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The Shift and Reflection of Cognitive Subjects in Cultural Heritage Preservation within the Era of Artificial Intelligence

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Abstract

Artificial intelligence is profoundly reshaping the cognitive landscape of cultural heritage inheritance, bringing about a structural "shift of cognitive subjects" in the traditional human-centered cultural cognitive model. This shift manifests itself in four dimensions: the transfer of cognitive dominance from "human active interpretation" to "algorithmic passive content feeding"; the surrender of interpretive power from "humanistic value construction" to "technical data deconstruction"; the transformation of aesthetic authority from "subjective aesthetic self-awareness" to "machine aesthetic conditioning"; and the evolution of memory ownership from "intergenerational human memory" to "digital storage memory". Its formative mechanisms lie in the following aspects: paradigm-based production of AIGC weakens individual cognitive creativity; algorithmic traffic logic reshapes cognitive orientation; human cognitive inertia and technological dependence accelerate the surrender of subjectivity; and digital cultural projects prioritize "formal replication" over "cognitive inheritance". These factors consequently give rise to dilemmas including cognitive homogenization, superficial cognition, hollowing of human subjectivity, and sluggish cultural innovation. The countermeasures involve establishing a cognitive order of "humans as the primary agents and machines as auxiliary tools", constructing an in-depth cognitive model of "human-machine complementarity", and consolidating the subjective foundation of cultural inheritance in the intelligent era.

Keywords

Artificial Intelligence, Cultural Inheritance, Cognitive Subject, Subject Shift

1. Introduction

1.1. Research Background

The comprehensive penetration of artificial intelligence technology is fundamentally transforming the inheritance modes of cultural heritage. From the extensive involvement of AIGC (Artificial Intelligence Generated Content) in cultural production, to the in-depth participation of algorithmic recommendation systems in cultural communication, and further to the full digitalization of cultural heritage via digital replication technologies—technology has altered not only the "presentation forms" of culture but also its fundamental "cognitive modes". Generative artificial intelligence has thoroughly reconstructed the whole industrial chain of cultural production, shifting the creation paradigm from a single human subject to symbiotic human-machine collaboration.

The far-reaching implication of this technological revolution is that the traditional cultural operation paradigm of "humans dominating cognition, interpretation and inheritance" is being disrupted, giving rise to new phenomena in cultural inheritance where "technology governs cognition, algorithms define aesthetics, and machines replace human interpretation". Large language model algorithms also bring forth tangible risks of "intelligent occlusion" to the digitalization of traditional culture, such as occlusion of cultural essences, physical space occlusion, occlusion of human subjectivity, and invasive ideological occlusion. Some scholars have pointed out that the application of ChatGPT-like generative artificial intelligence in cultural fields may trigger hidden dangers: the decentralization of cultural construction subjectivity constrained by algorithmic recommendation, the silencing of cultural core subjectivity under digital hegemony, and the manipulation of cultural methodological subjectivity driven by capital logic (Yu & Zhao, 2024). These transformations mean that fundamental questions of cultural inheritance—"who conducts cognition", "how cognition proceeds", and "what is cognized"—are being redefined, calling for systematic theoretical analysis and standardized practical guidance.

1.2. Definition of Core Concepts and Statement of Research Object

The core concept of this paper is the "cognitive subject". From an epistemological perspective, a cognitive subject refers to the bearer that occupies an active and dominant position in cognitive activities and independently conducts information processing, meaning construction and value judgment. As a relational category, the "subject" manifests its initiative and autonomy in the objective relationship with the "object", serving as the starting point and destination for recognizing and transforming the objective world. In the context of cultural inheritance, the cognitive subject specifically refers to individual or collective human beings with self-awareness, value stances and judgment capabilities in cultural cognitive activities. Such subjects proactively select cognitive objects, deeply participate in meaning interpretation, make independent aesthetic judgments, and realize the continuity

and innovation of culture through intergenerational memory. The essential characteristic of the cognitive subject lies in its "initiative": it is not a passive container for receiving information, but an agent that actively constructs meaning.

Centered on the core concept of the "cognitive subject", this paper carries out analysis from four interrelated dimensions: first, cognitive dominance, which concerns who determines "what to cognize"—the right to choose cognitive objects and control cognitive paths; second, interpretive discourse power, which concerns who endows culture with meaning—the right to interpret cultural texts and construct values; third, aesthetic authority, which concerns who defines "what is beautiful"—the power to set aesthetic standards and maintain autonomy in aesthetic judgment; fourth, memory ownership, which concerns who bears and passes down cultural memory—the rights to store, interpret and inherit cultural memory. These four dimensions jointly form a complete power system for the cognitive subject in cultural inheritance. A shift in any single dimension signifies a fundamental transformation of the cognitive subject's standing.

