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AIGC as the Third Space for Cultural Innovation Design

Zixi Wang and Tie Ji

School of Design, Hunan University, Changsha, Hunan, China

ABSTRACT

Design in the digital-intelligent era is undergoing a profound "cultural turn", shifting from symbolic representation to algorithmic logic and from aesthetic experience to power structures. Culture has evolved into an active agent for reconstructing technological paradigms and negotiating power relations. Drawing on Bhabha's concept of the "third space", this study explores how AIGC and its creative practices function as a field of cultural hybridity and meaning negotiation. It argues that the hybrid interplay between culture and technology challenges the traditional understanding of algorithmic systems, fostering new paradigms of technological perception and application. Simultaneously, at the level of power dynamics, design practice becomes an arena where diverse cultural subjects contend for discursive authority. Through theoretical interpretation and case analysis, this paper reveals how design evolves from formal creation to cultural dialogue, offering a critical perspective on the new mechanisms of cultural innovation and design practice in this changing age.

Keywords: AIGC, Design, Third space, Cultural innovation

INTRODUCTION

Since the outbreak of generative technologies in 2022, generative AI has rapidly become a significant innovative force in the field of design. The emergence of technologies exemplified by ChatGPT marks that generative AI is no longer an experimental concept, but has smoothly, and even disruptively, integrated into everyday life. It has driven a profound dual transformation: firstly, the democratization of content production mechanism, moving from professional generated content (PGC) and user-generated content (UGC) to AI-generated content (AIGC), which means that the dominance of creation is further lowered, greatly expanding the boundaries and efficiency of content production; Secondly, it is a fundamental shift in human-computer interaction mode, from one-way "command-response" to two-way "dialogue-co-creation", signifying that AI's role has shifted from a passive tool into an active partner capable of understanding intentions and inspiring creativity. AIGC refers to content generated using advanced generative AI techniques, which can automatically create a large amount of content in a short period of time (Cao et al., 2023). Through interaction with AIGC, designers not only gain new means of expression, but also enter a generative space where cultural meanings are constantly being reorganized. In other words, AIGC operates as a cultural mechanism that reshapes cultural representation,

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aesthetic logic, and creative subjectivity, rather than a neutral technological medium (Crawford, 2021; Manovich & Arielli, 2024).

The emergence of AIGC places design practice in a creative space co-generated by humans and algorithms. By drawing on Homi K. Bhabha's "third space" concept as a theoretical lens, this study combines theoretical construction with case analysis to first explain the path of AIGC as a third space driving cultural innovation; then delve into how this space subverts traditional understanding of technology, fostering new paradigms of technological perception and application; finally, analyze the struggles over discursive authority within the space. Based on this perspective, this paper aims to reveal how AIGC becomes a "third space" for cultural innovation and to provide a new theoretical path for understanding the integration of culture and technology in design in this digital-intelligent era.

CONCEPT OF THE THIRD SPACE

Today, cultural contact and integration have become the norm, especially with AIGC promoting interconnectivity that transcends temporal and spatial boundaries, leading to unprecedentedly close cultural clashes. Indeed, we are witnessing seemingly paradoxical phenomena: on the one hand, the call for cultural uniqueness and local identity is increasingly growing; on the other hand, hybrid and transnational cultural forms are constantly emerging, defying the traditional binary frameworks of "either/or", such as East/West, self/other, or tradition/modernity. It is precisely at this juncture where binary explanations fail that Bhabha's concept of third space offers crucial insights. Bhabha is a leading figure in postcolonial theory and cultural studies, and in his best-known work The Location of Culture, he argues that cultural meaning is not directly transmitted between predetermined subjects but is produced in a "third space" opened up through the interaction between proposition (énoncé) and enunciation (Bhabha, 1994). In other words, the generation of meaning is not a simple transmission of information between speaker and listener, but is subject to a more complex context and cultural framework. Bhabha's concept of the third space does not refer to a concrete geographical location, but rather to a mediating field for meaning generation: it is neither the original position of the "I" nor that of the "You" position; instead, it is a liminal space formed by language in the process of interaction, translation, difference and negotiation. The intervention of the third space breaks the mirror of representation in which cultural knowledge is conventionally understood as an integrated, open, expanding code (Bhabha, 1994), cultural significance is fragmented and generated, rather than naturally revealed.

