gazmend (2020) argue that pottery is viewed as a dynamic agent of socio-cultural practices, possessing materiality, sociality, and culturality. It is not only subject to human control but also influences social structures through its form, decoration, and function. The socio-cultural dimension of ceramics is seen as dynamic interactions among humans and vessels, relationships between people, and cross-regional connections, providing narratives when ceramics shift from one social practice to another. Technology is perceived as a practice generated through the interaction of tradition, relationships with the material world, and cross-regional contacts.

Cizhou kiln ceramics not only possess material value but also embody non-material attributes such as local cultural symbols, craftsmanship, and social memories. This type of cultural heritage, characterized by both material and non-material attributes, when integrated into digitalisation and Augmented Reality (AR) technology-based recreation and interaction processes, is likely to exhibit more fluid and generative characteristics due to the involvement of multiple stakeholders (such as craftsmen, curators, digital technology developers, and audiences) . Additionally, this perspective, which links technological actions with cultural backgrounds, reflects the constructivist understanding of the "co-construction of

reality" in material culture (Jones, 2010).

3.2 Ontological position: constructivism

Constructivist Ontology posits that the world is not a fixed, unchanging objective entity independent of human cognition; rather, "reality" is continually constructed through interactions among social groups, historical contexts, and individual subjects. From this perspective, the "existence forms" presented by cultural phenomena and artworks are not simply embedded within the material itself, but are the result of an interweaving of social practices, symbol systems, and value concepts (Luneburg, 2014). Unlike Realism, Constructivism does not deny the objective aspects of the material world but instead focuses on how consensus on the "meaning" and "sense of reality" of a cultural object is formed through daily interactions, narratives, and interpretations.

Xiaoli (2024) suggests that ceramic artworks are more akin to the perfect embodiment of the Chinese concept of "harmony between man and nature." During the pottery-making process, particularly in the firing stage, artists must collaborate with the forces of fire, demonstrating the ideal mutual exchange and cooperation between humans and nature. This transcends the purely objective category of aesthetic objects, reflecting the harmonious coexistence and deep interactive relationship between the artist and nature, as well as between the self and art. Zuoqun (2022) further explains that ceramics, as cultural symbols, are not only objective material forms but also expressions of subjective meaning and spirit. The inscriptions and decorations on porcelain not only visually reflect the cultural and temporal

characteristics of their time but also serve as objects of perception, constructing diversified specific meanings of ceramic discourses based on multimodal interaction theory.

Cizhou kiln ceramics, characterised by their strong decorative features, possess an "essence" that does not reside solely in the glaze and clay themselves, nor solely in museum collections or historical documentation. Instead, their essence is continually "activated" through social interaction processes such as craftsmen's techniques, regional cultural contexts, and contemporary audience understanding and re-creation. Constructivism allows researchers to view these "intangible elements" as integral components shaping the meaning and identity of ceramics (Dores Cruz, 2011) When Cizhou kiln ceramics enter digital media environments, such as Augmented Reality (AR), their original "existence forms" are extended into spaces where the virtual and the real coexist, giving rise to new symbolic narratives and user experiences.

Within the constructivist framework, digitalisation is not a passive simulation of "objective ceramics" but a process of actively selecting, interpreting, and even recreating cultural elements. Inheritors, curators, technology developers, and audiences collaboratively construct new "ceramic identities," bestowing new connotations and uses upon them within the digital context. This approach underscores the constructivist understanding of the "co-construction of reality" in material culture, highlighting how technological interventions in cultural heritage can lead to dynamic and generative redefinitions of traditional artefacts.

3.3 Case studies

To concretely illustrate how Constructivist Ontology operates within the study of digital cultural heritage, the following contemporary cases related to the digitalisation of ceramics or intangible cultural heritage are presented. These cases demonstrate the practical embodiment of socially constructed concepts.

Firstly, the digital restoration and interactive display of the Fayum Portraits in Egypt serve as a pertinent example. The Fayum Portraits are tomb artworks that blend Greek-Roman and traditional Egyptian styles. A particular museum developed an AR interactive guided tour system for these portraits, allowing visitors to view both the original appearances and restoration traces through tablet devices, accompanied by multiple versions of artistic interpretations (Thomas and Brunel-Duverger, 2023). The curatorial team invited art historians, restorers, and members of the local cultural community to engage in multifaceted discussions regarding the portraits' representation of ethnic identity and religious significance. Consequently, the AR system presented a "multi-perspective narrative," moving beyond the discourse of "official art history." In this project, the "existence" of the Fayum Portraits encompasses not only their physical remnants but also the restoration processes, interpretative variations, and the emotional responses of contemporary audiences. All these interactive elements collectively construct a multidimensional understanding of the portraits.

