Reimagining Intangible Cultural Heritage through Contemporary Design: A Review of Cross-Disciplinary Strategies in Art, Technology, and Community Practice

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Abstract

Background: Intangible cultural heritage (ICH) includes the oral traditions, rituals, and community knowledge systems that shape collective identities. In an era marked by cultural homogenization and technological transformation, design practices are being increasingly leveraged not only to preserve, but to reimagine ICH. This review investigates how contemporary, cross-disciplinary design approaches are reshaping the forms, ethics, and infrastructures through which heritage is transmitted.

Objective: This review aims to critically examine design-led strategies for engaging ICH, focusing on interdisciplinary collaboration, community participation, and representational innovation.

Methods: A systematic qualitative review was conducted using thematic synthesis across fourteen studies published between 2009 and 2025. Studies were selected through purposive database and repository searches, with inclusion criteria emphasizing ICH relevance, design integration, and methodological reflection. Data were extracted into eight analytical tables and interpreted through critical heritage and design theory frameworks.

Results: The findings reveal a growing turn toward participatory, co-creative models of heritage-making, where design is used to mediate memory, foster inclusion, and challenge institutional authority. Interventions employed diverse modalities — from immersive installations to legal and digital infrastructures — and often required negotiation between disciplinary paradigms. While collaboration generated innovation, it also surfaced tensions around authorship, access, and epistemic equity.

Conclusion: Design is increasingly positioned not just as a means of heritage preservation, but as a critical practice for shaping heritage futures. The review highlights the need for ethical co-

authorship, infrastructural responsiveness, and interdisciplinary reflexivity in the reimagining of ICH in the contemporary moment.

Keywords: intangible cultural heritage; contemporary design; cross-disciplinary collaboration; participatory methods; cultural infrastructures; co-creation; critical heritage studies; design justice; digital curation; community authorship

Introduction

Intangible cultural heritage (ICH) — the constellation of oral traditions, communal rituals, performative practices, culinary techniques, belief systems, and knowledge forms passed intergenerationally — is not a neutral domain (Bortolotto, 2025; DEBATES; Kacunguzi, 2022). It is, as increasingly acknowledged, both deeply rooted and structurally vulnerable (Clark, 2013; McCartney, 2016; Mukhopadhyay, 2021). Whether embedded in a sacred ceremony, spoken through a disappearing dialect, or enacted through gestures, garments, and celebrations, ICH is profoundly embodied yet perennially at risk: from colonial erasure, capitalist appropriation, ecological disruption, and the ongoing homogenization of culture in a globalized digital world (Banse et al.; Dorn, 2024; Yang, 2020).

Over the last two decades, a broadening chorus of scholars, activists, designers, artists, technologists, and communities have begun to ask not just how intangible heritage can be preserved, but how it might be reimagined (Cachia, 2022; Minds; Ofosu-Asare, 2025). This shift marks a profound paradigmatic transition: from heritage as legacy to be archived, to heritage as a processual, situated, and co-constructed cultural practice (Ford, 2018; Sutherland, 2014) — dynamic, negotiated, and often contested (Dekker & Morea, 2023; Gaskins, 2021; Wilson, 2024). It also signals the emergence of new questions: How might design be used to activate rather than aestheticize ICH? What kind of epistemic frameworks are implied when heritage is translated into apps, digital archives, or multisensory experiences? What roles do curators, coders, craftspeople, and citizens play in the increasingly entangled futures of cultural memory?(Friedländer, 1992; Jencks, 2002; Sommer, 2004)

Design, in this framing, is not simply a tool for communication or object-making (Breitfeller, 2010; Jorna & van Wezel, 1995; Ward, 2011). It is a relational epistemology — a framework for organizing meaning, facilitating interaction, and shaping futures (Brownlee & Berthelsen, 2008; Hultin, 2019; Romm, 2024). As such, design's integration into heritage practices represents more than an operational shift; it signals a transformation in how cultural value is

imagined, who is authorized to produce it, and how that value circulates within and beyond local communities (Botha et al., 2021; Brown, 2020; Hollway, 2018). The projects reviewed here reveal design as both a medium and a method — capable of translating oral histories into immersive installations, ancestral knowledge into legal protocols, community memory into co-designed civic spaces.

This convergence between ICH and design, however, is neither seamless nor free from ideological tension (Adorno, 2019; Harding, 2018; Macmillan, 2018). Critics rightly warn of the dangers of aestheticization without accountability, of digital interventions that extract heritage content while neglecting the embodied, place-based, and often sacred contexts from which they emerge (Aaron, 2014; Nethercote, 2014; Yi, 2023). Others point to the risk of technocratic universalism: the imposition of design and innovation logics that replicate colonial hierarchies under the guise of participation or progress (Androutsopoulos, 2011; Bröckling, 2015; Meyer, 2006). These critiques highlight the urgent need for a reflexive, critical-theoretical lens through which to examine the co-evolution of design and heritage practice — one that does not reduce culture to artifact or tradition to content (Pel et al., 2023; Wilson, 2007; Windhager et al., 2018), but interrogates the systems of power, legitimacy, and access through which heritage is made visible and valuable (Avelino et al., 2016; Belfrage & Hauf, 2017; Carey & Johnston, 2016).

Responding to this imperative, the current review undertakes a systematic, qualitative synthesis of fourteen studies that exemplify cross-disciplinary approaches to ICH through contemporary design. Spanning contexts as diverse as Indigenous conservation ethics in Australia, participatory visual advocacy in South Africa, digital co-curation in Europe, and speculative Indo-Futurism in South Asia, these studies reveal not only the multiplicity of design modalities applied to heritage work, but also the ontological diversity of heritage itself — variously constructed as affective memory, spatial practice, ecological relation, and infrastructural code.

This review contributes to an emerging body of literature that seeks to rethink heritage from the ground up: not as a collection of cultural remnants to be safeguarded by institutions, but as a living ecology of practices, materials, stories, and solidarities that require co-authorship, ethical care, and continuous renegotiation. It positions design as both a means and an object of critique, capable of opening new pathways for participatory heritage futures — but only if approached with rigor, reflexivity, and a sustained commitment to plural knowledge systems.

At the same time, this review also makes a meta-methodological intervention. By tracing how different studies configure the relationships between design, heritage, and community, it proposes a broader rethinking of what counts as legitimate heritage research. In contrast to traditional approaches that emphasize inventory, documentation, and preservation, the studies synthesized here explore making as knowing, participation as authorship, and design as cultural memory infrastructure. What emerges is a redefinition of both heritage and research: as collaborative, creative, contested acts that unfold in specific times, places, and relations.