Culture does not occur in a vacuum, and all cultural statements and systems are constructed in a contradictory and ambiguous way of being expressed and defined. Therefore, Bhabha opposes claims about the inherent originality or purity of culture. The ambivalence of the discourse and practice that constitutes culture opens up space for textual resistance, which is often referred to as a liminal-inbetween space, or the third space (Fay & Haydon, 2017). The encounter of cultural differences is not a harmonious handshake, but occurs in the interstices, where it manifests as a tense "inter"—a creative/destructive process that produces this hybridity. Bhabha (1994) regards the inter as the cutting edge of translation and negotiation. Translation is

not a simple language conversion, where the meaning of a word inevitably slides and multiplies when it enters another language; rather, it is a process that forces different cultural symbols to change themselves and generate new meanings when they meet. Negotiation is not a gentle dialogue, but a struggle, compromise, imitation, and subversion full of power tension. Hence, instead of being inherent within a single culture, cultural meaning arises from the interstitial network of relationships where different cultures meet—that is, the inbetween space that carries the burden of the meaning of culture (Bhabha, 1994).

AIGC AS THE THIRD SPACE FOR CULTURAL INNOVATION

Since the rise of AIGC, the design field has become one of the earliest frontiers to engage in deep interaction with it, and to some extent, design thinking and generative logic are isomorphic. Cross states designers have to explore unknown possibilities and generate novel outcomes, rather than merely reproduce what is already known or familiar (Cross, 2011). The essence of design is not to reproduce existing results, but to generate possibilities in uncertainty. Similarly, the core mechanism of AIGC lies in generating diverse outputs within a latent space. As Bhabha points out, the third space, though itself unrepresentable, unsettles fixed cultural meanings and allows signs to be appropriated, translated, rehistoricised, and read anew (Bhabha, 1994). Just as the third space is the foundation of cultural enunciation, the large models of AIGC and the massive amounts of data they learn constitute a completely new, digital discursive condition. When humans engage in dialogue with AI, they are not communicating with a neutral tool, but rather entering a probabilistic space—latent space of AIGC—trained on countless human cultural symbols (text, images, code, etc.). To some extent, this space shares similarities with the third space, which cannot be represented: the complex "black box" nature of generative AI models makes them difficult for humans to observe and interpret directly, yet it determines which responses are possible and which are plausible (Holm, 2019; Tredinnick & Laybats, 2023). AIGC, as a third space for cultural innovation, is built in the cultural interstices, and through mechanisms of translation and negotiation, it inevitably gives rise to hybridity.

Where: Interstitial Space as Structural Foundation

Interstitiality constitutes the cultural condition of the third space, which is not a physical location but a dynamic and negotiable inbetween field existing at the intersection of different cultures, discourses, and meaning systems. In the practice of engaging with AIGC, humans use natural language prompts—a symbolic system full of ambiguity, metaphor, and uncertainty – whereas AI models operate within a computational representational grounded in mathematical algorithms, vector spaces, and data distributions (Mitchell & Lapata, 2010). The interstice has already emerged: on one end are the prompts input by humans based on specific (or multiple), clear, and concrete cultural context, and on the other end are the statistical models that AIGC relies on to operate from its training data—a corpus composed of astronomical and heterogeneous cultural material that has been compressed, fragmented, and reconstructed.

