

Towards living sustainabilities in culture

Heritage as a global assemblage in digital pluralistic Europe

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¹ The link to the obituary is provided [here](#) (retrieved April 27, 2025).

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1. Introduction

In 2015, German artists Nora Al-Badri and Jan Nikolai Nelles (2015) sparked a debate in the heritage sector with their artistic intervention known as ‘The Other Nefertiti’ (see figure 1). While some critics labelled it digital art theft, supporters praised it as a ‘hack’, a distinction the artistic duo reinforced during their presentation at the ‘Sharing is Caring X Conference’ in Hamburg in 2017 (SharecareX, 2017), where I first encountered the project. The so-called ‘Nefertiti hack’ involved a 3D guerrilla reproduction of the bust of Queen Nefertiti, considered one of the most important Egyptian artefacts and housed in the Neues Museum in Berlin (cf. Seyfried, 2012). During a visit to the Neues Museum in 2015, Al-Badri and Nelles reportedly 3D-scanned the bust with a portable scanner, and then released the detailed 3D model for free download on their website. They presented their project at the Chaos Communication Congress 32C3³, a prominent gathering of hackers, tech enthusiasts, and activists. They also presented a 3D-printed reproduction in Cairo as a form of restitution, confronting heritage institutions with their colonial legacies. Through this contentious intervention, the artists offered a post-colonial critique of the cultural sector, advocating for openness and vitality in the digital age, as they articulate on their website: ‘With the data leak as a part of this counter narrative we want to activate the artefact, to inspire a critical re-assessment of today’s conditions and to overcome the colonial notion of possession in Germany.’ (Al-Badri & Nelles, 2015)



Figure 1: Nefertiti hack 3D scan (CC BY-SA 4.0)

³ The Chaos Communication Congress (2022) is a European congress for hackers, held annually in Germany with up to 17,000 participants and organised by the Chaos Computer Club since 1984. During the outbreak of the COVID-19 pandemic in March 2020, only decentralised conventions took place. The congress offers a rich programme of lectures and workshops on technical, political, and legal issues related to cyber and information security, privacy and related issues of information technology, and sociotechnical change.

The Nefertiti bust, discovered in 1912 by German archaeologist Ludwig Borchardt during excavations in Egypt commissioned by Kaiser Wilhelm II, has been the subject of restitution claims since 1925, owing to its controversial acquisition (Matthes, 2012; Voss, 2012). Although it is on permanent display in the museum's permanent exhibition of Ancient Egyptian culture, public access has been restricted for conservation purposes and to enhance visitor's experience of the sculpture's aura, including an entry fee and restrictions on photography. High-resolution images are licensed with the photographer's copyright in the online collections⁴, restricted to scholarly research, and available for commercial purchase through the 'bpk Bildagentur', a central image portal for prominent heritage institutions in Germany and abroad (fieldnote SharecareX, April 2017).

In response to allegations of restricted access to Nefertiti, the Neues Museum claimed that both the original sculpture and a touchable replica were on public display and that all scientific results had been made accessible (Neues Museum Berlin, 2016). Despite the dataset reportedly being downloaded over 100,000 times shortly after its release, scepticism about the artists' claims about their scanning methods has been expressed both by the museum and by experts in the fields of cultural heritage and computer graphics. In response to these doubts, the artists remain ambiguous: 'Maybe it was a server hack, a copy scan, an inside job, the cleaner, a hoax [...]. It can be all of this, it can be everything. We are not revealing details.' (Voon, 2016)

What is considered as 'sustainability' in culture? This ethnographic vignette illustrates how digitisation raises questions about sustainability in the cultural sector, challenging contemporary practices of exhibition and curation. In the context of ongoing digital advances, it raises important questions about how we can remember 'our' past legacies and preserve sustainability for future generations? Against this backdrop, in chapter 1.1, I set out conceptual considerations of sustainability and sustainable development, which are confronted with a paradox in the relationship between culture and sustainability. In chapter 1.2, I will then outline the research problem and the social relevance of sustainability in the cultural sector. In chapter 1.3, I will introduce my research interest and central research question, while in chapter 1.4, I will outline the dissertation's structure.

⁴ An image of the Nefertiti bust on display in the Neues Museum in Berlin can be found at the following link: <https://id.smb.museum/object/606189/b%C3%BCste-der-k%C3%B6nigin-nofretete> (retrieved April 27, 2025).

1.1. Background and context

Over the past four decades, the concept of sustainability has emerged as a global guiding principle for social change in the 21st century. While it evokes aspirations for a ‘good life’ in near futures, it also raises concerns and feelings of uncertainty and vulnerability. In 1987, the United Nations Organisation (UN) adapted the concept of sustainability from the Brundtland Report (Brundtland et al., 1987), which presented it as a visionary framework and propelled discussions towards the sustainable development of policies and actions in environmental, economic, and societal spheres. Although the Brundtland Report specifically addresses ‘sustainable development’, the term ‘sustainability’ has gained widespread usage, often leading to the two terms used interchangeably. Building on previous research (Lutz & Koch, 2017), this thesis distinguishes between these concepts by framing *sustainability* as a state or condition characterised by ‘being able to carry on, endure, or have a future’ (James, 2015, p. 22). Rooted in ecological principles, this conception emphasises balance or equilibrium among all components within a given system. In ecological terms, this balance involves the ongoing process of genesis and decay that sustain the stability and reproduction of the ecosystem. The ecological inspired idea of sustainability has gained increasing relevance since the 1972 Club of Rome report (Meadows, Meadows, Randers, & Behrens, 1972), ‘The Limits of Growth’, which warned of the consequences of unchecked economic growth on the loss of our natural foundations of life. Importantly, the concept of sustainability has also expanded far beyond ecology and economics to encompass diverse fields, including culture (see chapter 2.2). Nevertheless, despite its widespread application, the integration of sustainability within the cultural realm often remains ambiguous (Dessein, Soini, Fairclough, & Horlings, 2015; Soini & Dessein, 2016).

Unlike the concept of sustainability, *sustainable development* emphasises the processes of development and transformation. This means that sustainability is seen as an aspirational goal to be achieved, rather than a static state to be maintained. Although sustainability often appears to be an inevitable path of development, there is no consensus regarding the specific goals or visions associated with this future-oriented concept. This ambiguity is further compounded by uncertainties regarding how to achieve sustainability in a manner that respects the carrying capacities of ecosystems (Du Pisan, 2006; Hugé, Waas, Dahdouh-Guebas, Koedam, & Block, 2013; Kajikawa, 2008). As previously argued (Lutz & Koch, 2017), pursuing sustainable development therefore involves attempting to reconcile two apparently opposing imperatives: (a) the stability necessary for ecosystem regeneration and resilience, and (b) the inherently dy-

namic nature of social and cultural life, which is continually shaped by economic, technological, and socio-cultural changes. Consequently, applying the concept of sustainability in dynamic fields beyond ecological systems presents a paradox, as society, culture, and the economy evolve according to principles that differ fundamentally from those of sustainable ecological systems, which are considered sustainable only when all elements are in balance.

This raises a critical question: how can the notion of equilibrium be meaningfully applied to social, cultural, and economic dynamics at all? In order to address the paradox that there are no universal ‘natural laws’ or definitive criteria for equilibrium in these contexts, it is crucial to articulate and critically examine the meaning(s) of sustainability within social, cultural, and economic domains. This is the starting point of this research project titled ‘Towards living sustainabilities in culture’: it focuses on understanding and conceptualising sustainability situated within the cultural domain.

1.2. Research problem and significance of research

Without addressing the paradox of continuity and change, it can be observed that, in the first decade of the 21st century, international cultural politics, including UNESCO conventions and European initiatives, increasingly incorporated the concept of sustainability into the cultural sector (see chapter 2). Despite the ongoing conceptual ambiguities, sustainability has gained recognition as a key criterion in cultural funding and policymaking, thereby shaping transnational governance approaches in the cultural sector (Albert, 2015; Albert, Bandarin, & Pereira Roders, 2017; Auclair & Fairclough, 2015a). For instance, during the 2018 European Year of Cultural Heritage, the European Union identified sustainability as one of its four primary objectives under the theme ‘Sharing Heritage’ (The Heritage Council, 2017). Similarly, the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage describes heritage as ‘a mainspring of cultural diversity and a guarantee of sustainable development’ (UNESCO, 2003b). While this ecological and economic perspective on sustainability has influenced cultural policy, its practical application remains ambiguous. The relationship between sustainability and culture has yet to be thoroughly addressed within these initiatives and operational directives, which operate within the complex and dynamic context of culture and society. Consequently, sustainability becomes, to a certain extent, a buzzword, evoking positive values and aspirations for a ‘good life’, and has gained increased prominence amid rapid social change. Nevertheless, there is still no clear understanding of how it relates to these developments in discourse and practice.

From an anthropology of the contemporary perspective (Collier & Ong, 2005; Rabinow, Marcus, Faubion, & Rees, 2008), this highlights the importance of considering the long-term consequences of present actions, including their unintended impacts and potential irreversibility. In a world characterised by rapid and profound change – increasingly referred to as ‘overheating’ change (Eriksen, 2016) – alongside accelerating environmental crises and divisive societal developments across Europe, heritage and traditions have gained renewed significance. Current global challenges such as energy shortages, economic inflation and recession, the COVID-19 pandemic, forced migration, rising nationalism, and escalating geopolitical conflicts, among others, all highlight the vital role that heritage plays in providing a sense of identity and continuity. For example, national heritage can offer reassurance and a sense of belonging during times of crisis, as witnessed during the war in Ukraine. Conversely, the surge of nationalism and populism across Europe and beyond threatens democratic principles and values, including the safeguarding of cultural diversity and the sharing of traditions, which are integral to the European way of life.

The heritage sector plays a significant economic role in Europe, employing over 300,000 people and indirectly contributes to around 7.8 million jobs (e.g. in tourism and construction). (European Commission, 2017) However, heritage institutions and the humanities often face austerity measures within Member States. These challenges are likely to intensify given the current prioritisation of relevant investments in security and public infrastructure, including healthcare, digitalisation, transport, and climate protection, as for example recently announced by the new German government during its coalition negotiations in March. Furthermore, public memory is under increasing political pressure, as evidenced by the growing support for populist parties in the 2024 EU elections, and their expanding influence within national and supranational political institutions, as well as (national) decision-making bodies across Europe’s cultural sector.

From the perspective of Critical Heritage Studies (CHS), as discussed in this work, heritage is inherently political and cannot be disentangled from the politics and ethics of ‘what we should be valuing and attending to’ (Macdonald, 2008, p. 49) embedded within it, since it involves the valorisation of specific cultural traditions. This raises complex questions about how we should approach ‘difficult issues’ or ‘dissonant’ traditions (Coombe, 2013; Frank, 2016; Macdonald, 2009a) in light of socio-cultural change, such as artefacts collected during colonial periods, Nazi-looted art, or monuments from the Soviet past. Conversely, how should emerging traditions such as the computer-based demoscene, an expression of digital art and culture, be integrated

in the heritage landscape?⁵ How ‘historic’ or rooted in tradition must a practice be to qualify as ‘heritage’? Furthermore, who has the definition of what is valued as part of public memory? The concept of sustainability in relation to heritage is thus as politicised as heritage itself (Collier & Lakoff, 2005; Lutz & Koch, 2017). The politics surrounding heritage can influence how sustainability is understood and enacted. Similarly, interpretations of sustainability can vary depending on specific cultural traditions and the significance that heritage holds for different groups and individuals. In practice, this gives rise to a variety of meanings and approaches to sustaining cultural heritage, shaped by specific social, cultural, and political circumstances. Rather than adhering to a single, overarching commitment to sustainability, as set out in the Brundtland Report, it is more pragmatic to recognise that the concepts of sustainability in heritage work will inevitably be diverse, reflecting political considerations, ongoing negotiations, and particular standpoints. Furthermore, as new aspects of heritage emerge in scholarly debates and international heritage discourses, such as those outlined in UNESCO conventions and policy documents like ‘Intangible Cultural Heritage’ (UNESCO, 2003b) and ‘Digital Cultural Heritage’ (UNESCO, 2003a), it is essential to consider how the concept of sustainability can be applied to these emerging forms of cultural expression.

1.3. Research aims and research questions

The concept of sustainability in the cultural sector, with its roots in ecology and economics, is widely accepted yet remains largely unquestioned and under-theorised (Adloff & Neckel, 2019; James, 2015; Lutz & Koch, 2017). To date, its implications for remembrance and memory work have received limited scholarly and practical attention. This research addresses this gap by investigating *living sustainabilities* – the concepts and approaches to sustainability embedded within, and emerging from, cultural practices within the cultural sector. In other words, it will examine the ideas of an ‘intact culture’ that emerge in the cultural sphere, and how such a culture can be kept vital, drawing parallels to notions of ‘intact nature’ and ecological balance.

Focusing on digital transformation – an area in which cultural practices are substantially challenged, as illustrated by the Nefertiti hack vignette above – the project

⁵ The demoscene is a global, computer-based subculture and form of digital art centred on creating demos – real-time, non-interactive multimedia presentations that showcase programming, graphics, and music skills. Emerging alongside the rise of personal computers in the 1980s, the demoscene has become a platform for expressing creativity and technical expertise, fostering friendly competition worldwide. Further information can be found at: <https://www.digitalekultur.org/en/demoscene/> (retrieved April 27, 2025).

considers how rapid media and technological changes influence notions of heritage preservation and continuity. As the anthropologists Collier and Lakoff (2005) observe, these shifts have a profound impact on nearly all areas of contemporary daily life, calling into question established notions of ‘how to live’ in the digital age. Today, many everyday objects and forms of contemporary cultural expression are ‘born-digital’ (UNESCO, 2003a), meaning they are created digitally. Digitisation has prompted many European heritage institutions to reflect on and take practical steps to develop future forms of heritage work. These debates make the normative ideas about how culture should ideally be sustained and the steps needed to realise such an ideal tangible for cultural analysis.

What is regarded as ‘sustainable’ in the field of heritage, particularly in the light of digitisation? How do the challenges posed by technological advances in media reshape our understanding of what constitutes heritage and sustainability? How do these changes affect how we pass on legacies from the past to future generations? My research will explore the ethical negotiations that influence our perceptions of ‘how we should live’, considering how heritage and traditions should be safeguarded and kept vital in the context of sociotechnical change. This research aims to identify and analyse the explicit and implicit concepts of ‘sustainability’ inherent in the cultural sector and describe their characteristics as they emerge amid the digitisation of heritage. This will include examining the power relations inherent in valuing heritage and traditions, as well as what may become regarded as ‘common sense’ in terms of sustainability. Ultimately, the research will examine the relationship between discourse and cultural practices with regard to living sustainabilities in the context of heritage and digitisation.

1.4. Outline of the thesis structure

Against this background, the first two chapters of this thesis will situate this research within the existing literature on sustainability in culture and outline the composition of its relational approach to cultural analysis. In chapter 2, I will present a focused review of interdisciplinary research on sustainability as a transdisciplinary discourse, paying particular attention to the social and cultural fields, and identify key gaps in the literature (see chapters 2.1-2.2). Building on this review, I propose a heuristic framework for an empirical analysis that emphasises an emic perspective centred on sustainability in culture (see chapter 2.3). Drawing on the concept of ‘regimes of living’ from assemblage theory, this framework provides the overarching relational perspective for exam-

ining living sustainabilities. This framework is enriched by further theoretical perspectives from CHS, an anthropology of knowledge, and media studies to explore cultural vitality and its circulation amidst sociotechnical change.

In chapter 3, I will outline the composition of discourse ethnography as my research programme for studying sustainability in culture and reflect on the research process. Following anthropologist Christopher Kelty (2011), I refer to ‘composition’ rather than ‘research design’ to emphasise the emergent and open-ended nature of studying phenomena such as ‘sustainability’ within heritage and digitisation. I will describe how I assembled the transdisciplinary research field, combining practical efforts in the cultural sector with perspectives of CHS and digital humanities (see chapter 3.1). I will also detail the praxeographic and abductive *modus operandi*, as well as the *dispositif* analysis approach that underpin my discourse ethnographic approach, along with the methods I have chosen to explore and analyse emic perspectives on sustainability in culture with an ethnographic edge (see chapter 3.2). Finally, I will consider my role as a researcher involved in (dis-)assembling and re-assembling heritage as a global assemblage in the context of digitisation (see chapter 3.3).

The following two chapters present the empirical findings, which were analysed and synthesised in two stages in relation to the research question. Chapter 4 disassembles and assembles the notions of ‘cultural sustainability’ within the emerging discourse and practices of open knowledge in the heritage sector. Initial hypotheses are outlined and key stakeholders involved in the negotiations of sustainability in cultural practices are identified (see chapters 4.1-4.2). I then detail three sets of sustainability strategies that have emerged in response to the increasing digitisation in the cultural sector (see chapters 4.3-4.5). Furthermore, I will explore the ‘differences’ (R. Schmidt, 2011, 2016) – the challenges, pitfalls, and conflicts – that have arisen during the pragmatic negotiations on maintaining an ‘intact culture’, raising broader questions about sustainability in relation to the ‘good life’ (see chapter 4.6).

Chapter 5 will present a synthesis and discussion of my findings within the framework of living sustainabilities. Based on a *dispositif* analysis, it introduces a typology of divergent sustainability* regimes and re-assembles heritage as a global assemblage (see chapter 5.1). The discussion will summarise the living sustainabilities framework resulting from this research (see chapter 5.2). Using this typology, I will discuss how shifting regimes have started to reconfigure notions of openness and power relations within the cultural sector, thereby altering conceptions of sustainability. The discussion will conclude by outlining the typology’s potential as a heuristic framework for future research and practical initiatives in the cultural sector, and by proposing three focus areas derived from it.

In concluding this thesis, chapter 6 offers a reflection on the research and highlights the key theoretical and methodological contributions of the living sustainabilities approach underpinning this body of work (see chapter 6.1). It will also identify areas where further investigation is needed, as each discussed question in discourse ethnography invariably raises new ones (see chapter 6.2). The chapter will offer recommendations for strengthening the role of civil society and for navigating ethical issues related to public memory.

2. State of research and analytical frameworks

In this chapter, I explore the complex relationship between sustainability as the pursuit of ecological balance and the dynamic processes of social and cultural change arising from the social fields of culture, economy, and society at large. This exploration is crucial given the paradox that sustainability embodies – a goal rooted in maintaining the balance of our ecosystems while navigating the ever-evolving dynamics of culture, society, and economy. The first part of chapter 2 focuses on the different understandings of sustainability in international cultural policy, heritage work, and related research fields. More specifically, in chapter 2.1, I begin by presenting the United Nations' (UN) guiding principles for sustainability in international policy, which are closely linked to the foundational ideas of sustainable development presented in the Brundtland Report. These principles have stimulated the creation of local and global governance strategies for sustainable development in various disciplines and cultural practices across domains, thus shaping sustainability as a transdisciplinary phenomenon.

This idea of sustainability has increasingly been integrated into heritage work and the broader cultural sector, a development that will be explored in more detail in chapter 2.2. First, I will turn to UNESCO's framework for 'cultural sustainability' (chapter 2.2.1) and then explore current research on this concept, both in heritage work and heritage studies, and in the wider humanities and social sciences (chapter 2.2.2). In particular, two recent and more holistic conceptions of sustainability – 'Futures of Sustainability' (Adloff & Neckel, 2019) and 'Situating Sustainability' (Krieg & Toivanen, 2021b) – from the humanities and social sciences provide important impetus for the development of a heuristic framework for cultural analysis. To conclude the first part of chapter 2, I will identify relevant gaps in the existing literature that relate to my specific research questions and thus provide a basis for further inquiry (see chapter 2.2.3).

In the second part of chapter 2, I shift focus to developing an empirical research perspective on sustainability in cultural practices in the cultural sector. Given the often unquestioned and under-theorised application of sustainability in cultural contexts by both practitioners and scholars, I propose in chapter 2.3 that sustainability is not merely an ecological or political concern, but a site of ethical problematisation and needs to be seen in relation to other core conditions and principles of human social and cultural life. To guide this empirical exploration, I will introduce a heuristic framework consisting of three theoretical trajectories. First, I will use the overarching concept of 're-

gimes of living' from assemblage theory to explore the ethical negotiations around sustainability in the cultural domain (chapter 2.3.1). Second, I will draw on theoretical perspectives on heritage regimes and symbolic valorisation from Critical Heritage Studies, which implicitly contain ideas of an 'intact culture' that can heuristically guide the analysis in the context of digitisation (chapter 2.3.2). Finally, I will reflect on cultural vitality, focusing on the transmission and remediation of cultural knowledge to future generations, informed by an anthropology of knowledge and media theories (chapter 2.3.3). In chapter 2.3.4, I will present and discuss the heuristic framework developed in this research, elucidating its relevance for understanding sustainability in cultural practices.

2.1. Sustainability and sustainable development across disciplines: A transdisciplinary discourse

Why does 'sustainability' matter to society? Over the past four decades, sustainability has become a 'visionary development paradigm' (Drexhage & Murphy, 2010, p. 2) for societal change, based primarily on ecological and economic understandings. Born out of ecological concerns regarding global changes driven by human activity in the Anthropocene, the discourse on sustainability in international governance and policy has been profoundly shaped by influential ecological writings from the 1980s, notably the Club of Rome's report on 'The Limits to Growth' (1972) and the Brundtland Commission's report on 'Our Common Future' (1987).⁶ These texts highlight critical issues such as the limits to economic growth, pressing environmental challenges posed by climate change, and the critical need for intergenerational equity. Consequently, the UN has embedded this foundational understanding of sustainability in transnational policy frameworks for sustainable development; as a global imaginary, it has significantly influenced translocal political action and societal perceptions of sustainability in business and civil society today, as exemplified by the 2030 Agenda with its 17 Sustainable Development Goals (SDGs) adopted in 2015.⁷ In the following, I will briefly

⁶ The Brundtland Commission is formally known as the World Commission on Environment and Development (WCED) (Brundtland et al., 1987).

⁷ <https://sdgs.un.org/goals> (retrieved April 27, 2025).

outline the trajectories within transnational politics, sustainability research⁸, and public discourse around ‘sustainability’ as a transdisciplinary discourse.

In the realm of transnational politics and sustainability science, sustainability has a long history of specialised discourse. The UN’s governance approach to sustainable development emerged from a series of environmental mega-conferences in the period between the 1980s and early 2000s – the so-called ‘Stockholm-Rio-Johannesburg process’. The mega-conference format continues to serve as the central format of choice for contemporary global environmental governance under the climate change and biodiversity conventions, and has also become the subject of ethnographic studies (cf. Aykut, Rödder, & Braun, 2024). The UN framework aims to reconcile human development with the environmental, economic, and social challenges of today and near futures. The Brundtland Report defines sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development, 1987, p. 43). The well-established three-pillar model, formally introduced at the Johannesburg World Summit on Sustainable Development in 2002, underpins contemporary UN strategies for sustainable development. As a result, sustainable development is widely seen as a win-win solution that balances environmental protection and responsibility, economic viability, and social justice, as well as intergenerational equity and fairness in the distribution of welfare, utilities, and resources across generations (Dessein et al., 2015; Soini & Birkeland, 2014).

More specifically, the *ecologically inspired concept of sustainability* specifically addresses critical issues such as climate volatility and the depletion of vital natural resources, stemming from the impacts of increasing industrial resource use, economic growth, globalised trade, fossil fuel dependence, agricultural practices, and population growth on the ecosystem and its balance around the world (Caradonna, 2018; Du Pisan, 2006; Hugé et al., 2013). *Economic sustainability* thus seeks to promote balanced economic growth that conserves these natural resources while enhancing social well-being for future generations. Key areas of research focus on resource management mechanisms, green industrial production, and global supply chains, with an emphasis on circular economy principles aimed at reusing and recycling materials to reduce waste. In addition, considerations encompass technology innovations in clean energy, sustainable agriculture, responsible consumption, and the promotion of green finance

⁸ I use sustainability science and sustainability studies as an umbrella term for research on sustainability and sustainable development approaches in different disciplines. The term does not imply that there is a separate field of research, although there are calls for such a field in various disciplines (cf. Clark & Dickson, 2003; Kajikawa, Tacao, & Yamaguchi, 2014; Miller, 2013).

and investment strategies. There is also ongoing debate regarding the need to shift economic paradigms towards de-growth and zero-growth models (Heineberg, 2018; James, 2015; Ramiah & Gregoriou, 2016; Sneddon, Howarth, & Norgaard, 2006). As scholars have noted, much of the language currently used in sustainability discourses is rooted in economics, suggesting that impacts and outcomes in social and cultural spheres can be anticipated, measured, monitored, and managed (Mulligan, 2015). Such economic framing is intended to ensure that sustainability initiatives effectively contribute to environmental sustainability goals, including the SDGs.

Increased attention to *social sustainability* has emerged in response to the tendency in sustainability discourse to treat environmental concerns as an end in themselves, often assuming that ecological sustainability will produce universally positive and ‘desirable outcomes for all, all of the time’ (Vallance, Perkins, & Dixon, 2011, p. 343). Much of the literature on social sustainability has focused primarily on ‘less developed’ regions and developing countries, often referred to as ‘development sustainability’ (p. 342), addressing basic needs, building social capital, and issues of justice and fairness in the distribution of welfare and resources. This focus raises important questions about the extent to which sustainability as social development can be considered relevant to those living in so-called ‘Western’ societies. Moreover, social sustainability is often associated with the redistribution of goods and services to reduce inequality and increase social capital through participatory approaches in various fields, including education, urban planning, and environmental management (James, 2015) – thus coming full circle with the three-pillar model in transnational policy and sustainability science.

Deeply rooted in ecological and economic principles, the concept of sustainability has gained considerable prominence over the past 40 years through international policy and related sustainability science, but remains primarily an expert discourse (cf. Welzer, 2018). While the framework of sustainable development aims to achieve sustainability through actions across environmental, economic, and social domains, and stakeholders seek to reconcile differing priorities and definitions within this more or less shared global vision, the discourse has increasingly narrowed to prioritise environmental concerns. As a result, this interpretation of sustainability has become a common but often uncritically accepted notion in international policy and sustainability scholarship, with policymakers, practitioners, and researchers often using the terms ‘sustainability’ and ‘sustainable development’ interchangeably (Adloff & Neckel, 2019; James, 2015; Lutz & Koch, 2017).