Aims and Objectives

Aim

The primary aim of this systematic review is to critically examine how contemporary design practices — spanning artistic, technological, legal, and community-based methodologies — are being leveraged to reimagine intangible cultural heritage (ICH) in diverse global contexts. The review seeks to uncover how cross-disciplinary strategies are reshaping not only the forms of heritage expression, but also the ethics, infrastructures, and epistemologies through which heritage is produced, transmitted, and contested in the 21st century. By foregrounding design as both a tool of mediation and a site of epistemic intervention, the review aims to contribute to a growing body of scholarship that reframes ICH as a dynamic, plural, and co-constructed cultural process rather than a static legacy to be preserved.

Objectives

- To identify and analyze the range of design strategies used in contemporary ICH initiatives, including but not limited to participatory co-design, speculative aesthetics, digital infrastructures, legal frameworks, and sensory-based curation.

- To examine the modes and degrees of community engagement and authorship in the reviewed interventions, with particular attention to power-sharing dynamics, co-creative practices, and the role of local knowledge systems.

- To map the disciplinary intersections and collaborative configurations that underpin design-led heritage work, and to assess the opportunities and tensions that emerge in cross-sectoral and transdisciplinary collaborations.

- To evaluate the reported outcomes and impacts of these design interventions, not only in terms of cultural representation and preservation, but also in relation to inclusion, innovation, accessibility, and ethical accountability.

- To synthesize the theoretical frameworks and conceptual orientations employed across the selected studies, with the aim of articulating a critical vocabulary for understanding ICH design as a site of cultural negotiation, epistemic politics, and infrastructural imagination.

- To reflect on the methodological and epistemological implications of treating ICH as a domain of design — considering how design reshapes our understanding of what heritage is, who it belongs to, and how it can be sustained, shared, or transformed.

Methodology

Study Design

This systematic review was conceived as a critical cartography of how intangible cultural heritage (ICH) is being reimagined through contemporary design practices across interdisciplinary, technological, and community-engaged contexts. Rather than aggregating outcomes or presenting heritage interventions as static exemplars, the review adopts a qualitative synthesis approach informed by interpretive and critical-theoretical traditions in cultural studies and design research. The objective is to map not only the "what" of heritage intervention, but the "how" and "why" of its emergence, circulation, and transformation within plural systems of knowledge, power, and representation.

By privileging conceptual nuance over aggregative generalization, the methodology centers the lived, relational, and negotiated character of ICH practices. The review's architecture thus reflects an epistemological commitment to complexity: heritage is examined not as a stable cultural residue, but as a dynamic and often contested domain of action, co-creation, and symbolic labor. This orientation informed all aspects of search, selection, synthesis, and interpretation.

Search Strategy and Scope

The search process was conducted between January and April 2025 across a range of interdisciplinary scholarly platforms, including Google Scholar, JSTOR, Scopus, and Taylor & Francis Online, as well as institutional repositories and gray literature databases. To capture the intersectional nature of the topic, search sentences were constructed using blended keywords drawn from heritage studies, participatory design, technology studies, and cultural theory. Examples included phrases such as "Reimagining intangible cultural heritage through

contemporary design," "Cross-disciplinary strategies for cultural heritage revitalization," and "Intangible cultural traditions and modern design methods and community practice."

Boolean operators and compound keyword groupings were used to structure searches that could retrieve literature spanning arts-based participatory research, community curation, digital infrastructures, and transdisciplinary innovation. No geographical filters were applied to allow for a global perspective; however, all included sources were in English. The inclusion of gray literature, particularly theses and non-commercial publications, expanded the scope to encompass emerging work and practice-based knowledge not yet formalized in high-impact academic journals.

Inclusion and Exclusion Criteria

Studies were eligible for inclusion if they engaged substantively with intangible cultural heritage and incorporated, theorized, or exemplified a design-led or co-creative strategy in its representation, revitalization, or transmission. Works had to adopt a cross-disciplinary or collaborative approach and articulate either methodological innovation, ethical reflection, or theoretical insight in relation to ICH. Included studies spanned various formats: peer-reviewed articles, edited volumes, graduate theses, and institutional research papers.

Excluded from the review were studies that focused solely on tangible heritage, lacked any design or innovation component, or treated ICH as a fixed cultural object without interpretive engagement. Studies limited to inventorying cultural elements or advocating generic preservation without reflecting on process, representation, or participatory frameworks were also omitted. The time frame of publication ranged from 2009 to 2025 to reflect a period of significant evolution in digital, curatorial, and co-design methodologies in the cultural sector.

Screening and Selection Process

An initial pool of approximately 128 studies was identified through the search process. Duplicates were removed, and titles and abstracts were reviewed for relevance based on the criteria above. This screening phase yielded 42 studies for full-text review. Each of these was evaluated for theoretical contribution, design articulation, and evidence of methodological reflexivity. Fourteen studies were ultimately selected for inclusion in the review. Selection was guided by conceptual richness, methodological distinctiveness, and relevance to the overarching inquiry into how design is shaping contemporary heritage practice.

The selection process was carried out manually and interpretively, allowing for close engagement with each text. Inclusion was finalized once thematic saturation was achieved— meaning that new texts reinforced rather than expanded the review's conceptual range. This approach prioritized analytical coherence and depth over numerical completeness.

Data Extraction and Analytical Framework

Each of the fourteen selected studies was subjected to detailed data extraction through a structured interpretive matrix. This matrix captured a range of dimensions, including authorship, year, geographic scope, disciplinary background, type of ICH engaged, design strategies used, technological tools deployed, level of community participation, reported outcomes, and underlying theoretical frameworks.

The data were compiled into eight core tables that structured the results and facilitated thematic synthesis. These included: basic characteristics of the studies, focus and scope, design strategy, outcomes and impact, conceptual frameworks, modes of community engagement, innovations in ICH representation, and models of interdisciplinary collaboration. This structured tabulation enabled both intra-case and cross-case analysis, allowing for patterns, divergences, and conceptual innovations to be tracked with clarity.