Secondly, the digital ceramic workshop and interactive audience creation project in South Korea exemplify the integration of digital media technologies with traditional ceramic practices. In this project, curators presented the traditional celadon

craftsmanship process using digital media technologies. Visitors could experiment with glaze mixing or freely design patterns within a digital environment, immediately viewing virtual finished products. The "existence" of celadon craftsmanship is no longer confined to specific ceramic pieces in museum display cases but is "technologically deconstructed" into a series of interactive processes and symbols, allowing audiences to recombine or creatively modify them. The research team employed qualitative methods, such as interviews, to gather participants' perceptions of "digital ceramics" and their cultural significance. Findings revealed that participants frequently reinterpreted patterns based on personal aesthetics or cultural backgrounds, even generating new innovative motifs. This phenomenon of "coexisting multiple interpretations" aligns with the Constructivist principle of "co-constructed meanings."

In terms of research subjects, Cizhou kiln ceramics are no longer viewed solely as objective material entities but are regarded as "social products" continuously interacting with audiences, craftsmen, curators, and technical personnel within a digital context. This broadened scope encompasses not only physical characteristics such as glazes and patterns but also dimensions like the transmission of craftsmanship techniques, participation of cultural communities, and audience-driven re-creations (Li, Ho and Yang, 2019). Given that Constructivism emphasises "meaning production" and "social negotiation," this study investigates not only "how AR displays Cizhou kiln ceramics" but also "how digital interactions influence and reshape the multifaceted meanings of ceramic culture." This approach directs researchers to

consider the inherent value choices and cultural interpretations embedded in technological design, as well as the individualized interpretations of patterns and historical knowledge by audiences using AR. Methodologically, interpretive phenomenology and other approaches, including interviews, observations, and textual analyses, will be employed to collect data on the digitalised meanings of ceramics from multiple stakeholders. The study will delve into the "existence" of ceramics across different demographic groups, exploring diverse backgrounds and perspectives.

4 Epistemological stance and the influence of values

4.1 Definition of epistemology

Epistemology, being the basis of philosophical studies, explores knowledge's nature, origin, possession, and warrant. The history of epistemology can be traced back to learning traditions practiced in ancient Greek philosophy by Plato as well as Aristotle. By portraying the 'Cave Allegory', Plato, on the one hand, clarifies the connection between perception and knowledge, presenting the higher function of reason to achieve the truth of knowledge. On the other hand, knowing Aristotle's position according to experience in the development of knowledge by way of logic and empirical methods somehow adds to the theory. Over the years, epistemology has developed into various theoretical trends – directions that tackle issues that are more pertinent to distinct disciplines. The fundamental questions of epistemology include: What is knowledge? What is knowledge? Why do we know things? In what way and to what extent is knowledge credible knowledge?

In social and humankind sciences, epistemological relations to the research

subjects stand out among the subject characteristics. The growing speed of digital technology development has dramatically disrupted the conventional approaches to knowledge obtaining, and as a result, the nature of information access and diffusion has changed. The internet and big data technology are also examples of how learning was transformed from a dependence on textbooks and journals to the utilization of online resources and social media platforms. This transition does not only improve quality and speed in accumulating knowledge but also the aspect of authenticity and quality of knowledge is raised as a new question.

In one area of digitization and ICH, epistemological subjects are the most notable. When digital and traditional media find common ground, a backdrop for old crafts is established that is made possible by both the technological tool and the participative contributor in the knowledge production process. Technological advancement in heritage transmission from cultural point of view may be seen in two key dimensions: new channels for the conservation and communication of heritage have been opened by digital both in cultural material and in form forms; on the other side, the tools to be used in the whole process of this digitalization as well as the social habits and cultural preferences that govern its modalities reflect the social and cultural history. For this reason, while producing knowledge about cultural heritage, it is necessary to give proper attention to the dimensions of social and cultural factors to get a balanced and objective image. Moreover, digitalization results in a fact that knowledge constitutes an environment that instantaneously react and transform to new information and discoveries (Denford, 2013). This is especially the case for the

process of digitization of the cultural heritage since the essence of culture itself is the change arising from the time over the past and now.