Interstitial space is not concerned with either polarity A or B, but with the dynamic and unstable liminal process that unfolds between them. In simple terms, human prompts (A) and AI algorithms (B) are not fully aligned, there exists a latent space that needs to be translated and negotiated. Thus, innovation no longer occurs within a stable culture, but rather is born precisely at the rupture where these cultures meet, in the ambiguous zone of meaning—the latent space where human intentions and algorithmic logic interact. Analyzing AIGC as a third space through the lens of interstitiality is essentially about how AIGC utilizes the breaks and discontinuities between human culture and machine logic, between different symbolic systems, and between the past and the future, and transforms these interstices themselves into the most active third space for cultural innovation.

How: Translation and Negotiation as Operational Mechanism

The substantial cultural innovation does not lie in guarding cultural boundaries—the purity of tradition—but in boldly stepping into that liminal, uncertain "inbetween" to produce new, vibrant cultural forms that break through existing paradigms. Bhabha mentioned that the borderline work of culture demands an encounter with "newness" that does not merely continue established traditions, but reactivates the past through cultural translation, generates new meanings in an inbetween space, thereby transforms the present (Bhabha, 1994). This "newness" is constructed through continuous translation and negotiation. Bhabha believes that translation and negotiation are not two independent processes, but rather two sides of the same cultural practice, together constituting the dynamic process of the third space, and that the relation between them is dialectical and symbiotic. Translation occurs in the site of one culture "inter" another. This act of crossing cultural boundaries inevitably leads to ambiguity and distortion of meaning—what Bhabha terms an "insurgent act". Negotiation refers to the continuous struggle, dialogue, and repositioning of different cultural authorities, meanings, and power relations within the third space, allowing cultural meaning to generate new possibilities through constant conflict and reinscription (Bhabha, 1994; Bhabha, 2009).

AI does not truly "understand" the essential meaning of cultural symbols. From its perspective, all words and concepts are merely vectors and probabilistic distributions in a high-dimensional space, not mappings between symbols and objects: the denotation of a word is entirely determined by its co-occurrence with other words in billions of texts (Mitchell & Lapata, 2010; Mikolov et al., 2013; Bender& Koller, 2020). It is precisely AI's lack of understanding that renders its translation inevitably a form "creative misreading". Rather than accurately translating instructions, but it engages in negotiating and grafting within the interstitial space between two semiotic systems.

AIGC operates precisely within the most dynamic, liminal frontier of cultural innovation. Through insurgent acts of cultural translation, it creatively or forcibly catenates and remixes cultural signs from the past, which are embodied in training data drawn from disparate eras and cultures. This process maps these cultural signs into latent space, an abstract representation

formed to capture the deep semantic and causal structures of data (Kingma & Welling, 2019; Fonseca & Bacao, 2023), where they continuously negotiate with present directives and ultimately give rise to novel cultural productions. Human-AI communication is not a free or natural dialogue, but a prompt-mediated exchange in which cultural meanings and algorithmic logic are translated and negotiated (Spennemann, 2024).

What: Cultural Hybridity as Generated Product

Cultural meaning is not merely transmitted, but created through interaction in the third space. Hybridity is the outcome of this process, which is not a simple cultural admixture, but rather a new site of meaning produced through translation and negotiation in the context of cultural contact and conflict. Hybridity is both a manifestation of cultural innovation and the most powerful challenge to the myth of "cultural purity" and the cultural authority.

Hybridity is a powerful cultural weapon that strategically mimics the symbols of cultural authority, then distorts and repositions them, thereby disrupting, subverting, and ultimately invalidating the discourse and practices of that authority from within. Bhabha states the menace of mimicry is its double vision (Bhabha, 1994), he analyzes, from a colonial perspective, the fractured and contradictory perspective of seeing and knowing that the colonized (the mimic) holds when imitating colonial authority: the inward vision (from the outside-in) refers to the colonized seeing and learning the "ideal standards" set by the colonizer's culture; the reverse vision (from the inside-out) refers to the colonized gazing back at the colonial system from their marginalized position of never being fully accepted, where they clearly see that what they are imitating is merely a replica that can never truly meet the standard. This is the desire for a reformed, recognizable Other: a subject of a difference that is almost the same, but not quite.