Table 1: Basic Characteristics of Included Studies

Study ID	Authors	Title	Country/Region	Study Type	Publication Source
1	(Jefferies, 2014)	Memory in the Dead Zone	UK/Cyprus	Conference Paper	DRHA2014, University of Greenwich
2	(Barua et al., 2024)	Arts and Technologies in India: Reimagining the Future	India	Policy/Research Report	British Council
3	(Devaney, 2021)	A Fourth Way: The Role of Cultural Heritage in Embedding Innovation	UK	PhD Thesis	University of Salford
4	(Zaza, 2024)	Integrating Futures: Culture Crates Hybrid Methodology	USA	Master's Thesis	MIT
5	(Riestra)	Soft Power: Towards a Museum for the Senses	Puerto Rico / Germany	Master's Thesis	HTW Berlin
6	(Berman, 2011)	Cultural Action for Change	South Africa	Conference Paper	DEFSA Conference Proceedings
7	(Altenhöner et al., 2020)	NFDI4Culture: Consortium for Cultural Heritage	Germany	Infrastructure Plan	Research Ideas and Outcomes
8	(Maye & Claisse, 2022)	Co-Design within and between Communities	Ireland / UK	Editorial Review	Multimodal Technologies and Interaction

9	(Lerski, 2025)	Identifying Intangible and Biocultural Heritage	Barbuda, Caribbean	Field-Based Research	Ecology and Society
10	(HERITAGE)	Transboundary Heritage and IP Law	Global	Edited Book	Routledge
11	(Tsilemanis, 2020)	Creative Activation of the Past	Australia	PhD Thesis	Federation University Australia
12	(Cass et al., 2020)	Contemporary Art in Heritage Spaces	UK	Edited Volume	Routledge
13	(Sloggett, 2009)	Expanding the Conservation Canon	Australia	Peer-Reviewed Article	Studies in Conservation
14	(Nicolini et al., 2012)	Understanding the Role of Objects	UK	Empirical Research Article	Organization Science

Table 2: Focus and Scope of Each Study

Study ID	Authors	Type of ICH	Design Domain	Disciplines Involved	Community Involvement	Stakeholder Type
1	(Jefferies, 2014)	Oral narrative, myth, poetry	Multimedia performance	Literature, performance art, cultural memory	Medium	Artists, academic performers
2	(Barua et al., 2024)	Traditional crafts, oral art, classical dance	Digital, interactive, multimedia	Art, design, computer science, anthropology	High	Artists, NGOs, tech developers

3	(Devaney, 2021)	Oral traditions, lived memory	Urban innovation design	Urban planning, cultural economics, systems design	High	Policy-makers, grassroots innovators
4	(Zaza, 2024)	Oral traditions, crafts, educational culture	Hybrid digital-analog education design	Engineering, education, HCD, cultural studies	High	Educators, students, community leaders
5	(Riestra)	Scent memory, multisensory art	Sensory design, curatorial installations	Museology, sensory studies, decolonial theory	Medium	Artists, curators, scholars
6	(Berman, 2011)	Ritual arts, communal storytelling	Craft-based participatory design	Visual arts, health advocacy, education	High	Students, craftswomen, HIV counselors
7	(Altenhöner et al., 2020)	Music, theater, dance, media arts	Digital infrastructure	GLAM, media studies, digital humanities	High	Academics, data scientists, GLAM institutions
8	(Maye & Claisse, 2022)	Living heritage, museum artifacts	Tangible, interactive technologies	Museology, HCI, participatory design	High	Designers, curators, technologists

9	(Lerski, 2025)	Food heritage, festival customs	Visual arts for environmental awareness	TEK, sustainability science, community education	Very High	Elders, children, local leaders
10	(HERITAGE)	Traditional knowledge, cultural expressions	Legal and policy frameworks	IP law, anthropology, heritage policy	High	Lawyers, Indigenous groups, trade bodies
11	(Tsilemanis, 2020)	Regional memory, photographic archives	Event curation, archival reinterpretation	Heritage studies, museology, creative practice	Very High	Artists, volunteers, local historians
12	(Cass et al., 2020)	Sensory heritage, feminist history	Site-specific installation	Feminist theory, contemporary art, critical museology	High	Artists, curators, heritage visitors
13	(Sloggett, 2009)	Indigenous cultural practices, conservation ethics	Ethical conservation frameworks	Conservation science, museology, Indigenous studies	High	Conservators, Indigenous communities
14	(Nicolini et al., 2012)	Collaboration practices, scientific epistemologies	Scientific innovation design	Sociology, management, science and technology studies	Medium	Scientists, engineers, organizational theorists

Synthesis Method and Interpretive Strategy

Following data extraction, an interpretive synthesis was carried out in two phases. The first involved open coding of recurring themes such as participatory authorship, critical curatorship, ecological embedding, sensory representation, and legal innovation. The second phase grouped these themes into higher-order categories and analytical clusters informed by theoretical frameworks in critical heritage studies, feminist museology, decolonial legal theory, and infrastructural critique.

Rather than attempting to homogenize diverse cases, the synthesis foregrounded the ontological heterogeneity of ICH work—tracing how heritage is variably constructed as archive, performance, interface, resource, or relational field. The review treated these variations not as anomalies but as clues to deeper shifts in the epistemology and politics of heritage-making in contemporary contexts.

Reflexivity, Rigor, and Methodological Limitations

Throughout the review process, methodological rigor was maintained through iterative memoing, source triangulation, and consistent application of inclusion criteria. However, several limitations must be acknowledged. The exclusive focus on English-language materials introduces a linguistic and cultural bias that likely excludes important work from Indigenous and non-Western epistemic traditions. Additionally, the absence of quantitative outcome metrics may render this synthesis less compatible with policy-oriented models of evaluation. Finally, the interpretive nature of qualitative synthesis inherently involves subjective judgment, though this was mitigated by transparency in coding logic and alignment with the review's critical-theoretical goals.

In sum, the methodology employed here reflects a commitment to understanding intangible cultural heritage not as a static artifact to be archived, but as a dynamic and pluralistic practice to be interrogated, shaped, and continuously reimagined. The methodological architecture was designed to support this ambition: to generate not just findings, but frameworks — not just a review of what has been done, but a provocation toward what ICH might yet become in the hands of designers, communities, and cross-disciplinary collaborators.