Despite its ubiquity, sustainability remains an elusive concept, and its implementation has proven challenging in different fields and sectors of cultural practice,

leaving practitioners to further specify and operationalise the concept. The pressing issues of sustainability have led to problem-oriented agendas, practical solutions, and applied research, but without sufficient conceptual or theoretical reflection. As a result, this ecological and economic perspective on sustainability has become more familiar to the public, as it has been affirmatively integrated into educational programmes through local, national, and international policies (cf. UNESCO, 2016). In addition, frequent media coverage of global environmental disasters, intense and controversial political debates on sustainability strategies, and, not least, civil society protests – especially by young people and groups such as Fridays for Future, which have led to intergenerational support on a global scale – have raised awareness of sustainability issues in everyday life. Similar coalitions, such as Scientists for Future, or controversial activist groups, such as Last Generation, have reinforced the urgency for action both in European societies and globally. However, this civic and political momentum has faced a renewed ‘green backlash’, particularly in the context of rising populism, nationalism, and crises such as the pandemic and geopolitical conflicts among others, leading to cuts in political budgets and funding for (environmental) sustainability initiatives at supra-national, national, and local levels (Bocquillon, 2024; Paterson, 1999). With these lines of development of sustainability as a transdisciplinary ‘discourse’ in mind, the following chapter is dedicated to the understanding of sustainability in the cultural sector and related research.

2.2. Sustainability in cultural and social fields⁹

The concepts of sustainability and sustainable development, grounded in ecological and economic principles, are increasingly being translated into cultural and social contexts. Recently, culture has gained prominence as the fourth pillar of sustainable development, largely through the efforts of the United Nations Educational, Scientific and Cultural Organization (UNESCO) among other transnational organisations.¹⁰ As a result, sustainability has become increasingly relevant in the field of culture, manifesting

⁹ This chapter has undergone significant revision from its earlier version published in Lutz & Koch (2017). It now incorporates recent advancements in the state of research, particularly through the inclusion of recent, more holistic and critical research perspectives presented in ‘Futures of Sustainability’ by Adloff and Neckel (2019) and ‘Situating Sustainability’ by Krieg and Toivanen (2021b).

¹⁰ Besides UNESCO, several other transnational and international organisations, such as United Cities and Local Government (UCLG) and the Council of Europe with its Faro Convention, have recently highlighted culture as a distinct dimension of sustainability (cf. Council of Europe, 2005; Auclair & Fairclough, 2015a). Considering the focus on cultural heritage and digitisation, this thesis will primarily focus on UNESCO’s efforts in this area.

itself in transnational cultural politics, cultural practices, and various areas of research in cultural and heritage studies, which this chapter will explore in more detail.

2.2.1. UNESCO's governance approach to sustainable development: Integrating culture as the fourth pillar

Initially, the role and value of culture in sustainable development received only marginal consideration in international political frameworks and the environmental mega-conferences between the 1980s and early 2000s. Despite notable international milestones, such as the World Commission on Culture and Development's report (1995) 'Our Creative Diversity', and the introduction of the action plan of the UN summit in Johannesburg (United Nations, 2002), which acknowledged the need to protect cultural diversity as a dimension of sustainable development, UNESCO's framework predominantly focused on the original three dimensions, with the ecological and economic pillars clearly taking precedence. It was not until the early 21st century, through initiatives like the 'Convention for Safeguarding of the Intangible Heritage' (UNESCO, 2003b) and the 'Convention on the Protection and Promotion of Diversity of Cultural Expressions' (UNESCO, 2005), that the cultural dimension of sustainability and its role as resource for sustainable development began to gain traction. These international agreements advanced the role of culture in its own right and positioned it as a pivotal enabler, driver, and guarantee of sustainable development. Responding to these developments, UNESCO devoted its 2013 Congress to the theme 'Culture: Key to Sustainable Development', culminating in the Hangzhou Declaration (UNESCO, 2013), which framed culture as a distinct pillar alongside ecological, economic, and social considerations.

Despite its growing recognition in transnational cultural policy, the relationship between culture and sustainability within the framework of sustainable development remains insufficiently explored in policy documents and sustainability agendas. The meaning of sustainability in relation to culture remains ambiguous, complicating the application of the sustainable development framework across different cultural policy areas and social fields and limiting its usefulness as a research framework for cultural analysis (see chapter 2.2.2). Numerous stakeholders at international, national, and local levels continue to grapple with integrating culture and heritage issues into their sustainability agendas and with translating these into actionable plans. This task presents a complex challenge, as culture does not lend itself easily to being subsumed under spe-

cific agendas or planned in conventional ways (cf. Hannerz, 2010; Welz, 2003), as today's corporate and managerial cultures and social engineering techniques in state provision often suggest. Furthermore, given the burdensome legacy of the National Socialist era, it is crucial that today's cultural policies consciously avoid replicating past mistakes. Even if discrepancies persist, the governance approach of sustainable development has retained its significance and is attracting increasing attention from policymakers, scholars, practitioners, and civil society in the face of escalating environmental, economic, and societal challenges.

2.2.2. State of research: Sustainability in cultural analysis and critical heritage studies

In recent years, scholarly debates have increasingly focused on the relationship between culture and sustainability, highlighted by the emergence of the concept of 'cultural sustainability' (Soini & Birkeland, 2014). Early efforts sought to extend the conventional discourse of sustainable development as a three-pillar framework by adding culture as a distinct fourth pillar (Hawkes, 2001). However, this scholarly approach has been criticised for its narrow conception of culture, often equating it solely with arts and heritage, which overlooks the complex interrelationships between the environmental, economic, and social dimensions of sustainable development. Moreover, if culture is defined as a separate dimension, it must be distinguished from the other three pillars of sustainable development, especially social sustainability (Murphy, 2012; Soini & Dessein, 2016). Or, more critically, such a narrow focus, according to Dessein et al. (2015, p. 23), risks producing sectoral outcomes, thereby hindering the development of cross-sectoral and interdisciplinary solutions needed to address contemporary societal changes and sustainability challenges in pluralistic societies.

Cultural sustainability has emerged as a significant focus in empirical research in cultural heritage studies. The term encompasses a range of meanings in policy contexts, often with an emphasis on heritage preservation. Tolina Loulanski identifies a conceptual shift in the understanding of 'heritage', moving from mere conservation to encompassing 'purposeful preservation, sustainable use, and development' (Loulanski, 2006, p. 208). However, this perspective remains somewhat isolated and requires further empirical validation, as there is little research that combines sustainability and culture from a theoretical perspective in studies of 'critical heritage' and beyond (Lutz & Koch, 2017).

Numerous individual case studies on ‘cultural sustainability’ have emerged in heritage studies. Notable edited volumes exploring the interrelationship between cultural sustainability and cultural heritage have been published in respected outlets in the field, further contributing to the growing body of literature on cultural heritage and sustainable development (Albert, 2015; Albert et al., 2017; Auclair & Fairclough, 2015b). These works cover a wide thematic range, from the historical development of legislation and the implementation of the sustainable development framework in the context of cultural heritage, to the validation of the four-pillar approach in the context of international governance approaches, such as UNESCO conventions and programmes. Disciplinary studies in areas such as museum studies and tourism focus on issues such as heritage conservation, urban planning and resilience, environmental protection, and heritage tourism. In addition, evaluation methods for assessing the impact and sustainability of urban planning and the performance of heritage institutions are crucial topics in this discourse (Krieg, Thomas, & Zeiler, 2021; Stylianou-Lambert, Boukas, & Christodoulou-Yerali, 2014), reflecting both scholarly contributions and practitioners’ experiences of the heritage-sustainability nexus.

It turns out that the widely used pillar model at the heart of UNESCO’s approach to cultural policy often presents sustainability as a desirable goal that can be achieved through development strategies aimed at shaping possible positive futures. While this aspiration is commendable, this perspective tends to remain in environmental and economic terms, overlooking critical aspects related to socio-material constructions, power dynamics, and multiple interpretations of what constitutes sustainability. I argue that this research gap represents an area where the humanities and social sciences can make a significant contribution to describing, developing, and probing concepts of sustainability in social and cultural fields, as scholars have recently pointed out (Adloff & Neckel, 2019, 2021; Du Pisani, 2006; Krieg & Toivanen, 2021a). With this in mind, in the following section, I will provide a brief overview of the COST research network, as discussed elsewhere (cf. Lutz & Koch, 2017), before shifting the focus to recent, more holistic approaches emerging in the humanities and social sciences.

COST Research Network: Culture in, for, as sustainability

The COST Action research group ‘Sustainability in, for, as culture’ (see figure 2) addresses this criticism of the culture-sustainability relation by proposing three distinct representations of their interplay: ‘culture *in* sustainability, culture *for* sustainability, and culture *as* sustainability’ (Dessein et al., 2015).

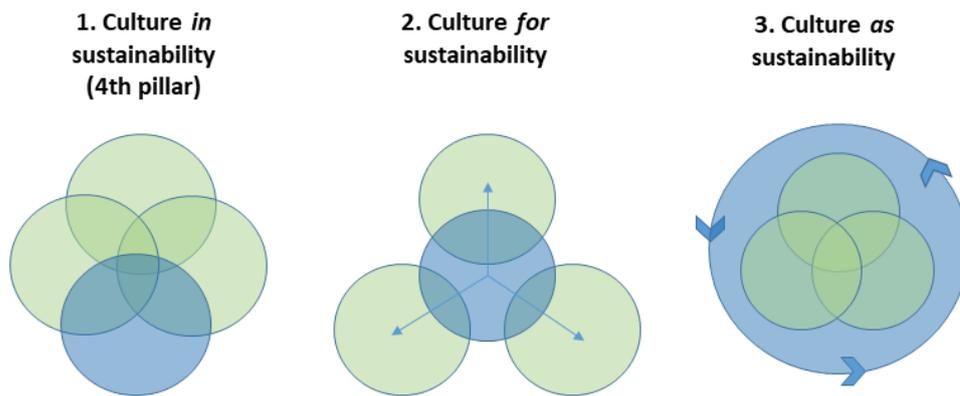


Figure 2: The three culture-sustainability relations of the COST framework (my own version adapted from the final report, Dessein et al., 2015, p. 29)

While this framework provides valuable insights into different sustainability understandings and potential trajectories for change processes beyond the traditional pillar model, it falls short of further differentiating the role of culture from a cultural theory perspective. In what follows, I provide a brief contextualisation of the three trajectories in cultural theory:

1. ‘Culture in sustainability’ refers to the pillar approach discussed above, which positions culture as a fourth pillar alongside ecological, economic, and social systems. It emphasises the long-term preservation of culture – art, heritage, knowledge, and cultural diversity – on equal footing with the other pillars. From a cultural theory perspective, this trajectory views each pillar as a self-referential developing system (e.g. Luhmann, *Social Systems*; Hodgkin and Huxley, *Systems Biology*) or, in Bourdieu’s terms (Rehbein, 2016), as distinct social fields with specific inner logics and forms of capital.
2. ‘Culture for sustainability’ regards culture as a facilitating force aimed at achieving social and ecological sustainability. This representation perceives culture as instrumental in social engineering and governance approaches that drive necessary public policy changes to balance ecological, economic, and social spheres and goals. As previously highlighted (Lutz & Koch, 2017, p. 76), achieving this, however, requires broad consensus at both the meso and micro levels of societies to drive change.

3. ‘Culture as sustainability’ sees culture as a ‘whole way of life’ (Williams, 1985) that permeates all levels of society (micro, meso, macro), advocating for transformations towards more holistic sustainable societies. However, this perspective risks oversimplifying today’s social fabric by ignoring the increasing diversity, fluidity, and contestations within complex societies (cf. Barth, 2002; Hannerz, 1992, 2010). Furthermore, viewing sustainability as already achieved implies a static understanding of cultural development, potentially reducing culture to elements that conform to, or at least do not contradict, sustainability principles in this sense.

Based on this framework, it can be said that, despite the aforementioned critique points, the COST framework of the culture-sustainability relationship underlines that sustainability – characterised by its ambiguities – is not a straightforward concept that can be easily integrated into the cultural domain of sustainable development. Like culture itself, sustainability will have many faces (Hannerz, 1992, 2009). Moreover, UNESCO’s four-pillar approach is commendable in that it recognises the distinctiveness of social fields rather than simply treating culture as a tool for sustainable development. However, the paradox of sustainability as a goal in the midst of ever-changing socio-cultural contexts remains a challenge in both the COST and UNESCO frameworks. This issue needs to be addressed in policy frameworks as well as in scientific discourse, as neither framework resolves how a concept such as sustainability, with strong ecological connotations, can be transferred and adapted within cultural and social contexts. With this in mind, I would like to look at more recent holistic approaches from the humanities and social sciences.

Cultural practices and sustainability: ‘Futures of Sustainability’ and ‘Situating Sustainability’

The vagueness of the conceptions of sustainability in culture, coupled with ongoing environmental and social challenges in everyday life – such as the increase in natural disasters or recent global developments such as the COVID-19 pandemic and the energy crisis in Europe following the war in Ukraine – has led to increased scrutiny. Some scholars have described sustainability as a concept in crisis, suggesting the adoption of alternative concepts such as ‘resilience’, which has its own ambiguities in social and cultural fields (cf. James, 2015; Stumpf, 2019). Conversely, some environmental historians argue that the very ambiguity of the concept and its diverse global origins con-

stitute a form of ‘world cultural heritage’ (Grober, 2018, p. 96, as cited in Krieg & Toivanen, 2021a, p. 4). Recent research in the humanities and social sciences has addressed this ambiguity as a significant research gap, offering entry points for empirical investigation and more holistic approaches. In this context, two relevant trajectories underpin my argument: the collaborative DFG research network of ‘Futures of Sustainability’ at University of Hamburg (Adloff & Neckel, 2019) and the handbook ‘Situating Sustainability’ edited by Krieg and Toivanen (2021b). While anchored in ecological interpretations of sustainability, these works also critically challenge the normative status of sustainability as an unquestioned model of development and as a guiding concept for social change to be pursued unilaterally.

As a first trajectory, the sociologists Adloff and Neckel (2021) consider the future orientation of sustainability in their analytical framework. They argue that sustainability encompasses a variety of different, often conflicting visions of the future, and have developed an analytical concept that categorises three competing sustainability trajectories with different imaginations of trajectories for societal development and the future.¹¹ From a macro-political and macro-economic perspective, these strategies range from efforts to achieve a significant socio-environmental transformation of society (1) to ecological modernisation processes (2) within the current institutional and political framework, as well as control mechanisms of social engineering (3) implemented during times of crisis (Adloff & Neckel, 2019). The interdisciplinary research network focuses on these divergent practices in a number of areas, including the green economy, finance, the energy crisis, and the COVID-19 pandemic. However, this analysis primarily adopts an institutional and macro-political perspective on socio-cultural change, focusing on the political negotiations that underpin social engineering approaches to achieving sustainable ecological futures. In particular, the research framework largely neglects the crucial contributions of other societal levels, such as civil society and the dynamics of everyday life, in navigating social change towards sustainability in complex societies.

Building on this, the second trajectory, which situates sustainability in its various uses and in different socio-cultural contexts, provides an additional and valuable perspective that supports my argument. By emphasising the relationships between sustainability and cultural practices, this cultural approach to sustainability sheds light on the socio-material embeddedness of sustainability and development, which are often

¹¹ See also the reflections of Anna Henkel (2016) on (ecological) sustainability from a sociological perspective, in which she analyses the current debate on sustainable development from the perspective of discourse analysis and develops empirical-analytical questions for sociological sustainability research with regard to the trajectories for sustainable development discussed here.

contested ‘in the very name of sustainability’ (Krieg & Toivanen, 2021a, p. 4). Adopting a relational approach to ‘situated knowledge’ (Haraway, 1988), this line of inquiry explores how various worlds are materially and discursively organised and produced through political economy, colonial relations, and assemblages of technologies, as well as of other non-human agents (e.g. animals, plants, etc.). However, this approach remains within the heritage sector’s institutional boundaries and expertise and would require further empirical investigation beyond situated expert knowledge. Although ecological interpretations of sustainability and the conceptual paradox between sustainability and sustainable development persist in these discussions – exemplified by the concept of ‘heritage naturecultures’ (Krieg et al., 2021) – this body of work provides fruitful impulses by shifting the focus to the empirical investigation of understandings and practices of sustainability in specific domains and relations, including the cultural sector itself.

2.2.3. Gaps in the state of research and research questions

As far as the cultural sector is concerned, sustainability is increasingly recognised as an important criterion for funding and cultural policy, and is thus emerging as a relevant governance approach on a global scale. The conceptual reflections in chapter 2.2 do not suggest a straightforward transfer of a more or less well-defined concept of sustainability from ecology and economy to the dynamic field of culture, which poses a challenge from the perspective of cultural analysis. Given the conceptual ambiguities inherent in the transnational policy frameworks of sustainable development, it falls upon cultural practice to develop a more nuanced understanding of sustainability. Consequently, a variety of meanings and cultural practices of what can and should be considered ‘sustainable’ is to be expected in everyday life.

With this in mind, I would like to highlight three critical aspects of the gaps in the current state of research that my research seeks to address from an empirical perspective on sustainability in the cultural sector: First, contemporary sustainability discourse tends to be focused on environmental concerns. The dominant pillar model, which is central to UNESCO’s approach to cultural policy, presents sustainability as a desirable goal that can be achieved through development strategies aimed at shaping possible positive futures in the midst of ever-changing socio-cultural changes. While admirable, this aspiration often remains narrowly defined in environmental and economic terms, overlooking critical aspects related to socio-material agencies, power dynamics, and multiple interpretations of what sustainability entails. Second, there is a

persistent paradox between sustainability and sustainable development when applied to social and cultural contexts. This ambiguity needs to be reflected in policy documents and sustainability research; unfortunately, it remains under-theorised in relation to social and cultural fields. Third, while more comprehensive and relational perspectives on (ecological) sustainability exist, they tend to continue to focus on the macro-political and macro-economic, as well as the institutional authority of heritage expertise, often at the expense of civic engagement and everyday perspectives on navigating the complex issues and challenges of sustainability. I argue that these research gaps represent an area where cultural anthropology can make a significant contribution to describing, developing, and probing concepts of sustainability in social and cultural fields.

This leads to the set of research questions on sustainability in the cultural sector for my empirical research: What does ‘sustainability’ mean in the cultural sector in light of increasing digitalisation? How do the current challenges posed by media-technological change reshape our understanding of what constitutes cultural heritage, and influencing how past worlds should be safeguarded and made accessible to future generations? In particular, my research seeks to identify the notions, approaches, and strategies of ‘sustainability’ that guide professional heritage work and inform the practices of various stakeholders in addressing these challenges posed by digitalisation in the cultural sector. I am also interested in exploring the inherent power dynamics and cultural distinctions that emerge as a result, particularly which understandings of ‘sustainability’ gain prominence over others and define what is deemed ‘sustainable’. Furthermore, it is important to examine how digitalisation is altering the question of sustainability within the cultural sector.

This leads me to the next chapter, where I will develop an emic research perspective in cultural analysis that emphasises a relational approach that considers the sustainability strategies that are emerging in the field of culture itself. Building on the theoretical impulses presented in the literature review, there is a pressing need to explore sustainability as a contingent concept that takes into account its sociotechnical, discursive, political, economic, and particularly ethical ramifications across different societal levels in the context of digitisation in the cultural sector.

2.3. Developing a heuristic framework for cultural analysis: A relational approach to sustainability in culture

The reflections in the first part of chapter 2 indicate that the meaning of sustainability and sustainable development in the field of culture is currently under negotiation, fuelled by its paradoxes, problems, and the need for a conceptual approach to sustainability that is embedded in cultural theory. The goals, norms, and values that justify referring to man-made developments as sustainable, require critical reflection, discussion, and a commitment to the moral implications and orders that these cultural practices put into place (cf. Lutz & Koch, 2017). I argue that sustainability in cultural and social life should be considered as a matter of political and moral debate rather than merely a goal to be achieved.

To address the above research gaps and questions, the second part of chapter 2 proposes to study sustainability from an emic perspective. In order to draw attention to the relationship between mediality and cultural vitality of cultural expressions and traditions, this approach combines theoretical perspectives from assemblage theory and Critical Heritage Studies with heuristic considerations from social anthropology and media theory (chapter 2.3). First, I will explore the framework of ‘regimes of living’ as an overarching relational approach and foundational mode of inquiry (chapter 2.3.1). Second, I will provide an overview of existing research on ‘heritage regimes’ in Critical Heritage Studies, specifically addressing the implicit norms associated with an ‘intact culture’ and its role in guiding good practices in the cultural sector (chapter 2.3.2). Recognising the significance of cultural vitality, I will then expand this perspective to consider the circulation of culture as knowledge in the context of rapidly evolving digital landscapes in the cultural sector (chapter 2.3.3). Finally, in the concluding chapter (chapter 2.3.4), I synthesise these theoretical trajectories to formulate a heuristic framework of *sustainability* regimes*, which will inform both the composition of my research programme and the empirical analysis that follows.

2.3.1. Sustainability from a Global Assemblage perspective: On shifting regimes of living and ethical negotiations over the idea of ‘good life’

How should we remember the past and pass it on to future generations? In light of the multifaceted and context-dependent interpretations of ‘sustainability’ in transnational cultural policies, practices, and research outlined above (see chapters 2.1-2.2), I argue

that the question of sustainability is a ‘global form’ (Collier & Ong, 2005) that is currently a site of ethical problematisation rather than being perceived as a straightforward concept or approach to social change – resonating with what Paul Rabinow refers to as ‘anthropological problems’ (p. 4). In this regard, my analysis of sustainability in the cultural sphere is informed by the framework of ‘regimes of living’, developed by American anthropologists Stephen Collier and Andrew Lakoff (2005), as articulated in the cultural theory of global assemblages. The critical question of ‘how we should live’ is closely intertwined with our aspirations to create more sustainable futures across sectors and fields at a global scale. This relationship highlights that ‘sustainability’ – as a question of how to live a ‘good’ life as pluralistic, democratic societies in the cultural sector – has become a matter not only of political discourse, but also, as I argue, of ethical reflection on the idea of the ‘good life’ at an overarching level. In order to gain a more comprehensive understanding of what is considered to be ‘sustainable’ practices in the cultural sector, it is crucial to examine ‘sustainability’ from an emic perspective, taking into account the ethical negotiations over ‘sustainability’ that emerge in specific, situated contexts at different levels and scales of society and spaces.

In this spirit, the regimes of living framework, with its relational perspective on ethics, provides a comprehensive heuristic approach in my work for investigating ethical negotiations in cultural practices within societies understood as complex and dynamic ‘global assemblages’ (Collier & Ong, 2005). It critically examines the practices, norms, and subject positions within a specific domain of ‘living’, such as the cultural sector, that are shaped by ethical negotiations over what is regarded as a ‘right’, ‘good’, or ‘sustainable’ life. As Collier and Lakoff (2005) point out, ‘[e]thical problems, in this sense, involve a certain idea of practice (‘how’), a notion of the subject of ethical reflection (‘one’), and questions of norms or values (‘should’) related to a certain form of life in a given domain of living’ (p. 22). This underlines the importance of ethical deliberation in shaping how different actors and their actions pursue sustainability in their diverse contexts at different societal levels. As a result, ethics is not used here to diagnose the incoherence of contemporary moral orders or to morally determine the ‘right’ understanding of sustainability; rather, the ethical perspective serves as a mode of inquiry to analyse the (re-)configurations of contemporary ethical dilemmas, such as the question of sustainability in social and cultural fields, as it has been transferred from the ecological to the cultural field (see chapter 2.2).

Consequently, regimes of living emerge as situated ways of knowing, regulating, reasoning, valuing, and practising that embody a particular understanding of the ‘good’ – or, more precisely, a particular interpretation of ‘sustainability’. As Collier and Lakoff assert, ‘[a] given regime provides one possible means, and always only one

among various possible means, for organizing, reasoning about, and living “ethically” – that is, with respect to a specific understanding of the good.’ (p. 31) These regimes of living, along with their associated moral economies and political ecologies (Coombe & Kisin, 2021; Herzfeld, 2004; Stehr, Henning, & Weiler, 2017), serve as potential guides for action and coping strategies in problematic situations marked by uncertainty in everyday life. From a relational perspective on ethics, different regimes of living engage in negotiations with one another over the question of sustainability in situated contexts.

In a similar vein, the three trajectories of control, modernisation, and transformation articulated by Adloff and Neckel (2019, 2021) and presented in the state of research (see chapter 2.2.2), for example, can be understood as more or less institutionalised forms of governmental regulation at the macro level that are directed at shaping near futures towards ecological sustainability in specific domains of living like energy transition or the COVID-19 pandemic. However, the regimes of living framework (Collier & Lakoff, 2005), informed by assemblage theory, does not inherently guarantee the consistency and coherence of any specific institutionalisation or political regime (Wehling, 2007). Instead, these regimes exhibit a high degree of flexibility, suggesting that they are in the process of formation and may prove to be persistent enough to shape cultural forms in the near future. However, they may also be limited in time – a perspective that informs this study. As Collier and Ong (2005) describe from an overarching perspective on assemblages in general, such global forms like ‘sustainability’

[...] have distinctive capacity for decontextualization and recontextualization, abstractability and movement, across diverse social and cultural situations and spheres of life. Global forms are able to assimilate themselves to new environments, to code heterogeneous contexts and objects in terms that are amenable to control and valuation. (p. 11)

According to Collier and Lakoff (2005, pp. 22–23), uncertain situations and shifts in regimes of living are often driven by disruptions such as technological change, underlining the role of digitisation in ethical negotiations and shifting regimes of living in contemporary social life. The question of how we should live is a contentious issue that is subject to extensive ethical negotiations due to the digitalisation of various social spheres. The point I want to make here is that technology matters as a major driver of socio-cultural change and is central to contemporary ethical problems of how to live, and therefore needs to be considered in the cultural field from the perspective of cultural analysis. I will elaborate further on the role of digitisation in the cultural sector in terms of cultural and media theories of the vitality of culture and its circulation as part of the relational heuristic framework of the study in chapter 2.3.3.

Furthermore, Ong and Collier (2005) note that global forms, such as sustainability in this study, 'are limited or delimited by specific technical infrastructures, administrative apparatuses, or value regimes, not by the vagaries of a social or cultural field.' (p. 11) This relational perspective on ethics allows us to understand sustainability as a dynamic global form, shaped by the interplay of different cultural, social, technical, material, legal, organisational, discursive, and ethical considerations. It illustrates the fluidity and complexity of these regimes of living, negotiated within overarching global assemblages, and how sustainability is understood and enacted in different contexts, making it difficult to capture the whole. However, cultural analysis can capture snapshots of an unfinished, ever-changing field, particularly in relation to the question of sustainability in the cultural sector in the face of digitalisation.

Collier and Lakoff's (2005, p. 23) emphasis on regimes of living as a methodological inquiry for organising comparison offers an invitation to further develop the concept for cultural analysis, especially when applied to situated contexts such as the cultural sector. In what follows, by relating this framework to cultural theories from Critical Heritage Studies and their notions of an 'intact culture', as well as to theories of cultural change, mediatisation, and circulation, I aim to develop a relational heuristic concept for the empirical study of sustainability situated in the cultural sector and ongoing digitisation.

