

Digital Authenticity and Cultural Subjectivity: Ethical Scrutiny and Practical Paths of Generative AI in the Living Inheritance of Qiaoxiang Intangible Cultural Heritage

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Abstract: In the era of transition from digitalization to intelligence, Generative Artificial Intelligence (AIGC) acts as a technological force with ontological significance, deeply intervening in the field of living inheritance of Qiaoxiang (hometo wns of overseas Chinese) Intangible Cultural Heritage (ICH). While this intervention empowers cultural production and communication, it also triggers profound ethical anxiety: Does the "simulacra" generated by algorithms disintegrate the "authenticity" of ICH? Does the expansion of technological rationality lead to the sinking of the "cultural subjectivity" of inheritors? Based on the cultural ecology of Jiangmen Qiaoxiang, this paper integrates theoretical perspectives from philosophy of technology, media ecology, and cultural sociology to examine the ethical dilemmas of AIGC intervention in ICH inheritance. The study points out that Generative AI has induced a cognitive shift from "historical authenticity" to "digital authenticity," as well as a transfer of power from "endogenous subjects" to "algorithmic agents." Facing ethical risks such as "hallucinatory narratives," "algorithmic bias," and "bodily absence," we must transcend mere techno-optimism and construct an ethical regulation and practical path based on "human-machine collaboration." By establishing the status of inheritors as value legislators, constructing a dual-drive mechanism of "Knowledge Graph + Large Model" in vertical fields, and reshaping the inheritance field of the dialectical unity of "embodiment and disembodiment," we can achieve reconciliation between technological logic and cultural logic, ensuring the living continuation and subjective reshaping of Qiaoxiang ICH in the digital age.

Keywords: Generative AI, Digital Authenticity, Cultural Subjectivity, Qiaoxiang ICH, Ethical Scrutiny, Living Inheritance.

1. Introduction: The Technological Leviathan and the Digital Encounter of Qiaoxiang Memory

1.1. Origin of the Problem: Cultural Anxiety in the Age of Intelligence

Intangible Cultural Heritage (ICH) is not only the precipitation of history but also the DNA of the national spirit and the cornerstone of cultural identity. Amidst the fluidity of modernity and the waves of globalization, the protection and inheritance of ICH constantly face the eternal tension between "change and immutability." Jiangmen Qiaoxiang, as a living fossil of modern Chinese migration history, possesses a unique ICH system—ranging from the architectural techniques of Kaiping Diaolou (watchtowers) that blend Chinese and Western styles to the transnational writing norms of Qiaopi (Silver Letters), and from the elegant melodies of Taishan Guangdong Music to the processing wisdom of Xinhui dried tangerine peel. This system carries the shared diasporic memory and emotional belonging of Chinese people at home and abroad. However, under the multiple pressures of accelerated urbanization, the aging of inheritor populations, and the cultural disconnect of new generations overseas, this cultural ecology is facing an unprecedented crisis of survival.

With the explosive growth of Generative Artificial Intelligence (AIGC) technologies represented by ChatGPT, Midjourney, and Sora, the way digital technology intervenes

in culture has undergone a qualitative leap: shifting from "information distribution" in the Web 2.0 era to "content generation" in the intelligent era. AIGC is no longer merely a tool for assisting recording or display, but has evolved into an agent with certain characteristics of a "creative subject." It can "fabricate" Diaolou murals that never existed based on probabilistic calculations from massive data, "generate" brand-new Saltwater Songs by mimicking the singing voices of deceased old artists, and even compose fictional stories of overseas Chinese struggles. This exponential leap in technological capability is described by some scholars as the arrival of a "Technological Leviathan"—it reconstructs our imagination of the past, present, and future with overwhelming efficiency and computing power.

1.2. Research Horizon: From Instrumental Rationality to Ethical Scrutiny

When the "perfect ICH" generated by algorithms surpasses the fragmented "original ICH" in sensory experience, how do we define "reality"? When the power of interpretation and creation of ICH gradually shifts from specific human subjects (inheritors) to algorithmic agents in black boxes, who is the subject of cultural inheritance? These questions place Qiaoxiang ICH at an unprecedented ethical crossroads.