Research on digitalization and Intangible Cultural Heritage emphasizes the decisive role of technology in the construction and distribution of knowledge, taking into account the unique features of the cultural artifacts and the diversity of cultures. Through this, the cultural expressions throughout the digitization process can be both innovative and respectful. Therefore, not only does epistemology shape what and how knowledge is generated and validated, it is also deeply influential in the development and application of methodologies and strategies (Hintikka and Jaakko, 2007).

4.2 Epistemological position: Interpretivism

Interpretivism holds that social reality is not an objective existence that exists independently of people, but is a process of continuous “interpretation” and “reconstruction” through human interaction, experience, dialogue and emotional connections (MIREANU, 2022) . In contrast to the “independent and objective” external world advocated by positivism or objectivism, interpretivism focuses on how people understand and interpret social phenomena in specific historical and cultural contexts. In terms of cultural heritage research, interpretivism emphasizes the multiplicity of cultural meanings: subjects from different backgrounds and positions may have very different understandings and experiences of the same cultural element (such as a piece of porcelain), and these understandings will also evolve over time with technological and social changes (Elder-Vass, 2012). In *The Story of Art* (1950), the German art historian and critic Walter Benjamin wrote: “In reality, there is no

such thing as art; there are only artists.” This view highlights the important role of the artist in the construction of art knowledge. In traditional art creation, the artist is usually regarded as the creator and provider of content. Today, the role of the artist is gradually changing to that of an exporter of content, where the work interacts and integrates with the audience to create a brand new artistic experience. The form and function of pottery can have both direct and indirect effects at different times and in different groups. For example, the design of certain pottery may guide the user's movements (such as pouring or stirring), thus shaping specific daily habits. In addition, combined with the rich decorative characteristics of ceramics, it can be interpreted as a symbol of identity and ritual use. This in-depth interpretation of the social symbolism of pottery reflects the emphasis of interpretivism on “meaning generation”.

For Cizhou kiln ceramics, their patterns, shapes, colored glazes, and historical narratives all carry rich symbolic and regional cultural connotations . When this cultural heritage enters the field of AR technology, the digital model, interactive interface, and audience experience form a new socio-technical system. Different audiences or researchers may have very different interpretations of the “meaning” of Cizhou kiln ceramics. For example, a local craftsman may focus more on the craftsmanship and craftsmanship, while a young audience member may be more attracted to the AR visual effects and use their personal aesthetics and digital interactions to generate an understanding of the ceramics as “new” or “trendy culture.” In an AR immersive environment, the audience's perception of Cizhou ware is often

closely related to their prior knowledge background, social identity, and emotional experience. Therefore, interpretivism emphasizes the need to capture multiple perspectives and approaches to how people interpret and recreate the worldviews, aesthetics, and values represented in ceramics. Knowledge is a subjective interpretation of specific contexts and practices, rather than an abstraction of universal laws (Elder-Vass, 2012). Interpretivist research attempts to explore in-depth the subjective experiences and interpretive trajectories of the audience during interaction through qualitative research methods such as interviews, observations, and cultural notes.

4.3 The influence of interpretivism on this study (combined with personal values)

In the framework of interpretivism, researchers are no longer usually “objective observers,” but maintain continuous dialogue and interaction with the research subjects (MIREANU, 2022). The researcher's own values often determine the choice of research topics, the way research questions are focused, and the attitude towards the trade-off between “cultural authenticity” and “innovation”. This process inevitably carries the researcher's own values and emotional attitudes. The researcher is deeply interested in the cultural aesthetics and craftsmanship of Cizhou kiln ceramics, and is driven by the belief that “digitalization can empower traditional culture.” The transmission of cultural heritage is not only the responsibility of “museologists or cultural heritage scholars,” but also requires interaction with the public, the community, and the younger generation. The craftsmanship and regional cultural identity embodied in Cizhou kiln deserve to be understood and recognized by more

people, and digitalization provides a new communication radius and diverse presentation methods for this purpose. At the same time, the author has positive expectations for the “immersive and interactive advantages of digital media” and believes that if technology can incorporate the essence of the cultural core, it may enable young audiences and international tourists to feel a sense of freshness and aesthetic resonance towards Cizhou ware ceramics. However, the author is also wary of excessive entertainment or commercialization, which may weaken or distort the cultural roots of ceramics. Therefore, the impact of AR technology on cultural authenticity and in-depth experience will continue to be a focus of this study.

