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Cultural heritage in the face of climate change: From protection to decolonisation

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Abstract: The risks climate change poses to cultural heritage have garnered increased attention in recent decades, prompting reactions from organizations such as UNESCO and ICOMOS. While there is a consensus among heritage actors that the climate crisis requires a departure from "business as usual", there is no unanimity regarding which aspects of heritage protection should remain unchanged and which necessitate transformation, nor what level of action and transformation is required. Such disagreements may not always be immediately apparent, as different approaches are often mentioned within the same policy paper or call for action. They offer different interpretations of the climate crisis impacts, different framings of what is at stake, and different political visions regarding the necessary steps, thus creating tensions. This paper utilizes maximum variation sampling to identify and analyse groups of approaches through which climate change has been addressed within the cultural heritage field, ranging from technical protection to decolonisation. It highlights the significance of grasping their political and eco-social underpinnings, crucial for fostering transdisciplinary dialogues that draw upon the expertise of natural and social sciences, engineering and humanities to alleviate tensions, jointly shape future actions and develop sustainable solutions that respect and protect heritage while fostering regenerative socio-ecological relations.

Keywords: climate crisis; approaches; tensions; transdisciplinarity; underpinnings.

INTRODUCTION

The global climate is undergoing an unprecedented and rapid change, primarily driven by anthropogenic activities that release greenhouse gases. These gases trap heat in the Earth's atmosphere, resulting in a warming (greenhouse) effect and causing ice to melt, sea levels to rise, and weather extremes to increase.[1,2] The climate crisis is intricately linked with numerous global challenges,

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extending beyond environmental dimensions to impact economic, geopolitical and social spheres. As a result, there are growing calls for comprehensive and transformative actions that prioritize regenerative and sustainable practices and policies in addressing multifaceted issues linked to climate change.

The cultural heritage field has not been left out of such calls. The risks climate change poses to heritage sites in terms of accelerated degradation or potential loss have garnered increased attention over the past two decades.[3,4] This heightened awareness has prompted relevant international organizations, such as United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Council on Monuments and Sites (ICOMOS), to initiate various efforts aimed at assessing the anticipated impacts. However, the protection of cultural heritage from climate-related hazards still faces challenges in integrating specially designed measures into national plans for climate change adaptation.[5] For instance, a 2022 EU report titled "Strengthening Cultural Heritage Resilience for Climate Change" highlights that only 12 EU member states include cultural heritage in their climate change policies.[6]

The integration of climate change discourse into cultural heritage research, policy, and practice has taken various forms and is becoming increasingly diverse. Spanning disciplines connected to social sciences, humanities and technical sciences, the heritage field finds itself at the intersection of complementary and conflicting research theories, methodologies and policy agendas related to addressing the impacts of the climate crisis.[7,8] Critical heritage studies have drawn attention to tensions between humanities-based approaches to heritage protection and those primarily grounded in technical sciences, as well as between normative Western canons governing heritage policy and its global applications, prompting calls for pluralizing approaches.[9,10]

The range of responses to the climate crisis within the heritage sector is expanding, encompassing both dominant and marginalized voices. It is evident that the heritage field is undergoing transformation, with many changes being driven by concerns related to climate change and its impacts. However, uncertainties persist regarding how the heritage field will address the climate crisis. Will the focus primarily be on technical adaptations to climate change? Will heritage simply adopt environmentally friendly practices and "go green"? Or could climate change and its associated challenges spur a more profound re-evaluation and transformation of our societies – consequently reshaping our understanding of heritage and altering our relationship with the past and the future? In this article, five group of approaches to climate change within the heritage field are analysed and discussed, highlighting the diverse heritage politics they embody and enact.

METHODOLOGY

The climate crisis introduced novel approaches to heritage protection, each carrying different transformative implications. Despite the variety of approaches within the heritage field, they are often perceived as part of a unified response to the crisis and the differences often remain underexplored in heritage research, policy, and practice. The objective of this paper is to analyse several approaches that address climate change in different manners and elucidate their implications. The central questions posed are: What approaches can be identified within the cultural heritage field that address the climate crisis? What themes and interpretations regarding the connection between cultural heritage and climate change emerge from these approaches? What are the political implications of these approaches and what visions of cultural heritage and its future are either fostered or hindered by them? To illustrate the diversity of approaches, the analysis is based on a methodology known as heterogeneous sampling or maximum variation sampling, deliberately selecting phenomena that exhibit wide variations from one another.[11,12] Consequently, the analysis does not encompass all possible attitudes, approaches and nuances related to the responses to climate change, but focuses on several illustrative and diverse phenomena. The aim is to identify their central themes, shedding light on the diversity of approaches and strategies resulting from the integration of climate change and broader ecological discourse within the cultural heritage field. In the following section, five distinct groups of approaches to climate change within the heritage field are identified and analysed.

