



Endangered Cultural Heritage in the Global South Hub

# Digital Heritage and the Global South: Ethics, Politics, and Futures

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In an era characterised by the rapid integration of digital technologies and artificial intelligence into the cultural heritage sector, the ways in which we document, study, understand, interpret, preserve, present, and engage with the past are undergoing profound transformation. This necessitates a critical examination of the ethical implications, as these developments are deeply intertwined with our cultures and identities.

Cultural heritage is a dynamic process, where its multilayered meanings and significance evolve over time, shaped by social, political, economic, and environmental factors. Consequently, cultural heritage can be utilised, misused, or weaponised for various political, economic, and social purposes.

Digital technology and AI rely on data for the detection, documentation, reproduction, and presentation of cultural heritage, including data from archaeological sites, historical monuments, ancient inscriptions, artefacts, images (both still and moving), music, and languages. As with all systems of data collection and processing, and indeed with all processes that engage with human properties—whether intellectual or material—these technologies must be subjected to rigorous scrutiny in terms of their ethical, political, economic, and social implications. Given that AI relies on extracting data, which often

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mirrors existing societal inequalities (McQuillan 2023: 10), it may become especially sensitive when interacting with different cultures and their cultural heritage.

This issue is particularly crucial within the context of the Global South, where limited access to technology and infrastructure can exacerbate the digital divide or lead to forms of digital colonialism. These societies often bear the legacy of a colonial past, in which archaeology and culture were significantly influenced, shaped, accessed, interpreted, plundered, and at times misrepresented by colonial powers. Just as colonialism evolved and acquired new dimensions from the 16th century onwards, driven by advancements in navigation technologies and the increased accessibility to various regions of the world, so too have digital technologies and AI ushered in new forms of digital colonialism. Big technology corporations now have unprecedented access to our daily lives, collecting vast amounts of information about our behaviours and cultures, and controlling the platforms that represent cultural products. This unprecedented accumulation of data represents a new form of colonialism, akin to the land grabs of the past (Mejias and Couldry 2024), as technology owners mine users' information to predict and shape behaviour (Zuboff 2019). By enabling large-scale data access and accumulation by these technology proprietors, these innovations are undoubtedly shaping and influencing the culture and cultural heritage of the Global South, as well as how it is understood, interpreted, and presented.

These technologies have the potential to profoundly alter our relationship with and understanding of the past and our cultural heritage, not to mention their capacity to create new forms of heritage. Augmented Reality (AR) and Virtual Reality (VR), powered by AI, interact with space in ways that can redefine how we observe, analyse, and communicate about space and artefacts. It is, therefore, inevitable to question the relationship these technologies create between the physical, tangible reality and an intangible spatiality (Giordano et al. 2021), as well as the relationship between material and digital objects and Indigenous heritage; the implications of digital technology for knowledge creation, documentation, and the concept of authority (Cameron and Kenderdine 2007). Algorithms deployed on social media and digital platforms are also increasingly used to sort and represent the past, making the process of memory both automated and algorithmic (Jacobsen and Beer 2021).

Digital heritage is digital data that society values and seeks to preserve for future generations. Digital cultural heritage is a modern concept shaped by technological progress and anxieties about loss. As Cameron (2021) argues, current digital heritage concepts are modern ideas and include both born-digital materials and digitisations. We must, however, challenge and move beyond these traditional views of heritage to include more-than-human agencies and influences (Cameron 2021:17-18). Digital cultural heritage rather must be seen as dynamic, ecological, and connected to physical infrastructures, thereby requiring new approaches to curation and documentation, which go beyond traditional humanistic methods. It should be viewed as societal data that is worth continuing and not just preserving (Cameron 2021: 285-286).

Questions concerning the authenticity of digital reproductions of cultural heritage—and whether they constitute original digital representations or mere virtual 'fakes' (Di Giuseppantonio Di Franco et al. 2018; Galeazzi 2018)—can evoke philosophical debates. However, in the context of the digital recreation and representation of contested or damaged cultural heritage, ethical questions take on additional dimensions: what criteria and frameworks should be followed, who stands to benefit, and what is the ultimate objective

(Rouhani 2023)? These concerns are particularly pertinent in the context of the Global South, where cultural heritage is more at risk due to conflict, climate change, and development, and where the colonial past renders cultural heritage and often its restitution (or its digital copy) a more contested and sensitive issue.