The research object of this paper is Chinese cultural heritage in a broad sense, covering three layers: tangible cultural heritage (cultural relics, architectures, historical sites, etc.), intangible cultural heritage (traditional crafts, folk customs, oral traditions, etc.), and fine traditional Chinese culture (classical documents, ideological concepts, aesthetic paradigms, etc.). The reason for adopting the research scope of "cultural heritage in a broad sense" is that the impact of artificial intelligence on cognitive subjects within cultural inheritance is not confined to a specific cultural category, but a universal phenomenon permeating all cultural cognitive activities. Whether it involves the digital display of museum relics, AI-aided creation of intangible heritage crafts, or algorithm-recommended dissemination of traditional cultural classics, the structural problem of displaced cognitive subjects they face shares a high degree of consistency. Therefore, this paper adopts "cultural inheritance" as an overarching concept. Although discussions will touch upon the three above-mentioned categories according to contextual needs, the core concern remains the structural challenges artificial intelligence poses to cognitive subjects in cultural inheritance, regardless of the type of cultural objects under examination.

1.3. Literature Review

Current academic research on artificial intelligence and cultural inheritance has yielded abundant achievements, forming multiple research dimensions including technological empowerment (Li, 2026), risk governance (Wen & Shen, 2025), media innovation (Bi, 2025), and living inheritance (Wang, 2026a). Most studies focus on the positive value of artificial intelligence for cultural inheritance, elaborating on paths and mechanisms through which intelligent technologies empower the digital activation of intangible cultural heritage (Xue & Shi, 2025) and innovate cultural communication (Wu, 2026) and digital protection of cultural re-

sources (Hao, 2024). They affirm AI's strengths in expanding communication channels, enriching inheritance forms, and revitalizing cultural resources. A portion of scholars have begun to address the crisis of cultural subjectivity in the intelligent era, discussing the impacts of technological alienation, algorithmic bias, and human-machine imbalance on cultural inheritance, and analyzing macro-level issues such as loss of cultural discourse power, weakened inheritor subjectivity, and dissolution of cultural values (Zhang & Wang, 2025). Scholar Huang Jing argues that the emergent "intellectuality" of artificial intelligence blurs its boundary with spiritual production, creating an illusion of spiritual production by intelligent agents and sparking core disputes over the subjectivity, comprehension and creativity of intelligent entities (Huang, 2025).

Nevertheless, existing research bears conspicuous deficiencies. First, most studies remain confined to discussions of technological application, lacking systematic analysis of cultural inheritance modes from the micro perspective of "cognitive subjects". Second, theoretical reflections on cognitive alienation, cognitive disorder and subjectivity attenuation are insufficient. Third, few studies systematically interpret "the shift of cognitive subjects" as an independent theoretical proposition. Against this backdrop, this paper adopts a cognitive philosophy perspective to systematically elaborate the practical manifestations, formative mechanisms and underlying dilemmas of the shift of cognitive subjects in cultural inheritance amid the AI era, and further proposes feasible paths for the reconstruction of cognitive subjects.

1.4. Research Significance and Innovations

The theoretical significance of this research lies in supplementing and enriching the theoretical system of cultural inheritance subjects from the dual perspectives of cognitive philosophy and cultural subjectivity theory, providing a new analytical framework for understanding the fundamental transformations of cultural inheritance in the artificial intelligence age. The core innovations of this study are as follows:

First, it puts forward the core concept of "shift of cognitive subjects", elevating the analysis of AI's impacts on cultural inheritance from a technical level to an epistemological level.

Second, it systematically reveals the practical manifestations of the shift of cognitive subjects across four dimensions: dominance of cognition, interpretive power, aesthetic authority, and memory ownership.

Third, it deeply analyzes the formative mechanisms of this shift from four layers: technology, communication, human subject, and industry.

Fourth, it proposes systematic paths for reconstructing cognitive subjects, offering theoretical references for the subjective inheritance, creative transformation and innovative development of fine traditional Chinese culture in the intelligent era.