Previous research on the digital protection of ICH has mostly focused on the level of technological application, such as digital collection standards, virtual display technologies, or database construction, often carrying a strong color of "techno-optimism," viewing technology as the master key to

solving inheritance problems. However, the intervention of Generative AI touches the ontological core of ICH. If traditional digital protection is a "mirror replication" of ICH, aiming to preserve the authenticity of its physical form, then Generative AI is a "recombination and recreation" of ICH, the product of which is a digital simulacrum based on algorithmic logic.

This paper attempts to transcend the shallow perspective of technological instrumentalism and delve into the texture of philosophy of technology and cultural ethics. Taking Jiangmen Qiaoxiang ICH as a specific field of investigation, it dialectically analyzes the "crisis of authenticity" and "subjectivity anxiety" triggered by the intervention of Generative AI. The article will first clarify the connotation evolution of "digital authenticity" in the context of AIGC, then analyze the mechanism of algorithmic hegemony eroding cultural subjectivity, and finally attempt to explore a "human-machine collaborative" practical path that can both activate the vitality of ICH and defend cultural dignity based on theoretical scrutiny.

2. Simulacra and Reconstruction: The Debate on "Digital Authenticity" in the Context of Generative AI

"Authenticity" is a core category of cultural heritage protection, traditionally referring to the original association of heritage with its original context, historical facts, and material carriers. However, the intervention of Generative AI has caused the connotation of "authenticity" to drift and be reconstructed at the ontological level in digital space.

2.1. From "Mechanical Reproduction" to "Probabilistic Generation": The Withering and Recreation of the Aura

Walter Benjamin proposed the famous concept of "Aura" in *The Work of Art in the Age of Mechanical Reproduction*, arguing that the original possesses a unique "here and now," bearing witness to history, while mechanical reproductions lead to the withering of the Aura [1]. In the ICH digitization 1.0 era (such as 3D scanning, high-definition video recording), the ideal of technology was to infinitely approximate the physical details of the original. This was a pursuit of "archival" authenticity, attempting to establish a perfect "mirror image" in the digital world.

However, Generative AI follows a completely different logic. It is not "replication," but "generation." Large models based on the Transformer architecture perform creative recombination by learning the latent probability distribution of massive ICH data. For example, when repairing a damaged Qiaopi (Silver Letter), AI is not looking for the "original" in history, but calculating the "optimal solution" that best fits the contextual logic among millions of possibilities. This generated object, in the sense of Jean Baudrillard, is a "hyper-real" simulacrum—it is more real than reality, and even conceals the absence of reality [2].

In the context of Qiaoxiang ICH, this "probabilistic generation" brings a new paradox: AI-generated Diaolou decorative patterns may be more exquisite and conform more to aesthetic norms than existing physical objects, but they lack the traces of historical weathering, the contingency of craftsmanship, and emotional temperature. This "Digital Authenticity" is a "perfect reality" based on data rationality, stripped of the dimension of historical time. It challenges

"original authenticity" based on historical accumulation. For overseas Chinese far away, the "hometown" they see through AI may be a "utopia" beautified by algorithms that never truly existed. Although this "false reality" is visually attractive, it may actually dilute the depth of nostalgia, reducing heavy historical memory to a visual spectacle.

2.2. Historical "Hallucination": The Crisis of Authenticity at the Epistemological Level

An inherent defect of Generative AI is "Machine Hallucination," where the model generates content that contradicts facts with a serious tone. In ICH inheritance, this constitutes a severe challenge to historical epistemology.

Qiaoxiang ICH contains a large amount of unstructured knowledge such as oral history, genealogy, and folk legends. This knowledge is often scattered, vague, and strongly subjective. When AI intervenes in the organization and dissemination of this content, it may "rewrite" Qiaoxiang history based on Western-centric biases or stereotypes of mass culture in its training data. For example, AI might misinterpret the defensive function of Kaiping Diaolou as mere aesthetic imitation, or implant modern individualistic values inconsistent with historical facts when generating stories of Chinese laborers, ignoring the social background of clan mutual assistance at that time.