2.3.2. 'Intact culture' through the lens of Critical Heritage Studies: On living heritage, symbolic valorisation, and heritage regimes

What makes an 'intact culture'? To apply the concept of 'regimes of living' in the context of cultural heritage and digitisation, heuristic perspectives from international Critical Heritage Studies are crucial. This academic field critically evaluates the significance of cultural heritage by exploring heritagisation as a socio-cultural process of both heritage-making and unmaking, alongside issues related to cultural economies and the emergence and institutionalisation of heritage regimes. Heritage regimes can be understood as the social construction of ideas, material conditions, rules, discourses, practices of symbolic valorisation, and underlying power relations that regulate what should be remembered and preserved for future generations (Bendix, Eggert, & Peselmann, 2013; Bendix, Hemme, & Tauschek, 2007; Kirshenblatt-Gimblett, 2004). These more or less institutionalised heritage regimes are formed through the symbolic valorisation of cultural heritage by various individual and institutional actors. Symbolic valorisation

is therefore a vital practice in cultural heritage and national identity formation, manifesting in numerous ways: from exhibitions curated by heritage experts in heritage institutions to community-driven valorisation in the discourse of intangible heritage, as well as the listing of traditions in international cultural policies such as those governed by UNESCO conventions (cf. Coombe, 2013; Hafstein, 2007; Hobsbawm & Ranger, 1983; Kirshenblatt-Gimblett, 1995; Tauschek, 2010).

While certain aspects of Critical Heritage Studies, particularly concerning UNESCO conventions, are often regarded as over-researched (cf. Bendix, 2007, p. 343; Welz, 2015, p. 154), investigations into these transnational governance approaches and national heritage regimes and related critical discussions shed light on what culture should encompass or not be. These critical perspectives implicitly establish normative standards for an ‘intact’ culture that guides the cultural sector and have led to generally accepted practices of ‘good safeguarding’ and critical reflections on what is understood as worthy for safeguarding and how heritage should be managed. The analysis will adapt these normative heuristics as contrasting foils for the empirical investigation. In particular, as already outlined elsewhere (Lutz, 2017a, 2025; Lutz, Geib, Schubert, & Koch, 2025), the following five lines of reflection on ‘intact culture’ represent important points of reference for the heuristic concept being developed:

1. *Cultural disconnections as challenges for professional heritage management*
Issues of social exclusion in heritage making and preservation have been widely acknowledged. Scholars argue that professional memory practices – such as the musealisation, folklorisation, and regressive revitalisation in heritage institutions – can lead to the disconnection of traditions from everyday memory practices of individuals and groups (Kirshenblatt-Gimblett, 2004; Koch & Smith, 2025a). Recent critiques highlight the unstructured accumulation of the past, filtered through expert authority (Macdonald, 2013; L. Smith, 2006), and call for a re-evaluation of the increasing categorisation of artefacts and traditions as ‘heritage’, including de-collection and forgetting (Harrison, 2013; Morgan & Macdonald, 2020).
2. *The dilemma of heritage commodification and its impacts*
Recent scholarship has highlighted the problematic nature of the commercial exploitation of traditions, showing how cultural economies can lead to the devaluation and displacement of these traditions – a phenomenon referred to as ‘unmaking heritage’. The circulation in and out of heritage status through neoliberal governance and economics is a key concern in the process of symbolic

valorisation process, raising questions about whose interests are served in heritage making and unmaking (Welz, 2015). Furthermore, in addition to the efforts of heritage experts and institutions in professional heritage work, the cultural industries are increasingly being recognised as an important contributor to keeping heritage vital, rather than being seen as inherently detrimental to culture (Koch, 2013; Koch, Rausch, & Stoffregen, 2025; Loulanski & Loulanski, 2011a).

3. *Embracing cultural diversity: Cultural expressions, community engagement, and social inclusion in public memory*

Over the past three decades, there has been a shift in global cultural policy towards the recognition of a broader range of ‘heritage’ expressions beyond the responsibilities of professional heritage work. This expanded understanding of heritage aims to take into account the multiple meanings that individuals and communities ascribe to traditions in coping with their everyday lives, including the safeguarding of intangible heritage and related discussions of ‘living heritage’ (Kirshenblatt-Gimblett, 2004), ‘ordinary heritage’ (Auclair, 2015), and ‘public heritage’ (Labrador & Silberman, 2018).

4. *Navigating power relations and identity politics: Engaging with contested heritage and ‘difficult issues’ in public memory*

Postcolonial studies critically examine the role of traditions in identity politics and nation-building. The discourse addresses ‘difficult issues’ in public memory, including references to colonialism, conflict, racism, and the marginalisation of certain groups in professional heritage work (Macdonald, 2009a, 2009b; Wolff, 2021). Ongoing research explores strategies for decolonising collections and curatorial practices, considering the potential implications for the epistemologies that underpin professional heritage work (Kambunga, Smith, Winschiers-Theophilus, & Otto, 2023; Stuedahl, Lefkaditou, Ellefsen, & Skåtun, 2021). An ongoing challenge for heritage futures, in terms of what is missing from public memory will be to interrogate collections in the context of current socio-political developments, including perspectives such as feminist and gender studies, migrant knowledge and practices, and environmental knowledge concerning nature and the universe, as well as digital cultures (cf. Wulf, 2025).

5. *Living heritage: Cultural knowledge and social productivity of traditions*

Scholars see heritage as a dynamic asset that provides people with cultural knowledge to meet the challenges of everyday life, rather than a static form of cultural knowledge that requires protection. A single artefact can evoke connections to a range of social contexts, generating different interpretations and meanings among different groups and societies. Consequently, cultural objects and expressions retain their significance as ‘living heritage’ even when used in very different contexts, potentially encouraging appropriation and further development in everyday life (Loulanski, 2006; Macdonald, 2012; Noyes, 2009; Tauschek, 2010; Wulf, 2025).

The vitality of culture in the context of socio-cultural change is a central premise and area of interest in Critical Heritage Studies. The tension between continuity and change, as outlined in the five dimensions above, is deeply embedded in the current heritage regime. As new dimensions of heritage, such as UNESCO’s charter on the preservation of the digital heritage (UNESCO, 2003a), gain prominence in international cultural policy, heritage management, and academic debates, it is important to examine how the concept of sustainability can be applied to the specificities of these new aspects like digitisation. At the same time, the analysis needs to take into account the ideas about how to keep culture vital that are emerging in the field itself, which is being driven by sociotechnical change. And which new regimes of heritagisation are being set in motion in the context of digitisation? However, digitisation has so far received limited attention in the extensive literature of Critical Heritage Studies (Jörissen & Klepacki, 2025; Koch, 2013; Koch & Smith, 2025a; Stuedahl, 2009) and needs to be considered in order to circulate traditions for future generations. This leads me to the next conceptual consideration, which concerns the vitality of culture in relation to the mediatisation and transmission of traditions in the face of the increasing digitalisation of lifeworlds.

2.3.3. Cultural vitality from the perspective of Anthropology of Knowledge and Media: On the production, circulation, and remediation of cultural knowledge

How can culture be kept vibrant and transmitted to future generations? The rapid transformation of media permeates almost all aspects of daily life and serves as a major driver of societal change (Collier & Lakoff, 2005). The increasing media permeability

of everyday life is pervasive, suggesting that notions of tradition and cultural heritage may be outdated. Questions of sustainability, in terms of the cultural vitality of cultural expressions and the role of media, are closely linked to questions of mediatisation and circulation. Such observations raise important questions about the relationship between cultural traditions and digital media, and how Critical Heritage Studies can address the medialisiation of lifeworlds and the challenges that sociotechnical change poses to the continuity and vitality of cultural heritage and traditions.

A third heuristic lens is Frederik Barth's (2002) anthropological knowledge perspective on the analysis of complex cultural systems, which understands media as an integral part of cultural (re)production. This perspective emphasises the reciprocal relations and connections between media and cultural practices, as formulated by Danish anthropologist Jens Kjaerulff (2010, 2017) for practices of telework in the realm of work cultures and German cultural anthropologist Gertraud Koch (2013) for the circulation of traditions as cultural knowledge.

Their perspectives build on to the reflections on anthropological concepts of knowledge as practice formulated by the Scandinavian social anthropologist Frederik Barth (2002). He developed an action-oriented understanding of culture; according to which culture in all its facets can be understood as knowledge, with cultural knowledge encompassing various forms, from cognitive to embodied to emotional and intuitive knowledge, and referring to 'all the ways of understanding that we use to make up our experienced, grasped reality' (Barth, 2002, p. 1). For both Kjaerulff and Koch, the appeal of this understanding of culture as knowledge lies in the resulting possibilities for empirical research that breaks through the relative and diffuse concept of culture with the knowledge perspective, making culture tangible as a social and learned construct and thus accessible to cultural analysis.

According to Barth, knowledge is both individual and collective, whereby individual knowledge is never uniform within a population, but is distributed among individuals and groups. In this sense, knowledge is embedded in different knowledge regimes and orders, which lay down the principles for validating knowledge and in which organisations or institutions are responsible for overseeing this knowledge in terms of enforcing it and monitoring its changes. From this theoretical perspective, which also takes into account different levels of society, empirical approaches to cultural analysis can use the practices of circulating knowledge as a starting point for examining the vitality of cultural traditions, i.e. the construction, representation, distribution, reproduction, and use of knowledge – what Barth describes as the knowledge cycle:

There, we can observe the interplay of circumstances that generates the criteria of *validity* that govern knowledge in any particular tradition. They arise through the effects on action of the constraints embedded in the social organization—the distribution of knowledge, its conventions of representation, the network of relations of trust and identification, and instituted authority positions of power and disempowerment. But they are also affected by constraints that arise from the properties of the medium in which the knowledge is being cast, which affect the ideas that can be conveyed through forms of representation that are felicitous, limited, or impossible for those ideas in that medium. (Barth, 2002, p. 3)

In this context, media play a complex role, which I will explore in relation to my research question on the sustainability of cultural vitality and the impact of digitalisation. Two key aspects emerge as central to my inquiry, informed by anthropological and media theories of cultural vitality and circulation:

1. *Media (practices) as central objects of analysis*: Media are integral to cultural traditions, serving as crucial mechanisms for their reproduction and vitality. They are a means of engaging with the world, allowing individuals and groups to express, negotiate, and preserve their cultural identities (Kjaerulff, 2010; Koch, 2013).
2. *Media as drivers and subjects of socio-cultural change*: Beyond being mere vessels of cultural knowledge, media actively influence the ongoing reproduction and vitality of cultural traditions. They are dynamic agents in the process of cultural transition, shaping how traditions are perceived, practised and transmitted across (future) generations (Koch, 2013).

These points raise important questions about the sustainability of cultural knowledge and the role of media in facilitating cultural transmission. However, these dimensions are often overlooked in existing research traditions like Critical Heritage Studies (see chapter 2.3.2). To fill this gap, it is essential to incorporate these considerations about cultural knowledge, media, and sociotechnical change into a heuristic empirical framework. In the following sections, I will briefly elaborate on these two aspects.

Culture as knowledge practices and the role of media in circulating traditions

Since culture is always mediated, media play a central role in Barth's theory and analytical framework. I would like to highlight two aspects of this relationship: First, media are the only means by which a group's cultural knowledge can be represented, made visible and articulated, and thus made available for cultural reproduction and practice(s). Barth's perspective implies a broad concept of media that includes interpersonal forms of communication and mediation, such as rituals, dance, and storytelling in oral

cultures, as well as modern mass media (Koch, 2013, p. 171). Furthermore, although Barth does not explicitly address digitisation in his theory, it can also be included within this comprehensive understanding of media. In this regard, Kjaerulff refers to ‘media practices’ as mechanisms through which knowledge is conveyed in the context of telework (Kjaerulff, 2010, p. 214).

Second, from an empirical perspective, it is only through the media representations of cultural traditions that their characteristic bodies of ‘substantive assertions and ideas about aspects of the world’ (Barth, 2002, p. 3) can be studied. Thus, the analysis of cultural traditions begins with the diverse expressions of cultural knowledge, with the aim of identifying where and how they operate in all their variations. It is also about determining how vital this cultural knowledge is, particularly how productive it is for the social organisation of a group and for the everyday life of an individual, and how cultural knowledge can change over time. In this context, three interrelated dimensions of knowledge can be considered: a) the stocks of knowledge that constitute a cultural tradition, b) the media in which the stocks of knowledge are represented, and c) the social organisation of the knowledge domain (p. 1).

This approach of a knowledge cycle elucidates the relationship between cultural transmission and mediality, i.e. the connection between various forms of media of representation, specific mediation qualities, and the dissemination of cultural expressions as a mode of circulation and transmission of cultural knowledge. According to Barth, media are not only essential to cultural traditions, but also significantly influence the changes these traditions undergo over time. Media in the broadest sense, and the conventions of representation associated with them, such as viewing habits and materiality, play a critical role in the transmission and consolidation of cultural knowledge. At the same time, the inherent properties of media shape which ideas and concepts of the world can be conveyed (Koch, 2013, p. 171). Ultimately, how and in what media cultural traditions are expressed, represented, and preserved determines their ability to be practised, maintained, and passed on to future generations.

Remediation in the context of sociotechnical change

At the same time, digitalisation is driving rapid transformations in media themselves, with profound implications for cultural production and reproduction, and ultimately for the dynamic preservation and transmission of traditions. This process is characterised by what is known as remediation, which involves the reorganisation of existing media technologies and practices. The concept of remediation, as articulated by Bolter and

Grusin (2000), analytically captures this phenomenon and complements Barth's approach of an anthropology of knowledge in relation to digitisation, as formulated in Koch's framework (2013). According to Bolter and Grusin, any instance of mediatisation or media change is fundamentally rooted in remediation, stating that '[a] medium is that which remediates' (p. 65). From a media history perspective, they describe the remediation of 'old' media as an inevitable necessity and a basic pattern of media development shaped by sociotechnical change:

No medium today, and certainly no single media event, seems to do its cultural work in isolation from other social and economic forces. What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media. (Bolter & Grusin, 2000, p. 15)

In the field of culture, the remediation of heritage in digital media productions has become a common practice, repurposing and reviving traditions by translating them into new forms of representation, often in entirely new social settings (see chapter 4). These developments therefore have implications for how cultural knowledge is (re-)produced, transmitted, and sustained for future generations, and complement Barth's considerations and understanding of media. Whereas in Barth's framework the role of media is understood as the transmission of cultural traditions, remediation theory emphasises the role of *media and technology as agents* of cultural transition. As Koch (2013, pp. 173–174) points out, remediation not only drives socio-cultural change, but also alters the balance between the three faces of knowledge – the stocks of knowledge, its media, and its social organisation – and can affect its productivity for the social organisation of a group.

It becomes clear that new technologies always pose a challenge to the circulation and the vitality of cultural traditions. For cultural heritage to remain vital in cultural practice, it must adapt to sociotechnical change (p. 169). As new technologies introduce new forms of cultural expression and communication, especially in the digital age, existing forms of representing traditions risk becoming 'redundant' in the face of sociotechnical change – and according to cultural informatics scientist Martin Warnke (2025), given the rapid changes in media, circulation applies more than ever as a principle for institutional long-term preservation of cultural heritage and research data management in the digital age. This is true even if cultural traditions have not yet disappeared from collective memory. With the old media, however, they may fall behind due to a loss of attention in the communicative memory. Consequently, the continuity and vitality of traditions depends on their constant circulation, to the extent that the

cycle of knowledge (Barth, 2002) can be actively maintained in the context of socio-technical change in order to be passed on to future generations, each of which will deal with this cultural knowledge in a unique way.

In today's highly digitised world, recent cultural anthropological theorising identifies technology as a crucial factor and agent in the context of socio-cultural change (e.g. Bruun et al., 2022; Klausner, 2022). As a result, the role of digital media and their changing mediating qualities need to be considered more systematically in the theory-building of Critical Heritage Studies than has been the case to date. This thesis aims to address this gap by introducing a heuristic concept for studying sustainability in the field of heritage and increasing digitisation in the following chapter.

2.3.4. Heuristic framework: An empirical approach to 'sustainability' in the cultural sector

In order to approach 'cultural sustainability' empirically, this study will dis-/assemble and re-assemble 'sustainability' as an ethical problem within the cultural domain. As I have demonstrated throughout this chapter, the contribution of this research suggests a re-envisioning of 'sustainability', which is often narrowly understood as ecological and economic sustainability. Three key points underpin the heuristic framework developed in this study. First, I seek to advance an emic perspective on 'cultural sustainability' by adopting an abductive stance and mode of inquiry that seeks to understand emerging conceptions of sustainability from within the field itself (see also chapter 3). Second, while discussions of 'sustainable' development are typically approached and framed from the macro-political, macro-economic, and institutional levels (Adloff & Neckel, 2019; Krieg & Toivanen, 2021a) – including goal-setting initiatives with broader scales, such as the Sustainable Development Goals as international regulatory governance – this study shifts the focus to different societal levels, including the macro, meso, *and* micro dynamics of cultural transitions in the circulation of cultural knowledge in everyday life. Third, this empirical inquiry requires the use of heuristics, drawing on cultural and media theoretical heuristics and a mode of inquiry that stays close to cultural practices in the field of heritage (Barth, 2002; Bolter & Grusin, 2000; Collier & Lakoff, 2005). It is through the pragmatic negotiations situated in cultural practices that competing notions of sustainability materialise and influence sustainability strategies, particularly in relation to institutional, governmental, and economic regulatory practices.

Moreover, the ongoing processes of change driven by digitisation within heritage institutions and the reuse of digitised cultural heritage provide fertile ground for cultural analysis. These developments challenge existing national heritage regimes and affect the meaning and significance of cultural expressions and traditions within collective memory. Consequently, the research interest of this project focuses on how (digital) remediations of cultural heritage, as specific formats of media representation, relate to the construction, mediation, and distribution of cultural knowledge in terms of the circulation of forms of cultural expression. This research raises critical questions regarding the vitality of specific cultural traditions and their productivity for the social organisation of communities and groups in pluralistic societies: How do remediations influence contemporary understandings of sustainability in European heritage work? To what extent do European heritage regimes accommodate processes of social change and reflect the lived realities and everyday worlds of individuals in the context of digitisation? Drawing on current remediations of cultural traditions, this project focuses on the processuality and complexity of the relationship between sustainability and culture.

The use of this heuristic framework allows for an empirical exploration of ‘sustainability’ as an ethical negotiation process in the context of digitisation in the cultural sector (see chapter 4). In addition, the theoretical heuristics assembled here will serve as a basis for creating a typology of different sustainability understandings, which I refer to as ‘*sustainability* regimes*’. This working definition of sustainability* in culture outlines various conceptualisations of an ‘intact culture’ and the interrelations and power dynamics in the global assemblage, in order to answer the research question of ‘What is understood as sustainability in the cultural sector in the context of digitisation?’. The asterisk in sustainability* underscores the ethical negotiations and contingencies inherent in these regimes (see chapter 5.1).¹² How I have made this heuristic framework methodologically viable will be elaborated in the following chapter, which is dedicated to the development of a research programme for discourse ethnography.

¹² For reasons of legibility and practicability, it has been avoided to consistently use the asterisk ‘sustainability*’ throughout the study and will be revisited in the synthesis (see chapter 5.1).

3. Composition: Methodological framework and reflexive practice

This research seeks to critically challenge and rethink conventional notions of sustainability, which have traditionally been framed primarily in ecological and economic perspectives and applied to social and cultural contexts. Central to this investigation is the heuristic framework of sustainability* regimes, which raises significant questions regarding its operationalisation for cultural analysis. Specifically, how does one study sustainability* regimes situated in the cultural sector and the specific forms that ethical negotiations take in sustainability practices and as objects? Given the open-endedness and fluidity of regimes of living within a global assemblage, how and where should the boundaries of an ethnographic inquiry be drawn in an informed way? This also includes methodological considerations in relation to digital media, especially given the fleeting nature of both sustainability and (digital) media, which are in constant flux.

In this chapter, I will outline the composition of my methodological research programme for assembling the field and the methods I have chosen to address these questions of operationalisation. Following cultural anthropologist Christopher Kelty (2011), in this work, I use the term ‘composition’ rather than ‘research design’ to emphasise the notion of ethnography as an ‘epistemological encounter’ (p. 196) rather than a methodological framework, in which predetermined questions drive ethnographic fieldwork and serve only for data-gathering. In this sense, the research on sustainability* regimes emerges from a composition of research questions, heuristics, collaborative and transdisciplinary research settings, and my research practice, drawing from diverse field contexts, research programmes and methodological procedures, and heterogeneous research materials that eventually became part of my data corpus and analysis. This composition not only reflects the complex heuristic framework that guides my inquiry, but also underscores the emergent, open-ended, and related nature of the global assemblage and regimes of living that I aim to explore with an abductive research stance (Reichert, 2011, 2019).

This chapter begins by reflecting on assembling the research field of digitisation in the heritage sector through the lenses of Critical Heritage Studies (CHS) and digital humanities (chapter 3.1). It then introduces discourse ethnography as the underlying research programme of the study (chapter 3.2) by describing its foundational discourse-ethnographic premises from a praxeological perspective and its operationalisation with an ethnographic edge. This methodological framework of a discourse ethnography allows for a more nuanced understanding of how sustainability practices manifest in real-world contexts and shape the ethical negotiations of sustainability in the assemblage. In addition, the chapter reflects on my positioning as a researcher in the

field (chapter 3.3), acknowledging how my background and my research practice inform the processes of knowledge production and the assembling of sustainability practices into regimes within a global assemblage. By engaging with these methodological considerations, this chapter aims to provide a rigorous research programme for understanding sustainability in the cultural sector.

3.1. Assembling the transdisciplinary field

As previously noted (Lutz, 2017a), the term ‘digital heritage’ has gained prominence alongside related concepts such as ‘new heritage’, ‘heritage 2.0’, and ‘virtual heritage’ (Addison, 2001; Champion, 2014, 2021; Economou, 2016; Kalay, Kvan, & Affleck, 2008; Parry, 2010b). Although I have argued that this term is situated within a loosely connected transdisciplinary assemblage spanning practical efforts in professional heritage work and academia, the term remains problematic in implying a more or less coherent ‘field’. ‘Digital heritage’ is therefore enclosed in quotation marks. This research argues for dis-assembling this notion by re-assembling the field of heritage in the context of digitisation as a global assemblage, as reflected in the heuristic framework (see chapter 2.3). Since the 1990s, international methodological debates have given momentum and broadened the scope of field approaches in response to globalisation and post-structuralist engagement with new forms of technology-mediated social organisation and the modes of problematisation surrounding them (Bruun et al., 2022; Collier & Lakoff, 2005; Ong & Collier, 2005). This chapter does not aim to provide a comprehensive review of the genealogy of conceptions from the ‘field’ to ‘assemblage’, as such analyses are already well-covered in established German-language literature and recent international handbooks on technology’s role in society (Hess & Schwertl, 2013; Wahlberg, 2022). Instead, I will critically reflect on the term ‘digital heritage’ as a field, considering its ambiguity in relation to three aspects before outlining my discourse ethnography research programme and methodology in the next chapter, which details how I assembled the field in the context of heritage and digitisation (see chapter 3.2).

First, when discussing ‘digital heritage’, it is useful to distinguish between ‘digitised heritage’ materials and ‘born-digital’ resources. Digitised heritage materials refer to artefacts such as objects or artworks that have been photographed or otherwise converted into digital form. Born-digital resources, by contrast, are created and experienced directly through digital technologies, a distinction also made by one of my re-

search participants who worked for a digital repository (Harrower, 2017, p. 69). Recently, born-digital resources such as tweets and websites have begun to be recognised as heritage, exemplified by efforts like the Twitter archive at the Library of Congress and the Internet Archive. Although these kind of archiving processes are certainly important and have not yet been well addressed in the field of CHS, this work primarily focuses on digitised heritage materials, which are the main object of digitisation strategies in ‘GLAM’ institutions – galleries, libraries, archives, and museums (GLAMs) – throughout my fieldwork (see chapter 4).

Second, as discussed in more detail elsewhere (Lutz, 2017a), the ‘digital heritage’ scholarship, is expanding rapidly from a cultural and social science perspective, if one can consider it an established ‘research community’. The field has seen the publication of special issues and curated selections of peer-reviewed articles on leading digital heritage platforms and by publishers such as Routledge. In response, numerous academic chairs, national and international research projects, institutes, and postgraduate and vocational training programmes have been established in order to address evolving research needs and to train (new) heritage professionals. Examples include the One by One research project on digital literacy and masters programmes at the Centre for Digital Heritage at the University of York in the United Kingdom, as well as the UNESCO Chair on Digital Cultural Heritage at the Cyprus University of Technology.¹³ International annual and bi-annual conferences such as ‘Museums and The Web’ (MuseWeb), ‘Open Repositories’, and ‘Sharing is Caring’ have become key biennial or annual events, with their proceedings and publications being widely cited within the field (e.g. Sanderhoff, 2014). Furthermore, new working groups such as SIEF’s ‘Towards Digital Folkloristics’, and interdisciplinary conferences such as ‘Researching Digital Cultural Heritage’ (2017-2020)¹⁴, demonstrate the increasing demand for rigorous academic research and theoretical development in the context of heritage and digitisation. While these developments reflect growing international recognition, scholarship remains fragmented across disciplines and dispersed across diverse venues and media. As Ross Parry (2010b, p. 3) observed, those working in ‘digital heritage’ are confronted with a complex and transdisciplinary body of evidence and literature, with relevant content spanning multiple channels, media, locations, and genres.

¹³ For the ‘One by One’ research project, see: <https://one-by-one.uk/>; for (under-)graduate study programmes see for example the Centre for Digital Heritage York: <https://www.york.ac.uk/digital-heritage/>; for the UNESCO Professorship of Digital Cultural Heritage see: <https://digitalheritagelab.eu/> (retrieved April 27, 2025).

¹⁴ For the SIEF Working Group see: <https://www.siefhome.org/wg/def/>; for the conference website see: <https://digitalheritageresearch.wordpress.com/> (retrieved April 27, 2025).