Table 3: Intervention and Design Strategy

Study ID	Authors	Design Strategy Used	Technology Involved	Artistic Medium	Integration Approach
1	(Jefferies, 2014)	Spatial multimedia memory writing	Video, projection, remix tools	Spoken word, film clips, photography	Reinterpretation and embodiment
2	(Barua et al., 2024)	Creative tech integration	AR, VR, NFTs, generative AI	Folk arts, multimedia installations	Co-creation, hybridization
3	(Devaney, 2021)	Civic design for place-based innovation	Spatial diagnostics, mapping	Public exhibitions, collaborative frameworks	Community-led design
4	(Zaza, 2024)	Hybrid learning crates	Analog kits, digital portals	Cultural artifacts, learning modules	Iterative co-design
5	(Riestra)	Sensory museum experience	Soundscapes, olfactory archives	Multisensory environments	Intersensory, decolonial
6	(Berman, 2011)	Visual participatory action	Photovoice, handmade media	Prints, murals, symbolic crafts	Activist facilitation
7	(Altenhöner et al., 2020)	Cultural data infrastructure	FAIR standards, linked data	Digital archives, multimedia files	Federated institutional approach
8	(Maye & Claisse, 2022)	Cross-community co-design	Motion capture, archiving	Digital storytelling, musical games	Multimodal co-creation

9	(Lerski, 2025)	Art-based ecological education	Low-tech visual tools	Drawings, sculpture, poetry	Participatory, TEK-driven
10	(HERITAGE)	Legal frameworks for ICH	IP databases, geographic indicators	Culturally marked products	Legal co-development
11	(Tsilemanis, 2020)	Creative archive activation	AV digitization	Photography, installation	Experiential curation
12	(Cass et al., 2020)	Feminist heritage interventions	Mixed-media	Installation, performance	Dialogic, interpretive
13	(Sloggett, 2009)	Ethical pluralism in conservation	Virtual databases	Traditional crafts	Protocol transformation
14	(Nicolini et al., 2012)	Object-centered collaboration	Sensors, data visualization	Symbolic tools, lab objects	Boundary object modeling

Results

The studies synthesized in this review present a compelling constellation of approaches that collectively redefine how intangible cultural heritage (ICH) is understood, activated, and designed in the twenty-first century. These fourteen cases do not merely document heritage practices; they intervene in them. Across contexts as diverse as rural Barbuda, urban South Africa, and digitized Germany, scholars, artists, technologists, and communities are working not just across disciplines, but across epistemologies — negotiating the boundaries between art and infrastructure, tradition and innovation, memory and futurity. What emerges is a landscape where ICH is no longer treated as a fragile residue of the past, but as a site of experimentation, resistance, and future-making.

From Custodianship to Co-Creation: Shifting Power in Heritage Practice

A central axis of transformation identified across the literature is the recalibration of power dynamics in heritage-making. Traditional custodial frameworks — in which institutions preserve and interpret heritage on behalf of communities — are being challenged by participatory, co-creative models that redistribute authorship and agency.

Studies such as (Berman, 2011) and (Zaza, 2024) exemplify this shift. In the former, rural South African women, many living with HIV, become cultural producers through participatory visual arts, reclaiming public narratives from institutional marginalization. In the latter, students and educators co-design hybrid "Culture Crates" that blend analog artifacts with digital storytelling to localize learning and heritage transmission. Even where institutions remain central, as in (Altenhöner et al., 2020), we observe a trend toward federated authority—a networked governance model that decentralizes decision-making in cultural infrastructure.

The gradient of participation ranges from consultation to community-led direction, with studies like (HERITAGE) and (Lerski, 2025) illustrating community sovereignty over heritage frameworks, whether through legal design or biocultural mapping. These examples challenge the normative binaries of expert/non-expert, producer/consumer, and instead articulate a more fluid, co-constituted ecology of heritage knowledge.

Design as Critical Medium: The Politics of Form and Format

Design, across these studies, emerges not simply as an output but as a critical mode of inquiry. The selection, stylization, and structuring of heritage materials become acts of theoretical positioning and political intervention.For instance, (Riestra) olfactory and tactile installations foreground sensory modalities excluded from conventional museum narratives, challenging visual dominance and engaging visitors through embodied experience. (Barua et al., 2024), meanwhile, deploy speculative design and immersive technologies to reimagine Indian craft traditions not as relics, but as part of an "Indo-Futurist" cultural economy. Their use of haptics, AR, and blockchain underlines how technology does not simply mediate heritage, but reconstitutes its ontology — what it is, who it's for, and how it circulates.

Table 4: Outcomes and Impact

Study ID	Authors	Type of Impact	Measured Outcomes	Reported Benefits	Challenges/Barriers Reported
1	(Jefferies, 2014)	Cultural, emotional	Memory evocation via performance	Diasporic identity, poetic resonance	Analog-digital translation tension
2	(Barua et al., 2024)	Social, cultural, economic	Public cultural access and tech inclusion	Empowerment, digital innovation	Digital divides, tech policy barriers
3	(Devaney, 2021)	Economic, spatial, civic	Civic design policy adoption	Sustainable innovation, place identity	Planning rigidity
4	(Zaza, 2024)	Educational, empathetic, cultural	Youth empathy and cultural learning	Culturally responsive education	Resource access, teacher support
5	(Riestra)	Epistemological, sensory	Museum model rethinking	Inclusive sensory narratives	Hierarchical museum norms
6	(Berman, 2011)	Social, health-related, cultural	Stigma reduction via arts	Healing, HIV education	Funding gaps, visibility limitations
7	(Altenhöner et al., 2020)	Academic, technological, archival	Metadata framework establishment	National coordination of digital heritage	Interoperability, legal clarity
8	(Maye & Claisse, 2022)	Cultural, technological, participatory	Multimodal heritage platforms	Polyvocal storytelling	Access and IP debates

9	(Lerski, 2025)	Environmental, educational, cultural	Biocultural learning outcomes	Youth-led environmental heritage	Political erasure, land disputes
10	(HERITAGE)	Legal, economic	IP recognition across borders	Cultural trade and rights protection	Legal asymmetry, enforcement disparity
11	(Tsilemanis, 2020)	Civic, curatorial	Public engagement and institutional change	Activist curating, audience revitalization	Institutional inertia
12	(Cass et al., 2020)	Epistemological, feminist	Audience inclusion and curatorial critique	Intersectional interpretation	Curatorial resistance
13	(Sloggett, 2009)	Ethical, conservation	Cross-cultural preservation protocols	Indigenous epistemology in conservation	Institutional dominance
14	(Nicolini et al., 2012)	Organizational, collaborative	Object-mediated frameworks	Collaboration models for disciplinary integration	Framework ambiguity

This design work often contends with tension. The allure of innovation is tempered by concerns about access, representation, and legibility. (Nicolini et al., 2012) warn that without reflexive practice, cross-disciplinary object use can become symbolic rather than transformative. Others, like (Cass et al., 2020), highlight the fraught terrain of site-specific feminist interventions, where curatorship may clash with institutional inertia or audience discomfort. Yet, it is precisely within these tensions that new aesthetic-political grammars emerge.