2. Practical Manifestations of the Shift of Cognitive Subjects in Cultural Inheritance in the AI Era

2.1. Shift of Cognitive Dominance: From "Human Active Interpretation" to "Algorithmic Passive Content Feeding"

In traditional cultural inheritance, cognition is built on individuals' intensive reading of cultural texts, experiential physical practice and spiritual perception, forming in-depth understanding of cultural meanings. This is a subject-centered cognitive mode of active exploration: humans, as cognitive subjects, independently select cognitive objects, paths and methods.

In the intelligent era, however, this mode is being fundamentally overturned. Through a closed-loop model of "user profiling-content matching-behavioral reinforcement", intelligent algorithms construct a dynamic generation mechanism of cognitive cocoons. Human cognition of culture becomes highly reliant on algorithmic recommendations, AI explanations and machine paraphrases, shifting active exploration to passive reception. The effects of "information cocoons" and "filter bubbles" tend to narrow and solidify audiences' cognition. When algorithms become the primary gateway through which users access cultural content, and recommendation systems decide "which culture deserves visibility", cognitive dominance subtly transfers from human beings to algorithms.

The underlying crisis of this shift is that human cultural cognition is no longer free spiritual exploration, but carefully designed "information consumption" orchestrated by algorithms. Guided by traffic logic, algorithms push cultural content in entertaining and fragmented forms, eliminating the possibility of in-depth cultural cognition. While users seemingly enjoy broader cultural options, they are in fact trapped within cognitive cages woven by algorithms.

2.2. Shift of Cognitive Interpretive Power: From "Humanistic Value Construction" to "Technical Data Deconstruction"

Cognitive interpretation of traditional culture has never been mere factual statement; it entails humanistic construction laden with value judgment, emotional resonance and spiritual sublimation. Personalized readings of cultural classics by inheritors, academic interpretations of cultural phenomena by scholars, and meaning attribution to cultural practices by community members—these interpretive activities jointly weave the "web of meaning" of cultural heritage.

The intervention of AI disrupts this framework. AI "interprets" traditional culture via data labeling, keyword decomposition and paradigm templates, reducing cultural texts rich in artistic conception, humanistic heritage and historical depth into computable, classifiable and replicable data information. The alienation of AIGC technology exposes coupled production subjects to risks of subjectivity surrender. The integration of artificial intelligence generated content and intangible cultural heritage triggers the dissolution of authenticity and occlusion of human subjectivity.

Large model algorithms reshape social cognition of intangible cultural heritage

through decoupling and reconstruction of digital memes and embodied intelligent cognition. Yet the essence of such "reshaping" is the substitution of humanistic value logic with technical data logic, and replacement of human meaning-making with algorithmic pattern recognition. When interpretive power over culture transfers from humans with lived experience and value judgment to algorithms that only perform data matching and pattern output, cultural inheritance loses its core spiritual core—the generation of meaning and transmission of values.

2.3. Shift of Cognitive Aesthetic Authority: From "Subjective Aesthetic Self-Awareness" to "Machine Aesthetic Conditioning"

Aesthetics constitutes the most perceptual and profound dimension of cultural cognition. Aesthetic judgment in traditional culture relies on perceptual capacities, emotional structures and value orientations shaped by long-term cultural immersion—a highly individualized and differentiated form of aesthetic self-awareness.

AI is systematically reshaping this landscape. Generative AI produces massive standardized, homogenized national style works and replicas of intangible cultural heritage, shaping uniform aesthetic tastes among the public. Algorithms trapped in data biases amplify unfair governance dilemmas, and filter bubbles created by platforms solidify aesthetic cocoons for audiences. The reconstruction of visual culture by generative artificial intelligence pushes the public toward hyperreal aesthetic experiences.

More subtly, AI remodels cognitive frameworks at the neural level through affective computing and multimodal symbolic systems. This means AI changes not only what people view, but also how they perceive and what they regard as beautiful. When aesthetic criteria are defined by algorithms, and the diverse, unique and differentiated space of human cultural aesthetic cognition is squeezed out by machine aesthetics, human aesthetic subjectivity faces systematic dissolution.

2.4. Shift of Cognitive Memory Ownership: From "Intergenerational Human Memory" to "Digital Storage Memory"

Cultural memory serves as the foundation of cultural inheritance. In traditional societies, cultural memory is housed within human minds, sustained through oral transmission, physical practice and intergenerational passing. Such memory carries warmth and vitality, bound to specific people, scenes and emotions.