The research landscape at the intersection of heritage and digitisation is therefore characterised by a broad disciplinary spectrum within digital humanities, functioning in the sense of cultural informatics, as previously outlined in my work (Lutz, 2017a), and by other scholars (Cameron & Kenderdine, 2007; Koch, 2021b); I will now provide a brief summary illustrating this. Building on Patrik Svensson's typology (2010, pp. 17–28), which classifies five currents under the umbrella of digital humanities, I outline different epistemic approaches to 'digital heritage' as subject and practice. Digital technology is often explored as 'tools' for enhanced representation (1) and as new 'expressive medium' (3). Much research focuses on digitisation projects in GLAM institutions, emphasising technological applications such as digital collections and visualisation tools, as well as legal, technological, organisational, and preservation issues (see chapter 4 for further details). Since completing my fieldwork, scholarship and practice have increasingly explored the expressive and interactive potential of digital media to reshape experiences of cultural heritage – including 3D modelling, virtual reality, and, more recently, artificial intelligence (Benardou, Champion, Dallas, & Hughes, Lorna, M., 2018; Champion, 2021). However, drawing on Svensson's typology, there is limited reflection on the underlying epistemologies and ontologies which see digitisation as 'study object' (2) in domains like heritage. While these efforts highlight the instrumental use of digital technology, they often lack critical engagement with how digital media reconfigure the very notion and practices of heritage itself. A comprehensive theoretical understanding of these practices remains underdeveloped, with questions of social meaning, participation, and ethical implications often being addressed in isolation (cf. Giaccardi, 2012; Koch, 2013, 2021a; Koch & Smith, 2025a; Rinehart & Ippolito, 2014; Willim, 2017). There is clearly a need for more integrated, reflexive approaches within the field of digital humanities.

Third, as 'digital heritage' emerges as a new aspect of scholarly debates and international heritage discourses, as outlined in UNESCO conventions and policy documents like 'Digital Cultural Heritage' (UNESCO, 2003a), it is important to critically reflect on this development. Within Cultural Heritage Studies, a social constructivist perspective posits that heritage is constructed and discursively produced within specific (often national) regimes (see chapter 2.3.2). In the era of digitisation, this approach underscores that heritage is not inherent but produced through intentional actions guided by standards operating within a 'global hierarchy of value' (Herzfeld, 2004). This perspective aligns with traditional CHS; however, the role of digitisation is often underemphasised in this research area. Notably, the disconnect between digital humanities and CHS exemplifies that current developments in both areas – both scholarly and

practical – are rarely critically reflected in relation to each other, resulting in a fragmented landscape with few exceptions, as mentioned above. Against this background, Stuedahl’s (2009) early call to consider digitisation more critically as a research object within the context of cultural heritage remains highly relevant. This view is supported by recent initiatives in related fields, such as memory studies, design anthropology, science and technology studies (STS), and participatory design. Examples include new book series like ‘Participatory Memory Practices: Digital Media, Design, Futures’ (Routledge), and activities such as the establishment of the UNESCO Chair in Digital Technology Design with Indigenous Peoples at the Namibia University of Science and Technology, to name a few (see also chapter 4).¹⁵

Building on these considerations, this research engages with the global assemblage approach and the regimes of living perspective discussed in chapter 2.3 that also offers a methodological framework for exploring new ways of how to live. Rather than treating ‘digital heritage’ as a clear defined concept, discipline, or field, this research argues for dis-assembling ‘digital heritage’. This approach to heritage as a global assemblage emphasises the uneven and discontinuous nature of its valorisation processes. It foregrounds ‘becoming’ rather than ‘being’ heritage a priori, a perspective also evident in seminal works in CHS that adopt relational approaches, viewing heritage as a ‘European memory complex’ and as ‘European products’ (Macdonald, 2013, pp. 2–3; Welz, 2015).

In addition, the traditional notion of the ‘field’ as a bounded geographic space has been challenged by globalisation and digitisation over the past thirty years. These developments have fostered conceptual and methodological shifts in (social) anthropology such as ‘multi-sited ethnography’ (Marcus, 1995), regimes of living (Collier & Lakoff, 2005), and, more recently, ‘assemblage ethnography’ (Wahlberg, 2022), as well as new approaches that move beyond territorial boundaries. As Ayo Wahlberg (2022) demonstrates, since the 1990s, there has been a shift in (social) anthropology, moving away from studying ‘societies’ or ‘people’ as discrete entities, and towards examining infrastructures, assemblages, complexes, or what Michel Foucault termed *dispositifs* (see also chapter 3.2). These perspectives address emerging, technology-mediated social organisations that continually emerge within a globalising context and aim to map out and comprehend emerging social phenomena as they unfold across *scales, sites, and practices* (p. 126).

¹⁵ For the UNESCO Chair, see the website: <https://indiknowtech.nust.na/>; for the Routledge book series see: <https://www.routledge.com/Participatory-Memory-Practices/book-series/PAMEPR> (retrieved April 27, 2025).

This framing shaped my approach to the field, extending it beyond a physical locality to ensure the project's rationale and feasibility. To construct the field through my research practices of (re-)assembling heritage as a global assemblage, a research programme is needed to account for its fluidity, emergence, and open-endedness. The following composition of methods proved fruitful for studying living sustainabilities in this context. The composition also reflects developments in the growing field of ethnographic discourse analysis, to which it aims to contribute from an anthropological perspective.

3.2. Approaching the field of sustainability in the cultural sector

In order to empirically capture the various aspects of meaning production and interpretation of heritage, as well as the interrelations and dynamics of sustainability practices and digitisation in the cultural sector, this work adopts a *discourse-ethnographic approach* (Keller, 2013). In the fields of sociology and anthropology of knowledge, discourse analysis is used as a research programme and methodological framework to investigate how (new) social phenomena emerge and become manifest in the dynamics of pluralistic societies. This approach is particularly relevant to contemporary discussions of sustainability in the context of the digitisation of cultural heritage, which is often manifested as a debate rather than a discourse, and which is the central research focus of this study (see chapter 2.2.3). Given that many of the approaches to sustainability in the cultural sector are spelled out in cultural practices and often lack sufficient academic reflection and discourse, it is essential to bring an ethnographic edge to discourse analysis.

In the following, I will present the composition of my research and the methodology with which I have operationalised my heuristic concept of *sustainability* regimes*. I will first discuss my approach to a discourse ethnography, with particular emphasis on a praxeographic perspective (section 3.2.1). I will then outline the research process, detailing what I studied and how I developed my data corpus through an iterative process of data generation and analysis (chapter 3.2.2). Finally, I will reflect on my role and position in the field from ethical, epistemological, and ontological perspectives (chapter 3.3).

3.2.1. Discourse ethnography from the perspective of praxeography

In recent years, discourse ethnography has increasingly been applied in empirical research in the German-speaking world and beyond. This chapter does not aim to provide a comprehensive review of the current state of research in this field, as such inquiries are covered in detail in established (international) handbooks (Keller, 2013; Keller, Hornidge, & Schünemann, 2018). Instead, I will focus on how the understanding of discourse ethnography in the tradition of the Sociology of Knowledge Approach to Discourse (SKAD) has informed my research approach and shaped the overall research process. Nevertheless, I would like to highlight two points about the current state of discourse-ethnographic research. First, while the discursive and symbolic dimensions are an important approach in cultural anthropology and related fields such as STS (Kaschuba, 2012; Niewöhner, Sørensen, & Beck, 2012), empirical research with the framework of discourse analysis and discourse ethnography, with some exceptions in cultural anthropology (cf. Eggmann, 2013; Kiefl, 2014), generally remains predominantly anchored in sociological perspectives. These studies often use ethnographic methods to examine social actors in organisational and institutional fields, as well as social actors such as ‘urban pioneers’ organised in civil society groups and other publics from a micro-sociological perspective. Second, the understanding of practices also focuses more strongly on socially conventionalised modes of action and communication, i.e. typified routines of action with more or less creative and strategic components of appropriation, which interact in social practice and are taken up, ‘learned’, habituated, as well as carried out and communicated by a wide variety of social actors. In these studies, social actors and structures are rather central units of ethnographic investigation (cf. Christmann, 2014; Elliker, 2018; Hornidge & Feuer, 2018; Keller, 2013).

In contrast, the discourse ethnographic approach adopted in this study advocates a heuristic framework that focuses on the ethical negotiations about cultural sustainability and the fluid, emergent nature of regimes of living within global assemblages. By foregrounding the perspective of *praxeography*, this approach positions *practice(s)* as the primary unit of analysis, operating as a ‘flat ontology’ (Schatzki, 2016). On the one hand, this methodological orientation facilitates a nuanced exploration that relates the multiple dimensions of symbolic interpretation and practical action present within heritage institutions. It allows for the examination of both discursive and non-discursive practices involved in the production and circulation of cultural knowledge that arise in the context of heritage digitisation. Much of this work is carried out in everyday practices that often lack sufficient academic reflection or discursivation (Economou, 2016; Stuedahl, 2009). On the other hand, this approach contextualises

these practices within the broader discourses of professional heritage work and the cultural-political contexts that influence them within a global assemblage. It is also through this relational approach of a discourse ethnography that regulatory and legal aspects can be identified. In this respect, the praxeographic lens on the pragmatic negotiations of sustainability in cultural practices can serve to counterbalance the symbolic and discursive narratives of ‘good’ and ‘sustainable’ practice. As Reiner Keller aptly notes with regard to discourse ethnographies, researchers must avoid ‘[t]he danger of making false and oversimplified conclusions from “the discourse” to “the practice”’ (Keller, 2013, p. 135). This caution is particularly relevant to the present study, which focuses on the cultural domain, especially given that elite subjects – such as heritage professionals and institutions – often have the means to engage in global assemblages and foster ‘technological’ reflections across various knowledge domains (Collier & Ong, 2005, pp. 8–9).

Focusing on emic perspectives on the dynamics and contingencies of sustainability understandings within cultural practices in the cultural sector requires an abductive research approach, as proposed by sociologist and communication scientist Jo Reichertz (2011). In order to capture this complexity in my methodological approach, it is necessary to emphasise an ethnographic edge to the discourse events in my research programme. By adopting a praxeographic perspective in discourse ethnography, this study takes *difference* as the starting point for analysis. This includes ‘a focus on change or process over time, and on paradox, conflict, inconsistency, contradiction, multiplicity and manipulability in social life’ (Moore, 1975, p. 217, as cited in Niewöhner et al., 2012, p. 37), rather than a focus on regularity, consistency, and commonalities. In the sense of a reflexive *modus operandi* (R. Schmidt, 2011) and by means of various qualitative-hermeneutic methods, the interactions and sustainability practices of different individual and collective actors on different social levels and scales will be examined, especially as these practices emerge through and are shaped by mediality. Consequently, issues of distributed agency that manifest between subjects and objects/non-human actors also need to be considered, as discussed in the next section on dispositif analysis in order to develop a typology.

Dispositifs and power relations

Based on the empirical findings on the vitality and mediality of digitised cultural expressions in Europe, this study will in a second step develop a typology of different understandings of sustainability in the context of safeguarding cultural heritage (see

chapter 5.1). In addressing the realisation, negotiation, appropriation, and reconfiguration of sustainability* regimes in cultural practices, the analysis of *dispositifs* represents a productive way of operationalising the heuristic concept and building a typology.

Although Reiner Keller focuses on the analysis of the dispositifs of discourse production and the world intervention of discourses, i.e. the intervention and negotiation of discourses in fields of practice, his methodological orientation provides a valuable foundation for the synthesis of varying understandings of sustainability* and can be built upon by the approach of regimes of living. Keller characterises discourses as a ‘permanent bricolage’ (Keller, 2008, p. 101), highlighting the nature of dispositifs as ongoing processes of reconstruction. Keller draws on Michel Foucault’s conceptualisation of dispositifs, suggesting that an analysis of these can illuminate the different conditions under which social phenomena like sustainability emerge through interactions between discourses (as social practices) and their material manifestations (as social practices) – as well as, I argue, mediatisation – in the fabric and representations of everyday life. Although the term dispositif is familiar in languages such as French and appears in everyday communication, Keller opts for the German translation ‘infrastructures’ to encompass the materialisation of social phenomena and knowledge regimes (Keller, 2019).¹⁶ This relational perspective on discourse, which relates the symbolic dimensions of discourses to their material underpinnings and associated (discursive and non-discursive) practices, is well suited to a cultural-analytical investigation of sustainability* regimes, even if the SKAD framework continues to emphasise the primacy of discourse with actors and structures as central units of investigation.

Building on these basic reflections on dispositifs within the framework of discourse ethnography and assemblage theory, my research approach integrates dispositif analysis to map out the configurations within sustainability* regimes that coalesce around, and thereby shape, particular emerging social ‘problems’ – such as safeguarding heritage in the context of digitisation – within a global assemblage. Considering the heuristic framework in chapter 2.3, sustainability* regimes are operationalised as heterogeneous and fluid ensembles that include and assemble a variety of practices, scientific expertise, laws, regulations, infrastructure, materialities, and moral propositions in which ideas of an ‘intact culture’ in terms of cultural vitality are manifested in dispositifs across different societal levels, situated contexts, incidents, and scales. In turn, dispositifs constitute and grid regimes of living and the concepts of an ‘intact culture’,

¹⁶ Foucault’s concept of a dispositif is often also translated into English as ‘apparatus’ (Wahlberg, 2022).

thereby influencing everyday life (Wahlberg, 2022, p. 127). It is these regimes of living and their dispositifs that serve as an empirical point of departure for developing the typology from a relational perspective that re-assembles heritage across macro, meso, and micro scales.

From a praxeological perspective, the dispositifs assembled or formed by practices exhibit varying degrees of stability, institutionalisation, and social organisation, highlighting the rhizome-like complexities and unpredictable dynamics of regimes of living and their implications for negotiating sustainability in the cultural sector. Many digitisation practices that emerge in cultural practices outside traditional heritage institutions often remain unarticulated or critically unreflected at the level of discourse. These dynamics are closely intertwined with issues of power relations; power is distributed in such a way that its exercise may be more accessible to some than others (Li, 2007a). The capacity of sustainability* regimes and associated dispositifs to develop agency varies according to their ‘capacity to assemble’ and bring together different actors through interaction (Hansen & Koch, 2022, p. 9). This means that emerging sustainability* understandings are constrained in their capacity to act within the global assemblage depending on their social organisation and sociotechnical agency. At the same time, this relational understanding of power dynamics creates space for the agency of new sustainability* understandings and the potential to reconfigure regimes of living through practices of assembling at different societal levels and scales to pursue interests. A key focus of this discourse ethnography will be to investigate which understandings of sustainability prevail over others in the assemblage. This inquiry is closely linked to an analysis of who has the means to appropriate digital media, assemble their practices, and achieve a ‘speaker position’ (Keller, 2013, p. 79) from which they can (re)produce their ideas of sustainability* in terms of how to keep culture vital in discourse and practice.

3.2.2. Doing discourse ethnography: Research process and methods

Discourse ethnographies using written and oral sources, as well as participatory observations including those conducted on the internet are essential elements of the praxeographic approach adopted in this study. While my understanding of the norms and principles of ‘good’ and ‘vital’ cultural practice in the discourse of CHS are primarily informed by an extensive review of relevant national and international academic literature (see chapter 2.3.2), my research required a more nuanced analysis of the digitisation processes in heritage institutions and the wider cultural sector. Much of this work

is carried out in everyday, non-discursive practices that often lack sufficient academic reflection or discursivation (see chapter 3.1).

A distinctive feature of the discourse-analytic and ethnographic database is that I did not work with an existing or pre-compiled corpus of data, but rather assembled it throughout the research process. In line with the research programme of the Grounded Theory method (Strauss & Corbin, 1996), the processes of data collection and qualitative data analysis are organised as an iterative research process. Grounded Theory aims to allow the data to ‘speak’, i.e. to generate theories directly from empirical findings that are deeply rooted in the lived experiences of social actors and their cultural practices. In this respect, my discourse ethnography is characterised by the use and generation of a heterogeneous array of research materials. I focused on configurations across multiple societal levels and scales, building a rich corpus of data that included scholarly materials, professional documents – such as those produced by expert committees of relevant scholarly associations – and internal organisational documents from GLAM institutions detailing their digitisation activities and policies. Additionally, in line with an abductive and exploratory approach informed by Grounded Theory, practices in various fields were observed and data generated. As part of the qualitative data analysis, software (MAXQDA) is used to annotate and code the data material. Although multi-modal data, including images and audio-visual material, could also contribute to the discourse ethnography, I chose to focus on textual sources due to practical considerations.

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------------------|------|------|------|------|------|------|
| Participant observation | | | | | | |
| Twitter | | | | | | |
| Interviews | | | | | | |
| Literature review | | | | | | |
| Abductive analysis | | | | | | |

Figure 3: Fieldwork timeline

The research process I undertook was organised into cyclical, iterative phases of data generation and data analysis, as illustrated by figure 3. My initial foray into fieldwork began in October 2013, during which I gathered initial written sources and academic literature and conducted initial exploratory observations (marked in grey). The main phase of fieldwork took place from 2014 to January 2018 (marked in light and dark blue), and was further refined through theoretical sampling and saturation principles common to Grounded Theory. The discourse ethnography focuses primarily

on digitised cultural heritage and its remediation, rather than born-digital heritage resources, such as tweets. In addition, I remained part of the field through my involvement as a project manager in the EU project POEM (2018-2022),¹⁷ which explored participatory memory practices in digital media environments, as well as through presentations of my research at international scientific and professional conferences. This evolving methodology allowed me to strategically build my data corpus and make informed cuts to reduce it, facilitating a focused selection and analysis of fieldnotes, transcripts, and documents that closely aligned with my central research question: ‘What is understood by sustainability in the cultural sector in the context of digitisation?’ In other words, theoretical sampling means that the selection of my data for analysis is not random and does not rely on statistical representativeness, but is guided by the criteria of my main research question.

Through this form of methodological reflection, I intertwined data collection and analysis, enabling a theoretically informed decision-making process regarding where and how additional data should be gathered and evaluated, while remaining open to the dynamics of cultural practices. Adopting an abductive approach (Reichert, 2011), I allowed for flexibility within my discourse ethnographic project. My goal was to compile and refine a corpus of ‘thick’ data that captured the most pertinent insights while ensuring research efficiency, thus avoiding premature narrowing to a sub-corpus that might not thoroughly address my research questions or achieve theoretical saturation (Strauss & Corbin, 1996; Keller, 2013).

In this way, Grounded Theory as a research programme has profoundly informed my discourse ethnography and composition of data generation and analysis. In the following chapters, I will delve deeper into how I applied these principles throughout my research process, highlighting the iterative nature of data generation and analysis that aligns with the ethnographic focus and methodological framework of my empirical approach. To this end, these methods include participant observation and elements of digital ethnography (chapter 3.2.2.1). Another crucial component of my composition is the qualitative interviews, which I discuss in chapter 3.2.2.2. In the last part of this chapter, I will describe my data analysis process, which uses coding procedures based on Grounded Theory methodology in chapter 3.2.2.3.

¹⁷ POEM stands for ‘Participatory Memory Practices. Concepts, strategies and media infrastructures for envisioning socially inclusive potential futures of European Societies through culture’ funded by the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 764859; see also the project website: <https://www.poem-horizon.eu/> (retrieved April 27, 2025).

3.2.2.1. Participant observation online and offline

Participant observation plays an important role in the praxeographic approach that underpins my discourse ethnographic research. In the sense of an abductive approach, this method allows me to follow practices across different situated contexts, field sites, events, and social levels (Emerson, Fretz, & Shaw, 1995; R. Schmidt, 2011, 2016). It facilitates the exploration of both discursive and non-discursive practices, thereby enriching my understanding of how various actors have incorporated digitisation into their cultural practices and everyday communication in the cultural sector. I conducted ethnographic fieldwork offline and online (Koch, 2014; Pink et al., 2016), with the aim of understanding the practices of engaging with digital media rather than digital media themselves. In the following, I will outline the focus and scope of the participant observation I conducted during my fieldwork. I will focus on five key areas: 1) Interactions within the cultural sector and academic conferences; 2) Co-organising the transdisciplinary SharecareX conference in Hamburg; 3) My participation in the Coding Da Vinci hackathon series; 4) My participation in the Forum Offene Stadt (Open City Forum) in Hamburg. In addition, I elaborate on 5) Social media as an important discourse arena in the cultural sector and its role in providing access to socio-cultural entrepreneurs.

Participant observation of sustainability practices

As the outline of the transdisciplinary landscape of ‘digital heritage’ suggests (see chapter 3.1), attending academic and professional conferences as part of my fieldwork served as an important initial point of entry into the field. More specifically, my observations of sustainability initiatives included both *national and international academic and professional conferences in the cultural sector (1)*, addressing a wide range of (inter-)disciplinary topics related to the digitisation and enhanced visualisation of cultural heritage, such as historical collections and ethnological research archives. My exploratory fieldwork began at the Digital Humanities conference ‘Kulturelles Erbe digital – Bedingungen und Perspektiven’ in Cologne in October 2013, organised by Prometheus Bildarchiv, a distributed digital image archive, as described on their website.¹⁸ In the winter semester 2015/2016, I participated in a lecture series on digital humanities at UHH, where I learned about research projects such as the ‘Julfa 3D Digital Cemetery Repatriation Project’. I have also presented my research at national and international

¹⁸ <https://prometheus-bildarchiv.de/en/tagung2013/index> (retrieved April 27, 2025).

interdisciplinary conferences. These included the international conference ‘Towards Digital Folkloristics’¹⁹ in Riga, Latvia in September 2016, organised by the newly re-constituted SIEF Working Group on Digital Ethnology and Folklore under the umbrella of the International Society for Ethnology and Folklore (SIEF), and the 5th biennial conference ‘Futures’²⁰ of the Association of Critical Heritage Studies (ACHS) in August 2020. My participation in these events allowed me to gain a rich overview of the digitisation practices of (scientific) collections and archives and the role of digital media in professional heritage work across Europe and beyond, as the presentations often reflected experience reports from various digitisation projects.

Moreover, I have explored the *practices of professional heritage work* at cross-sectoral conferences within the cultural sector, including the annual national conference series ‘Zugang Gestalten! Mehr Verantwortung für das kulturelle Erbe’, which has taken place in Germany since 2011. I attended the 2015 event on future strategies in Hamburg as part of a field trip with my students. My participation allowed me to engage directly with local heritage institutions that have adopted open data policies, in particular with the Museum für Kunst und Gewerbe Hamburg (MKG). In particular, the MKG was the first public museum in Germany to provide part of its collections online, which was a ground-breaking initiative at the time.²¹

Furthermore, the international conference series ‘Sharing is Caring’ (Sharecare), established by heritage professionals in Denmark as early as 2011, became a key event in my fieldwork to gain valuable insights into the challenges and opportunities associated with implementing open data initiatives in the context of cultural heritage. In 2017, I participated in the conference ‘Opening up! Building Connectivity through Cultural Heritage’ in Hamburg as a *co-organiser (2)*.²² This event marked the first instance of the conference being held outside Denmark, which is what the ‘x’ in the abbreviation ‘SharecareX’ represents. It also became known by the hashtag #sharecarex. Following this, a number of subsequent international extensions took place in other locations (e.g. Brussels 2017, Stockholm 2019, and Amsterdam 2019). Beginning in autumn 2016, I assisted in organising the SharecareX conference in Hamburg, a transdisciplinary event that aimed to highlight the need to connect between practical and scientific perspectives in professional heritage work. The two-day conference took place in April 2017 and featured international speakers and participants

¹⁹ See book of abstracts: <https://lfk.lv/conference/> (retrieved April 27, 2025).

²⁰ See book of abstracts: <https://achs2020london.com/> (retrieved April 27, 2025).

²¹ <https://www.mkg-hamburg.de/en/collection> (retrieved April 27, 2025).

²² <http://www.formidlingsnet.dk/sharecare/hamburg-2017/> (retrieved April 27, 2025).

from various fields, including professional heritage work, research, digital art, civil society, the IT and creative industries, and socio-cultural entrepreneurship, alongside students. As an early-stage researcher, I took an active role in the organising team and worked closely with the conference initiators. My tasks included attending regular meetings at the Institute for Anthropological Studies in Culture and History at the University of Hamburg (UHH), taking minutes, working with a student conference team, and co-authoring the conference's closing statement²³. I also accompanied a group of students to the 2017 Sharecare conference 'Digitisation and Social Impact?' in Aarhus in November, which continued the discussions initiated in Hamburg. During this event, the students presented an ignite talk on the Young Heritage Studio (YHS), an intergenerational collaborative initiative we co-founded in the context of the 2018 European Year of Cultural Heritage 'Sharing Heritage' (EYCH),²⁴ which I will briefly discuss in relation to my position in the field (see chapter 3.3).

I also explored the *practices of civil society forums and the technology-driven environments of the IT and creative industries and digital artists (3)* through participant observation. This included in particular at the cultural hackathon series Coding Da Vinci (CDV),²⁵ which took place across Germany from 2014 to 2022, as well as at the local civil society organisation Code for Hamburg e.V. (formerly OKLab HH) as part of the non-profit network of the Open Knowledge Foundation in Germany (OKF). In 2015, I participated as part of a team in CDV in Berlin, where we spent almost two months developing a prototype using datasets from a municipal archive in Germany. I was also involved in a number preparatory meetings for the cultural hackathon Coding Da Vinci Nord (CDV Nord) in Hamburg in 2016, although I was not part of the organising team.²⁶ The CDV Nord meetings were initially hosted at the UHH institute I am affiliated with. I attended the final CDV Nord conference in December 2016 as an observer. During my work as a research fellow with teaching responsibilities, I participated in open coding nights organised by the association Code for Hamburg (Code for HH) as part of field trips with my students during this period.

Finally, the *practice(s) of cultural policy (4)* emerged as another relevant area for doing ethnographic fieldwork of sustainability practices, implicitly intersecting with the previously discussed fields, sites, and contexts in the cultural sector, civil society, and civic tech. In addition to the cultural sector conferences, where European

²³ <https://de.slideshare.net/Digilab/sharing-is-caring-hamburg-extension-closing-statement> (retrieved April 27, 2025).

²⁴ <https://culture.ec.europa.eu/cultural-heritage/eu-policy-for-cultural-heritage/european-year-of-cultural-heritage-2018> (retrieved April 27, 2025).

²⁵ <https://codingdavinci.de/en> (retrieved April 27, 2025).

²⁶ <https://codingdavinci.de/de/events/nord-2016> (retrieved April 27, 2025).

policymakers were also present, the annual Forum Offene Stadt,²⁷ initiated by the association Code for HH in cooperation with the Körber-Stiftung – a local public foundation that takes on current social challenges such as the socially responsible development of technology – was particularly relevant to my observations of these practices. Through my participation in the Forum Offene Stadt 2017, I gained greater insight into the practices of political actors, as local and national cultural politicians and administrative officials were occasionally present as speakers and participants in symposia and question-and-answer sessions. The Forum’s increasing thematic focus on open governance in subsequent years underlined this dimension and its importance, and I returned to participate in the opening symposium of the Forum 2022.