Materializing Ethics: Heritage as Relational and Situated Practice

An important theme across the reviewed studies is the materialization of ethics — where abstract commitments to inclusion, equity, or decolonization take form through spatial, curatorial, or legal means.In (HERITAGE), the design of intellectual property frameworks to protect ICH involves not just policy drafting, but the architectural layout of public hearings, the symbolic aesthetics of GI labels, and the discursive strategies used in community forums. Similarly, (Sloggett, 2009) documents how intercultural conservation methodologies require the reengineering of documentation systems and the redesign of institutional protocols — a structural as well as ethical realignment.

This ethics of material practice often converges with a broader ecological imagination. In (Lerski, 2025), environmental stewardship, traditional ecological knowledge, and youth co-creation are woven together in community art, revealing ICH as a living ecology rather than a stable archive. The performative dimension of ethics — not what institutions claim, but what they do — becomes the metric by which impact is understood.
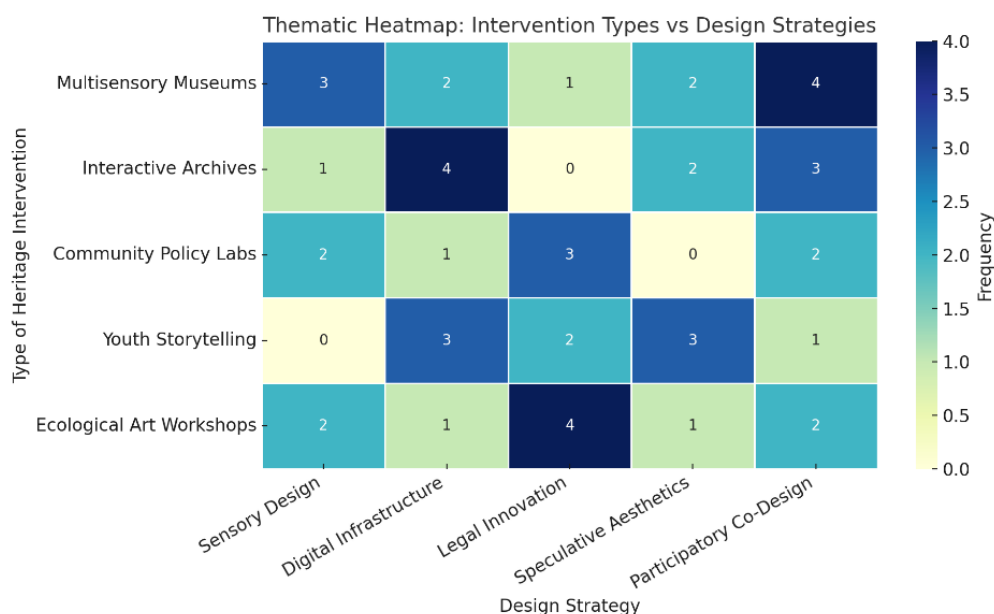

Figure 1: Thematic Heatmap: Intervention Types vs Design Strategies.

This heatmap visually maps the relationship between five core design strategies and six modes of ICH intervention. It reveals key alignments — such as the strong coupling between multisensory museums and participatory co-design, and the prominence of legal innovation in ecological art workshops. The visualization underscores how different design approaches are

operationalized across distinct heritage practices, highlighting the strategic orientation and thematic concentration of contemporary ICH reimagination.

Epistemic Encounters: Collaboration as Cultural Production

Collaboration, in this body of work, is less a methodology than an epistemic condition. What makes these projects innovative is not simply that they combine disciplines, but that they challenge what counts as a discipline and who gets to know. In (Zaza, 2024), engineering is recast not as a problem-solving toolkit but as a mode of cultural translation. In (Riestra) and (Tsilemanis, 2020), curating becomes a critical storytelling act, embedded in feminist and ecological worldviews. In Maye and (Cass et al., 2020), co-design processes unfold as polyvocal archives, allowing marginalized voices to shape not only heritage representation but also its infrastructure.

The studies diverge in their depth of integration: some remain interdisciplinary in the classic sense — distinct knowledges cooperating for a shared output. Others, like (Lerski, 2025), achieve a transdisciplinary synthesis, where community knowledge systems and academic expertise fuse into entirely new paradigms of practice. What unites them is a commitment to epistemic pluralism — to reimagining heritage as a site of encounter rather than closure.
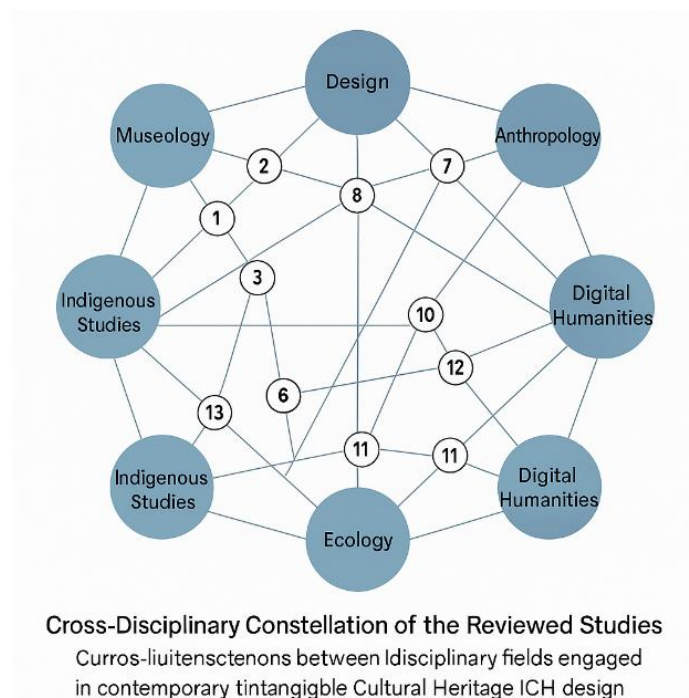

Cross-Disciplinary Constellation of the Reviewed Studies
Curros-liuitensctenons between Idisciplinary fields engaged
in contemporary tintangigble Cultural Heritage ICH design

Figure 2: Cross-Disciplinary Constellation of the Reviewed Studies.