The AI era replaces "human memory" with "digital storage". Cultural memory shifts from mental sedimentation to machine storage, from oral inheritance to intelligent retrieval, and from experiential memory to digital archiving. Digital human technology reconstructs memory and reproduces life via algorithms, yet the fragility of digital memory undermines the continuity of traditional memory. When cultural memory transforms from "I remember" to "the machine stores", and from "I understand" to "algorithms retrieve", human capacities for cultural

memory gradually atrophy, leading to hollowed-out cognition.

The far-reaching consequence of this shift is that once cultural memory no longer relies on human minds for preservation and inheritance, humans sever the organic, flesh-and-blood bond with cultural traditions. Memory ceases to be the subject's active construction of the past, instead becoming retrievable data archives—breaking cultural continuity and draining cultural vitality.

3. Formative Mechanisms of the Shift of Cognitive Subjects in Cultural Inheritance

3.1. Technological Mechanism: Paradigm-Based Production of AIGC Weakens Individual Cognitive Creativity

The technical logic of AIGC fundamentally determines its mode of cultural production: large models fit massive datasets to generate cultural content consistent with statistical regularities. The essence of this production mode is "paradigmatization", which favors works conforming to mainstream norms and average standards rather than unconventional, paradigm-breaking innovations.

AIGC technology replaces individual cultural reflection and innovative interpretation with standardized paradigms. While generative AI upgrades cultural production tools and boosts output efficiency, it also triggers adaptive crises for originality standards and property rights frameworks. When AI continuously generates cultural content through standardized paradigms, individual cultural reflection and innovative interpretation lose their necessity and urgency—machines can produce faster, more output and more mainstream-aesthetically compliant works.

AIGC technologies replace individual cultural reflection and innovative interpretation with standardized paradigms. Generative AI has revolutionized cultural production tools and boosted the efficiency of cultural creation, yet it has also triggered an adaptive crisis regarding originality criteria and property rights frameworks. When AI churns out cultural content endlessly through standardized templates, individual cultural deliberation and innovative interpretation become neither necessary nor urgent—after all, machines can deliver outputs "faster", "in greater quantities", and "more aligned with mainstream aesthetics".

Tangible consequences of this mechanism have already emerged in practice. Take the embroidery database project of the Yi ethnic group in Yunnan as an example: although AI-generated patterns comply with formal aesthetic principles, they lose their original cultural symbolic significance. Those seemingly irregular lines are actually totemic representations of the ethnic group's migration routes. This conflict between technical rationality and cultural logic lays bare the imbalance between instrumental rationality and value rationality in digital heritage conservation.

In the digital preservation project of Shanxi shadow puppetry, inheritors have lost their capacity for impromptu performances due to overreliance on technical prompts. In the creation of Shaanxi peasant paintings, digital platforms offer au-

tomatic color-filling functions, leading young apprentices to skip observing natural light and shadow variations and instead directly draw colors from digital palettes. At the Guizhou Arts and Crafts Museum, some intangible cultural heritage inheritors have begun experimenting with AIGC tools for pattern design, color matching and product prototyping.

These cases demonstrate that as AI intervenes in cultural production via standardized paradigms, individual cultural thinking and innovative interpretation are being systematically eroded.

The deeper problem of this technological mechanism is that it does not merely produce culture, but also produces cognitive modes. As people grow accustomed to standardized cultural products generated by AI, their cognitive expectations, aesthetic standards and value judgments unconsciously converge toward standardization. Individual cognitive creativity—the unique, irreproducible ways of knowing rooted in lived human experience—is quietly diluted by paradigm-based cultural production.

3.2. Communication Mechanism: Traffic Logic of Intelligent Algorithms Reshapes Cultural Cognitive Orientation

Cultural cognition depends not only on cultural content itself, but also on its mode of communication. In the age of algorithmic recommendation, communication equals cognition: algorithms determine which cultural content reaches audiences, thereby dictating what audiences can cognize.

The core logic of intelligent algorithms is traffic logic: guided by data indicators such as click-through rate, completion rate and interaction rate, algorithms push content that maximizes user attention. This logic creates profound distorting effects in cultural communication: in-depth cultural content is marginalized for lacking instant appeal, while shallow, fragmented and entertaining cultural content receives massive promotion for strong data performance. Intelligent algorithms profoundly transform human lifestyles, yet digital alienation stemming from their development erodes human subjectivity in daily life. Algorithmic power's colonization of cognitive activities renders traditional linear cognitive models obsolete.

More critically, traffic logic not only governs what gets disseminated, but also shapes what deserves cognition. When traffic becomes the core metric for measuring cultural value, profound cultural merits—historical depth, spiritual sublimity and artistic subtlety—are flattened into quantifiable data indicators. Cognitive orientation drifts from "pursuing profundity" to "chasing traffic", depriving cultural inheritance of its value anchor.