Under interpretative epistemology, the focus of the research method is on subjective experience, contextual narrative and symbolic understanding. Through multiple participatory interviews, on-site observations and immersive notes, cultural symbols and media content analysis in interpretive phenomenology, the author will conduct open coding on the interviewees and observation records to preserve the “field context” to the greatest extent, so as to find intersections or differences in multiple narratives (Watson, 2024). At the same time, the author will also reflect on how, as a researcher with a value orientation of “digital innovation,” which may be biased towards a “technology empowerment” perspective in the analysis and neglect potential cultural risks. When analyzing the interview data and audience experience feedback, the researcher will pay particular attention to how the interviewees explain and understand the correlation between the connotations of traditional culture, the craftsmanship spirit, and modern technology. Interpretive epistemology encourages a

way of thinking that coexists with “self-reflection and dialogue with others,” enabling researchers to consciously incorporate their own value orientations into their analysis and reflect on the potential impact on their conclusions (Elder-Vass, 2012).

5 Discussion

Through qualitative interviews and observations using interpretive phenomenological methodology, it can be seen that craftsmen, curators, AR technology developers and audiences all play the role of co-creators in shaping the “essence” and “identity” of Cizhou ware ceramics during digital interaction. This echoes constructivist ontology, suggesting that the “existence” of Cizhou kiln ceramics is not only an objective object, but also a cultural carrier that is constantly interpreted, negotiated and redefined in social-digital contexts. Adopting interpretivist epistemology (Elder-Vass, 2012) allowed the researcher to capture the differentiated experiences of the audience: some were fascinated by the interactive fun and visual spectacle of AR, while others valued the craftsmanship and cultural connotations more, and even expressed concerns or doubts about “virtualization”. The diverse perspectives brought by the audience confirm that digital technology does not unilaterally convey “objective knowledge”, but rather stimulates a process of reinterpretation from different cultural backgrounds and value orientations .

5.1 Moral and ethical considerations

In the process of digitalization, the voice of artisans and their communities as “cultural subjects” is often the easiest to ignore. When traditional craftsmanship is used excessively as “material” without sufficient authorization or respect for their

knowledge system, it may cause problems of cultural appropriation or infringement of intellectual property rights (BERSON, 2010). In this study, the risk of simply commodifying or emptying the content of the Cizhou kiln was effectively avoided by conducting in-depth communication with the inheritors or craftsmen in advance and jointly finalizing the content and narrative focus of the AR display. In the process of digitalization, the phenomenon of “dematerialization” often occurs, which makes young audiences feel interesting, but makes traditional artists feel that their skills are being weakened (Duffy, 2016). Researchers need to pay continuous attention to this conflict or balance of values in the design plan, audience guidance, and follow-up discussions. Therefore, craftsmen and audience representatives need to be deeply involved in the production of AR content, and they should be given the decision-making power over digital interfaces and display effects. After all, digital platforms cannot replace the real “handmade touch” and “firing experience”. This requires that when the research results are promoted or implemented, the public should be reminded to respect the diversified inheritance methods of traditional culture.

5.2 Limitations and future prospects

Despite the philosophical and methodological exploration in this study, there are also the following limitations. The group of interviewees may be concentrated in certain backgrounds or regions, and their representativeness still needs to be further expanded. The researcher has limited technical knowledge and needs the assistance of a professional team. In the future, the longitudinal tracking of digital ceramic research

can be further deepened, such as the long-term impact assessment of AR projects, the analysis of the transformation of cultural values among young audiences, and experimental attempts in the field of multi-sensory interaction (tactile, olfactory, etc.). More importantly, it is also possible to further subdivide the degree of adaptability between different “intangible cultural heritage projects” and digital technology, so as to form a more systematic framework for the digital practice of cultural heritage.

6 Conclusion

This research takes the cultural inheritance and innovation of Cizhou kiln ceramics in an augmented reality (AR) environment as its core topic, and conducts transdisciplinary discussions around constructivist ontology and interpretivist epistemology, as well as integrating a conscious examination of personal values and ethical dimensions. Through multi-angle literature reviews, case studies and qualitative interviews using interpretive phenomenology and other methodologies, the research reveals how traditional craftsmanship can be re-contextualised in the digital age.

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