In my roles as researcher, project manager, and co-organiser of the SharecareX conference, I was actively engaged with my field and at the same time acted as an observer. I frequently documented activities and developments in fieldnotes in my field diary (cf. Emerson et al., 1995; Kaschuba, 2012; Konopinski, 2014). Events that initially seemed less significant often gained clarity over time, prompting me to document and reflect on them in written and oral memory logs. These roles provided me with ample opportunities for data generation, while also giving me more or less direct access to critical arenas and practices, such as local GLAM institutions and cultural policy, where my participation was made possible by invitation on behalf of the institute and the visibility afforded by the SharecareX conference.

Social media as relevant discourse arena

As social media has become a vital arena of discourse for GLAMs, as well as for civic initiatives like the CDV hackathon, I have been engaged in observing online practices and experimenting with new forms of scientific communication on these platforms, guided by an abductive research logic. One notable development in this context is the emergence of Twitter handles,²⁸ which serve as users’ unique identifiers that enhance the searchability of their profiles on the social media platform, as a novel addition to the contact details of speakers in conference presentations. My students highlighted this development during our field trip to the 2015 Zugang Gestalten! Conference in Hamburg, where they aptly described Twitter as a ‘new business card’ (fieldnote Zugang

²⁷ <https://koerber-stiftung.de/projekte/forum-offene-stadt/> (retrieved April 27, 2025).

²⁸ During the writing of this thesis, Twitter was rebranded to ‘X’ as part of the company’s organisational change process in 2023. Despite this change, I will continue to refer to Twitter as the empirical data was collected prior to the rebranding.

Gestalten!, November 2015). Optimistic voices qualifying the historical value of Twitter as an important mirror of contemporary society (Risse, Peters, Senellart, & Maynard, 2014, p. 208) and the increasing preservation of hashtags and tweets in archives (e.g. Library of Congress, Digital Repository of Ireland, among others) underline the role of social media as a discourse arena.

During my fieldwork, several relevant hashtags emerged in professional heritage work, including #SharingHeritage in relation to the EYCH 2018 and #sharecarex. Using the Twitter platform, I was able to access – initially remotely (Pink et al., 2016, p. 134) – the *practices of social entrepreneurs* (5), whose activities complement the institutional and civil society open data initiatives in my data corpus. Of particular interest was the social media curating event #AskACurator Day (#AAC), which has been taking place globally since 2010. My approach to social media fieldwork was not to conduct a comprehensive online ethnography or social media analysis of this initiative in order to explore the internal logics of ‘the internet’ or social media as ‘big data’ (Koch, 2018; Rogers, 2015, 2024; Weller, Bruns, Burgess, Mahrt, & Puschmann, 2014) – although such approaches can offer further important analytical perspectives on these online platforms as relevant actors from a global assemblage perspective. Rather, I was interested in the multiplicity of communication activities and interactions of socio-cultural entrepreneurs, heritage professionals, and other users involved in the discourse arena. My observations of this practice were further enriched by participant observation of a social media workshop for museums facilitated by Mar Dixon at the SharecareX conference,²⁹ which were ultimately analysed along with an expert interview with her as co-initiator of the #AAC initiative (see chapter 3.2.2.2).

In my fieldwork, I have used my personal Twitter account as a complementary tool to my field diary, allowing me to reflect and comment on cultural-political developments from the perspective of CHS and beyond. This approach not only allowed me to engage with important issues, such as sharing heritage in the context of the EYCH 2018, but also made scientific perspectives more visible in the field. My Twitter profile clearly stated my research focus on sustainability in the cultural sector, identified me as a PhD researcher and POEM project manager, and included a link to my profile on the institute’s website for verification purposes. By providing this information, I wanted to ensure that potential participants could easily access details about my research, professional background, and institutional affiliations.

²⁹ <https://de.slideshare.net/slideshow/work-shop-content-mar-dixon-2/76093266#1> (retrieved April 27, 2025).

Throughout the three-and-half years of intensive fieldwork, quantifying the time I spent observing participants' interactions on Twitter proves challenging. At times, I accessed the platform several times a day; at other times, there were extended periods of absence, lasting several weeks, when I focused on conducting and transcribing interviews or on more detailed analysis, deliberately distancing myself from the field (cf. Emerson et al., 1995). My online observations varied considerably in that I attended and organised events where I tweeted about my experiences, commented on presentations by sharing quotes from speakers, accompanied by my own annotations, while also providing key extracts from relevant academic literature. I also received and responded to private messages about tweets and trending topics, including instances of so-called 'shitstorms' (see chapter 4.6). In this way, Twitter became a dynamic discourse arena that served both as a platform for online observation and as an integral part of my field journal throughout the empirical phase.

In tandem with my social media engagement, I kept fieldnotes, which I referred to as 'Twitter logs', containing reflections, screenshots, and links to relevant tweets and threads for later analysis. I also experimented with the web-based tool TAGS, a Google Sheet template designed to automate the collection of Twitter search results, such as hashtags and keywords (Knipping-Sorokin, 2023; Yu & Muñoz-Justicia, 2022). However, I found that engaging with the field through my Twitter account was more useful for my data generation and analysis. My approach of online participant observation through my account not only allowed me to identify and analyse relevant data in a research-efficient manner, but also to interact and position me in the discourse arena, underlining the ethnographic edge of my discourse analysis in a digital context.

3.2.2.2. Qualitative expert interviews

Another important method for exploring sustainability practices in the cultural sector involved conducting qualitative expert interviews, using various forms of semi-structured and in-depth approaches (Flick, 2023; Niewöhner et al., 2012). Following Bogner and Menz (2009), I refer to 'experts' as people who have not only systematised and reflexively accessible specialist knowledge, but also practical knowledge (p. 54). This includes so-called everyday experts, i.e. key figures and actors such as socio-cultural entrepreneurs and civic hackers who I identified during my fieldwork. In total, I conducted 12 expert interviews, as well as informal conversations with experts from a range of various decision-making fields, such as professional heritage work and aca-

demia, as well as the civil society sector and social entrepreneurship. In using qualitative interviews to explore discursive and non-discursive practices, the overall aim was twofold: first, to use the interviews to explore and orient myself in the field in order to further assemble the field (see grey marking in figure 3), and second, to systematically generate contextual information to complement my participant observations (see blue markings in figure 3). In doing so, I focused on my interviewees' interpretative knowledge, which encompasses 'the expert's subjective orientations, rules, points of view and interpretations', which can be accessed through expert interviews 'as a heterogeneous conglomeration' (Bogner & Menz, 2009, p. 52).

In what follows, I will elaborate on the qualitative expert interviews as part of my composition, detailing how each shaped my research process and contributed to the data corpus. Specifically, the interviews with 1) Everyday experts encountered in the field; 2) Speakers from the institute colloquium '{DIGITAL HERITAGE}' that I organised at UHH; 3) Semi-structured expert interviews with professionals from heritage institutions, NGOs, as well as with socio-cultural entrepreneurs form a critical component of my theoretical sampling (Strauss & Corbin, 1996).

In addition to participant observation on digital platforms such as Twitter and in-person at conferences, I engaged in countless *informal conversations with everyday experts (1)*. Although not formally labelled as interviews in these situations, these discussions – held at the events I co-organised or attended – proved crucial to my discourse ethnography. Some of these insights were included in anonymised form through my fieldnotes, while others indirectly influenced my theoretical sampling and category formation. Through these situations, I learned about the challenges they faced in their actions, which often led to disappointment and frustration (see chapter 4.6). I was also able to learn about specific procedures, decision-making processes or occurrences and to make sure that I had understood something correctly.

Another important, more experimental interview method I employed was hosting a lecture series at the Institute for Anthropological Studies in Culture and History during the winter semester of 2015/2016, featuring *presentations from researchers, practitioners, and facilitators (2)*. This format facilitated a rich exchange of knowledge and provided an opportunity to gather a diverse range of expert perspectives in a research-efficient way. Open to undergraduate and postgraduate students, colleagues at UHH, and interested members of the public, the colloquium played a crucial role in shaping my research process by bringing together the transdisciplinary field. Following two introductory sessions and an excursion to the 'Zugang Gestalten!' conference in 2015, the lecture series comprised three thematic blocks featuring nine international

and local speakers from academia, GLAM institutions, and the IT and the creative industries. Their presentations covered the themes of: 1.) ‘Digitised Heritage: Accessibility, Re-Use and Remediation of Digital Copies’; 2.) ‘Heritagisation of Digitally-Created Traditions’; and 3.) ‘Heritage and 3D Knowledge Production’. With the speakers’ consent, I recorded the presentations and took fieldnotes in my research journal. Five of the presentations were subsequently published in an open-access special issue (Lutz, 2017b), which addresses the challenges faced by different stakeholders in light of digitisation in the cultural sector, and discusses these from scientific, practitioner, and student perspectives.

To facilitate this publication, I offered speakers the opportunity to contribute in a variety of genres and scopes, either writing their own articles or sharing their insights through semi-structured expert interviews with me. This flexibility meant that contributors were able to tailor their contributions to their professional backgrounds, intended audiences, and capacities, resulting in a range of contributions such as experience reports, scientific papers, and interview transcripts inspired by their presentations. For those willing to engage through interviews, I shared the transcripts with them for review. The resulting articles include local and international practitioner reports on large-scale digitisation projects, two interview transcripts with a heritage professional from an international open repository in Ireland and with a socio-cultural entrepreneur involved in the #AAC Day. The issue also features scientific reflections and position papers, student essays, and visual statements presented in an exhibition at the institute at UHH. As a result, the special issue emerged as a bricolage of expert perspectives, further aiding assembling the field.

In addition, my participation in a related institute colloquium organised by a colleague on the topic of ‘Open knowledge in the heritage sector: Reflecting dissemination, interpretation & accessibility of knowledge’³⁰ during the summer term 2019 allowed me to conduct further selective sampling and evaluation of expert perspectives. This involvement enabled me to remain in the field after completing my empirical phase. With the consent of the experts, I have incorporated their perspectives and vignettes from presentations and conversations into this thesis.

In addition, *semi-structured expert interviews* played a vital role in the composition of my research, facilitating systematic and selective sampling through discussions with key figures beyond those in the lecture series. Important additional interviews include conversations with one of the founders of the CDV hackathon from a

³⁰ <https://www.kulturwissenschaften.uni-hamburg.de/ekw/ueber-das-institut/institutskolloquium/institutskolloquium-2019.html> (retrieved April 27, 2025).

non-profit institution, and a curator at the Center for Art and Media in Karlsruhe (ZKM), a heritage institution known for its early adoption of digital media and art as objects of collection and exhibition practice in museums. As with the other interviews featured in the special issue, the semi-structured interviews lasted between 45 minutes and 1.5 hours and were fully transcribed. While not all interviews conducted were included in the thesis, I argue that only relevant interviews were generated and incorporated as data in accordance with the principles of theoretical sampling and theoretical saturation, helping me to make informed cuts to my fieldnotes generated from participant observation. This brings me to my next chapter on managing my data in terms of computer-assisted qualitative data analysis.

3.2.2.3. Computer-assisted and abductive qualitative data analysis

In the empirical phase, data collection and data analysis were closely intertwined. Following SKAD (Keller, 2008, 2013), my aim was to analyse the ‘phenomenon structure’ and ‘meaning patterns’ of the pragmatic negotiations of sustainability emerging in the cultural sector. This involved an abductive analysis of emerging sustainability strategies, their potentials and challenges in cultural practices, including the synthesis of sustainability* regimes, dispositifs, and power relations. Given the accelerated evolution of developments in this dynamic field (see chapter 3.1), the challenge for me was not so much gaining initial access to the field, but rather managing the volume and richness of information and events. Drawing on the research programme of Grounded Theory methodology and the principle of generating relevant data (Strauss & Corbin, 1996), I found the principle of theoretical sampling helpful in generating, analysing, refining, and at some points making informed cuts to my corpus of data to eventually achieve theoretical saturation in an iterative process (A. Bryant & Charmaz, 2011; Truschkat, Kaiser-Belz, & Volkmann, 2011).

Initially, I opened up my research material collected and generated through *open coding* in MAXQDA (Kuckartz, 2010), forming my codes abductively from the material and also coding many aspects that initially seemed less relevant to my research interest. Guided by open-ended research questions, I coded both line-by-line at the word and sentence level, and increasingly at the level of text passages in the sense of discourse analysis, to identify significant events or ideas, first recurring themes and contradictions that struck me. Adopting a praxeographic approach, I used verbs as codes to further differentiate the digitisation of cultural heritage, such as <digitising pre-existing heritage> and <making open data available>, as well as in-vivo codes such

as <aggregating data>, <crowdsourcing new heritage>, or <reusing open data>, emphasising their emic nature.

Early on, in order to analyse sustainability strategies, I subjected my data to cyclical detailed analysis and moved from open coding to *selective and axial coding*, which became intertwined in my research process. In this way, I increasingly organised and condensed the open codes into initial categories with different hierarchical levels. I used the coding paradigm developed by Strauss and Corbin (1996) to define relations and patterns in relation to sustainability initiatives. This iterative approach enabled me to eventually develop my *core category* <openness / open knowledge> at an early stage, which I deliberately formulated in broad terms to emphasise its function as a ‘boundary object’, capturing its multiplicity but also its contradictions and ambiguities inherent in the sustainability strategies under investigation. The *preparation of memos* during the coding process was instrumental in the formation of my core category and other (sub-)categories, as the extensive GTM literature emphasises (Lambert, 2011; Muckel, 2011). Thus, in addition to axial and selective coding, the writing of various forms of memos, such as code descriptions and theoretical memos, represented an initial form of theorising and also shaped the parallel process of data generation in an iterative way.

In these fine analytical cycles of category formation, I was guided by the principle of *constant comparison* to make informed cuts in the process of theoretical sampling and theoretical saturation. I focused on ‘differences’ both in terms of sustainability strategies and in terms of contradictions, challenges, and even conflicts or paradoxes (R. Schmidt, 2011, 2016; Truschkat et al., 2011). The field observations of the CDV cultural hackathon in Berlin thus provided an important early maximum contrast to the institutional digitisation efforts of cultural heritage institutions, where (theoretical) saturation in terms of recurring themes occurred relatively quickly. Another important foil of maximum contrast in my data is the #AAC initiative, which helped to narrow down my research material beyond open data (see chapter 4). Based on the abductive back and forth between the empirical material and the efforts to conceptualise it through sophisticated theorising and sampling, I condensed the sustainability initiatives studied into three distinct categories of sustainability strategies and three categories of sustainability challenges and conflicts. For example, I formed the coding category of the second sustainability strategy <reusing open data> and further differentiated it through axial coding into the sub-codes <creative reuse of GLAMs>, <economic reuse>, and <hacking heritage>.

In summary, the ‘relevance’ of research material to my data corpus was determined by several criteria in relation to my research question. On the one hand, I considered relevant texts that were frequently quoted or disseminated from an important

institutional position, such as legal frameworks from the European Commission or national funding bodies. On the other hand, I selected materials that stood out due to their particular content profile, that represented a (minimal or maximal) contrast to my core category <openness / open knowledge>, or that at some point seemed to me to be ‘intuitively’ important to my research interest in cultural sustainability, which leads to the question of theoretical saturation. I continued the selection process of theoretical sampling until further analysis provided no new insights into the overall corpus or the research questions posed, indicating that the identified categories of sustainability strategies and related challenges and conflicts could be considered ‘saturated’ (Keller, 2013; Strauss & Corbin, 1996). In the research process, this manifested itself through the identification of repetitions and the confirmation of already established phenomenon structures and patterns of interpretation of sustainability strategies in the context of digitisation, as well as through the examples of maximum contrast mentioned above.

Despite the research-efficient focus of a Grounded Theory approach to empirical research and abductive analysis, meaningful engagement and immersion in the research field was essential. Furthermore, the abductive data generation and analysis is not neutral, with my research practice intertwined with the very sustainability practice(s) being investigated. Embedding my research in a collaborative research context was an important level of reflection in order to navigate the complexity and not to get lost in the data. This raises the important aspect of reflexivity regarding my research practice and positionality in the field.

3.3. Reflexivity and positionality

In conducting ethnographic discourse analysis from an assemblage perspective, concrete challenges arise not least stemming from my deep immersion in the research field through active participation as a researcher and the various roles I have assumed throughout the research process (see chapter 3.2). My work is firmly situated within ‘the discipline’ of cultural anthropology, where reflexivity has become an essential principle for addressing issues of positionality and subjectivity in the production of knowledge and education in ‘the discipline’ (Tauschek, 2021; Welz, 2004). Since the 1980s, this focus on reflexivity has evolved as a response to the writing culture debate and the crisis of representation (Rabinow et al., 2008). In addition to this chapter, it is crucial for me to continually reflect on my positionality and the research practice associated with it in relation to the knowledge gained from this work: What is my back-

ground as a researcher, and what unique perspectives do I bring to the field as a researcher? What (inter-)disciplinary and socio-cultural orientations shape my research interests and approach? How does my positionality relate to the field? In light of these considerations, I would like to reflect on three key points regarding my positionality that are central to the epistemological and ontological dimensions of my research process, drawing on Bourdieu's (2003) perspectives on 'participant objectivation':

1. *My role and research practice in assembling sustainability in cultural practices*

In this work, I consciously engage in the reproduction of a reality that is situated and partial, rather than claiming to represent a singular, 'objective' reality (Collier & Ong, 2005; Haraway, 1988). From a praxeological perspective, I position myself as an integral part of the cognitive process that informs this research through my research practices of assembling the field and heritage as a global assemblage. My epistemological interest and research practice are deeply intertwined with cultural practices in which the question of cultural sustainability emerges as a phenomenon to be explored. This perspective has both epistemological and ontological implications for how sustainability is understood and researched in the study at hand (Niewöhner et al., 2012).

More specifically, I aim to make these implications visible in several ways. In chapter 3, for instance, I seek to capture the regime of living perspective and its associated heuristics, as well as the iterative circular research process methodologically by linking it to the concept of 'composition'. This framework allows me to move beyond the conventional notion of a 'research design' by emphasising the processual and open-ended nature of a discourse ethnography as a research programme. As Kelty (2011) notes, the 'circular process itself is the basis for experiments in "composition"' (p. 192). This approach also highlights the dynamic characteristics of my research process as a practice of dis- and re-assembling 'heritage' as a global assemblage in an iterative and informed rule-based way. As stated by Kelty:

[...] composition is a practice that crosses between writing understood as an artful craft and research understood as conceptual innovation (or more specifically, fieldwork understood as an epistemological encounter and a platform for shared conceptual work). (Kelty, 2011, p. 187)

Building on this notion, the iterative nature of my research process resembles a composition of various qualitative methods, research materials and data sources, practices and cycles of data generation, analysis, annotation, and writing. It also involves collaborative research with participants and between researchers, all of which have contributed to and enriched my inquiry throughout the process, which I discuss in more

detail below. In addition, I use the present participle (e.g. ‘Doing discourse ethnography’) when outlining the methods chosen as part of the composition, to emphasise my active role in assembling knowledge.

2. *Embedding my research in collaborative intergenerational research among researchers*

It is important to adopt a perspective that goes beyond my role as an individual researcher. As Barth (2002, p. 1) notes, knowledge is socially distributed. This applies not only to my relationships with participants in the field and the field itself, but also to the collaborative research context in which both I as a researcher and my research practice are embedded. In addition to the use of ethnographic methods of reflexivity in fieldwork (Emerson et al., 1995), intergenerational collaborative research – through regular doctoral colloquia and as part of the YHS at the UHH institute³¹ – has contributed significantly to the findings of this thesis. This collaborative research approach with researchers represents a specific mode of anthropological knowledge production that complements my research activities in the field and the knowledge generated in this thesis. It provides an important level of reflection and encourages critical engagement with both my research object and my research practices (cf. Franken et al. 2019; Lutz, 2017b).

3. *The relevance of the POEM research and POEM Model as collaborative research context and heuristic*

Building on these ideas, the experiential knowledge gained from the POEM network has significantly contributed to my knowledge production. My engagement with the collaborative research network has extended beyond administrative and organisational roles of project management and included involvement in a research capacity. My participation in the POEM research and its meetings allowed me to remain in the field, particularly as it addressed digital transformations in the cultural sector and issues related to an open society and public memory in the context of digitalisation (Koch & Smith, 2025a). The POEM model (see figure 10) serves as a critical object of study, representing a sustainability practice and a significant (maximal) contrastive foil within

³¹ In May 2017, together with BA and MA students of the institute’s colloquium {DIGITAL HERITAGE} and the SharecareX team, we founded the Young Heritage Studio (YHS) together with Prof Gertraud Koch. The aim of this intergenerational community of practice (CoP) was to bring together the ongoing research on cultural heritage being conducted by different generations of researchers at the institute. In doing so, we sought to collaboratively reflect on the connections between cultural theory and practice of cultural policy and professional heritage work, especially in the context of digitalisation and the European Year of Cultural Heritage 2018 (cf. Franken et al., 2019).

the data corpus (see chapter 4.5.2). Furthermore, it is essential to consider the POEM model both epistemologically and ontologically, as it informs the development of my typology and the theorisation of sustainability regimes and dispositifs, thereby providing a heuristic focus (see chapter 5.1). The analysis of the dispositifs and the synthesis of my findings into a typology took place several years after the completion of my empirical fieldwork phase (2014-2018, see figure 3) and in parallel with the conclusion of the EU project. I do not see this temporal aspect as a hiatus; rather, as mentioned above, I remained in the field throughout the POEM project and see it as a potential for insight in this research.

In conclusion, in addition to the personal implications for my research biography and practice, the three dimensions of my positionality that I have reflected upon carry significant epistemological and ontological consequences for the sustainability issues explored here – and thus warrant visibility and discussion beyond mere acknowledgments or footnotes. In what follows, the next chapter will present the findings on the pragmatic negotiations of sustainability in the context of digitisation through a ‘thick description’ (Geertz, 2005) and how their implicit understandings of sustainability and digital media shape the relationship between them.

4. Dis/assembling cultural sustainability: The open knowledge discourse and sustainability practices in the cultural sector

In 2015, artists Nora Al-Badri and Jan Nikolai Nelles created ‘The Other Nefertiti’, a 3D reproduction of the Egyptian bust housed in Berlin’s Neues Museum (see figure 1). They made the dataset publicly available online, and it was reportedly downloaded over 100,000 times shortly after its release. The project sparked debate, with some criticising it as digital theft and others viewing it as a ‘hack’. Presented at the 2017 ‘Sharing is Caring X’ conference, the artists’ intervention critiqued colonial legacies and called for greater vitality in the digital age (fieldnote SharecareX, April 2017).

While Al-Badri and Nelles have fuelled speculation about how they gained access and kept the provenance of their 3D scan shrouded in mystery, the Nefertiti hack vignette underlines that *openness* is a central concern in the cultural sector amidst the challenges of digitisation and represents the core category of my discourse ethnography (Strauss & Corbin, 1996). The vignette also illustrates that the idea of openness in the context of digitisation is closely linked to the *discourse of open knowledge*, as is the promise of improved accessibility and availability of culture through digital media. It also describes how notions of openness are negotiated and contested in cultural practice, with different interpretations emerging in parallel or even unconnected ways. I use this recapitulation of the Nefertiti hack vignette as the starting point for my ‘thick description’ (Geertz, 2005) of the pragmatic negotiations around openness in cultural practices, exploring their potentials and challenges, which is the focus of chapter 4. In the empirical analysis, I explore the different strategies of sustainability that are being developed within the cultural field itself in order to promote openness in cultural practices in the context of digitalisation. To begin with, I will present the initial assumptions that guide my ethnographic discourse analysis (see chapter 4.1) and also outline the structure of the empirical part.

The following outline of chapter 4 articulates the composition and findings of the empirical analysis in order to dis/assemble the notion of ‘cultural sustainability’ through a comprehensive discourse ethnography, which is divided into two main parts. In the first part of this analysis, I examine sustainability strategies that have emerged as responses from the field. In doing so, in chapter 4.2, I introduce the concept of openness as a central category of sustainability within my discourse ethnography. I will discuss how openness serves as a ‘boundary object’ (Star & Griesemer, 1989), closely linked to the discourse of open knowledge, and highlight the socially generative actors acting at different levels of society who are engaged in negotiating its meaning in the context of digitisation, extending beyond the responsibilities of GLAM institutions.

The following three chapters (4.3-4.5) will explore how diverse assemblages of stakeholders and sociotechnical agencies strive to realise openness in and through digitisation in cultural practices. This investigation covers three distinct sets of sustainability strategies observed in the ongoing process of opening up the heritage sector through digitisation: first, practices of making cultural heritage accessible and available as open data (chapter 4.3); second, reusing and appropriating open data (chapter 4.4); and third, practices of enabling users and transdisciplinary research collaborations with people and groups (chapter 4.5).

In the second part of the analysis (chapter 4.6), I will examine the issues, challenges, and pitfalls that have emerged from my fieldwork in relation to the emerging sustainability strategies in the heritage sector. In particular, I will address three critical challenges arising from pragmatic negotiations in the field, including: first, the emerging reuse gap and associated social impact issues in professional heritage work (chapter 4.6.1); second, distributional conflicts between heritage experts and IT experts, civic hackers, and digital artists, as well as between IT and creative industries (chapter 4.6.2); and third, persistent authority conflicts and issues of reciprocity in the context of sharing heritage (chapter 4.6.3). Taken together, these pragmatic negotiations and challenges highlight the complexity of pursuing openness as a form of cultural sustainability in cultural practices and illuminate ethical negotiations of sustainability at a broader level of analysis.

4.1. Initial hypotheses

With this in mind, and drawing on the heuristics in chapter 2 concerning regimes of living, living heritage, cultural production, and circulation, four initial hypotheses inform my ethnographic discourse analysis: First, digital transformation is fundamentally reshaping our everyday lives with digital media becoming an integral part of social and cultural changes across various fields (cf. Stuedahl, 2009), including academia, print, and broadcast. These transformations also have implications for safeguarding practices in contemporary heritage regimes, as the terms of ‘new heritage’ or ‘digital heritage’ indicate (Economou, 2016; Kalay et al., 2008; Parry, 2010a).

Second, throughout history, the repertoire of forms, means, and channels for conveying, producing, and communicating culture has expanded with major shifts in media epochs. Digitisation is transforming not only the tools and means by which we practice, experience, share, collect, document, preserve, and display traditions – in short, by which we safeguard and transmit cultural heritage – which are increasingly

digital. Cultural artefacts and forms of cultural expression themselves, such as images, objects, and texts, are not only being digitised, they are now being born in digital form (Bolter & Grusin, 2000; Koch, 2013). This analysis will focus primarily on digitised cultural heritage and its remediation, assuming that culture and traditions can only remain a living part by adapting to sociotechnical changes.