3.3. Subject Mechanism: Human Cognitive Inertia and Technological Dependence Accelerate Subjectivity Surrender

The shift of cognitive subjects results not only from technological "pushing", but also human "acceptance". In an efficiency-driven societal context, humans increasingly outsource cognitive tasks to technology—relying on AI for interpreta-

tion, creation and popularization. This cognitive inertia and technological dependence constitute the internal driving force behind the surrender of subjectivity.

Scholars have observed that young people easily form "algorithmic collusion", "algorithmic dependence" and "algorithmic practice" under algorithmic influence (Wang & Wang, 2025). When inheritors and audiences over-rely on AI for interpretation, creation and cultural popularization, capacities for active cognition, in-depth reflection and independent judgment continuously degrade. Digital alienation in daily life under intelligent algorithms erodes human subjectivity.

The paradox of this subject mechanism lies in a self-reinforcing cycle: the more humans depend on technology to reduce cognitive labor, the more cognitive capacity they lose; the more they surrender cognitive subjectivity, the more reliant they become on technological substitutes. Every outsourcing of cognition weakens the possibility of independent cognition in the future, ultimately leading to full hollowing of cognitive subjectivity.

3.4. Industrial Mechanism: Cultural Digitalization Projects Prioritize "Formal Replication" over "Cognitive Inheritance"

Current practices of cultural digitalization have achieved remarkable technical feats: massive cultural heritage assets are digitally preserved, virtually exhibited and intelligently disseminated. Nevertheless, these practices suffer systematic bias at the cognitive level, prioritizing "formal replication" while neglecting "cognitive inheritance".

Cultural digitalization projects typically center on "transforming cultural heritage into digital resources"—3D scanning, high-definition imaging, database construction and intelligent retrieval. While these efforts are indispensable, they only address cultural preservation and presentation, rather than cultural cognition and inheritance. Cultural digitalization emphasizes digital storage and visual display of resources, ignoring the cultivation of human cultural cognition and construction of subjectivity. Technical formalism leads to idle technological operations, while usurpation by capital logic dissolves value anchors, creating adaptive tensions between instrumental rationality and humanistic values.

The bias of this industrial mechanism lies in its reduction of "cultural inheritance" to "cultural datafication", and demotion of "cognitive subjects" to "data users". When cultural digitalization projects only concern whether data is stored, rather than whether humans truly understand culture, even cutting-edge technology cannot fulfill the fundamental mission of cultural inheritance: keeping culture alive within human cognition and practice.

4. Profound Dilemmas of Cultural Inheritance Triggered by the Shift of Cognitive Subjects

4.1. Cognitive Homogenization: Diverse Traditional Cultures Eroded by Standardized Technological Paradigms

One of the most precious treasures of traditional culture is its abundant diversity:

regional characteristics, genre differences and personalized expressions. The same craft bears distinct styles across regions; identical folktales are narrated differently among ethnic groups; a single art form manifests unique charm in the hands of different inheritors.

Yet standardized AI production systematically erases this diversity (Wang, 2026b). Traditional cultural content generated by large models tends to conform to uniform templates of "standard intangible heritage" and "standard tradition". Distinct regional, genre and individual cultural traits are smoothed out by unified algorithmic paradigms, subordinating cultural diversity to technical homogeneity. Generative artificial intelligence highlights Western-centric universal cultural frameworks while ignoring cultural specificity across civilizations. Such homogenization extends beyond stylistic convergence to uniform cognitive modes: when all audiences engage with culture through identical algorithms, their cultural cognition converges to a single template.

4.2. Superficial Cognition: In-Depth Humanistic Interpretation Supplanted by Shallow Technical Presentation

In-depth cognition of traditional culture demands time immersion, physical engagement and spiritual concentration—repeated study of classics, long-term craft practice and full participation in rituals. This cognition is layered, substantial and labor-intensive.

Cultural cognition in the AI era becomes thin: prioritizing visuals over connotation, form over value. Wrapped in technological packaging, cultural inheritance devolves into "inheritance of digital shells" while spiritual cores dissipate. Instrumental rationality, algorithmic biases and platform logic embedded within digital technologies simultaneously breed risks of cultural superficiality (Xie & Zhang, 2026). When cultural cognition no longer requires close textual reading, practical experience and spiritual reflection, but merely screen scrolling, video viewing and passive content reception, cognitive depth is irreversibly flattened.