FIVE GROUPS OF APPROACHES TO FRAMING CLIMATE CHANGE WITHIN THE CULTURAL HERITAGE FIELD

1. Protecting heritage against climate change: transformation through technical adaptation and risk mitigation

Climate change can impact buildings in numerous ways.[13,14] The increased frequency and intensity of extreme weather events, such as hurricanes and floods, can directly damage buildings. Rising temperatures and more frequent heatwaves may subject building materials to thermal stress, causing deterioration. Coastal areas experiencing sea level rise are at risk of flooding and erosion, which can result in structural damage. Shifts in humidity levels can foster the growth of mold and fungi, compromising the structural integrity. Altered precipitation patterns may increase exposure to moisture, leading to rot and corrosion. In regions with permafrost, warmer temperatures can induce thawing, causing ground instability and affecting foundations. These effects are particularly pronounced in the case of historic buildings and structures. The majority of historic buildings and structures were not designed to resist 'new' climate conditions, which makes those with aged and fragile materials particularly vulnerable to climate change, while various legal constraints aiming to preserve their original features often limit the application of advanced climate adaptation techniques commonly used for modern buildings and structures.[15] According to ICOMOS, in technical terms, “climate change will have an unprecedented impact on what is now considered to be good conservation practice. Modifications will be required, both to

better position heritage as an asset in climate action and to address the anticipated impacts of climate change".[16]

Over the past two decades, research on the observed and projected impacts of the climate crisis on cultural heritage has led to significant advancements in damage quantification and risk assessment, which are crucial for making informed decisions and implementing effective protection measures.[17] A dedicated scientific field has emerged within cultural heritage studies and practice, focusing on the optimal ways to technically safeguard heritage amidst climate change.[18,19] They encompass a range of measures and actions, including vulnerability and risk assessments, implementations of risk and disaster mitigation measures, climate change adaptation strategies, as well as preparedness, response and recovery actions.[20,21] It is important to note that the conservation profession has long utilized scientific techniques to monitor and assess the impact of temperature, moisture, and winds, but also earthquakes, floods and droughts on cultural heritage sites.[22]

The group of approaches advocating for the protection of heritage amidst the climate crisis through technical adaptation and risk mitigation provides valuable guidelines for enhancing conservation practices. It prioritizes objectivity and scientific grounding, focuses on the technical conditions of cultural heritage, and utilizes technical data to comprehensively assess the impacts of climate change. However, while these approaches recognize the reality of the climate crisis, they tend to neglect the broader economic, political, social, cultural and systemic dimensions underlying it. Instead, they often view the climate crisis solely as a threat that requires mitigation, posing challenges to heritage conservation efforts. Consequently, these approaches frequently overlook the deeper societal transformations needed to effectively respond to the climate crisis, including the potential role heritage might play in facilitating such transformations. This is where tensions between humanities-based approaches to heritage protection and those primarily grounded in natural sciences and engineering arise. In addition, some voices within this group advocate for the involvement of local communities in risk mitigation, recognizing heritage as a resource that can enhance community resilience and rootedness in the face of climate change.[23] They also emphasize the importance of "finding alternative ways and means of sustaining heritage significance amidst a changing climate" and ensuring that heritage responses to climate change are "holistic" and that they "include the social, environmental and cultural dimension of sustainability".[24]

2. Re-interpreting heritage for climate action: raising public awareness and inspiring transformation by representing „climate-responsible" past practices

Climate change science and policy often fail to provide ideas and imaginaries for post-carbon ways of living. This lack of imagination and alternatives is

increasingly being addressed within the heritage field. The fundamental questions are: What lessons can contemporary societies learn from ancient civilizations that thrived in pre-carbon eras to enhance resilience, adaptability, and environmental consciousness? Simultaneously, what insights can we glean from the *petrocultures* and heritage of the anthropocene to guide us forward? For instance, Interpret Europe's (European Association for Heritage Interpretation) workshops "Heritage Interpretation for Climate Cooling" drew attention to 'the power of the past' in terms of evoking how humans lived before the fossil fuel era and exploring how "heritage interpretation could be a way to engage more people with the issues surrounding the climate chaos we are facing".[25] This exemplifies a group of approaches that focus on the interpretative, educational, and awareness-raising potential of heritage to help societies react to climate change. In such approaches, prominent themes include leveraging the attachment to a place that heritage fosters to galvanize climate action, utilizing cultural heritage to underscore the urgency of responding to climate change, and learning about adaptation and mitigation strategies from cultural heritage.[26] Furthermore, these approaches stress that "traditional knowledge, buildings, and landscapes" predating the fossil fuel era can illuminate the path to "post-carbon living".[27]

This group of approaches acknowledges a fundamental critique inherent in the anthropocene narrative: that the industrial revolution and reliance on coal and fossil fuels have triggered unprecedented environmental destruction and have significantly influenced climate change.[28] However, what they often overlook are the colonial and anthropocentric historical practices that facilitated the emergence of the global "capitalist world-ecology".[29] The primary challenge faced by these approaches is political in nature, *i.e.*, how the narrative of climate change is constructed and how pre-carbon societies are interpreted will shape the political visions promoted through heritage.