Third, individuals and organisations, such as heritage professionals in galleries, archives, libraries, and museums (GLAMs), are proactively responding to digital changes in cultural practices. They embrace digitisation in their everyday lives and professional environments, and develop coping strategies to promote ‘sustainability’ in the cultural sector (Collier & Lakoff, 2005). This is done with the overarching goal of ensuring the ongoing creation and transmission of cultural knowledge in the face of these new realities, thereby preserving the vitality of heritage for future generations (Barth, 2002).

Finally, as discussed in chapter 2, it becomes clear that there is no straightforward transfer of a well-defined concept of sustainability from ecology and economics to social and cultural contexts (Lutz & Koch, 2017). Instead, it can be assumed that there is a variety of meanings and practices that define what sustainability could and should mean, situated in the cultural sector and are actively negotiated in cultural practices. This diversity suggests that notions of sustainability and sustainable development in the cultural sector are entangled with paradoxes, challenges, and even conflicts, and calls for an examination of how different actors engage in the local production of the global, particularly in relation to (the anthropological problem of) how we should remember the past.

These four hypotheses inform my analysis with the objective to carve out the pragmatic negotiations of sustainability in cultural practices in order to explore divergent understandings of sustainability at an overarching level within the cultural domain. The impact of mobile and ubiquitous technologies on contemporary heritage discourse and practice is thus profound. Digital media render professional heritage work problematic and raise new critical questions about how they affect, alter, and transform the complex set of practices of safeguarding, transmitting, and engaging with cultural heritage under digital conditions. For these reasons, the cultural sector and GLAM institutions, which serve as institutional pillars of the ‘European memory complex’ (Macdonald, 2013) and are responsible for organising Europe’s cultural and intellectual record for future generations (Meyer, Schmitt, Janssen, & Schering, 2014), represent important fields for investigating sustainability in culture through the lens of cultural analysis. Furthermore, anthropology occupies a crucial position within the cultural sector and Critical Heritage Studies (see chapter 2.3.2). Given our involvement in the study

of heritage regimes and our guiding role within the sector, we have an inherent responsibility to engage in research that seeks to understand and promote the cultural sustainability and vitality of open societies in evolving digital media environments.

4.2. Negotiating openness as a boundary object in the cultural sector

‘We want to talk about living societies and how they relate today to those objects.’
(Aksioma, 2017)

Openness is a cornerstone value in contemporary European societies and forms the central category of this discourse ethnography. It represents a fundamental principle of the idea of the ‘good life’ in Europe (Collier & Lakoff, 2005), a concept that cannot be taken for granted in either historical or contemporary contexts. Recent events, such as the COVID-19 pandemic and increasing nationalisation tendencies amidst ongoing global geopolitical conflicts, highlight the fragility of this value. For the continued vitality of open democratic societies, it is essential that openness is continuously cared for, nurtured, refined, and upheld in order to live up to and realise democratic principles both in Europe and globally.

The cultural sector plays a key role in promoting openness, particularly through the mission of heritage institutions dedicated to the educational duty and preservation of cultural knowledge in open societies. As articulated by the OpenGLAM global network, ‘Galleries, libraries, archives and museums have a fundamental role in **supporting the advance of humanity’s knowledge**. They are the **custodians of our cultural heritage** and in their collections they hold the **record of humankind**.’ (OpenGLAM global network, 2013)

Although openness is not a new principle for professional heritage work (cf. Brown, 1998), the Nefertiti hack vignette illustrates the intricate relationship between openness and the discourse of open knowledge in the advent of digitisation in the cultural sector. According to the ‘Open Definition’ by the Open Knowledge Foundation (OKF), ‘[k]nowledge is open if anyone is free to access, use, modify, and share it — subject, at most, to measures that preserve provenance and openness.’ (Open Knowledge Foundation, 2023) Open knowledge represents an evolving principle in the cultural sector, not entirely novel to professional heritage practices. In light of digitisation, it is increasingly associated with the goal of democratising the organisation of cultural knowledge and break down barriers to information access.

As noted in the artists' quote at the beginning of this chapter, the Nefertiti hack illustrates the ongoing negotiation of access to cultural artefacts, challenging the notion of openness while highlighting the importance of vitality in the face of increasing digitisation and widespread sharing of cultural knowledge online in our daily lives. The vignette underlines that the promotion of openness in the cultural sector is currently under negotiation, given the profound changes resulting from the integration of new digital technologies that permeate almost all areas of life. Drawing on the work of Susan Leigh Star and James Griesemer (1989), openness can thus be conceptualised as a 'boundary object' under negotiation in the cultural sector, a concept they define as follows:

Often, boundary implies something like edge or periphery, as in the boundary of a state or a tumor. Here, however, it is used to mean a *shared* space [sic], where exactly that sense of here and there are confounded. These common objects form the boundaries between groups through flexibility and shared structure—they are the stuff of action. (Star, 2010, pp. 602–603)

In the context of my research on open knowledge, openness is embraced as a boundary object with a diverse array of stakeholders and coalitions of agencies. These actors and groups agree, without necessarily reaching consensus, to devote efforts to its development, maintenance, and adaptation to their specific local contexts.

From the perspective of Critical Heritage Studies (CHS), especially as 'new' aspects of cultural heritage are recognised in professional heritage work and scholarly debates, as well as are valorised in policy documents, such as in the context of digitisation (see chapter 3.1), it is crucial to examine how the concept of openness, as a dimension of sustainability, is applied in both discourse and professional heritage work. As the legal anthropologist Rosemary Coombe points out in the context of the emerging intangible heritage regime, '[a]reas of consensus and new forms of contestation are emerging in both the scholarship and practice of cultural heritage resource management, as new norms of heritage management and forms of valuation are interpreted and applied.' (Coombe, 2013, p. 375) Building on assemblage theory, in order to understand the changes associated with digitisation in the cultural sector in terms of openness and sustainability, it is also important to ethnographically explore the new socially and technologically generative 'range of parties involved in attempts to regulate "the conditions under which lives are lived"' (Li, 2007b, p. 25) in the cultural sector.

Against this backdrop, I will begin by presenting open knowledge as an international governance approach within the cultural sector in Europe, viewed from the perspective of cultural politics in Europe as the first stakeholder group involved (chapter 4.2.1). Given that cultural issues fall under the jurisdiction of the Member States

rather than the European Union (EU), I will also address the national and local dimensions of the open knowledge discourse in cultural politics, using the example of cultural policy in Germany, which is characterised by federalism. Furthermore, I will explore the emergence of new sociotechnical actors in the assemblage of openness in the context of digitisation, focusing on the significant dynamics observed at the meso level (chapter 4.2.2). I will then briefly summarise the main findings of this chapter in the conclusion (chapter 4.2.3).

4.2.1. Open knowledge as international governance approach to cultural policy in Europe

Open knowledge is an emerging boundary object in the cultural sector and represents an international governance approach that provides an overall framework for sustainability in cultural policy and practice. This approach is evident through extensive transnational efforts at European, national, and regional levels to shape policies for the cultural sector, including the humanities as related research area. Noteworthy are the endeavours of transnational organisations that have advocated for legislation supporting open knowledge as early as 2002, exemplified by initiatives like the European Union's DigiCULT Report on technological landscapes for tomorrow's cultural economy, aimed at unlocking the value of cultural heritage, and UNESCO's Charta for the Preservation of Digital Heritage in 2003 (European Commission, 2002; UNESCO, 2003a). In Europe, the digitisation of cultural heritage has risen to a position of political and legislative priority in the EU's digital strategy, alongside other critical strategic domains and areas of public interest, such as health, agriculture, and manufacturing (European Commission, 2023).

Although cultural affairs remain the responsibility and competence of the EU Member States,³² the EU is a driving force in the promotion of open knowledge in culture and related areas of science in a number of ways: First, there are practical and financial efforts by EU policymakers to provide open access to cultural heritage, for example through the creation and funding of the digital platform Europeana and the international OpenGLAM network, the latter of which is discussed in more detail in chapter 4.2.2. Launched in 2008, Europeana is a central digital library for sharing and

³² In the field of culture, the EU lacks the political authority to harmonise cultural legislation. The European Union's role is limited to promoting cultural exchange and cooperation among Member States or with countries outside the EU (European Commission, 2024a).

promoting ‘open conversations’ about Europe’s cultural heritage and history. To date, as of September 2023, Europeana features cultural heritage material from over 4,000 different cultural institutions, comprising 31,674,447 images, 24,651,493 text documents, 641,125 sound files, 366,579 videos, and 5,993 3D objects. In addition, within the framework of Horizon 2020, the EU’s Research and Innovation programme for the period of 2014 to 2020, the European Union earmarked around 70 million euros in public funding for the digitisation, online access, 3D modelling, and digital curation of academic and institutional cultural heritage records under the Societal Challenges 6 programmes (European Commission, 2023; Europeana, 2023).

In addition to its substantial financial and practical efforts, the EU has been at the forefront of developing the legal framework to support open cultures since 2002, culminating in the Recommendation of 27 October 2011 on the digitisation and online accessibility of cultural material and digital preservation (Commission Recommendation of 27 October 2011 on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation (2011/711/EU), 2011). As demonstrated by legal scholars Andrea Wallace and Ellen Euler (2020), the European Union has introduced concepts such as ‘open access’, ‘public domain’, and ‘Creative Commons licences’ into the intellectual property discourse. These concepts are employed to highlight the unrestricted circulation and sharing of cultural heritage through digital media, without legal barriers, while also considering its potential for commercialisation.

Hence, issues pertaining to the intricacies of intellectual property rights hold a prominent position in EU legislation, as emphasised by digital humanities scholar Simon Tanner (2016). Specifically, the EU places a strong emphasis on designating cultural heritage materials as part of the public domain after the process of digitisation. In this context, it is noteworthy to mention that until 2021, the European Commission’s Expert Group on Digital Cultural Heritage and Europeana (DCHE)³³, an intergovernmental monitoring body featuring representatives from Member States and national heritage institutions, conducted biennial assessments of the heritage sector’s progress in digital transformation and its commitment to open knowledge in line with implementing the Commission’s Recommendation (European Commission, 2014, 2016, 2019).

This notion of openness and the approach to open knowledge in culture have been adopted at national, regional, and local levels across Europe. For example, in 2014

³³ The mandate of the DCHE expert group came to an end in 2021 and was replaced by the Commission Expert Group on the common European Data Space for Cultural Heritage (European Commission, 2021a).

in Germany, the full version of the *German Digital Library* was launched, a portal that brings together more than 4,795 cultural and scientific institutions, providing access to more than 40 million digitised cultural resources to date (as of September 2023). In addition, heritage institutions and digital humanities scholars in Germany benefit from the national funding programme ‘eHeritage’, initiated by the Federal Ministry of Education and Research in 2016 (Bundesministerium für Bildung und Forschung, 2016; Deutsche Digitale Bibliothek, 2023; Klimpel & Euler, 2015). In Germany, cultural affairs fall under the jurisdiction of the 16 federal states, each responsible for devising strategies for the digitisation of cultural heritage. This decentralised approach to cultural policy has drawn criticism, prompting calls for more coordinated strategic efforts to overcome the challenge of ‘isolated solutions’ and fully embrace digital transformation within the cultural sector at large (Euler & Klimpel, 2016, p. 10).

In the midst of this criticism, the city-state of Hamburg stands out for having adopted a digital strategy as early as 2013. The eCulture Agenda 2020 is a comprehensive approach that addresses the regional cultural sector as a whole. It has not only laid the groundwork for the extensive digitisation efforts of Hamburg’s cultural and research institutions, which will be discussed in more detail in chapter 4.3. It has also paved the way for the digital transformation of related public sectors, such as education, and encouraged private sector collaboration with the local creative and digital industries. In this context, public-private partnerships (PPPs) play a crucial role, complementing financial, legal, and organisational frameworks at the EU (e.g. Horizon Europe, Creative Europe), national, and regional levels. On the one hand, this is a key aspect of the city’s urban development vision, which aims to develop into a ‘smart city’ (Behörde für Kultur und Medien Hamburg, 2013, 2020; Hönnig & Scholz, 2016).³⁴ On the other hand, these public-private partnerships are increasingly used to respond to significant current societal challenges, in particular the digital transformation of the cultural sector and the transmission of cultural heritage (European Parliament Research Service, 2017). As a result, openness is a boundary object of legal, governmental, political, and economic significance in the cultural sector.

³⁴ In 2020, the city-state of Hamburg then defined a follow-up digital strategy for the cultural sector, which places greater emphasis on the digitisation of its public authorities and services, taking into account the related discourse on open governance promoted by the EU (Behörde für Kultur und Medien Hamburg, 2020).

4.2.2. Assembling new emerging sociotechnical agencies and coalitions for opening up the cultural sector through digitisation

With open knowledge serving as a boundary object and international governance approach for the cultural sector, new norms of heritage work are interpreted and applied in the cultural sector. Rather than a straightforward delegation of open knowledge to national or local authorities, I have previously argued (Lutz, 2017a; Lutz & Koch, 2017) that in the context of digital heritage, we observe a devolution of authority to new sociotechnical agencies and coalitions, alongside joint partnerships spanning different sectors and knowledge domains. In addition to the macro-political developments mentioned above, these transnational and translocal agencies operate at multiple scales, allowing us to further differentiate their activities along the institutional and academic, meso, and micro levels, as shown in figure 4, and detailed in the following sections:

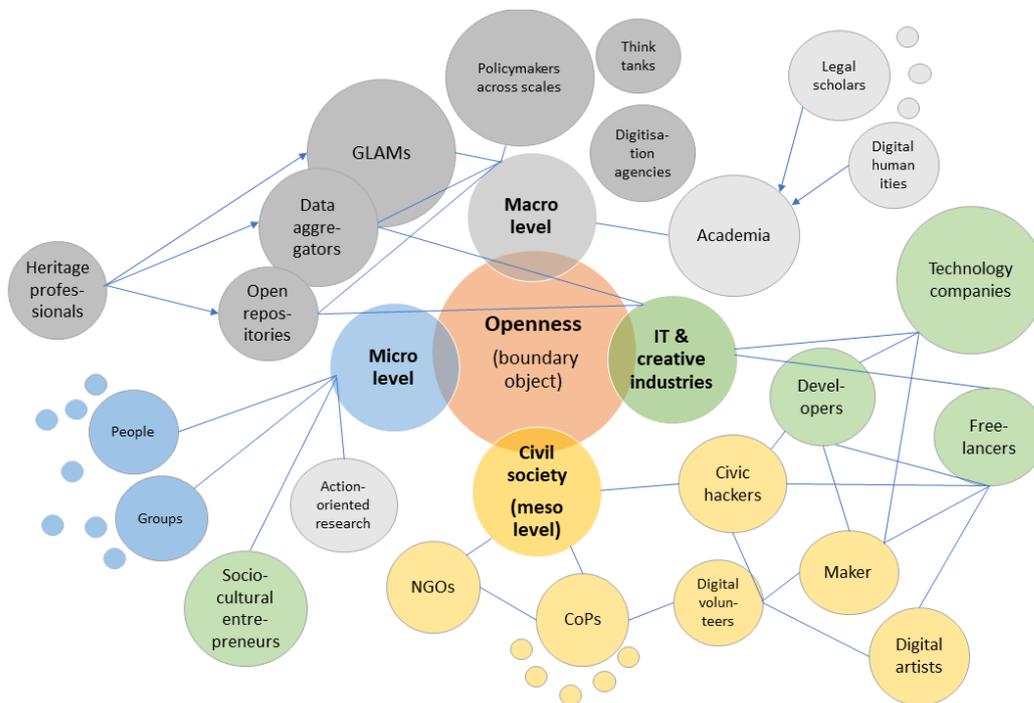


Figure 4: Stakeholders, coalitions, and societal levels emerging in the assemblage

Institutional and academic sustainability efforts of opening up cultural heritage

The transformative role of digitisation towards open knowledge is prominently reflected in the evolving dynamics of the cultural sector, particularly within institutional and academic settings. The above-mentioned political guidelines are reflected in the creation of new institutions or fora to promote open knowledge in the cultural sector

and public administration. At this intersection, heritage institutions and the field of digital humanities appear to form seemingly novel epistemic communities within the assemblage. Two distinct developments and agencies underscore the transformation activities of opening up towards digital cultural production: the emergence of OpenGLAM initiatives and the emergence of data aggregators and open repositories as new sociotechnical agents.

First, the emergence of the so-called ‘OpenGLAMs’, a term with the prefix ‘open’ that encompasses galleries, libraries, archives, and museums with open access policies and digital initiatives, illustrates a more or less concerted effort to democratise access to cultural heritage on a global scale. This initiative emerged in 2011 as a transnational grassroots movement led by the OKF in 2011 with support from the EU (see chapter 4.2.1).³⁵ The mission statement of the OpenGLAM network articulates a clear vision for the future of heritage work in terms of sharing heritage:

The internet presents cultural heritage institutions with an unprecedented opportunity to engage global audiences and make their collections more **discoverable** and **connected** than ever, allowing users not only to **enjoy** the riches of the world’s memory institutions, but also to **contribute**, **participate** and **share**. (OpenGLAM global network, 2013)

Prominent cultural art museums, such as the Rijksmuseum in the Netherlands and the Statens Museum for Kunst (SMK) in Denmark, are leading the way in this area, pioneering large-scale digital initiatives and adopting open access policies for their digitised assets since 2012 (see also chapter 4.3). By sharing their experiences through conference presentations, project reports, consultations, and job shadowing, these institutions have inspired other heritage institutions and their digital transformation processes to adopt OpenGLAM principles worldwide (fieldnote institute colloquium, November 2015). These often publicly funded GLAM institutions come from a wide variety of heritage sectors worldwide, including in Germany regional and national heritage institutions in Hamburg such as the Museum für Kunst und Gewerbe (MKG) or the State’s and University Library of Hamburg Carl von Ossietzky (SUB). Smaller GLAM institutions in Germany like the City Archive Speyer, as well as ethnographic and scientific archives, and repatriation research projects (e.g. the Julfa project) also represent

³⁵ Since its creation in 2011, several organisations and networks, like Creative Commons and the Wikimedia Foundation and its chapters, have become part of the international exchange between cultural heritage institutions supporting open access. As the OpenGLAM network itself describes on its website, since 2018 there have been efforts to reactivate the network and its activities in coordination between the OKF, the Wikimedia Foundation and the Creative Commons network, as well as ongoing consultations to update the declaration under the lead of the Creative Commons network in the years 2020-2021, which is currently still available in its fourth version without further updates (OpenGLAM global network, 2013).

this development on an institutional and academic level and show the widespread influence of these transformative practices of open knowledge in the cultural sector (Meyer et al., 2014; Sanderhoff, 2014; A. Schmidt, 2017a).

Second, the emergence of digital platforms known as data aggregators and digital repositories have emerged as new sociotechnical actors. As Natalie Harrower (2017), former director of the Digital Repository of Ireland (DRI), articulated in her expert interview, these platforms play an important role in improving discoverability and accessibility in the digital domain, although their approaches vary (see further chapter 4.3). The digital services of aggregators can be divided into regional, national, and international platforms, including the German Digital Library (DDB), the DRI, and Europeana. Some federal states, such as the city of Berlin, have set up central digitisation services, such as the Research and Competence Centre for Digitalisation Berlin (digiS) for the local cultural sector.³⁶ In addition, domain or thematic digital service providers, such as the Photoconsortium, an international consortium specialising in photographic heritage launched in Italy in 2014, illustrate the diverse landscape of data aggregation.

Meso-level agencies: Recursive publics and communities of practice in the development of public-interest technology

In addition to the institutional and academic efforts aimed at advancing openness through open knowledge and digital transformation, a number of influential coalitions of actors and communities of practice (CoPs) (Lave & Wenger, 1996) operate at the meso level to further advance open knowledge. In my field, this configuration is characterised by two significant stakeholder groups: transnational non-profit organisations (NGOs) and communities of practice of civic hackers, digital artists, and practitioners from the IT and creative industries.

First, transnational NGOs such as the OKF and Wikimedia stand out as key actors at the meso level that advocate for open knowledge on a global scale. Their extensive collaborations with (Open)GLAM institutions and other public entities, including intermediaries such as digiS, give rise to a wide range of both formal and informal public-public partnerships within the cultural sector. Furthermore, national and local

³⁶ The Research and Competence Centre Berlin was launched in 2012 and facilitates the digitisation of cultural heritage in Berlin across sectors and the engagement with contemporary and historical data, allowing the public to access Berlin's cultural heritage beyond the custodial institutions. digiS also acts as a focal point for digital best practices on digital long-term preservation and open access by consulting cultural institutions and collaborating on the development of guidelines (cf. digiS Servicestelle Digitalisierung, 2023).

foundations, such as the Körber-Stiftung in Hamburg, as well as think tanks such as iRights.Lab in Berlin, are emerging as important players in the development of strategies and practical solutions for effecting change in the digital cultural sector. The dynamics of these activities will be examined in further detail in chapters 4.4 and 4.6.

Second, these collaborative efforts are enriched by a growing momentum towards arenas of digital cultural production, fostering cooperation between GLAM institutions, digital artists, and practitioners from both the IT and creative industries. As public-private alliances grow increasingly influential in the cultural sector, open knowledge advocates, such as the NGOs mentioned above, encourage these actors to engage meaningfully with the digital heritage resources offered by OpenGLAMs, data aggregators, and digital repositories. As a result, CoPs emerge as new coalitions that comprise digital artists, graphic and web designers, digital content managers and storytellers, and ‘civic hackers’ – a term that encompasses software and hardware developers, data analysts, as well as cultural enthusiast and activists. These CoPs, along with local computer clubs (e.g. Code for HH) and experts from the corporate IT and gaming sectors, play a critical role in experimenting with and implementing new approaches to open knowledge in the heritage sector. Drawing on cultural anthropologist Christopher Kelty’s (2008) work on free software movements, my discourse ethnography focuses particularly on the emergence of open knowledge activists and civic hackers and the sustainability activities pursued by these CoPs in the cultural sector. Their efforts contribute to the creation of what Kelty calls ‘recursive publics’ in the assemblage. These publics not only engage in dialogues about technology, but also use technology as a medium to express their ideas and rethink institutional frameworks and discourses (Lezaun, Marres, & Tironi, 2017, p. 211).

Subjects and their everyday memory and media practices at the micro level

Beyond institutional and meso-level activities, individuals and groups engage in their daily lives through individual practices of interacting with traditions and digital media. These everyday practices of remembering and forgetting, also referred to as everyday memory practices (Koch & Smith, 2025a), may not be explicitly categorised as ‘heritage’ or recognised as such in the cultural sector (see chapter 2.3.2). While my discourse ethnography does not primarily focus on investigating everyday practices of sustainability, it does offer insights into these mundane activities and experiences through the lens of socio-cultural entrepreneurs and action-oriented collaborative research.

First, for example, Mar Dixon,³⁷ a self-described museum enthusiast from the IT and creative sector, exemplifies this interaction in her expert interview by regularly visiting heritage institutions with her family during her leisure time (Dixon, 2017). Her efforts at openness, particularly through social media initiatives since 2012, highlight how individual memory practices can manifest at a micro level. As a result, this renders individuals and groups pertinent to the analysis (see further chapter 4.5). I categorise individuals in local settings without a professional heritage background as social and cultural entrepreneurs who derive their livelihood or supplementary income from their sustainability efforts to open up the cultural sector. Building on Swedish ethnologist Orvar Löfgren's notion of cultural innovators, brokers, and bricoleurs, socio-cultural entrepreneurs are individuals who 'transcend cultural barriers, bend and break local [or transnational] rules, develop new cultural forms or fields of activity – in short very active and innovative culture builders.' (Löfgren, 2000, p. 165)

Second, the humanities are also central to this context of micro-level agencies. Beyond the activities involved in digital humanities, which are primarily oriented towards academic and institutional levels as mentioned above, there are applied and engaged research initiatives in cultural and social anthropology that emphasise micro-level investigations of openness (see chapter 4.5). These include the Digital Natives project in Denmark (R. C. Smith & Iversen, 2014) and the FOLK exhibition in Norway (Stuedahl et al., 2021), as well as the transdisciplinary EU research network POEM (Koch & Smith, 2025a). My analysis will concentrate on these action-oriented research approaches in anthropology, which are grounded in several well-established research traditions and lines of enquiry. Two specific developments are particularly relevant to this discourse ethnography:

On the one hand, the action-oriented research projects draw on a robust tradition of collaborative research that prioritises a commitment to public engagement and emic perspectives in social and cultural anthropology. This mode and practice of inquiry embraces the humane and social dimensions by reflecting on participation as both an object of inquiry and a methodological device (Koch & Smith, 2025b; Lezaun et al., 2017). Concepts such as 'transdisciplinarity' and 'collaborative research' illustrate the evolution of these practices from applied and community-oriented knowledge practices, which are closely linked to ideas of 'citizen science,' 'public anthropology,' and 'community engagement'.

On the other hand, a significant strand of research has emerged in the last decade that bridges cultural anthropology and ethnology with established fields of design

³⁷ Mar Dixon passed away unexpectedly and very sadly in 2024, aged 53.

research. As design anthropologist Rachel Charlotte Smith points out, the ‘modes of inquiry have strong associations’ (R. C. Smith, 2022, p. 3), and this intersections can offer valuable opportunities in terms of ‘rethinking contemporary research and design practices for an uncertain and contingent world’ (p. 3). These fields prioritise the investigation of ‘near futures’ that are imagined and actively cultivated in contemporary everyday lives, discourses, and materialities (cf. Lutz et al., 2025).

Through these angles of socio-cultural entrepreneurship and action-oriented and design anthropological research, people and groups become integral subjects within the discourse ethnography at hand.

4.2.3. Conclusion: The significance of meso-level dynamics

In the cultural sector, where openness functions as a boundary object and serves as a key category of analysis, the concept of cultural sustainability is shaped through negotiations, processes, and practices involving a diverse range of sociotechnical actors and public-private coalitions. Rather than relying on a top-down governmental approach, open knowledge in the cultural sector emerges from transnational, multi-scalar assemblages of sociotechnical agencies, including OpenGLAM initiatives, data aggregators, and related research disciplines such as digital humanities. Moreover, the drive towards greater openness, framed as a component of ‘cultural sustainability’, is largely influenced by meso-level dynamics. In this context, transnational constellations of NGOs, public-private collaborations involving IT and creative industries, recursive publics of civic hackers and open knowledge activists, as well as socio-cultural entrepreneurs and action-oriented research disciplines play a central role in the global assemblage. Furthermore, in these meso-level interactions, the agency of micro-level subjects – such as individuals and groups – becomes integral to the overall analysis.