4.3. Hollowing of Subjectivity: Diminished Cognitive and Interpretive Capacities of Human Inheritors

The shift of cognitive subjects inflicts the most direct harm on human inheritors, who bear the mission of cultural inheritance. As inheritors increasingly rely on AI for interpretation, creation and communication, their own cognitive and interpretive capacities continuously deteriorate.

Generative AI destabilizes human-centered narratives of subjectivity, shaking the positional identity of humans as traditional cultural creators. Inheritors who over-rely on intelligent tools exhibit systematic attenuation of independent innovation capacities. Value biases embedded within AI systems blur the criteria distinguishing humans and machines. Inheritors gradually transform from "creators and interpreters of culture" to "proofreaders and validators of AI output" (Li & Dong, 2026). The hollowing of subjectivity strips cultural inheritance of its core driving force.

4.4. Stagnant Cultural Innovation: Machine Replication Suppresses Original Human Cultural Production

The ultimate goal of cultural inheritance is not mere replication of the past, but innovation rooted in heritage—endowing traditional culture with renewed vitality across generations. Nevertheless, replicative AI production stifles such innovation.

When AI generates seemingly authentic traditional cultural products in endless supply, the urgency and necessity of human innovation fade: if machines can produce sufficiently qualified works, why endure arduous exploration and breakthrough? AI's replicative creation substitutes human subjective innovation, resulting in cultural inheritance marked by "activation without sublimation, replication without renewal" (Sun & Long, 2026). While generative artificial intelligence enriches cultural content, it carries latent risks of marginalized subjectivity and obscured emotional dimensions.

The essence of cultural innovation lies in humanity's free spiritual response to tradition, demanding subjective self-awareness, courageous experimentation and unpredictable inspiration—qualities algorithms can never generate. When machine replication replaces human innovation, cultural inheritance devolves into mere technical copying, losing its capacity for organic growth.

5. Rational Reflections and Optimized Paths for Reconstructing Cognitive Subjects in Cultural Inheritance amid the AI Era

5.1. Rational Cognitive Reflection: Establishing a Cognitive Order of "Humans as Primary, Machines as Auxiliary"

The first step toward reconstructing cognitive subjects lies in profound rational cognitive reflection: clear recognition of AI's functional positioning and boundaries within cultural cognition. AI serves as a tool and medium for cultural inheritance, never a cognitive subject or ultimate objective, and should be repositioned as an active collaborative assistant at the cognitive level. This mandates a clear principle: AI may assist cognition but never replace it; AI can provide information but cannot endow meaning; AI may present culture but cannot inherit its spirit.

Upholding humanity's central position in cultural value judgment, aesthetic interpretation and spiritual construction constitutes the fundamental conclusion of rational cognitive reflection. The integration of generative artificial intelligence into cultural subjectivity construction requires vigilance against latent risks and pursuit of appropriate advancement paths. Only by establishing the basic cognitive order of "humans as primary, machines as auxiliary" can we safeguard the subjective foundation of cultural inheritance amid technological waves.

5.2. Paradigm Reconstruction: Building an In-Depth Cultural Cognitive Model of "Human-Machine Complementarity"

Rational cognitive reflection must translate into reconstruction of cognitive para-

digms, centered on developing an in-depth cultural cognitive model based on human-machine complementarity—where AI and humans divide labor and leverage respective strengths in cultural cognition.

Specifically, AI should undertake tasks suited to machines: digital sorting, basic paraphrasing, cultural popularization, cross-linguistic retrieval and multimodal presentation. Humans, meanwhile, focus on work exclusive to human faculties: in-depth interpretation, value innovation, spiritual inheritance, meaning attribution and aesthetic judgment. Humans should embed value frameworks to achieve deep coupling between technical logic and cultural ontology. Within this complementary human-machine paradigm, AI acts not as a substitute for humans, but as an extension and assistant: it facilitates efficient acquisition of cultural information, yet humans remain the ultimate interpreters of cultural meaning and arbiters of value judgment.

5.3. Subject Cultivation: Strengthening Cultural Cognitive Self-Awareness of Inheritors and the Public

Reconstruction of cognitive subjects ultimately rests on human cultivation: nurturing inheritors and the public with conscious cultural cognition, pursued through two dimensions:

On the one hand, enhance the subjective literacy of cultural inheritors. Construct a cognitive system centered on intensive reading, cultural research and traditional experiential learning to break algorithmic dependence and rebuild independent cultural judgment. Cultivating effective digital literacy among subjects enables "mastery over intelligence" throughout cultural digitalization. Inheritors must not only master technological tools, but also maintain clear awareness of technological limitations and uphold subjective agency in technological application.