Numerous digital documentation and reconstruction projects focusing on damaged cultural heritage sites and objects in the Middle East, particularly in Syria and Iraq, following recent armed conflicts and the rise of ISIS—many of which are launched by Global North institutions—highlight a critical issue: the immediate local communities often do not benefit from these efforts, nor are they involved in decisions regarding what should be digitally reconstructed, how data should be collected and stored, or what narratives and interpretations should be presented. This raises several key questions: Will digital documentation and reconstruction, particularly in complex social and political contexts, replace physical conservation and preservation? Will global audiences, both researchers and the general public, become less reliant on direct access to the cultural heritage of Global South communities? And crucially, which heritage will be selected for digitisation and global presentation, and which will be excluded from the internet? Drawing on Naomi Klein's concept of 'disaster capitalism' (Klein 2007), it is important to scrutinise to what extent those with greater access to technology and digital infrastructure will benefit from crises in the Global South, even within the cultural heritage sector.

The digitisation of cultural heritage and its entry into the 'data territory' increasingly subjects it to a monumental and materialistic perspective, where visual elements that generate greater exposure—measured by clicks and audience interaction with online platforms and apps—are prioritised. This shift is exemplified by global cultural organisations like UNESCO, which have increasingly embraced large-scale digital projects for World Heritage. UNESCO's 'Dive into Heritage' project<sup>2</sup>, supported by Saudi Arabia, creates a digital platform for the presentation of World Heritage sites and their 3D representations. Initially, this platform has selected iconic landmarks such as the Pyramids of Giza and the Hegra Archaeological Site in Saudi Arabia's Al Ula region—an area that has been central to Saudi Arabia's tourism development efforts and has recently attracted considerable interest from Western archaeologists.

Focusing on prominent heritage sites, where data accumulated through numerous well-funded projects is readily available, may further perpetuate existing inequalities by prioritising well-known landmarks over local or less visually striking heritage.

Several digital initiatives are underway in the Global South, aiming to promote a more critical, holistic, and knowledge-based approach to digital solutions. Examples include African Digital Heritage<sup>3</sup> in Nairobi, Open Virtual Landscape (OpenVL)<sup>4</sup> in Palestine, which documents and creates virtual tours of endangered Palestinian heritage, and the Talk to Sarai<sup>5</sup> and Nobody Listening<sup>6</sup> projects in Iraq, which engage with difficult heritage and commemorate genocide by ISIS. These initiatives serve as powerful examples of digital resistance—decolonising, documenting, and narrating their own cultural heritage stories from

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<sup>2</sup> <https://whc.unesco.org/en/dive-into-heritage> (accessed 03 June 2025)

<sup>3</sup> <https://africandigitalheritage.org> (accessed 03 June 2025)

<sup>4</sup> <https://openvl.co/mission> (accessed 03 June 2025)

<sup>5</sup> <https://caravelmagazine.com/2021/11/the-talk-to-sarai-or-tse-is-a-self-guided-mobile-exhibition-that-utilizes-interactive-mobile-ar-technology/> (accessed 03 June 2025)

<sup>6</sup> <https://www.nobodys-listening.com/> (accessed 03 June 2025)

within the Global South. However, despite their local origins and critical goals, many of these projects remain dependent on the digital infrastructure provided by Big Tech corporations for essential functions such as computing, data processing, storage, and dissemination.

This dependency reflects a broader structural issue. While local initiatives strive to reclaim and represent their heritage, they are often constrained by the control that Big Tech entities exert over the very tools required for these efforts. For instance, AWS (Amazon Web Services), which holds 32% of the global market for cloud computing and storage<sup>7</sup>, is a key player in this digital ecosystem. This raises concerns about whether cultural heritage from the Global South is being commodified by Big Tech companies through datafication and exploitation. As a result, these platforms risk reinforcing a new form of data colonialism, where local communities lose control over how their cultural heritage is stored, represented, and shared.

In addition to exerting infrastructural control, Big Tech companies like Google and Microsoft have also embarked on cultural heritage projects involving data extraction, storage, and the digital representation and reconstruction of various forms of heritage. Microsoft has launched programmes focused on preserving endangered languages as part of cultural heritage<sup>8</sup>, while Google Arts and Culture showcases art and heritage projects, including its "10 Must-See UNESCO World Heritage Sites" (featuring the Pyramids of Giza and Hegra)<sup>9</sup>, as well as 3D reconstructions of heritage sites affected by conflict in the Middle East<sup>10</sup>.