Once this "knowledge" distorted by algorithms floods the internet with its powerful generation capabilities and dissemination efficiency, it is extremely easy to form a "bad money drives out good" effect. The public, especially the younger generation of ethnic Chinese lacking direct rural experience, may mistake the "stories" generated by algorithms for conclusive "history." At this time, the "authenticity" of ICH is no longer just about the authenticity of material forms, but also about the accuracy of historical memory and the ownership of cultural interpretation rights. If the "truth" of ICH can be tampered with and reconstructed by algorithms at will, then the legitimacy of ICH as a "carrier of collective memory" will vanish, and its function as a spiritual bond connecting compatriots at home and abroad will be greatly discounted.

2.3. Contextual Stripping: Experience Alienation from "Presence" to "Disembodiment"

The authenticity of ICH lies not only in its content but also in the "context" in which it survives. Heidegger believed that the origin of a work of art lies in the world on which it relies [3]. The charm of Taishan Guangdong Music lies not only in the music score but also in the clan ancestral hall environment where it is played, the eye contact between musicians, and the applause of neighbors.

Although AIGC technology can generate perfect music melodies, it often uproots ICH from its native socio-cultural soil, turning it into isolated, consumable "data packets." This "decontextualization" makes ICH a "rootless" existence. In the virtual scenes generated by AI, although visual elements are extremely rich, the "Genius Loci" interwoven by geographical and consanguineous relationships is missing. In the process of interacting with AI, users obtain a "disembodied" experience, rather than the "Dasein" (being-there) emphasized by Heidegger. This alienation of experience makes the inheritance of ICH mere formality, difficult to touch the core of the cultural spirit.

3. Concealment and Alienation: Anxiety of "Cultural Subjectivity" under Algorithmic Hegemony

The core of the living inheritance of ICH lies in "people." Inheritors, communities, and cultural holders are the natural cultural subjects. However, as a "quasi-subject," Generative AI is reconstructing the relationship between humans and skills, and humans and memory, triggering the concealment of cultural subjectivity and the transfer of power.

3.1. The "Datafication" of Inheritors and the Sinking of Subjectivity

In traditional ICH inheritance, the inheritor is the owner, interpreter, and teacher of skills. Their subjectivity is embodied in the bodily control of skills and the unique understanding of cultural connotations. This is a subjectivity based on "body-skill" symbiosis. However, in the production mode dominated by AIGC, inheritors face the risk of becoming "data labelers" or "prompt engineers."

When a large amount of ICH skills are converted into data and fed to large models, the algorithm actually completes the deprivation and objectification of the inheritor's tacit knowledge. Once the model training is completed, it can generate massive ICH content (such as design drafts, music melodies) with efficiency far exceeding that of humans. At this time, the inheritor's status as a "creator" is marginalized; they are no longer the source of the work, but become the "auditor" or "patcher" of algorithmic products. This transformation of roles leads to what Heidegger called "Enframing" (Gestell)—humans are conscripted by technology and become resources for technology to reveal itself.

For Qiaoxiang ICH, this sinking of subjectivity is particularly dangerous. Because Qiaoxiang ICH is often closely linked to family emotions and clan rituals, the inheritance process of skills is itself a ritual of emotional exchange and identity confirmation. For example, the weaving of Xinhui palm leaf craft is often a process of female elders teaching juniors, containing teachings about patience, aesthetics, and housekeeping. If this process is replaced by cold algorithmic generation, ICH will lose its social function of maintaining community emotional bonds and degenerate into a pure cultural consumer product. Inheritors lose the feeling of "being needed," and their cultural confidence and motivation for inheritance will also dissolve.

3.2. Algorithmic Bias and "Digital Orientalism"

Subjectivity also concerns the question of "who is speaking." Current Generative AI Foundation Models are mostly developed by Western tech giants (such as OpenAI, Google, Midjourney), and their training corpora are dominated by English and Western culture. This data hegemony inevitably implants Western values and aesthetic tastes into the models, forming a hidden "algorithmic colonialism."

When using these general models to generate Qiaoxiang ICH content with strong local characteristics, it is easy to encounter the dilemma of "Digital Orientalism." AI may use Western stereotypical imaginations of "Chinese style" (such as red lanterns, dragons and phoenixes, bamboo hats) to replace the unique Chinese-Western fusion style of Jiangmen Qiaoxiang (such as Baroque facades, Roman columns,

stained glass). For example, when asking AI to generate "Lingnan Qiaoxiang architecture," it may generate grotesque images mixing Japanese gardens or American Chinatown styles. This cultural expression filtered by algorithms is actually an "othering" gaze, which deprives Qiaoxiang culture of its subjectivity of self-expression, causing ICH to lose its unique voice in the global digital cultural landscape and be homogenized into a globally generic symbol of "exoticism."