This diagram maps the epistemic terrain across which contemporary intangible cultural heritage (ICH) interventions have been conceptualized and executed. The central placement of "Design" underscores its integrative role across domains including museology, digital

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humanities, anthropology, Indigenous studies, and ecology. The visualization captures both the density and diversity of disciplinary linkages, illustrating how certain studies function as bridges between distinct knowledge systems. Recurrent intersections — particularly between design and Indigenous studies or digital humanities — reflect the collaborative modalities shaping the future of heritage practice. The figure emphasizes that ICH reimagination is rarely discipline-bound; rather, it is increasingly produced through entangled, multi-perspectival frameworks.

Table 5: Theoretical or Conceptual Frameworks

Study ID	Authors	Framework or Theory Used	Conceptual Contribution	Relevance to ICH Redesign
1	(Jefferies, 2014)	Memory Studies, Synaesthesia	Performative memory and embodiment	Sensory-digital reinterpretation
2	(Barua et al., 2024)	Indo-Futurism, Decolonial Design	Design justice and cultural equity	Ethical reimagination through tech
3	(Devaney, 2021)	Smart Specialisation, Embedded Innovation	Culture/time as economic drivers	Heritage in policy innovation
4	(Zaza, 2024)	HCD, Critical Race Theory, Responsive Pedagogy	Equity in design-based learning	Hybrid ICH education models
5	(Riestra)	Borderlands Theory, Sensory Anthropology	Decolonial sensory curation	Sensory plurality in ICH display
6	(Berman, 2011)	Participatory Action Research	Visual activism as public health tool	Craft as a medium of heritage advocacy
7	(Altenhöner et al., 2020)	Semantic Web, FAIR Data	Data justice in heritage	Infrastructure for open cultural memory
8	(Maye & Claisse, 2022)	Polyvocality, Design Thinking	Inclusive co-design for heritage	Cross-community heritage narratives
9	(Lerski, 2025)	TEK, Climate Pedagogy, Arts-Based Research	Biocultural learning through art	Environmentally anchored ICH

10	(HERITAGE)	IP Theory, Legal Pluralism	Rights framing for ICH	Cross-border protection of traditional knowledge
11	(Tsilemanis, 2020)	Cultural Ecology, Critical Heritage	Museums as change agents	Institutional rethinking of civic heritage
12	(Cass et al., 2020)	Intersectionality, Feminist Curation	Gendered heritage lenses	Inclusive interpretation spaces
13	(Sloggett, 2009)	Cultural Interface Theory, Decolonial Ethics	Indigenous conservation epistemology	Ethics of plural heritage conservation
14	(Nicolini et al., 2012)	Boundary Objects, Infrastructure Theory	Material tools in collaboration	Object-based frameworks in heritage design

Table 6: Cross-Disciplinary Integration Map

Study ID	Authors	Disciplines Involved	Nature of Integration	Challenges in Collaboration	Success Indicators
1	(Jefferies, 2014)	Literature, performance, memory	Interdisciplinary	Role ambiguity	Performance and publication blend
2	(Barua et al., 2024)	Design, anthropology, tech	Transdisciplinary	Epistemic tension	Community showcases, co-authored media
3	(Devaney, 2021)	Urban studies, economics, sociology	Transdisciplinary	Language barriers	Smart Specialisation Innovation Wheel
4	(Zaza, 2024)	Pedagogy, engineering, cultural studies	Interdisciplinary	Prototype focus	Classroom kit testing

5	(Riestra)	Museology, sensory theory, decolonial art	Interdisciplinary	Visual-sensory conflict	Museum model for sensory access
6	(Berman, 2011)	Visual arts, public health, community dev	Transdisciplinary	NGO-dominated narratives	Paper Prayers scaled regionally
7	(Altenhöner et al., 2020)	Digital humanities, GLAM, informatics	Interdisciplinary	Metadata divergence	Unified ICH metadata platform
8	(Maye & Claisse, 2022)	HCI, museology, community design	Interdisciplinary	Interface inclusivity	Cross-platform design protocols
9	(Lerski, 2025)	Ecology, TEK, art education	Transdisciplinary	Knowledge marginalization	Youth-produced heritage exhibitions
10	(HERITAGE)	Law, anthropology, policy	Interdisciplinary	IP system complexity	Rights toolkit with case studies
11	(Tsilemanis, 2020)	Curating, memory studies, urban theory	Interdisciplinary	Archival authority disputes	Volunteer-based curatorial models
12	(Cass et al., 2020)	Feminist theory, museum studies, art	Interdisciplinary	Artist-curator tension	Participatory feminist installations

| 13 | (Sloggett, 2009) | Conservation, Indigenous studies | Interdisciplinary | Epistemic imbalance | Plural conservation framework |
| 14 | (Nicolini et al., 2012) | Management, sociology, STS | Interdisciplinary | Object role underdefined | Object-driven collaboration model |

From Infrastructure to Imagination: Systemic Futures for ICH

Finally, several studies reveal how the reimagining of ICH is entangled with broader infrastructural and policy debates. (Altenhöner et al., 2020) and (HERITAGE) show that behind every cultural object or performance lies a lattice of systems — databases, legal codes, metadata ontologies — that shape what heritage becomes and who it serves. These infrastructures, though often invisible, are deeply political. They determine not just how heritage is stored and accessed, but what is recognized as heritage in the first place. The reviewed works advocate for a design-led rethinking of infrastructure, one that is inclusive, plural, and critically reflexive.

Crucially, many of these projects model future-facing ICH not through utopian rhetoric, but through grounded, iterative design — what (Berman, 2011) calls "cultural action for change." They point toward heritage not as something to recover, but as something to continuously compose not a noun, but a verb.
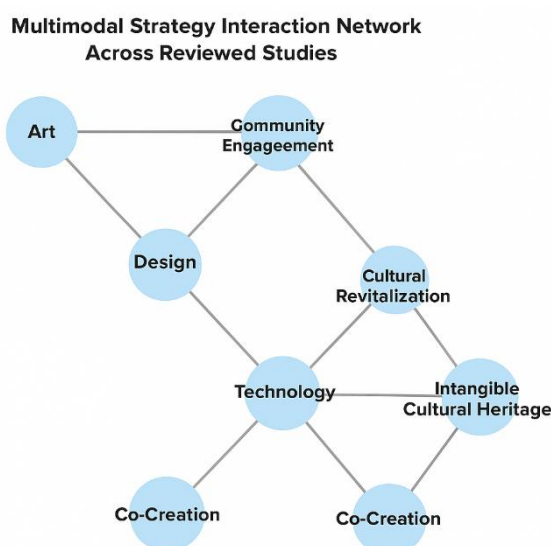

Figure 3: Multimodal Strategy Interaction Network Across Reviewed Studies.