3. Greening heritage: embracing transformations in line with green policies

Heritage advocates often highlight the sustainability of existing buildings, emphasizing that "the greenest building is... one that is already built".[30] They also stress the mitigation benefits of minimizing the introduction of new materials that contribute to additional carbon emissions during production.[31] However, many practices deeply engrained in the heritage sector are now under scrutiny due to climate change. This includes examining the energy requirements of heritage and museum buildings, as well as evaluating lighting, cooling and humidity standards for their safeguarding. Therefore, the pressing question is how to make heritage (and museums) "green" and transition to post-carbon modes of functioning. The "greening" group of approaches offers a variety of strategies to address this challenge, such as ecological footprint calculations, ongoing monitoring, improving energy efficiency, transitioning to green energy sources, red-

ucing waste, promoting reuse and recycling, implementing new legal regulations, as well as introducing principles and practices of the circular economy.

In its political underpinnings, this group of approaches aligns with green policies and assumes public funding for structural transformations, while predominantly relying on market-led solutions for the implementation of renewable technologies. However, despite being labelled as *green*, these approaches are firmly rooted in anthropocentric world relations.[32] The danger lies in the possibility that "green transformations" of heritage may further exacerbate existing geopolitical and economic inequalities, including climate injustices, as green deal-type investments and transitions are primarily affordable in the wealthiest countries of the Global North.

4. Opposing extraction and exploitation through heritage safeguarding

The discourse on climate change is increasingly intertwined with efforts to preserve both natural and cultural heritage, aiming to prevent further extraction, exploitation, and destruction of urban and rural areas and landscapes. However, many "sustainable development" and "green" agendas have prioritized economic goals over social and ecological concerns, often tolerating cultural and territorial destruction in the pursuit of economic progress.[33] In response, a group of approaches has emerged, involving individuals and groups within the heritage sector, as well as local communities, who view heritage safeguarding as a political opposition to the dominant capitalist system characterized by extraction, exploitation and destruction. These actors advocate for a reconsideration of approaches to heritage amidst climate change by defending heritage on a local level against the "development" plans of large corporations and speculative investor-led projects. The case of Rosia Montana, a mining town nestled in the mountains of Romania, exemplifies this group of approaches. The Rosia Montana Project, initiated in the 1990s, aimed to establish Europe's largest open-pit gold mine, spearheaded by a Canadian mining company. As local opposition to the project grew, it was joined by environmental and cultural heritage organizations, leading to the framing of Rosia Montana as a mining cultural landscape. Themes of safeguarding versus extraction and destruction, localized relations *versus* globalized capital interests, community versus profit and environmental protection *versus* pollution were evident in protests, media coverage and legal battles.[34] While climate change was not the central focus, concerns about biodiversity loss and territorial destruction were present. After two decades of struggle, Rosia Montana was ultimately inscribed on the UNESCO World Heritage List.[35]

The approaches exemplified by Rosia Montana embrace an inclusive and democratic vision of heritage, broadening its scope to encompass more communal and localized aspects. These approaches are transformative in a critical and oppositional manner, mobilizing local communities to safeguard their herit-

age in the face of potential destruction. They situate climate change within the Capitalocene discourse, opposing the narrative of the "Anthropocene era" and its underlying logic of perpetual exploitation. However, there is a risk that some of these approaches may be co-opted within the capitalist logic of heritage-led regeneration, thus it is crucial to distinguish between heritage-making actions that foster commoning and those that commodify heritage.[36]