Rationale for discourse ethnography

Consequently, after outlining open knowledge as an international governance approach and the various stakeholders and sociotechnical actors involved, the next chapters (see chapters 4.3-4.6) shift focus towards the ethnographic discourse analysis of sustainability strategies that emerge within the cultural sector itself, particularly the pragmatic negotiations within cultural practices. In a praxeological *modus operandi* (R. Schmidt, 2011), the chapters will further dis/assemble and examine ‘cultural sustainability’, exploring the dynamics and distinctions involved in negotiating notions of ‘good life’ and

‘intact culture’ in relation to cultural vitality in the heritage sector. In the following chapters, I will analyse the emergence and manifestation of sustainability strategies and ideas of openness in the cultural sector, paying particular attention to the following research questions:

- Which sustainability initiatives are emerging in cultural practices to promote openness in the cultural sector in response to increasing digitalisation and technological change? How are these sustainability practices initiated and what pragmatic negotiations become apparent?
- How do the stakeholders, organisations, and sociotechnical actors assembled in this chapter define ‘sustainability’ and approach openness? How do legal frameworks, regulations, principles, materialities, and practices shape their perspectives on what heritage should be sustained for future generations in the context of digitisation?
- How do heritage regimes in Europe take into account sociotechnical changes and integrate the diverse experiences of individuals and groups within professional heritage work?

To facilitate a nuanced understanding, I will present a set of three distinct sustainability strategies in the sense of a ‘thick description’ (Geertz, 2005), including practices of:

- 1.) **Making cultural heritage accessible and available to the public as open data** (chapter 4.3);
- 2.) **Reusing and appropriating open data** (chapter 4.4);
- 3.) **Enabling ‘users’ and transdisciplinary collaborations with people and groups** (chapter 4.5).

With this in mind, the discourse ethnography will focus on the pragmatic negotiations of openness in the cultural sector, examining the intricate dynamics at play within as it navigates the challenges and opportunities presented by digitisation and changing sociotechnical environments.

4.3. ‘If it’s not online [and available], it doesn’t exist!’: Making cultural heritage accessible and available as open data

During my fieldwork, the quote above emerged as an emblematic expression in the context of digitisation projects in professional heritage work. An experienced librarian, and former employee of the State and University Library of Hamburg Carl von Ossietzky (SUB), prominently featured this phrase on the title slide of her public lecture on the SUB’s digitisation strategy at the University of Hamburg, organised by a colleague in 2019 (fieldnote institute colloquium, May 2019). In her presentation, she not only referred to this now widely accepted saying in the cultural sector, but also included an important addition in square brackets: ‘If it’s not online [and available], it doesn’t exist!’ This addition, which piqued my interest, effectively illustrates the shift from simply safeguarding cultural heritage towards a broader understanding of open data that accompanies the digitisation of heritage in professional heritage work. It implies that *making cultural heritage materials accessible and available as open data* is a crucial practice for promoting openness in the GLAM sector and beyond, thus laying the groundwork for the first sustainability strategy in this analysis.

This move towards open data is in line with wider developments in the digital age, where information and cultural resources are increasingly shared and made available online – a digital ethos reflected in the earlier Nefertiti hack vignette. These dynamic changes are particularly evident in the digitisation initiatives of OpenGLAMs, data aggregators, and open repositories, which are committed to translating their practices of collecting, cataloguing and exhibiting into the digital realm (Economou, 2016; Parry, Eikhof, Barnes, & Kispeter, 2018). In the chapters that follow, I will present a set of three distinct, though not exhaustive, sustainability strategies related to accessibility and availability in heritage work in order to open up heritage to a wider public. These strategies will be illustrated with empirical examples from five different OpenGLAM institutions and heritage sites, demonstrating how these emerging digital principles of openness are being put into practice in the cultural sector. The first sustainability strategy includes: 1.) Inventorying and presenting open data in institutional online archives and collections (chapter 4.3.1); 2.) Aggregating and enriching open data on data aggregator platforms and open repositories (chapter 4.3.2); and 3.) (Re-)collecting heritage through crowdsourcing and digital repatriation of open data (chapter 4.3.3). I will then briefly summarise the main findings of this chapter in the conclusion (chapter 4.3.4). In addition, the following chapters will consider how the evolving roles, requirements, practices, and responsibilities within OpenGLAM institutions are chang-

ing in relation to open data principles. The aim of this chapter is to elucidate the underlying principles that guide the pragmatic negotiations within professional heritage work regarding the opening up of heritage for more sustainable futures in the cultural sector.

4.3.1. Inventorying and presenting open data in institutional online archives and collections

The MKG in Hamburg has distinguished itself as the first museum of applied art and design in Germany to create an institutional online collection of its heritage materials as open data, launching the ‘MKG Sammlung Online’ in 2015. According to Antje Schmidt, an art historian and head of digital strategy and projects at the MKG, this organisational shift towards open access and availability is in line with the museum’s founding mission from 1877, which aimed ‘to offer individuals working in the arts and crafts examples for study and imitation so as to improve the quality of the work of the local workshops.’ (A. Schmidt, 2017a, p. 31) The MKG thus joins a growing number of art museums and other GLAM institutions in Europe and beyond that are adopting similar open access strategies (A. Schmidt, 2017a, p. 29). But what does this mean in practice for professional digital heritage work?

Following the widely endorsed principle of ‘as easy and open as possible’ in the heritage sector, the MKG adopts a pragmatic approach to open data (A. Schmidt, 2017a, pp. 31–33). The subsequent set of organisational, aesthetic, and legal principles that guide this approach illustrate the sustainability practices implemented in the inventorying and presentation of heritage as open data in the realm of professional heritage work: A fundamental sustainability approach is the comprehensive raw digitisation of pre-existing archives and collections, which facilitates the translation of analogue heritage materials – objects, texts, and images – into the digital realm. With federal funding from the Hamburg Ministry of Finance, the MKG initiated a long-term digital inventorying project in 2012 to ‘digitize and catalogue the museum’s entire holdings of approximately half a million objects’ (A. Schmidt, 2017a, pp. 26–27), as articulated in her presentation at the public lecture series {DIGITAL HERITAGE}, published as an experience report.

In 2015, the museum took a significant step forward by making its digitised collections, which are no longer under copyright, available as open data through the MKG online collection, free from legal restrictions. More than 100,000 digital surrogates of heritage materials can now be freely downloaded for ‘private and scientific as

well as for creative and even commercial purposes without asking for permission' (A. Schmidt, 2017a, pp. 25–26), as she further highlights and continues in her report:

Only a small percentage of them are on display. The majority is in storage most of the time due to conservatory concerns and also because of the lack of space to present them. When visiting the museum's main website one can find the highlights of all the different areas of the collection. But these are only a few examples and meant as placeholder and pars-pro-toto for the vast amount of half a million objects. (A. Schmidt, 2017a, p. 26)

The museum's transformation towards open data also highlights the critical legal considerations involved in navigating openness amidst growing digitisation in the cultural sector. In their efforts to make accessibility and availability 'as easy and open as possible' in the context of digitisation, OpenGLAM institutions have begun to adopt open licences, such as the widely recognised Creative Commons licences. These legal frameworks aim to maintain the status of the public domain in the cultural sector once made available, and reflect the EU's governance approach to open knowledge discussed in chapter 4.2.1. Accordingly, prioritising the accessibility and availability of open data without copyright, rather than striving for perfection (fieldnote institute colloquium, November 2015), is widely seen as the way forward from both an organisational and legal perspective in the cultural sector.

In this context of online collections and archives, the volume of publicly accessible open data is identified as a crucial metric principle for establishing open data as a new global norm in the cultural sector. This quantitative dimension is illustrated by a Twitter thread initiated by an influential curator of digital museum practice at a public European art museum regarding the Metropolitan Museum of Art (MET) in New York (see figure 5). The MET, as the largest museum in the United States, adopted an open access approach in 2017, announcing the unrestricted online sharing of all copyright-free images in its collections. This move prompted the curator, recognised as a prominent European heritage expert on open data, to retweet the museum's press release, positioning it as a cornerstone for open data in the cultural sector:

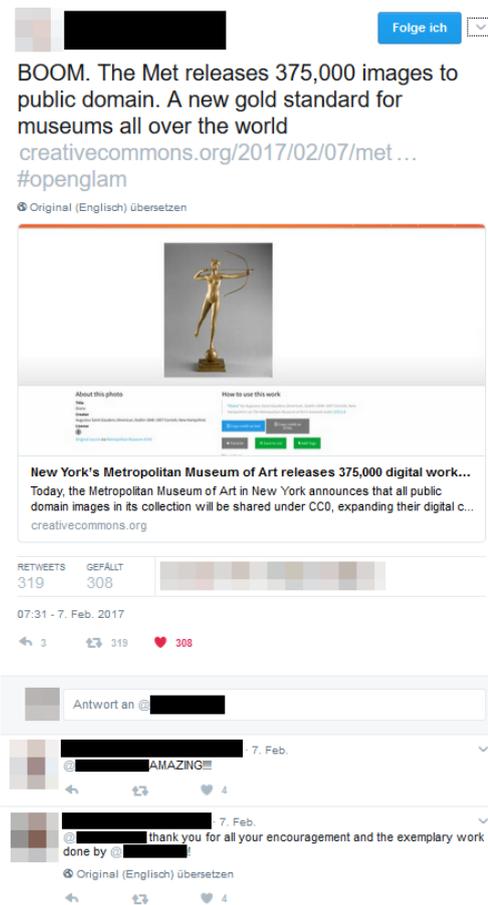


Figure 5: Tweet about the MET's open access approach in 2017

The tweet's relatively high engagement rates indicate that the move attracted significant attention from cultural practitioners and heritage experts worldwide, who celebrated the MET's leadership as a new OpenGLAM institution, highlighted its release of 375,000 images as open data, and anticipated its significant impact on the future of open data.

However, aesthetic qualities also play an essential role in the pragmatic negotiations of open data within professional heritage work. According to Merete Sanderhoff, co-founder of the international Sharing is Caring conference series, it is essential to appeal to what Bolter and Grusin (2000) call people's visual habits and sense of 'immediacy':

[...] images must be available in such high resolution that people can zoom in on minute details, cut out, photoshop and remix the images, place them in new contexts such as PowerPoint presentations, publications, mobile apps, or derivative works like digital mashups, collages, and YouTube videos, and maybe even print them in original or manipulated versions on commercial products like t-shirts, posters, wallpaper, coffee mugs, or, indeed, toilet paper. (Sanderhoff, 2013, p. 132, as cited in Tanner, 2016)³⁸

Prioritising data quality in the context of inventorying and presenting open data in institutional online collections goes beyond simple preservation concerns, as Sanderhoff's quote suggests. For example, improved visualisation, such as high image resolution, is often cited as a means of gaining greater control over the distribution of digital resources, thereby enhancing the institutional authority and social relevance of GLAMs in the context of digitisation. Open access advocates, citing best-practice examples such as the Rijksmuseum (see chapter 4.2), argue that ensuring the high quality of open data positions OpenGLAMs as trusted and sought after sources of high quality digital reproductions and expertise (A. Schmidt, 2017a, p. 32) – an aspect that seems to be increasingly important in today's post-truth era, where the scrutiny of source has become increasingly important.

Furthermore, Sanderhoff's quote illustrates that the move towards open data is accompanied by a change in the perception of people who engage with cultural heritage resources; they are increasingly seen as active 'users' of open data for co-creation, rather than passive audiences. Correspondingly, the perceived role of heritage institutions as OpenGLAMs in the context of digitisation reflects a broader development in some contexts where safeguarding practices do not reside solely within heritage institutions, which have traditionally shouldered all responsibility. As Antje Schmidt reminds us from the perspective of the MKG,

[...] the online visitor or user is free to do whatever he wants without regulations. It does not just mean putting data and content online. It is about making these resources openly available and reusable and it describes a change of mind-set. The images may also be altered and combined with other content for the creation of completely new works. In this way it is possible for the online visitor to participate actively in the production and distribution of knowledge or creative inventions, and to become a co-creator instead of only being a consumer. (A. Schmidt, 2017a, pp. 29–30)

Accordingly, participation in the sense of co-creation and user involvement are seen as vital aspects of large-scale digitisation and open access initiatives, which discursively underpins the argument that these efforts should promote vibrant and open democratic

³⁸ With the remark on reproductions of artworks on toilet paper in the quote, Merete Sanderhoff refers to the resignation expressed by Taco Dibbit, Director of Collections at the Rijksmuseum in Amsterdam, to the presumption that art museums like the Rijksmuseum need to control how reproductions of their collections are used, who said: 'If they want to have a Vermeer on their toilet paper, I'd rather have a very high-quality image of Vermeer on toilet paper than a very bad reproduction.' (Segal 2013, as cited in Tanner, 2016).

societies in the cultural sphere. In the discourse and in cultural practices of professional heritage work, the public domain is therefore often described as synonymous with the vitality and social productivity of (digital) cultures, which the two artists of the Nefertiti hack also highlighted above. Overall, the cataloguing and presentation of open data in online collections is a complex landscape, in which pragmatic considerations of data quality and quantity, legal considerations, institutional authority, user involvement, and democratic access are at play. As the next chapter shows, there are also various technological issues to be considered in this context.

4.3.2. Aggregating and enriching open data

Complementing the efforts of OpenGLAM institutions to facilitate easier and more open sharing of digital resources through their institutional open access strategies, the practice of aggregating open data is emerging as a second sub-category of sustainability activities within professional heritage work. According to Natalie Harrower of the DRI, digital platforms like Europeana or the DDB offer new technological services to ‘aggregate metadata from different sources, but do not necessarily hold the digital objects themselves’ (Harrower, 2017, p. 64). As this quote suggests, the aggregation of open data involves a variety of approaches and requires consideration of both organisational and technological issues in the context of increasing datafication (van Dijck, 2014) in the cultural sector. The practice of aggregating and enriching open data includes practices of stockpiling metadata, depositing and digital preservation of digital surrogates, and the cross-institutional practices of crowdcurating, all of which will be the focus of this chapter.

The first approach to aggregating open data involves sharing and stockpiling of metadata. OpenGLAM institutions increasingly provide structured and machine-readable metadata to the digital infrastructures of data aggregators at local, national, and international levels (see chapter 4.2.2). Metadata consists of descriptive information about digital assets that provides details about the digitised heritage materials and additional context about the files. This information can include details such as author, year of creation or publication, indexes, keywords, file format, and timestamps. For example, the MKG has not only published the source files of copyright-free digital surrogates, but has also made all associated metadata available via the MKG Collection Online, as highlighted by Antje Schmidt (2017b, p. 172). As a result, the MKG’s re-

sources can now be discovered by both humans and automated systems alongside datasets from other institutions on platforms of metadata aggregators like the German Digital Library and Europeana.

In addition, Harrower's quote above points to an additional practice of data aggregation that aligns with GLAMs' mission of preserving heritage in the digital realm. In certain projects, like the DRI project in Ireland, GLAM institutions have the opportunity to deposit their digital surrogates into the central national digital infrastructure called 'Inspiring Ireland'.³⁹ In this context, aggregating open data involves migrating both the actual raw data and the associated metadata to the DRI's platform. Harrower explains this role in her expert interview:

What I think is unique about us in the field of digital heritage in Europe is that we are open to deposit from a broad range of institutions, and we support a number of different cross-searchable metadata formats. When you deposit with DRI, your content is findable and discoverable alongside content from all the other depositors. We play the role of bringing together different kinds of diverse datasets from data creators across the country, which is different from what an institutional repository does; instead we provide a complementary service for national exposure. This being said, not all institutions have repositories, so we do offer a long-term home for this content as well. (Harrower, 2017, p. 64)

Aggregating heritage as open data goes hand in hand with technological principles such as discoverability, interoperability, and standardisation, which emerge as fundamental principles of digital long-term preservation in the context of datafication (fieldnote institute colloquium, December 2015).⁴⁰ What the quote from the interview also makes clear is that (Open)GLAMs act as 'data creators', reflecting a significant shift in responsibilities and roles within the professional landscape of heritage work in the face of the increasing datafication of the cultural sector. Traditionally, GLAMs have been seen as custodians of analogue artefacts and repositories of cultural knowledge. However, with the rise of digital technologies and the increasing datafication of heritage materials, they now play a crucial role in the creation and management of (meta)data. This shift reinforces the argument of the devolution of agencies observed in the global assemblage (see chapter 4.2) and reshapes practices of professional heritage work.

By stockpiling and depositing their data in metadata aggregators and digital repositories, OpenGLAM institutions seek to increase the accessibility and availability of their open datasets to the public on a wider scale. In addition, aggregating open data is closely related to enriching institutional collections through linked open data, another

³⁹ See the project website: <https://dri.ie/inspiring-ireland/> (retrieved April 27, 2025).

⁴⁰ These two principles are part of the FAIR guiding principles for scientific and data management and stewardship published in 2016. FAIR stands in short for findability, accessibility, interoperability, and reuse (cf. The GO FAIR International Support and Coordination Office, 2023).

integral principle of datafication that is shaping the cultural sector. In computing and cultural informatics, the technological principle of ‘linked open data’ refers to providing richer data than any single institution can publish. This is achieved by linking structured data to other relevant resources, such as geolocation or disparate institutional datasets from other GLAMs, thereby enabling automated reading by computers and enhancing searchability across institutions and sectors through semantic queries (cf. Open Knowledge Foundation, 2012).

In terms of curating cross-sectional (big) datasets and creating digital narratives, improving data quality aligns with preservation efforts in professional heritage work, which seek to enrich collections to foster new knowledge and increase the citation and use of (digital) collections. This aspect leads to practices of curation and dissemination through digital storytelling, which represents another emerging dimension of data aggregation and enrichment. Beyond the linking and dissemination of open data through various channels such as blogs, Wikipedia articles, and social media, the aggregation of open data currently extends to the creation of online exhibitions, which provide a platform for showcasing thematic collections across sectors on the web. Notable examples include the commemoration of transnational historical events like the First World War (Bloch-Pfister, 2015) and key events in national history, as exemplified by the DRI in Ireland and its Inspiring Ireland initiative. Launched in 2014, the project initially featured digitised artefacts from eight of Ireland’s national heritage and research institutions (fieldnote institute colloquium, December 2015). The DRI established an interdisciplinary curation committee to organise and display the aggregated and enriched data online around three main themes:

The first phase, from 2013–2014, was focused on bringing all the partners together, seeing what complementary content the institutions held, and building exhibitions on broad themes that spoke to the collections in those institutions. We created a ›Curation Committee‹ with members from each institution, and after a lot of discussion, we settled on three flexible themes that broadly reflect Irish culture and Irish history: *A Sense of Place*, *A Sense of Identity*, and *A Sense of Freedom*. This pilot project won three e-Government awards that year, and we were so delighted because it was such an amazing group effort, involving so many people and institutions. (Harrower, 2017, p. 65)

As the award-winning example of the DRI demonstrates, the context of open data fosters increased transdisciplinary collaboration between GLAM institutions and their counterparts in fields such as digital humanities. Optimistically, scholars and heritage professionals see a renewed motivation for the convergence of GLAM sectors, catalysed by the emergence of digital technologies and open data in the cultural domain (Given & McTavish, 2010; Warren & Matthews, 2018). However, it is important to recognise that aggregating and enriching open data also involves the exploitation of synergies in the form of economies of scale – a point highlighted by Harrower (2017,

p. 69) in relation to the role of the DRI as an open repository – an issue that has taken on greater urgency in the cultural sector and beyond, especially in the wake of increased austerity measures following the COVID-19 pandemic and ongoing inflationary pressures in Europe. In terms of the technological and organisational principles addressed in relation to increased datafication, this underlines the need for new skills in professional heritage work related to cultural informatics, such as maintenance and (meta)data management. As a result, the aggregation and enrichment of heritage is increasingly seen as an extension and enhancement of institutional efforts to safeguard existing heritage knowledge in the context of digitisation (Harrower, 2017, p. 64; A. Schmidt, 2017b, p. 172).

4.3.3. Crowdsourcing and digital repatriation of open data

While many digitisation efforts focus on enhancing the accessibility and availability of existing archives and collections through digital inventory, display, aggregation, enrichment, and curation, I will conclude chapter 4.3 by highlighting that open data in professional heritage work also encompasses practices aimed at collecting both new and ‘lost’ cultural heritage – especially artefacts and monuments considered at risk of being ‘lost’. In this context, I introduce crowdsourcing and digital repatriation as emerging sustainability practices that facilitate the opening up of the cultural sector through open data. Together these practices constitute a third sub-category of making cultural heritage accessible and available as open data. This chapter will explore these through two examples: the DRI and broader international scholarly digital repatriation initiatives, including the Julfa 3D Digital Cemetery Repatriation Project.

To begin with, for ‘Weaving Public and Private Narratives’, as articulated by Harrower (2017) in the expert interview regarding the second phase of the digital preservation project, the DRI has added a crowdsourcing initiative as a ‘public history element’ (p. 65) to its flagship Inspiring Ireland infrastructure. In the cultural sector, crowdsourcing refers to practices of ‘inviting members of the public, often referred to as “crowd”, to tag and classify, transcribe, organize, and otherwise add value to digital cultural heritage collection content’ (Owens, 2013, p. 121). In collaboration with the National Library of Ireland, the DRI collected everyday memories, family stories, and testimonies as well as ‘Irish voices from abroad’ (Harrower, 2017, p. 68) to commemorate the centenary of the ‘Easter Rising’ in 1916. Inspired by the Europeana project

‘Europeana 1914-1918’ marking the centenary of the First World War⁴¹, a series of ‘collection days’ were organised at different GLAM institutions, embassies, and community organisations in Dublin, London, and New York to collectively remember the important national event in the history of Ireland (The Digital Repository of Ireland, 2016).

For crowdsourcing new heritage materials to complement the institutional collections of Inspiring Ireland project, throughout 2015-2016, members of the public in Ireland and abroad (diaspora networks in the United Kingdom and the United States) were invited through public calls from the DRI, and to bring their treasured personal artefacts and memories to be digitised for the national digital platform Inspiring Ireland based on three pre-defined themes from the Curation Committee related to 1916, ‘A Sense of Place’, ‘A Sense of Identity’, and ‘A Sense of Freedom’ (see chapter 4.3.2). After giving their written consent, people went through the different stages of the crowdsourcing initiative: First, trained heritage experts from different heritage and research institutions in Ireland interviewed the people in a first step to collect their family stories and ‘folklore’ related to the artefact, which were eventually embedded as context in the metadata of the digital asset to make it discoverable in semantic queries. The process of expert assessment of what should be digitised and become part of the DRI involves a number of considerations, such as ‘is the object at risk, or is it worth sharing with a wider audience, etc.’ as described by Harrower (2017, p. 69) in her interview.

In a second step, professional high-quality images of the artefacts were taken, and in a third step, the digital objects and their metadata were catalogued in time to be added to the historical record on the DRI for long-term preservation. Meanwhile, people could visit a conservator for advice on how best to preserve their treasured object at home. These crowdsourced and digitised everyday objects can then be found as so-called ‘Collection Day items’ (fieldnote institute colloquium, December 2015) on the Inspiring Ireland website, and some have also appeared in special themed exhibitions, where they have been curated alongside the more well-known ‘grand narratives’ and canon of national GLAM institutions in Ireland, as Harrower explains:

⁴¹ For a more detailed description of the Europeana 1914-1918 project, see Bloch-Pfister (2015). In the following years, Europeana hosted other themed collection days, for example on ‘Migration’ in 2018, the European Year of Cultural Heritage, ‘Work’ in 2020, and ‘Sports’ in 2021: https://pro.europeana.eu/tags/collection-day?page=1&page_events=2&page_posts=3&page_events=1 (retrieved April 27, 2025).

It was very exciting to see this idea of ›Weaving Public and Private Narratives‹ come together in such unexpected ways! The objects contributed by members of the public are often considered personal keepsakes or mementos, but not necessarily considered under the umbrella of ›cultural heritage‹. But of course they are – they just are not well known. Their contribution enables broader discovery. Adding private objects to exhibitions of objects in public collections provides a way of enlarging narratives about our past, enriching the historical record, and adding voices to the writing of history – all together this creates a much fuller, more varied and richer concept of history. Providing access to these private objects and their stories democratises the concept of cultural heritage. (Harrower, 2017, p. 68)

The DRI's crowdsourcing activities gather more testimonies from the past to enrich existing digital archives and collections or to create new thematic ones, often involving people and groups.

Second, while exploring these emerging practices for improving access to open data, it is important to draw attention to a notable development in the field of 'virtual heritage' (cf. Benardou et al., 2018). Recently, the collection of new digital heritage materials has coincided with a notable increase in digital repatriation initiatives in the cultural sector. Although this chapter is primarily concerned with sustainability efforts aimed at making open data accessible and available, it is important to recognise that digital reconstruction is an important practice through which digitisation has supported preservation and openness efforts. In this regard, there has been a marked increase in 3D digitisation activity, as exemplified by the Nefertiti hack vignette. In the midst of ongoing restitution disputes, the artists decided to 'repatriate' a 3D replica of the famous bust of Nefertiti to Egypt, the country of its discovery. From an institutional and cultural policy perspective, 3D digitisation projects often focus on what the European Commission classifies as 'immobile heritage' (European Commission, 2019). However, there is a growing emphasis on the digital reconstruction of endangered or 'lost' cultural heritage, as exemplified by digital humanities initiatives such as the 'Julfa Cemetery Digital Repatriation project' (2015-2019).⁴² This project aims to document and digitally reconstruct the medieval Christian Armenian cemetery in its geographical location in present-day Azerbaijan, but which was destroyed due to political conflict in 2005 (fieldnote DH colloquium, January 2016). Using historical and digital photographic evidence (e.g. lantern slide photographs; satellite imagery), film, and advanced 3D reconstruction techniques, the project seeks to ensure the digital continuity and accessibility of these monuments for current and future generations. Outcomes include the development of two permanent virtual reality installations in Yerevan, Armenia and Sydney, Australia, home to one of the largest diasporas, as well as touring exhibitions, an online available VR model, and a permanent archive, developed collaboratively by

⁴² <https://julfaproject.wordpress.com/> (retrieved April 27, 2025).

digital artists, heritage professionals, and digital humanities researchers (Short, 2016; Short, Crispin, & Baker, 2017).

The integration of digitisation thus aims not only to improve the preservation and accessibility of pre-existing cultural heritage, but also to enrich it through the collection of new cultural material and the rediscovery of heritage previously thought lost.

4.3.4. Conclusion: From safeguarding heritage to creating, maintaining, and providing (open) data in heritage management

‘If it’s not online [and available], it doesn’t exist!’ This expression underscores the need to keep cultural heritage vital and accessible to new audiences, especially younger generations. The international governance approach to open knowledge (see chapter 4.2) is produced as a central argument for investing enormous efforts and public resources in the digitisation and open access of heritage materials in GLAM institutions and related scholarly communities like digital humanities. Thus, a primary sustainability strategy revolves around the preservation of cultural heritage – a set of practices that GLAM institutions are increasingly seeking to translate into digital environments through open data initiatives. The production, representation, and dissemination of cultural knowledge as open data in professional heritage work are intrinsically linked to safeguarding practices, including inventorying, archiving, curating, and exhibiting. This transition is informed by a pragmatic approach that prioritises what is technically, organisationally, and legally feasible. In addition, the volume of digitised and open data plays an important role in shaping cultural practices, with the digital realm seen as a means not only to preserve and making available existing heritage as open data, but also for collecting new materials and repatriating heritage that has been considered ‘lost’. At the same time, new practices such as aggregating open data emerge in the context of digitisation, with data aggregators and open repositories as new sociotechnical actors in the field.