Digitalisation does not inherently promote participation in heritage discourse. While it has the potential to challenge traditional structures, it often reinforces the control of state actors and experts, enabling them to maintain the core narrative while presenting selective public engagement. Additionally, it can uphold existing power hierarchies (Molho 2023). Digital cultural heritage is fundamentally political, as technology reshapes power dynamics between communities and institutions. Representation, interpretation, and access are politically mediated, with digitisation driving paradigm shifts by providing instant, universal access to stakeholders (McCrary 2011).

The growing emphasis on the digitisation of cultural heritage—whether digitised or born-digital, including 3D representations, digital archives, and databases—raises critical questions about the responsibility for its protection. For instance, international heritage protection laws do not clearly address the safeguarding of digital heritage during times of conflict, nor do they specify the responsibilities of states in recognising the value of digital heritage and determining which digital heritage is considered significant (Alcala 2022).

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<sup>7</sup> "Amazon Web Services maintains the highest market share at 32%, followed by Microsoft Azure (23%) and Google Cloud (10%), while Alibaba Cloud and Tencent Cloud are notable players in the Asia-Pacific market." <https://www.hava.io/blog/2024-cloud-market-share-analysis-decoding-industry-leaders-and-trends> (accessed 10 Sept 2024).

<sup>8</sup> <https://www.microsoft.com/en-us/garage/wall-of-fame/language-bank/> and <https://blogs.microsoft.com/on-the-issues/2019/11/21/preserving-maori-language-microsoft-translator/> (accessed 03 June 2025)

<sup>9</sup> <https://artsandculture.google.com/story/UAUrf5dVbFaD3g> (accessed 03 June 2025)

<sup>10</sup> Preserving Iraq's Heritage (<https://artsandculture.google.com/project/wmf-iraq>) and Palmyra exhibition (<https://artsandculture.google.com/story/BQURV5iKpyosKg>) (accessed 03 June 2025)

Accessing cultural heritage or historical records for digitisation or recreation is becoming increasingly seamless due to rapid technological advancements. In many cases, this can occur without the consent or permission of the owners, stakeholders, communities, or Indigenous rights holders of the cultural property. AI tools, by scraping the internet, can gather sufficient material to digitally reconstruct various cultural artefacts or monuments. However, the archives or materials used in the creation or digital reproduction of cultural heritage, particularly those from the Global South, are often biased. For example, historical photographic archives of archaeological sites in the Middle East predominantly reflect the specific interests of Western archaeologists in classical ruins rather than the social context or the people present at or living in those sites (Brusius and Rico 2023).

Copyright issues concerning digital heritage are also increasingly complex. Questions arise about who has the right to access cultural heritage for its digitisation and who holds the copyright for digitised or digital-born cultural heritage (Thompson 2017). How can the benefits derived from this be shared fairly, and with whom? While open access initiatives offer potential solutions, they often fall short by failing to address the digital divides or other cultural, political, and economic sensitivities and challenges concerning access, particularly as they are frequently driven by wealthy institutions or those with the necessary resources to promote universal access. Initiatives like the CARE Principles for Indigenous Data Governance<sup>11</sup>, which emphasise Collective benefit, Authority to control, Responsibility, and Ethics, and work alongside the FAIR principles<sup>12</sup>, often impose the burden of reforming unethical processes, policies, and practices on Indigenous peoples, communities, nations, and scholars (Gupta et al. 2023).

The preservation and sustainability of data and digital heritage, particularly in contexts where associated technologies and standards are evolving at an accelerated pace, necessitate not only robust and constantly upgraded technical solutions but also a critical examination of the deeper issues of digital inequality and the digital divide. These concerns are pivotal to ensuring equitable and sustainable access to digital heritage, as well as determining the methodologies for its long-term storage and preservation.

As Cameron argues (2021: 248-251), digital heritage comes with significant environmental risks due to its entanglement with the Technosphere, the technical systems of the Anthropocene. These risks are rooted in the production, storage and circulation of digital data and are connected to planetary and geological processes, leading to climate change and environmental damage. The environmental impact is often ignored because digital data is seen as immaterial and therefore there is a need to recognise the deep material, energetic, and ecological connections of digital practices (Cameron 2021). Accordingly, digital heritage must be understood not just as data, but as a complex system with real environmental consequences. The Global South countries are disproportionately affected by the negative environmental and social consequences of digital production and waste.