5. Decolonizing heritage and conservation for climate action

While a significant number of policy texts and guidelines on climate action and heritage make references to indigenous wisdom and ancestral knowledge, there is a lack of meaningful effort to truly reconsider and reimagine the heritage sphere from indigenous ontological and epistemic perspectives. However, there is a distinct group of approaches aiming to revive what has been erased, marginalized and colonized through promoting regenerative, interspecies practices of care. These initiatives start from the premise that prevailing modern heritage is a product and reflection of colonial, anthropocentric and capitalist histories and politics. They primarily originate from indigenous communities in the Global South, seeking to reclaim their local knowledge as part of efforts to decolonize heritage and conservation practices.[37] Unlike the aforementioned approaches that are grounded in anthropocentric ontologies and epistemological positions, this group addresses heritage and climate change through the lens of "Epistemologies of the South".[38] The central focus of these approaches is the revival of indigenous cosmovisions grounded in interspecies care, kinship and local ancestral practices. In this context, heritage is conceptualized as intricately tied to the territory and encompassing all spiritual and material relationships spanning generations, varying from place to place and from community to community. Examples of these approaches, which seek to interlink biological, cultural, ancestral, territorial and spiritual aspects of heritage, include the practice of "sacred agriculture" by the Xukuru do Ororubá Indigenous people in the state of Pernambuco, Brazil, and the establishment of the Indigenous Devenir University in the Inga territories of the Andean Amazon, Colombia, which fosters land-based learning, ancestral wisdom and multispecies care. These approaches frame climate change within a call for radical eco-social transformation and decolonization. Their essence is deeply political, insisting on rethinking heritage in conjunction with challenging dominant global economic and social relations and structures.

CONCLUSION

In this paper, various lenses have been identified for analysing and categorizing the multitude of approaches to climate change within the heritage field. The presented categorization is not exhaustive, while also concealing potential interconnectedness between approaches belonging to different groups. For instance, some approaches focusing on heritage transformation through technical adapt-

ation and risk mitigation can complement the goals of green transformation or align with local and indigenous efforts to decolonize heritage and conservation practices. The greening of heritage can intersect with broader questions of colonialism and capitalist extraction, while local and indigenous communities may draw from the technical or greening toolbox to achieve energy autonomy. Reinterpreting the heritage of pre-carbon societies can involve both green transformation of heritage and its examination through decolonial and anti-capitalist lenses. These interconnections demonstrate that tensions between the approaches to climate change within the heritage field are not necessarily inherent and suggest that collaborative and holistic approaches could help alleviate them, while also leveraging the diverse strengths of each approach.

While climate change is often depicted as an all-encompassing and uncontrollable crisis necessitating unprecedented actions, dominant discourses on the subject tend to perpetuate the status quo. Notions of "humanity as a whole" and universal "techno-optimistic" solutions prevalent in these discourses often obscure important political questions. According to Swyngedouw, the emphasis on the "Spectre of Climate Change" serves to normalize the current neoliberal order and economic practice, thereby hindering calls for radical transformations.[39] Given this context, it is plausible that the heritage field may also adopt these dominant discourses. What remains obscured in such narratives are the issues of climate injustices and their colonial, capitalist and anthropocentric roots. Therefore, it becomes increasingly vital to recognize heritage studies and practices as political and as bearing significant eco-social implications.

This article demonstrates that responses to the climate crisis within the heritage field are diverse. Each group of approaches is deeply rooted in specific ideas about heritage and necessary changes, shedding light on their eco-social and political underpinnings. A comprehensive understanding of these underpinnings is essential for fostering transdisciplinary and inter-sectoral dialogues, drawing upon the expertise of natural and social sciences, engineering, as well as humanities, to collaboratively shape future transformative actions that are responsive to the complexities of climate change and its intersection with heritage. Ultimately, the goal is to develop sustainable solutions that respect and protect heritage while fostering regenerative socio-ecological relations.

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ИЗВОД

КУЛТУРНО НАСЛЕЂЕ ПРЕД ИЗАЗОВИМА КЛИМАТСКИХ ПРОМЕНА: ОД ЗАШТИТЕ ДО ДЕКОЛОНИЗАЦИЈЕ

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Ризици које климатске промене представљају за културно наслеђе изазвали су велики интерес, током претходних деценија, и подстакли организације као што су UNESCO и ICOMOS на реакцију. Иако су актери у области културног наслеђа једногласни да климатске промене захтевају одступање од „уобичајеног начина деловања“, међу њима не постоји консензус око тога који аспекти заштите културног наслеђа могу да се одвијају по уобичајеним процедурама, а које треба трансформисати, као ни око потребних нивоа деловања и трансформација. Таква неслагања нису увек видљива на први поглед из разлога што се различити приступи често помињу у оквиру истог документа или позива на акцију. Ови приступи имају различита тумачења утицаја климатске кризе, различита разумевања онога што је улог, као и различите политичке визије о томе које кораке треба предузети, што резултира тензијама. У овом раду користи се узорковање максималних варијација да би се идентификовало и анализирало пет група приступа кроз које су климатске промене обухваћене у области културног наслеђа, од техничке заштите до деколонизације. Указује се на значај разумевања њихових политичких и еко-друштвених основа, што је кључно за подстицање трансдисциплинарних дијалога који се ослањају на експертизу природних, инжењерских и друштвених наука и инжењеринга како би се ублажиле тензије, заједнички обликовале будуће акције и креирала одржива решења која поштују и штите наслеђе.

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