In its mimicry of human creation, the AIGC model inherently embodies a "double vision". On the one hand, it "sees" and learns from the patterns and structures embedded in vast datasets of human culture; on the other hand, by virtue of its non-human algorithmic nature, it inevitably introduces difference from the "outside", generating contents that are "almost the same, but not quite". It is precisely this hybridity that challenges and deconstructs the entrenched traditional perceptions of cultural authority and creativity.

RECONSTRUCT THE TECHNOLOGICAL PARADIGM

Engagement with technology expands and modifies modes of creation, ultimately shaping cultural evolution (Manovich & Arielli, 2024). Traditional understanding and perception of technology are mechanistic, deterministic, and instrumental (Dusek, 2006). Structurally, it is viewed as a closed, self-contained logical system where inputs and outputs have a clear causal relation. Operationally, humans are the absolute subject, issuing commands, while technology is the passive object, executing them precisely;

the process is one of translation rather than negotiation. In terms of output, the products are controllable and predictable, serving as a direct extension of the intentions of both producers and users. However, the output of AIGC is not deterministic, but probabilistic and full of surprises, and its value often lies in its unpredictability rather than precise execution. AIGC techniques has fundamentally overturned this understanding, fostering a new paradigm of generative, nondeterministic, and symbiotic development.

AIGC is structurally interstitial because it does not store cultural content or knowledge directly, but instead preserves the associations and patterns within cultural data, leaving vast spaces of ambiguity and latent possibility. It is precisely within these indeterminate interstices that room for cultural innovation emerges. In AIGC-mediated design process, the input of prompts constitutes the practice of translation, while the dialogue with AI and the subsequent generation represent the practice of negotiation. Here, technology assumes the role of an active, culturally aware collaborator rather than merely a tool. The creative output of AIGC is inherently hybrid because it perpetually emerges as an amalgamation of diverse cultural training data, user intent, and the model's "subjectivity". It represents an unexpected delight, born from the processes of translation and negotiation and tinged with a certain "machine hallucination". This very hybridity constitutes a direct manifestation of cultural innovation.

Cultural Practice Drives Technological Iteration

In AIGC-based design, culture is systematically translated into computable and structured digital assets that serve as training data for AI models or prompt inputs, directly participating through negotiation in the generative design process. While AI is being utilized to access, connect, and analyze cultural heritage, the immense volume of such cultural data is simultaneously fuelling the training and iterative refinement of the tools and algorithms themselves (Europeana Pro, 2024). Every prompt and every iterative dialogue serve as both a probe into and a stress test of the model's internal space, while each piece of AI-generated text or image represents a provisional outcome born from the translation and negotiation between this third space and the external world.

Since its breakout year in 2022, Midjourney's model has undergone numerous technical updates, both major and incremental. The operational mechanism of Midjourney is based on a prompt-generating model: by scraping millions of images from the open web to build a training dataset, the algorithm learns the patterns and correlations within these images, thereby enabling it to generate new images with similar styles based on given prompts (Tsidylo & Sena, 2023). From V3 to V7, Midjourney has continuously improved its text-to-image generation capabilities: V3 demonstrated the feasibility of generating images from text; V4 enhanced its ability to capture details and process complex prompts; the V5 series improved natural language understanding and generative coherence; the V6 series further optimized long-prompt processing, knowledge representation, and image remixing functions; and V7 achieved significant improvements in prompt-processing precision and image detail quality. David Holz, the founder and CEO of Midjourney,

states the aim of Midjourney is to expand the imaginative powers of the human species (Salkowitz,2022). By replicating, recombining, and blending cultural resources from entire cultural repositories, it significantly expands the possibilities for content generation, thereby unshackling the creative process from the confines of individual imagination.