On the other hand, elevate the public's cultural cognitive capacities. In the age of algorithmic recommendation, cultivating critical thinking and independent value judgment among audiences becomes especially vital—empowering them to retain autonomy in cultural choice amid algorithmic saturation and sustain in-depth reflection amid floods of information. Only when every participant in cultural inheritance possesses cognitive self-awareness can genuine reconstruction of cognitive subjects be realized.

5.4. Mechanism Optimization: Establishing Value Guidance and Regulatory Mechanisms for Intelligent Cultural Communication

Reconstruction of cognitive subjects also requires institutional safeguards. Value guidance and regulatory mechanisms for intelligent cultural communication should be established, with perfected auditing standards, aesthetic orientations and value norms for AIGC cultural content to evade homogenizing, entertaining and superficial communication tendencies.

A triple collaborative mechanism of "value embedding-sovereignty breakthrough-legal protection" must be constructed. Specifically: at the algorithmic

level, build a value-oriented evaluation system for cultural content recommendation to prevent traffic logic from distorting cultural values; at the institutional level, refine the legal framework governing digital cultural governance, clarifying AI's functional boundaries and accountability within cultural communication; at the industrial level, drive the transformation of cultural digitalization projects from "formal replication" to "cognitive inheritance", incorporating cultivation of human cultural cognition into evaluation criteria for digital projects.

5.5. Empowerment through Innovation: Leveraging Intelligent Technology to Advance Subjective Cultural Creative Transformation

The ultimate objective of reconstructing cognitive subjects is not to retreat cultural inheritance to a pre-technological era, but to achieve higher-level cultural innovation under technological conditions. Technology should serve human cultural innovation as a tool, rather than replacing human creative subjectivity.

Concretely, technology should empower formal cultural innovation: harness AI's multimodal generation capacity, immersive presentation technologies and intelligent interactive tools to create more attractive expressive forms and communication channels for traditional culture. Simultaneously, human subjectivity must lead innovation in cultural content, values and spirit—ensuring AI serves human cultural creation rather than supplanting human subject status. By constructing inclusive cultural digital infrastructure and promoting collaborative human-machine creation, artificial intelligence can systematically empower the humanistic cultural economy. Within human-machine collaboration, humans remain the endowers of cultural meaning and guides of value orientation.

6. Conclusion and Prospect

6.1. Conclusion

The displacement of cognitive subjects in cultural inheritance amid the artificial intelligence era constitutes a profound structural challenge triggered by technological transformation. This paper reveals the practical manifestations of such displacement across four dimensions: cognitive dominance, interpretive discourse power, aesthetic authority and memory ownership. It analyzes the formative logic behind this phenomenon from four layers—technological mechanism, communication mechanism, subject mechanism and industrial mechanism—and identifies the resultant profound dilemmas including cognitive homogenization, superficial cognition, hollowed-out subjectivity and insufficient cultural innovation. In the algorithmic age, we need more cognitive sobriety than ever before: technology should serve humanity's comprehension of culture rather than supplant humans as the cognitive subject of culture.

6.2. Prospect

As a theoretical research paper, this study mainly relies on literature analysis and

logical deduction without systematic empirical data for support. Future research can be further expanded in the following directions. First, adopt questionnaire surveys, in-depth interviews and other methods to empirically measure the specific impacts of algorithmic recommendation on the public's structural cultural cognition. Second, conduct comparative case studies covering different categories of cultural heritage (tangible, intangible and classical culture) to examine differentiated manifestations of cognitive subject displacement across cultural forms. Third, track and investigate the implementation effects and optimization approaches of the human-machine complementary cognitive model in practical cultural inheritance activities.