3.3. Absence of the Body Subject and Degeneration of Skills

ICH is essentially "embodied"; it relies on the presence, perception, and practice of the body. Merleau-Ponty believed that "the body is our general medium for having a world" [4]. Whether it is the muscle memory of the hand when making Maolong brushes, the breath control when singing Wooden Fish Songs, or the practice of Choy Li Fut moves, all are manifestations of bodily subjectivity. Skill is not only a means of making objects but also a process of self-cultivation.

The digital survival promoted by Generative AI is often a "disembodied" experience. Users interact with ICH through screens and keyboards, and the body retreats behind the scenes. Although VR/AR technology attempts to simulate a sense of embodiment, there is still an essential gap between this "electronic body" based on audiovisual simulation and the real flesh experience. If the inheritance of ICH relies entirely on digital generation and dissemination, the younger generation may only operate keyboards to generate patterns, losing the physical ability to process raw materials and use tools. This absence of the body subject will lead to the degeneration of ICH from "life skills" to "visual symbols," ultimately leading to the end of living inheritance. Once the power is cut off and the network is disconnected, we will find ourselves helpless in the face of the real material world, which is undoubtedly the complete loss of cultural subjectivity.

4. Ethical Correction: Constructing a New Ecology of "Human-Machine Collaborative" Living Inheritance

Facing the crisis of authenticity and anxiety of subjectivity brought by Generative AI, we cannot refuse technology due to fear, nor can we embrace technology with blind optimism. We must build a set of ethical regulations and practical paths consistent with the characteristics of Qiaoxiang ICH on the basis of "technological disenchantment," achieving a dialectical unity of technological logic and cultural logic.

4.1. Value Legislation: Establishing the Ontological Status of "Humans" in Inheritance

No matter how AI technology evolves, the fundamental principle of "humans as the end" must be established at the ethical level. In the human-machine relationship of living inheritance of ICH, inheritors and cultural holders must hold the "power of value legislation."

"Hierarchical Governance" of Human-Machine Collaboration: A production relationship of "inheritor-led, AI-assisted" should be established. The role of AI should be defined as "amplifier" and "scaffold." In repetitive labor such as sorting, translating, and generating initial drafts of ICH materials, the efficiency advantages of AI should be fully utilized; however, key links involving the interpretation of cultural connotations, the control of core skills, and the

transmission of emotional values must be controlled by human inheritors. For example, after AI generates a Qiaoxiang story script, it must be "culturally proofread" by elderly people familiar with local anecdotes to ensure the accuracy of the emotional tone.

Establishing a "Cultural Turing Test": For AI-generated ICH content, especially parts involving historical memory and family narratives, an ethical committee composed of ICH experts, inheritors, and community elders must be introduced for review. A set of multi-dimensional evaluation indicators including historical accuracy, cultural authenticity, and emotional resonance should be formulated. Only content that passes this "Cultural Turing Test" can be marked as "qualified cultural products" and enter the public communication domain. This is both a defense of authenticity and a declaration of cultural subjectivity.

4.2. Technological Breakthrough: Constructing a "Knowledge Graph + Large Model" in Vertical Fields

To solve the problems of "algorithmic bias" and "hallucination" in general models, we must take the path of technological localization and build a vertical artificial intelligence system with Jiangmen Qiaoxiang characteristics.

Building a High-Quality "Qiaoxiang Culture Corpus": This is the foundation for training vertical models. Systematic digital cleaning and labeling of Jiangmen's existing local gazetteers, genealogies, Qiaopi, and ICH literature are required. In particular, rescue recording of dialect voices and skill motion capture data (MoCap) of old artists is needed. This data must not only be "large in quantity" but also "excellent in quality," containing rich cultural context information. These data with high "original authenticity" are strategic resources to resist algorithmic homogenization.