Cultural Context Guides Technological Calibration

When human designers who armed with their own subjective intentions, aesthetic experiences, and cultural backgrounds encounter AIGC models embodying the vast, anonymous, and hybrid cultural data on which they were trained, no a priori shared language exists between them. This constitutes a paradigmatic intercultural encounter. Prompt engineering essentially lubricates and calibrates human-machine dialogue within this third space, providing a grammar and vocabulary for translation and negotiation (Phoenix & Taylor, 2024). When a designer employs a specific cultural prompt, they are leveraging a shared cultural symbol within a shared cultural context as a pivot to dislodge the unknown, hybrid cultural data space within the model, attempting to translate their intention across and anticipating the model to "translate back" through a hybrid generation. scriptions of cultural heritage collections. The processing of massive and complex cultural data, encompassing data generation, transformation and enrichment (Musiol, 2024), forms a core feedback loop that simultaneously refines technical perceptual and cognitive capabilities, such as style recognition, affective computing, and semantic understanding, while catalyzing the emergence of novel algorithmic models, including multimodal and generative architectures. Through this co-evolution, technology and culture ultimately empower one another.

Europeana has developed a tool named DE-BIAS, designed to detect outdated and potentially harmful language in cultural heritage collection descriptions, aiming to promote a more inclusive and respectful approach to describing digital collections (Europeana Pro, 2022). Grounded in the DE-BIAS vocabulary and utilizing a range of Natural Language Processing (NLP) methods, it identifies obsolete or potentially harmful terms within artifact descriptions from cultural heritage institutions and contextualizes them. The DE-BIAS vocabulary encompasses 700 terms across five languages (Dutch, English, French, German, and Italian), assisting professionals in identifying potential biases within descriptions of cultural heritage collections.

CONTEND FOR DISCURSIVE AUTHORITY

In traditional design practice, discursive power has typically been vested in cultural gatekeepers such as designers, brands, and critics. The emergence of AIGC has partially transferred this creative authority from these traditional arbiters to algorithms and the broader public capable of wielding them. This shift in power inherently creates an interstitial space that becomes subject to renegotiation. Furthermore, AIGC models possess no inherent cultural stance—their internal architecture constitutes a complex, non-human computational realm. For all human cultural actors, this domain represents

a power vacuum. Precisely because its meaning remains undetermined, it becomes a battlefield where competing forces project their will, striving to fill and define this nascent territory. The very selection of the dataset—what to include, what to exclude, and how to label it—constitutes an exercise of cultural authority. Datasets dominated by Western cultural materials may cause model outputs to favor Western aesthetics and values, thus producing a form of data colonialism in the cultural sphere. For non-Western cultural actors to reclaim discursive power, they must engage in a process of decolonizing the model—by feeding it local data, fine-tuning its parameters, and compelling the algorithm to translate and negotiate the legitimacy of their cultural existence.

The final outputs of AIGC design—whether text, images, or videos—embody cultural hybridity. When one culture holds overwhelming dominance across data, algorithms, and user practices, the resulting hybridity distinctly skews toward that culture. To frame AIGC design as a third space for cultural innovation requires not only recognizing its potential to generate new cultural forms, but also maintaining a sober awareness that this innovation remains inextricably entwined with the distribution, contestation, and reconfiguration of discursive power.

Co-Optation by Dominant Cultural Authority

In the context of globalization, the selection of which cultures to showcase, how to interpret them, and who gets to define the "correct" digital version of a culture has become an implicit power game and an ideological contest. This dynamic amplifies existing inequalities within power structures as different cultural actors (human designers, AI models, and platform institutions) compete for discursive authority in the creative process. Institutions possessing vast datasets seek to perpetuate, consolidate, and expand their discursive authority by controlling the technical foundations and output standards of AIGC. Fundamentally, culture is increasingly regarded as a barrier for differentiated competition. Exclusive and in-depth collaborations involving cultural resources constitute a core advantage that is difficult to replicate within a homogenized market. Simultaneously, within the globalized landscape, the right to digitally interpret and promote cultural resources has also become a new type of ideology and discourse power that is established through co-optation. Within AIGC practices, power becomes fluid and decentralized, circulating among humans, AI, platforms, and the cultural capital represented by training data. Through this very process, design participates in shaping and redistributing the global power structure.