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References

Bi, Q. L. (2025). Cultural Adaptability and Media Innovation in International Communication of Intangible Cultural Heritage. *Popular Literature and Art, No. 4,* 94-96. (In Chinese) https://doi.org/10.20112/j.cnki.ISSN1007-5828.2025.04.031

Hao, L. J. (2024). Research on Digital Protection and Inheritance Paths of Intangible Cultural Heritage Archives. *Shanxi Archives, No. 1,* 98-100. http://www.sxdabjb.com/CN/Y2024/V273/I1/98

Huang, J. (2025). Intelligent "Thinking": Boundaries, Encounters and Symbiosis Between Artificial Intelligence and Spiritual Production. *Journal of China University of Geosciences (Social Sciences Edition), 25,* 20-30. (In Chinese) https://doi.org/10.16493/j.cnki.42-1627/c.20250926.001

Li, K. H. (2026). From "Technological Empowerment" to "Cultural Regulation": Paradigm Reconstruction and Civilization Adaptation of Technology-Culture Relations in the Digital Age. *Jianghai Academic Journal, No. 2,* 83-91, 255. (In Chinese) http://jhxkzz.llyj.net/lunwen/itemid-379696.shtml

Li, Y., & Dong, X. H. (2026). Research on the Mechanism of Algorithmic Sovereignty Empowering Cultural Subjectivity. *Theory and Modernization, No. 2,* 84-94. (In Chinese) https://szlhlib.dps.qikan.cn/pc/maga/text-read?id=llxd20260208

Sun, A. W., & Long, Y. H. (2026). National Cultural Security Risks and Countermeasures under the Background of Generative Artificial Intelligence. *Nanjing Journal of Social Sciences, No. 3,* 164-172. (In Chinese) https://mall.cnki.net/magazine/article/NJSH202603016.htm

Wang, J. Y., & Wang, H. M. (2025). Values Cultivation of Youth Under Content-Centric Algorithms: Risk Assessment, Formative Mechanisms and Governance Paths. *Journal of Kunming University of Science and Technology (Social Science Edition), 25,* 129-137. (In Chinese) http://kmlgdxxbsk.llyj.net/lunwen/itemid-336828.shtml

Wang, L. (2026a). "Writing Carries Moral Principles, Technology Assists Writing": Subjectivity Dilemmas and Symbiotic Paths for the Modern Governance of Traditional Culture in the Digital Intelligence Era. *Journal of Kunming University of Science and Technology (Social Sciences), 26,* 168-177. (In Chinese) https://zsyyb.cn/abs/202607.00275

Wang, L. (2026b). Living Inheritance Paths of Ancient Dian Bronze Cultural Heritage in the Digital Age. *Journal of Culture, No. 1,* 143-146. (In Chinese) https://whxu.cbpt.cnki.net/WKD/WebPublication/wkTextContent.aspx?colType=4&st=01&yt=2026

Wen, B., & Shen, J. R. (2025). Cultural Gene Protection and Risk Governance in the Digitalization of Wushu Intangible Cultural Heritage in the AIGC Era. *Journal of Hanshan Normal University, 46,* 53-59. (In Chinese) http://dianda.cqvip.com/Qikan/Article/Detail?id=7202584812

Wu, J. (2026). Research on Innovative Cultural Communication Practices of Mainstream Media in Converged Media Era. *Journal of Culture, No. 2,* 122-125.

Xie, J. H., & Zhang, C. Y. (2026). Challenges and Countermeasures of Generative Artificial Intelligence to the Subjectivity of Chinese Culture. *Academic Exploration*. https://kns.cnki.net/kcms2/article/abstract?v=sFGZ-GfRoEXpoWwSi6pYPbc--_sXAwn02y9qimzVM31Ux_Nulgb-gTgoAU2hRCeOGtOzMrNtJGVwm-l08ZH3ZIk-vs1C6WuDq0wp1-Cv8wf7Bj-Xe16_i7h2U9aiPkP_HatC6xl16IyQ9XlejAT-kkmmvLU4bLSkvRuNB7NKkzjA=&uniplatform=NZKPT

Xue, K., & Shi, W. (2025). The Internal Logic, Interactive Links and Risk Responses of Large AI Models Reshaping Intangible Cultural Heritage Cognition. *Journal of Nanchang University (Humanities and Social Sciences), 56,* 36-46. (In Chinese) http://dianda.cqvip.com/Qikan/Article/Detail?id=7202554215

Yu, L. G., & Zhao, P. (2024). Challenges and Countermeasures to Chinese Cultural Subjectivity from the Perspective of Generative Artificial Intelligence. *Journal of Xi'an University of Architecture and Technology (Social Science Edition), 43,* 8-14. (In Chinese) https://doi.org/10.15986/j.1008-7192.2024.04.002

Zhang, C. G., & Wang, Y. M. (2025). Challenges of Algorithmic Decision-Making to Human Subjectivity in the Digital Age and Construction of Its Governance Logic. *Gansu Social Sciences, No. 5,* 185-192. http://dianda.cqvip.com/Qikan/Article/Detail?id=7202205358