In the social realm, digital technology is reshaping our relationship with cultural heritage. As humans, our understanding and interpretation of cultural heritage—like our cognition and behaviour more broadly—are inherently contextual, shaped by complex socio-cultural factors. In contrast, computers operate through the application of predefined rules and algorithms. In this new immersive space, where an increasing amount of digital or digitised

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<sup>11</sup> <https://www.gida-global.org/care> (accessed 03 June 2025)

<sup>12</sup> <https://www.go-fair.org/fair-principles/> (accessed 03 June 2025)

heritage (its reconstruction and representation) is being offered, questions arise about how the connection with the social and natural context of cultural heritage will be maintained. The metaverse, for instance, aims to blur the boundaries between reality and the digital. However, what is actually occurring is a convergence of the physical world towards the digital, rather than the other way around. Microsoft CEO Satya Nadella envisions replacing reality with digital imitation (Nadella et al. 2017: 143), while Mark Zuckerberg suggests that "the real world is a combination of the digital and physical worlds, and the real world is not just the physical world."<sup>13</sup>

There are concerns about the inclusivity and exclusivity of technologies like AR, VR, and digital platforms for digitally reconstructed heritage. While these tools can offer greater access and opportunities to a wider audience, including individuals with special needs, they also tend to foster a highly individualistic and isolated experience. Without thoughtful design and creativity, such experiences risk being reduced to mere entertainment, rather than serving as meaningful avenues for conveying information.

While cultural heritage IT specialists highlight the efficiency of using AI to solve problems within defined parameters and delegate routine tasks to machines, thereby freeing up human intellectual resources (Leshkevich and Motozhanets 2022), concerns arise regarding the extent to which algorithmic biases are embedded in these technologies. These biases, reflecting Euro-American perspectives (Adib-Moghaddam 2023), can further distort how Global South heritage is digitised and represented, exacerbating the very inequalities that these technologies are meant to bridge.

To what extent can heritage stakeholders and communities, particularly in the Global South, influence the design of digital tools and products, rather than merely becoming consumers of them? A deeper concern arises from the fact that not all societies, and not all individuals or groups within those societies, possess the capacity to access or engage with digital heritage. This is largely due to the digital divide and other inequalities that marginalise certain societies and groups from the digital marketplace, leading to their increasing ghettoisation. As a result, their culture and cultural heritage risk becoming increasingly absent in a digitally globalised world or being perceived as neither valuable nor marketable to other 'consumers'.

As Tasioulas discusses (2022), while designing AI and digital tools to align with human preferences is important, it raises the deeper question of which preferences should guide AI development. The widespread reliance on preference utilitarianism—where maximising individual preferences or wealth dominates AI and policy decisions—risks marginalising non-economic values. As AI capabilities advance, we are increasingly compelled to address unresolved ethical issues, such as fairness (Tasioulas 2022).

There is a growing body of discourse on the ethics of AI across a range of domains, including society, democracy, human rights, the environment, well-being and health, governance, and beyond. In light of the rapid advancement of AI and other digital technologies, their impact on culture—particularly on cultural heritage—demands more rigorous scrutiny. Much like the impact assessment of development projects from social, cultural, environmental, and

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An Interview with Mark Zuckerberg about the Metaverse Posted on Thursday, October 28, 2021 (accessed 05 September 2024)

<sup>13</sup> <https://stratechery.com/2021/an-interview-with-mark-zuckerberg-about-the-metaverse/> (accessed 03 June 2025)

economic perspectives, there is a pressing need to prioritise digital impact assessments, with a specific focus on their implications for cultural heritage.

This proposed initiative, as outlined in this concept note, critically examines the implications of digital technologies and AI for cultural heritage, without disputing their importance in documenting, studying, preserving, and presenting it. Rather, the initiative seeks to deepen our understanding of the fundamental and philosophical shifts these technologies introduce, particularly within the Global South. By doing so, it aims to explore the ethical, political, and economic implications for these societies, ensuring that the adoption of AI and digital tools is both inclusive and respectful of their cultural heritage.

### **1. Theoretical Issues:**

- Philosophical and Conceptual Frameworks: This category would explore the philosophical implications of authenticity and originality in digital heritage, as well as how these technologies influence cultural memory, identity, and the interaction between tangible and digital heritage in the global south.

It also includes the role of AI and digital platforms in processing, reproducing, and disseminating cultural heritage. The focus is on how these technologies influence the way cultural heritage is understood, preserved, and represented, particularly in the context of the Global South, and how digital heritage (and data) is preserved and accessed.

### **2. Political Issues:**

- Power Dynamics: This category addresses the political implications of who controls the digitisation and representation of cultural heritage, particularly in the Global South. It examines the influence of dominant global powers and well-funded organisations and the continuation of colonial dynamics through digital means, often termed "digital colonialism."