Introducing RAG (Retrieval-Augmented Generation) Technology: Relying solely on the probabilistic generation of large models is prone to hallucination. By introducing Knowledge Graph technology, a structured and logically rigorous Qiaoxiang ICH knowledge base is constructed. When AI generates content, it is forced to retrieve conclusive historical facts in the knowledge base for "Fact Grounding." For example, when AI generates an introduction to "Kaiping Diaolou," it must cite exact records in the knowledge base regarding the specific building name, construction year, and the owner's life, rather than fabricating them. This dual-drive mechanism of "Generation + Retrieval" preserves the creativity of AI while constraining the risk of fabrication, achieving a soft landing for "digital authenticity" and "historical authenticity" [5].

4.3. Embodied Return: Reconstruction of the Field of Virtual-Real Symbiosis

In response to the crisis of "disembodiment," future ICH inheritance should be committed to building a "Phygital" (Physical + Digital) hybrid field, guiding audiences to return from online to offline, and from vision to the body.

"Reverse Engineering" Teaching Assistance: Use AI to analyze complex ICH skills (such as Choy Li Fut moves, Guqin fingering), dismantle them into visualized learning steps, and overlay them in real scenes through AR glasses to assist learners in physical training. Here, AI does not replace the body but awakens the body's perception through enhanced feedback. It acts like a patient "digital sparring partner," helping learners master skills faster, but the ultimate sense of

achievement still comes from bodily acquisition.

The Closed Loop of "Digital Hometown" and Offline Root-Seeking: Use AIGC technology to restore Qiaoxiang villages from a century ago in the Metaverse, providing a low-threshold "digital root-seeking" entrance for overseas Chinese. But this should not be the end point, but a lure. By setting up a mechanism of "virtual-real interaction"—for example, online digital Qiaopi can only be fully decoded by scanning specific physical objects back in the ancestral house offline—overseas Chinese are guided to embark on a journey of on-site root-seeking. In real touch and breathing, and in real embraces with relatives in the hometown, the final confirmation of cultural subjectivity is completed [6].

4.4. Community Empowerment: Decentralized Data Sovereignty and Emotional Community

The vitality of ICH lies in the community. In the algorithmic age, we should explore establishing a community participation mechanism based on the spirit of Web 3.0, endowing Qiaoxiang communities with data sovereignty.

Establishing ICH Data DAO (Decentralized Autonomous Organization): Encourage overseas Chinese at home and abroad to upload family memory materials (old photos, family letters, genealogies) to the chain, forming a distributed database owned and governed by the community. The benefits generated by AI models using this data (such as sales of cultural and creative products) should be fed back to data contributors through smart contracts. This mechanism not only solves copyright ethical issues but, more importantly, stimulates the community's sense of ownership, making ICH inheritance transform from the persistence of a few people into a broad "collective action."

Affective Computing and Reconstruction of Collective Memory: Utilize affective computing technology to capture the feedback of community members on AI-generated content, dynamically adjusting generation strategies to make them closer to the emotional structure of the community. For example, analyze the various emotional reactions of overseas Chinese to different styles of ICH content, optimizing AI narrative methods to better trigger empathy. Let AI become a bond connecting the emotions of overseas Chinese at home and abroad, rather than a barrier, thereby reconstructing a "transnational emotional community" beyond national borders in digital space [7].

5. Conclusion: Towards an "Organic" Digital Future

The intervention of Generative AI in Qiaoxiang ICH is an irreversible technological Enframing. It brings risks of "simulacra" and "de-subjectification," but also contains the potential for "reshaping memory" and "activating tradition." Facing this Technological Leviathan, the purpose of ethical scrutiny is not to deny technology, but to domesticate it.

Through the dialectical sublation of "digital authenticity" and the persistent reshaping of "cultural subjectivity," we hope to explore a practical path of "human-machine collaboration, virtual-real symbiosis, and community co-governance." On this path, technology is no longer an arrogant legislator, but a humble interpreter; ICH is no longer a rigid specimen, but a constantly generating living body.

The digital future of Jiangmen Qiaoxiang ICH should be a symphony of "computing power" and "heart power," a tribute

of algorithmic logic to cultural temperature. We expect that through this ethical consciousness and practical innovation, those Qiaopi sealed in archives can speak again, those silent Diaolou can recount the vicissitudes of life again, and Chinese sons and daughters at home and abroad can find their way home again in the interweaving of digital and reality. Only in this way can we guard the cultural roots of the Chinese nation in the torrent of the intelligent age, keeping that nostalgia crossing mountains and seas clear and burning in the digital world.

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