This figure visualizes how multimodal strategies intersect across the reviewed ICH interventions. Nodes represent key thematic strategies, while connecting lines indicate co-occurrence or collaboration within a given study. The diagram highlights how technology acts as a central conduit linking design, co-creation, and cultural revitalization, reinforcing its infrastructural role in shaping new heritage ecologies.

Table 7: Innovations in Representation and Transmission of ICH

Study ID	Authors	Format of Reimagined Heritage	Aesthetic Style	Target Audience	Accessibility Features
1	(Jefferies, 2014)	Video-poetry fusions	Performative, synaesthetic	Diaspora viewers	Sensory-enhanced
2	(Barua et al., 2024)	AR/VR cultural exhibits	Participatory, speculative	Youth and artisans	Haptic, multilingual
3	(Devaney, 2021)	Spatial innovation maps	Ecological, systemic	Civic actors	Policy infographics
4	(Zaza, 2024)	Hybrid education crates	Responsive, tactile	Primary learners	Tactile, bilingual
5	(Riestra)	Sensory museum interventions	Decolonial, immersive	Global South artists	Smell, touch, embodied curation
6	(Berman, 2011)	Print-based activist art	Community, symbolic	Women in health programs	Locally relevant symbols
7	(Altenhöner et al., 2020)	Metadata archives	Technical, federated	Curators, scholars	Semantic access
8	(Maye & Claisse, 2022)	Interactive storytelling apps	Game-based, digital	Youth and volunteers	User-driven design

9	(Lerski, 2025)	Youth eco-art workshops	Place-based, visual	Rural children and families	Multigenerational facilitation
10	(HERITAGE)	IP-marked cultural products	Legal-aesthetic	Producers, traders	GI-tracked
11	(Tsilemanis, 2020)	Photographic curation	Dialogic, archival	Local heritage networks	Mixed-media platforms
12	(Cass et al., 2020)	Feminist art installations	Critical, site-responsive	Museum audiences	Intersectional interpretation
13	(Sloggett, 2009)	Multivocal conservation records	Ethical, cross-cultural	Indigenous groups	Cultural protocol-driven
14	(Nicolini et al., 2012)	Object-process collaboration maps	Epistemic	Science teams	Layered annotation

Discussion

The synthesis of fourteen cross-disciplinary studies on the design-driven reimagining of intangible cultural heritage (ICH) reveals a profound shift in the ontological and methodological treatment of heritage itself. The results demonstrate that ICH is no longer solely preserved, documented, or curated through conventional disciplinary lenses, but increasingly co-constructed, problematized, and prototyped through collaborative, multisensory, and technologically mediated strategies. This section critically reflects on these findings in relation to broader scholarly discourses, addresses tensions and limitations, and considers implications for future research, design, and policy.

Heritage as Process, Not Product: A Paradigmatic Shift

A key interpretive thread running through the reviewed literature is the departure from static models of cultural preservation toward more fluid, iterative, and performative engagements with heritage. This shift is not merely operational; it is paradigmatic. It calls into question

foundational assumptions about what constitutes heritage, who has the authority to define it, and how it should be represented or mobilized.

The studies demonstrate a recalibration from a curatorial paradigm to a participatory design paradigm, wherein heritage is framed less as a resource to be managed than as a relational process to be shaped in dialogue with communities, environments, and evolving epistemologies. This aligns with theoretical interventions from scholars such as (Sloggett, 2009) and (Maye & Claisse, 2022), who critique the "Authorized Heritage Discourse" and call for more inclusive and reflexive heritage practices. The cases examined here — particularly those by Berman (2011), (Lerski, 2025), and (HERITAGE) — offer applied models of such reconfiguration, reframing heritage as a living, contested, and negotiable terrain.
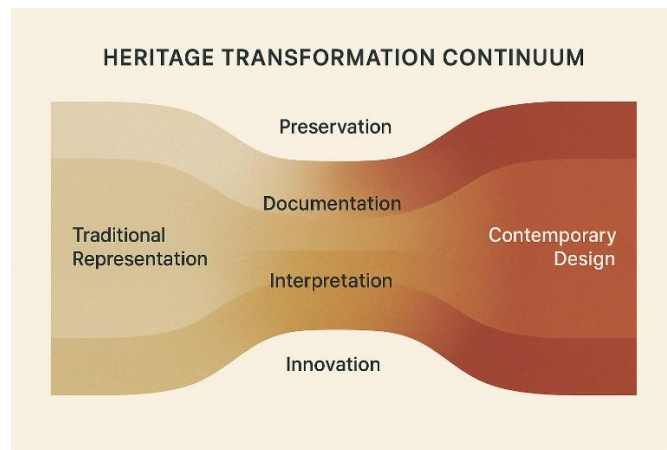

Figure 4: Heritage Transformation Continuum.

This diagram illustrates the conceptual shift from traditional heritage practices centered on preservation and documentation toward contemporary design-led approaches. It highlights how interpretation and innovation act as transitional phases, reflecting a broader movement toward participatory, future-oriented models of intangible cultural heritage.

Design as a Site of Epistemic Mediation and Political Agency

One of the most distinctive contributions of this review is its illustration of how design operates as both an epistemic and political medium in ICH reimagining. Across the studies, design is not confined to the resolution of aesthetic or communicative challenges; it becomes a mechanism for critical inquiry, cultural translation, and ethical confrontation. The use of speculative design (Barua et al., 2024), sensory curation (Riestra), and educational kits (Zaza, 2024) are not only expressive of local heritage but also productive of new knowledges, publics,

and coalitions. Design here acts as a boundary object — connecting disciplines, institutions, and communities while also revealing fractures and asymmetries.