The Time Machine project develops a distributed digital information system that maps the evolution of European society, culture, and geography across centuries, transforming its history, languages, and multicultural heritage into dynamic social and economic resources. Its digitization efforts encompass document segmentation, enhanced understanding through AR/VR applications, and simulations for spatiotemporal 4D reconstruction. These initiatives aim to address major scientific and technological challenges by developing and operating a large-scale, shared Time Machine infrastructure. This infrastructure translates research outcomes into innovative platforms for cutting-edge applications, maximizes impact across all key target groups,

and supports the uptake of research results (Time Machine, 2019). Today, over 140 local Time Machine initiatives and related projects have been established across Europe and its periphery, generating lasting positive impacts on European cohesion, economy, and society. They contribute concretely to fostering critical thinking for decision-making at all levels, strengthening European cultural identity, and enhancing the technological competitiveness, entrepreneurial vitality, and employment levels within the EU's knowledge-intensive and creative industries.

Resistance by New Cultural Authority

As a powerful co-creative medium, GenAI stimulates participants' expression and dissemination (Fu et al., 2024). The "user-as-producer" act not only continuously expands the scope of design content but also transforms digital culture into an instrument for practicing discourse and power: it unprecedentedly amplifies the potential voice for individual and marginalized groups to engage in creative expression and cultural resistance. This signifies that traditionally marginalized and represented groups are now proactively leveraging AIGC's operational logic as a third space to challenge and resist dominant narratives, contest cultural discursive authority, and achieve self-empowerment. The ultimate outcome of this contest is not the triumph of one side over the other, but the ongoing emergence of a vibrant hybridity within the interstices of algorithms, which in turn reshapes our global cultural landscape into one that is more pluralistic, equitable and authentic. This space simultaneously mirrors the unequal structures of the real world and opens up an interstitial arena for reconfiguring cultural diversity and challenging monolithic authoritative narratives. The future of AIGC design depends not only on the evolution of the technology itself, but is also contingent on our ability to foster cultural interactions within this emerging "third space" that are more egalitarian, inclusive, and democratic.

Abundant Intelligences, an Indigenous-led international research initiative, tackles critical AI challenges including harmful bias reproduction, socio-economic inequality, neocolonial exploitation, and environmental degradation through integrating Indigenous knowledge systems. The project provides novel technical insights to advance AI development through a three-phase approach: First, it builds cultural bridges through cross-community collaboration, connecting Indigenous knowledge holders, cultural practitioners, AI engineers, designers, and social scientists. Second, it explores new Indigenous AI concepts through futuring and speculative design. Finally, it introduces Indigenous perspectives into technical AI challenges, developing critical-technical prototypes focusing on language, storytelling, environmental stewardship, multi-agent systems and socio-neuro AI (Lewis et al., 2025). Beyond theoretical challenges to mainstream AI discourse, Abundant Intelligences practically empowers Indigenous communities with participation, interpretation, and design rights—fundamentally reshaping technology-culture power dynamics.

CONCLUSION

This study posits that in the digital intelligence age, design has fundamentally evolved from a practice of formal creation to a dynamic site of cultural dialogue. By framing AIGC practices through the lens of Bhabha's concept of the third space, it helps to understand that in the design process of algorithm generation, a new site of cultural hybridity, belonging neither entirely to designers/users nor entirely to AI, is forming between humans and machines, local cultures and global corpora. This critical perspective ultimately explores new mechanisms for cultural innovation, revealing design's expanded role in shaping and being shaped by the complex cultural logic of our time—in the hope that this insight may light the way to another darkness, a new cave of making (Bhabha, 2009).

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