- Digital Divide and Economic Disparities: This section addresses the technological and infrastructural gaps that intensify existing inequalities in the Global South, resulting in further marginalisation and exclusion from the benefits of digital heritage initiatives. It also examines the marketability of digital heritage and the economic disparities that influence who can participate in and benefit from these digital resources.

### **3. Ethical Issues:**

- Rights and Representation: This category examines the ethical challenges of digitising cultural heritage, particularly in relation to the rights of Indigenous and local communities in the Global South to control their cultural heritage. It raises questions about the fairness of who has access to and control over digital representations and data, and how the benefits are shared.

- Social Implications: It also encompasses the social dimensions, exploring how digital technologies reshape relationships with cultural heritage. The focus is on the inclusivity and exclusivity of access to digital heritage and the potential for these technologies to create isolated, individualistic experiences, potentially undermining the communal, social, and environmental contexts of cultural heritage.

- Algorithmic Biases: This section raises concerns about how AI and digital platforms might perpetuate biases, particularly those reflecting Euro-American centric perspectives, and how these biases affect the cultural heritage of the Global South.

### **Activities and outputs:**

- A series of online workshops under the umbrella of the Endangered Cultural Heritage in the Global South Hub (ECHGS) on the identified themes with international and Global South scholars and researchers.
- Publication of an edited volume

## **Outcomes**

1. Enhanced Understanding and Awareness:
  - A deeper understanding of the ethical, political, and theoretical implications of applying digital technologies and AI to cultural heritage in the Global South.
  - Increased awareness among scholars, practitioners, and policymakers about the challenges faced by the Global South in the digitisation of cultural heritage.
2. Development of Guidelines:
  - The formulation of ethical guidelines or policy recommendations for the responsible use of digital technologies and AI in the cultural heritage sector, particularly in contexts with complex social, political, and historical backgrounds.
3. Strengthened Global Networks and Collaboration:
  - The establishment or strengthening of networks between scholars, researchers, and cultural heritage professionals from the Global South and the broader international community, fostering long-term collaboration and knowledge exchange.
4. Policy Influence:
  - Influence on cultural heritage policies at both local and international levels, advocating for more inclusive, equitable, and culturally sensitive approaches to digital heritage initiatives.
5. Empowerment of Local Communities:
  - Empowering local communities in the Global South to control how their cultural heritage is digitised and represented directly addresses the ethical issues of rights, representation, and digital colonialism.
6. Long-term Impact on Cultural Heritage Practices:
  - A long-term impact on how cultural heritage is documented, preserved, and presented globally, particularly in how digital technologies are integrated into these processes in a way that respects and honours the heritage of the Global South.

## **The Endangered Cultural Heritage in the Global South Hub (ECHGS)**

The Endangered Cultural Heritage in the Global South Hub (ECHGS)<sup>14</sup> provides a focal point for research on Cultural Heritage challenges in the Global South, especially ODA eligible countries of the Middle East and Africa. The Hub complements and extends the existing Oxford University Heritage Network (OUHN) with a stress on the social science dimensions of cultural heritage.

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<sup>14</sup> [https://www.arch.ox.ac.uk/echgs-hub-15-nov-2023-online#:~:text=South%20Hub%20\(ECHGS\)-,The%20Endangered%20Cultural%20Heritage%20in%20the%20Global%20South%20Hub%20\(ECHGS,t he%20Middle%20East%20and%20Africa.](https://www.arch.ox.ac.uk/echgs-hub-15-nov-2023-online#:~:text=South%20Hub%20(ECHGS)-,The%20Endangered%20Cultural%20Heritage%20in%20the%20Global%20South%20Hub%20(ECHGS,t he%20Middle%20East%20and%20Africa.)

The ECHGS will facilitate interdisciplinary research on how cultural heritage is created, identified, valued, and protected by local populations, experts, international agencies, and academics and threatened by conflict, climate change, and development. The longstanding relationships between the first world and the Global South make cultural heritage both a critical focus for decolonization debates and actions, and central to highly topical discussions regarding UK (and international) Official Development Assistance (ODA) programmes. The ECHGS will also serve as a hub for hosting large open-access databases of cultural heritage and archaeology in Oxford, facilitating multi-disciplinary research on the cultural heritage of the Global South.

The ECHGS will also provide a vehicle for engagement with relevant external stakeholders in the UK and in the Global South, including NGOs, the media, government departments and policymakers, funders, and communities. We will examine the connection between cultural heritage (tangible and intangible), people, and place, where cultural heritage creates social identities, yet the connection to place is threatened by climate change, conflict, digital divide, development, and tourism.

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