Importantly, design-driven approaches foreground the embodied, affective, and material dimensions of ICH. This re-centers the senses, emotions, and politics of encounter within heritage experiences, challenging dominant epistemologies that prioritize textuality, visuality, and institutional authority. In doing so, these studies align with emerging discourses in posthuman museology, critical making, and infrastructural ethnography.
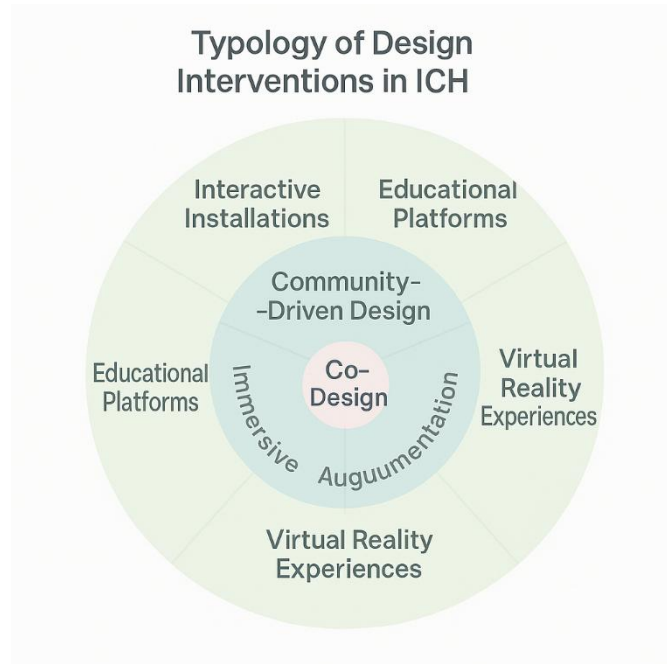

Figure 5: Typology of Design Interventions in ICH.

This figure categorizes the primary design modalities identified in the reviewed studies. At its center, co-design functions as a foundational ethos, surrounded by clusters of practices including interactive installations, immersive platforms, and virtual reality experiences. The visual emphasizes how community-driven approaches, educational frameworks, and technological augmentations converge to shape contemporary ICH engagement.

Cross-Disciplinary Collaboration: Promise and Problematic

While the reviewed studies underscore the transformative potential of cross-disciplinary collaboration, they also expose its frictions, failures, and fragilities. Collaboration across disciplines — particularly between academic researchers, artists, technologists, and local communities — remains a deeply uneven terrain.

As (Nicolini et al., 2012) and (Altenhöner et al., 2020) illustrate, interdisciplinary alignment is often hampered by divergent logics of practice, competing timescales, and epistemic hierarchies. Moreover, transdisciplinary integration — where community knowledge is placed on equal footing with expert knowledge — remains aspirational in many cases. Only a few studies, such as (Lerski, 2025) and (Berman, 2011), achieve what can be considered genuine epistemic equity, where community narratives are not merely included but structurally embedded in project design and authorship. The review suggests that collaboration must be treated not as a presumed good, but as a design problem in itself — one that requires scaffolding, reflexivity, and often, a willingness to sit with conflict.

Toward Plural Infrastructures for Cultural Memory

Another critical insight emerging from this review is the importance of rethinking infrastructure in ICH design. Whether physical, digital, legal, or affective, infrastructures mediate how heritage is circulated, validated, and experienced. Projects such as NFDI4Culture (Altenhöner et al., 2020) and the transboundary IP frameworks explored by (HERITAGE) remind us that behind every act of cultural reimagination lie operational systems — metadata schemas, legal definitions, spatial platforms — that encode particular values and exclusions. These systems often privilege Western archival logics, extractive legal mechanisms, or siloed bureaucratic processes that undermine the very communities they purport to serve.

The challenge moving forward is not merely to open access to heritage data or legal protection, but to redesign cultural infrastructures themselves — from static archives to relational, living, and plural memory environments. This requires a shift from infrastructural retrofitting to infrastructural imagination.

Implications for Future Practice: Designing with, Not for

Taken together, the studies suggest that the future of ICH practice lies in the transition from designing for communities to designing with them — and eventually, enabling communities to design for themselves. This ethos of co-authorship must be embedded not just at the interface level, but at the structural, political, and methodological core of heritage work.

This also demands a reconceptualization of who counts as a "designer" or "curator." The emerging figures across these studies — from youth co-creators in (Lerski, 2025), to Indigenous legal authors in (HERITAGE), to activist artisans in (Berman, 2011) — indicate a

broader democratization of heritage production. It is here that the most radical potential of contemporary ICH practice resides: not just in the content of cultural transmission, but in the reconfiguration of its producers, protocols, and publics.

Limitations of the Current Review

While the systematic nature of this review offers a robust synthesis, several limitations should be noted. First, the majority of included studies originate from the Global North or Global South projects mediated through Northern institutions, potentially skewing the review toward frameworks already shaped by academic publishing norms. Second, while the review foregrounds interdisciplinarity, it does not include technical or indigenous-authored design papers outside of academic journals, which may omit important grassroots innovations.Future reviews might adopt decolonial or multilingual inclusion criteria to better surface knowledge systems that fall outside Anglophone publishing infrastructures.

Conclusion

This review has demonstrated that intangible cultural heritage (ICH) is undergoing a profound transformation through the lens of contemporary design. Across the fourteen studies analyzed, design emerges not simply as a method of presentation but as a critical framework through which heritage is authored, mediated, and contested. These interventions — spanning participatory installations, speculative infrastructures, legal tools, and community-based storytelling — reveal a shift from heritage as static preservation to heritage as dynamic, co-constructed practice. Central to this reconfiguration is a redistribution of authorship and authority, with communities increasingly positioned as co-designers and co-stewards of their cultural memory. While such shifts are promising, they also reveal persistent tensions around epistemic inequity, institutional inertia, and the challenges of meaningful collaboration across disciplines and power differentials.

The review also highlights the importance of infrastructural imagination in heritage work — the recognition that cultural memory is shaped not only by what is represented, but by how it is organized, accessed, and governed. Design, when used reflexively and ethically, can facilitate new forms of cultural participation, foster epistemic justice, and sustain heritage

futures grounded in care, creativity, and plurality. The findings suggest that the future of ICH lies not in returning to traditional custodial models, but in embracing responsive, cross-disciplinary, and community-centered approaches. As heritage becomes increasingly entangled with design, this review calls for ongoing critical reflection on how we shape the systems and stories that connect past, present, and possibility.

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