In the cultural practices of GLAM institutions and heritage professionals, there is a notable shift in the perception of custodianship in the face of increasing digitisation linked to datafication. Traditionally seen as custodians of heritage material, heritage professionals are increasingly recognised as data creators and providers. This development is accompanied with the emergence of new practices of long-term archiving closely connected to cultural informatics skills. To achieve economies of scale, these digital preservation practices are often consolidated into digital repositories and data aggregators. However, such developments underscore the need for specialised skills to

safeguard heritage as open data in the digital environment, which are closely linked to the challenges of maintenance and circulation in digital media environments (Hollmann & Schüller-Zwierlein, 2014; Lutz, 2025; Tran, 2022; Warnke, 2025). At the same time, these shifts in roles and safeguarding practices reflect a broader transition to digital media production, paving the way for the second sustainability practices centred on reuse (see chapter 4.4).

4.4. 'If you build it, they will come!': Reusing and appropriating open data

With the increasing amount of open data being made available by OpenGLAMs, data aggregators, and open repositories, the *practice of 'reuse'* has emerged as another critical sustainability initiative to promote openness in the heritage sector. Just as the Nefertiti hack vignette at the beginning of chapter 4 makes a strong case for the availability of open data, reuse follows on from this, representing the appropriation and wider dissemination of open data. Considering the above quote, which I came across during my fieldwork at the Coding Da Vinci hackathon (CDV) in Berlin in 2015 and which will be elaborated in chapter 4.4.3, reuse practices go hand in hand with an impulse towards digital cultural production. The quote explicitly addresses experts and professionals from the IT and creative sectors ('you'), encouraging them to reuse the open data provided by OpenGLAM institutions in order to engage with new user groups ('they'). This dynamic illustrates that open data is being taken up and used by a wide range of actors in a variety of reuse initiatives that go beyond the halls of GLAM institutions and their online collections.

In what follows, I will explore how the reuse of open data is initiated in cultural practices, differentiating reuse in the cultural sector by contrasting three different practices from my fieldwork. In addition, I will examine how these emerging sustainability activities contribute to popularise cultural heritage while relating to the sustainability activities discussed in the previous chapter. The three reuse practices I will analyse are: 1.) Creative reuse, as exemplified by the 'Tate GIF party' at the Tate Museum in London (chapter 4.4.1); 2.) Economic reuse of open data in the context of public-private partnerships, as demonstrated by the prominent global project 'Google Arts & Culture' (chapter 4.4.2); and 3.) The hacking and coding with cultural heritage at the CDV hackathon in Germany (chapter 4.4.3), which gained momentum in recent years as an important alternative to the commercialisation of open data in the cultural sector. The latter practice is particularly noteworthy as it serves as an important contrast to the other two reuse practices in the discourse ethnography, highlighting the grassroots uses of open data in the cultural sector – which will be the focus of the empirical analysis in this chapter. Finally, the main findings of this chapter are summarised in the conclusion (chapter 4.4.4), reinforcing the importance of these different reuse initiatives and the cultural hackathon for discourse ethnography.

4.4.1. Creative reuse

Driven by the impulse to keep cultural heritage alive and make open data more vibrant, OpenGLAMs have launched creative reuse initiatives, including art and design competitions that encourage engagement with their institutional online collections in new, unexpected, and artistic ways. As a first reuse practice, the popularisation of open data through digital art and remix cultures features centrally in the discourse ethnography. In recent years, several internationally recognised GLAM initiatives have emerged, targeting creative reuse in order to reach new audiences, particularly younger demographics. A notable early example is the ‘Tate 1840s GIF Party’, organised by Tate Britain in 2014. This initiative won the ‘Best of the Web’ award at the 19th Annual Museum and the Web Conference in Chicago in 2015, which drew further attention to its significance and how I was made aware of the initiative through their website (Museums and the Web, 2015), and serves as the first reuse example discussed in chapter 4.4.

As part of the ‘Late at Tate’ programme, a bi-monthly series of evening events for young audiences, Tate Collective London invited digital artists and web designers, mainly from the social media community Tumblr⁴³, through a public call for submissions to remix selected artworks from the 1840s gallery into animated GIFs. These small animated image files and video clips convey emotions and feelings as reactions rather than traditional text. The event evaluation report describes three phases of reuse activities that make up this institutional reuse initiative (Ohlson & Villaespesa, 2014): First, to raise awareness and inspire, five digital artists were commissioned to create GIFs that were shared on the Tate Collectives Tumblr account and their personal channels, accompanied by a call for participation (Tate Britain, 2014). Second, Tate museum professionals took part in an in-house workshop to learn GIF making techniques using historical artworks. Third, a total of 587 submissions from the public call were exhibited alongside the original artworks at the Late at Tate event in February 2014. In addition, a ‘One Stop GIF Shop’ acted as a drop-in resource at the exhibition, allowing around 2,500 visitors to learn about GIFs and the artworks on display through informal demonstrations and discussions with digital artists and local museum professionals from Tate Britain.

⁴³ Tumblr is a micro-blogging platform that allows users to post and share text, images, quotes, chat logs, links, videos, and audio in a blog. Tumblr is currently owned by Automattic, the company behind the blog service WordPress.com: <https://about.tumblr.com/> (retrieved April 27, 2025).



Figure 6: Screenshot of the GIF of Miss C. Alexander's painting on Tumblr @tatecollective

This initiative exemplifies how popular culture, through remixing and sharing cultures, plays an important role in the practices of creative reuse. In the spirit of anything that is fun, classic works of art from institutional online collections can be appropriated and digitally 'reinvented' to create new digital art. A particularly successful submission to the GIF Art Challenge was a remix of Miss Cicely Alexander's oil painting (see figure 6),⁴⁴ which received over 100,000 likes and shares, earning it a place among Tumblr's top GIFs of 2014 (Tumblr, 2014). The digital response exceeded the museum's expectations, creating a viral effect on social media and attracting significant international media attention. According to the event organisers and in-house digital analysts (Ohlson & Villaespesa, 2014, p. 6), the Tate Collectives Tumblr received 28,000 visits during the month of the GIF Art Challenge, which also contributed to a significant increase in traffic to the museum's website and the original artworks online. The overwhelmingly positive response prompted Tate Britain to launch the 'Mememoji Party' in 2015, another digital art challenge focused on recreating artworks on display in the gallery 'Room 1540' at Tate as memes or emojis, although this initiative was less popular than its predecessor (Tate Britain, 2015).

Social media art initiatives such as the Tate GIF Party have inspired various stakeholders in the cultural sector to organise similar activities. This format has proven to be popular in professional heritage work and digital art, as demonstrated by similar

⁴⁴ Cicely Alexander, one of the daughters of a successful London banker, was eight years old when James Abbott McNeill Whistler painted this portrait between 1872 and 1874. The painting 'Harmony in Grey and Green: Miss Cicely Alexander' was bequeathed to the Tate Gallery by W.C. Alexander in 1932 (Tate Britain, 2023). The GIF is available at the following link: <https://2014inreblogs.tumblr.com/post/133383352209/see-you-on-friday-for-our-1840s-gif-party> (retrieved April 27, 2025).

ongoing initiatives like EuropeanaPro's⁴⁵ annual GIF IT UP competition, which has been run for the past ten years in partnership with GIPHY, a global online platform and search engine of animated GIFs. This brings us to the next example of economic reuse in the cultural sector (EuropeanaPro, 2024).

4.4.2. Economic reuse

Open cultural data is increasingly being integrated into commercial digital applications and services through strategic public-private partnerships between the heritage sector and the IT and creative industries. Alongside creative reuse practices, Antje Schmidt of the MKG in Hamburg and other OpenGLAM experts highlight the potential for commercial reuse to facilitate the sharing of heritage materials through entrepreneurial investment in professional heritage work. In her project report, she identifies four different contexts for the reuse of open data within the MKG collection, including commercial reuse: 'The objective was not only to make the data and images accessible but also make them reusable for educational and creative purposes as well as for research and commercial re-uses to share them with as many people as possible.' (A. Schmidt, 2017a, p. 27) Thus, economic reuse emerges as an important sub-category within the broader framework of reuse, enhancing the remediation of open data beyond institutional, educational, and research contexts.

A noteworthy initiative of economic reuse in the field that has attracted international attention – and sometimes criticism (cf. Willim, 2017) – is the 'Google Arts & Culture' project, which was presented at the 'Zugang Gestalten!' conference in Hamburg in 2015. Initially launched in 2011 by the Google Cultural Institute in collaboration with 17 museums from Europe and the United States, the project aims 'to make these vital institutions more accessible' (Luo, 2022) to the public. By 2022, more than 60 new GLAM and research institutions from over 15 countries set to join, bringing the total number of participating institutions worldwide to over 2000 since the project's inception, according to its official website (Google Arts & Culture, 2023).

Prominent public heritage institutions, such as the Deutsches Museum in Munich, the world's largest museum of science and technology, have partnered with the Google Cultural Institute to draw on its expertise in digitising heritage materials and to

⁴⁵ EuropeanaPro, short for Europeana for Professionals, is aimed at heritage practitioners and experts from the cultural sector. It is a forum for individual practitioners and OpenGLAMs, as well as for educators and researchers working with heritage collections as open data (EuropeanaPro, 2024).

leverage the resources and infrastructure provided by its global parent company, Alphabet, including the well-known ‘Google Books’ project. As one heritage professional noted in an experience report at the Sharing is Caring conference in 2017 (memory log SharecareX, October 2017), these collaborations produce collections of images and videos of cultural artefacts and sites that can be explored in detail using Google’s advanced high-resolution technology. In addition, these collaborations enable virtual exhibitions that can be toured via ‘Street View’ images of the interiors of partner institutions. Cultural practitioners see the project as a good example of how digital media can successfully complement on-site encounters with cultural artefacts in GLAMs online. In particular, the argument is made for improved accessibility, especially for those who cannot physically travel to distant cultural heritage institutions, and for the ability to view and explore the objects even closer than in the gallery itself (fieldnote Zugang Gestalten!, November 2015; memory log SharecareX, October 2017).

In addition to online and virtual exhibitions, reuse practices such as gamification play a crucial role in the context of economic reuse. While GLAM institutions receive technological and organisational support for the digital inventory and transformation of cultural heritage artefacts, these institutions also use open cultural data for their commercial digital heritage platforms and services, often under their own terms and conditions. This practice raises several concerns and has attracted significant criticism from the research community, a sustainability issue that will be discussed further in chapter 4.6.

For example, the Google project has consistently expanded more features to its Google Arts & Culture services by commercially reusing the open data available within its infrastructure. This includes features such as augmented reality art filters to repurpose visual art and the launch of its first platform video game ‘The Descent of the Serpent’⁴⁶ in 2022 (Martinez McNaught, 2023). Such initiatives are examples that set the state of the art of reuse practices in this field. Therefore, commercialisation of open data made available by GLAM institutions through strategic public-private partnerships between the cultural heritage sector and the IT and creative industries represents an emerging reuse strategy. These collaborations aim to facilitate the translation of digital cultural heritage resources into commercial use contexts, thereby promoting the popularisation and openness of cultural heritage. This approach is in line with the principles

⁴⁶ In the video game, players are to retrieve lost objects made available by the National Museum of Anthropology in Mexico and return them to the archaeological site of Chichen Itza in Mexico: <https://artsandculture.google.com/search?q=The%20Descent%20of%20the%20Serpent> (retrieved April 27, 2025).

of open knowledge management and the promotion of public-private partnerships at the level of cultural policy in Europe (see chapter 4.2).

4.4.3. Hacking and coding with cultural heritage

‘What is public shall remain public!’
(fieldnote CDV hackathon, April 2015)

With its emphasis on open knowledge, the Nefertiti hack vignette also presents hacking as an important approach to reusing and opening up cultural heritage. Although originally associated with a subversive ethos of leaks and breaches in specific underground political and guerrilla contexts, hacking has since evolved into a diverse set of practices aimed at fostering social cohesion through technology. It serves as an expression of creativity and innovation in knowledge production, not only in the IT and creative industries, but also for activism in fields such as urban development (Corsín Jiménez & Estalella, 2023; Murillo & Kelty, 2017). In the cultural sector, hacking has emerged as a bottom-up practice in the field, embraced by technology-driven people and groups in civil society, as exemplified by the cultural hackathon CDV in Germany. As the above quote from my fieldwork at the CDV cultural hackathon in Berlin in 2015 illustrates, the practice of hacking cultural heritage emphasises the principle of the public domain that ‘what is public should remain public’ and offers an alternative sustainability approach to openness, in contrast to the economic reuse and commercialisation of open data in the cultural sector (see chapter 4.4.2). But how is hacking initiated as a reuse practice, and what can be considered a ‘hack’?

To conclude the category of reuse practices, I will elaborate on hacking cultural heritage as a third subcategory, distinguishing it from the previous two institutional creative and economic reuse practices examined in chapters 4.4.1 and 4.4.2. Three technological and organisational principles emerge as essential for hacking open data in the context of the CDV hackathon: 1.) Rapid prototyping of technology in the public interest; 2.) Data quality of the open datasets; and 3.) Digital volunteering. Each of these principles is discussed in more detail in the following two sections below.

Rapid prototyping, data quality, and digital volunteering

In 2014, the first CDV cultural hackathon was launched in Berlin as a joint initiative involving open knowledge advocates and digital heritage experts. The founding bodies include the transnational networks of the OKF Germany and Wikimedia Deutschland,

as well as the national and federal public actors from the cultural sector: the DDB and digiS. The initiative thus represents a public-public partnership that operates at both meso and institutional levels in the cultural sector.

A ‘hacking marathon’, more commonly referred to as a ‘hackathon’, is a problem-oriented design event where computer programmers, graphic designers, interface designers, and other IT specialists work intensively on new software and hardware projects over a short period of time (cf. Briscoe & Mulligan, 2014). The objective of the CDV hackathon is to bring together experts from GLAM institutions, the IT and creative industries, digital humanities, and other technology enthusiasts in exchange in order to ‘explore the creative potential of digital cultural heritage’ (CDV, 2025). Since its inception in 2014, the CDV hackathon series has developed into a significant civic reuse initiative, with a considerable track record of activity in its eight years of operation (2014-2022), with a total of 14 hackathons across Germany. Initially focused on the national level (2014-2015), the series shifted to the local and regional level between 2016 and 2022. The first interregional spin-off, CDV Nord 2016 in Hamburg, aimed to increase collaboration between local and regional stakeholders in northern Germany, including also city networks with Copenhagen, Denmark and Stockholm, Sweden. Collectively, these initiatives resulted in around 217 projects and the development of 189 prototypes, based on 488 datasets provided by over 362 OpenGLAM institutions and involving more than 2,000 ‘civic hackers’ and participants. Notably, even during the COVID-19 pandemic, CDV activities adapted to online and hybrid events. With project funding coming to an end in 2022, plans to revise the CDV hackathon concept were announced at the final bar camp in September 2022 to ensure the continued ‘sustainability’ of the initiative (CDV, 2025).

Similar to the other two reuse practices in previous chapters, the hacking of heritage involves activities that refer to anything that is both fun and useful. Central to this reuse initiative is the principle of rapid prototyping technology for the public good. This approach fosters an interplay between remediation, popular culture, and technology development, allowing for the free use of heritage materials, their recombination and experimentation with digital resources and cutting-edge technologies. This process often leads to the creation of mashups involving prototypes of software applications such as apps, websites, augmented reality (AR) and virtual reality (VR) implementations, as well as demo versions of hardware-oriented developments. Notable examples of this innovative approach include the KollekTOURmat project, an analogue self-guided city tour that features a mobile printer and scrapbook to engage with historical

views of Hamburg from the archives of the SUB and the MKG.⁴⁷ In addition, the ZeitblickApp⁴⁸ – which will be examined in more detail below in terms of its defining characteristics of what constitutes a ‘hack’ – further illustrates the importance of the retranslation between digital and analogue principles of appropriation that are fundamental to hacking practices and reuse. Moreover, the concept of public-interest technology is closely linked to the development of open source solutions in the context of the cultural hackathons. As highlighted at the beginning of this chapter, and underlined by one of the founders of the CDV in her expert interview (interview B. Fischer, 2015), this approach represents an alternative to the commodification of open data in the cultural sector, and seeks to explore the democratic potential of technology in a co-creative way between GLAM institutions and civil society. But how is rapid prototyping initiated at cultural hackathons?

Rapid prototyping at the cultural hackathon typically unfolds in three distinct stages (see figure 7): The first stage is a kick-off event that marks the beginning of a hackathon weekend. This is usually held outside GLAM institutions, at sites of digital production such as local co-working spaces or fab labs. During this event, OpenGLAM experts act as case givers and ‘data providers’, pitching their institutional datasets to the participating hackers, and are available throughout the weekend to answer questions about their digitised collections. After this initial meeting, the next step is for the hackers, designers, and makers to form teams around datasets and to explore and experiment with the selected datasets. They work together as a ‘community of practice’ (CoP) (Wenger, 1999) over the course of several weeks. Hacker’s motivations for choosing specific GLAM projects can vary. My participant observation suggests that data quality, especially in terms of metadata and the suitability of the dataset for testing new technologies – is important during the hackathon and serves a crucial technological principle. For example, one team member at the CDV 2015, a hobby programmer and data visualiser, was particularly keen to experiment with new facial recognition technologies, which motivated him to join our team working on a digitised collection of World War II slides taken by a German soldier and former archivist documenting people and their everyday life on the war front, which found its way into the municipal archive of the city of Speyer, which participated in the hackathon in Berlin as a case presenter (fieldnote CDV hackathon, April 2015). In addition, the hackathons at the kick-off event offered a varied supporting programme for the tech-savvy participants, ranging from workshops on the Application Programming Interface (API) of the DDB

⁴⁷ <https://codingdavinci.de/projekte/kollektourmat-unterwegs-hamburg> (retrieved March 31, 2025).

⁴⁸ <https://codingdavinci.de/projekte/zeitblick> (retrieved March 31, 2025).

and issues of interoperability, to new technological developments in cognitive computing and other areas, to funding opportunities through the newly established Prototype Fund of the OKF Germany.

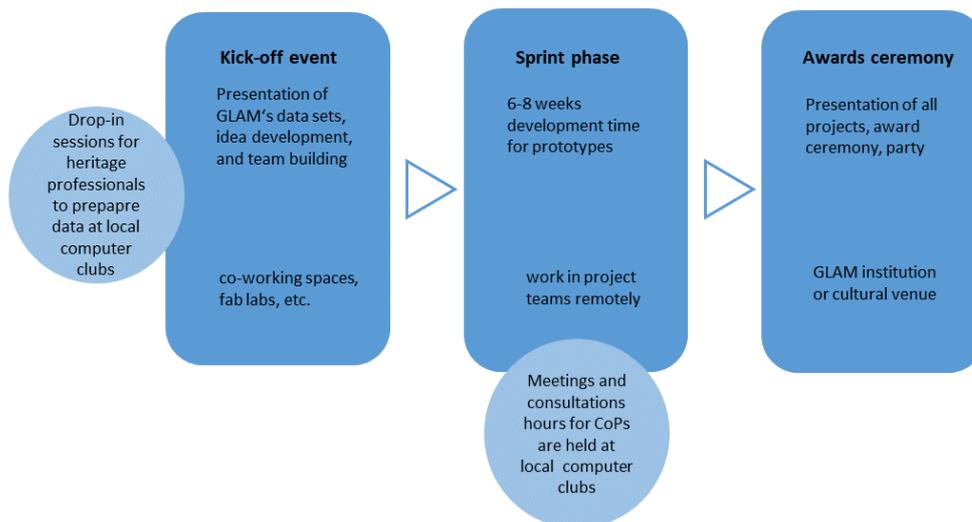


Figure 7: Rapid prototyping in three phases at the CDV hackathons in Berlin and Hamburg (2015-2016)

The second stage consists of a relatively short period of six to eight weeks during which the CoPs continue to work together remotely in what is known as the sprint phase. The aim is to develop working prototypes by the time of the awards ceremony, where these prototypes can be demonstrated and tested by heritage experts, a panel of judges, other participating teams, and interested members of the public. At the CDV 2016 event in Hamburg, for example, open consultation hours were held during the local computer club’s Code for Hamburg Open Code Nights, which helped to facilitate this collaborative effort (fieldnote CDV Nord, September 2016).

The third and final stage of the hackathon concludes with an awards ceremony, usually held at a GLAM institution or other cultural venue, where the technological developments are symbolically handed over for further professional heritage work (interview B. Fischer, 2015). A panel of judges from the IT and creative sectors, GLAM institutions, civil society, and academia selects the winning prototypes and teams and awards prizes accordingly. Following the principle that ‘what is public shall remain public’, all prototypes – from the source code to images – are released under an open source licence on developer platforms such as the open source CDV hackdash, a platform for tracking ideas and projects through hackathons, or the proprietary GitHub platform, ensuring their availability for further reuse.

In addition to the openness to experimentation and the encouragement to ‘play around’ with the open data provided by OpenGLAMs through digital technology, the

pursuit of social betterment through code and the development of public-interest technology has emerged in recent years as another important principle in the context of the cultural hackathon. For example, during my fieldwork at the CDV 2015 kick-off event, I asked one team member, a young IT professional, why he was participating in the hackathon in his spare time. He expressed that working with (open) cultural data allowed him to ‘finally’ contribute to something ‘meaningful and useful’ (fieldnote CDV hackathon, April 2015) – a stark contrast to his corporate job at a leading German IT company. His candid mention of the fact that the organisers paid for travel and provided pizza drew laughter. But this vignette highlights that digital volunteering forms another crucial pillar in cultural practices for initiating reuse as an alternative to the commercialisation of open data in the cultural sector. The hacking of heritage relies heavily on the commitment, expertise, and resources of the participants involved, often referred to as ‘civic hackers’ or ‘digital volunteers’ by the CDV organisers and the local computer club involved in my fieldwork (interview B. Fischer, 2015).

ZeitblickApp: ‘What the ‘hack’?’

In this spirit of fast prototyping, a variety of digital reconfigurations, so-called ‘born-digital’ or originally digital applications, as well as various re-translations into non-digital and performative cultural productions, are created, intersecting with maker cultures and other technology-oriented do-it-yourself cultures. But what can be considered a ‘hack’ in the context of the CDV hackathons? The mobile application ZeitblickApp for smartphones is one such example of hacking cultural heritage, which won the ‘Best of Show’ award at the 2016 CDV hackathon in Hamburg. While there are various categories at the awards ceremony that are mainly of technical or creative in nature, such as ‘Unusual Use of Data’, ‘Technical Achievement’, ‘Best Design’, ‘Most Playful’ (Geisler, 2017, p. 7), the question arises as to what constitutes a ‘hack’ in the context of open cultural data to achieve openness. This is of particular interest in the case of the ZeitblickApp, the winner of the CDV Nord, which quickly became ‘everybody’s darling’ at the hackathon (fieldnote CDV Nord, November 2016). I argue that the idea of a ‘hack’ goes beyond this technological understanding and will therefore be examined in this section.



Figure 8: Screenshot of the ZeitblickApp (in German)⁴⁹

The ZeitblickApp is a mobile application for smartphones developed by a team of four software developers, web designers, and data analysts as part of the first regional edition of the Coding Da Vinci Nord (CDV Nord) in Hamburg. As the winner of the CDV Nord, the app integrates data and information from the collection of the MKG, with a particular focus on historical portraits. At its core, the app works by prompting users to take a selfie, which is then matched using facial recognition technology to a portrait of their historical doubles in the MKG collection, ideally showing a resemblance to a historical self (see figure 8). Users can easily share their matched photos on social media platforms such as Facebook and Instagram with a single click. In addition, if users express interest, the app provides more information about the digital photo from the MKG collection and links to the museum's website (fieldnote CDV Nord, November 2016). As part of the demonstration at the CDV's award ceremony, the Zeitblick-App was even made available free of charge to iOS users, Apple's operating system for iPhones, and later to Android devices. The app was maintained by the development team in the major app stores for almost four years, until it was taken offline in 2020 (see further chapter 4.6).

The professional presentation at the award ceremony not only showcased a demo version, but rather a fully developed open source product with market viability in the major app stores that exceeded all expectations. In addition to its technical sophistication, the ZeitblickApp builds on the principles of everyday media practices, such as sharing cultures and matching of user images, and combines these with advanced technologies, including facial recognition techniques (e.g. recognition of rotation and smiles) and tagging for content recognition. This functionality bridges the gap

⁴⁹ Screenshot translated from German: 'Take a selfie and get a portrait from 200 years of art history. Smile and you'll be smiled at. Turn your head and discover more portraits. Learn more. Every photo has a story.' (see figure 8)

between open data and everyday communication practices, representing a hack that goes beyond a purely technology-oriented understanding of hacking (Murillo & Kelty, 2017). The positive feedback from bloggers reporting on the CDV Nord event underlines the effect of the app (cf. Trapp, 2016), and points to a third sustainability strategy of the discourse ethnography, which aims to enable users and their everyday uses of traditions and heritage, a category explored further in chapter 4.5.

4.4.4. Conclusion: From safeguarding heritage to popularising open data through remediation

In the spirit of ‘if you build it, they will come!’, the increasing availability of open data in the cultural sector has spurred the emergence of reuse as another important set of sustainability strategies for opening up the cultural sector through digitisation. This approach is characterised by an expanded use and remediation of open data, fostering increased collaboration between GLAM institutions, the digital economy, and creative industries, as well as digital artists, civic hackers, and civil society organisations such as the OKF and Wikimedia. Safeguarding practices are increasingly taking place outside the traditional confines of GLAM institutions, reflecting a shift towards the sites of digital production, a dynamic that is also exemplified by the Nefertiti hack vignette. In various fields – including digital art, the gaming industry, and social networks – numerous reuse initiatives are emerging, aiming at both institutional creative and commercial reuse in public-private partnerships. Cultural hackathons such as CDV serve as alternative approaches to the commercialisation of open data in the context of reuse in the cultural sector. These hackathons represent an emerging form of meso-level sustainability activity and an important contrasting example for the discourse ethnography, highlighting not only the technological and aesthetic principles of rapid prototyping and the role of popular culture, but also the role of civil society and the public good in the development of technology and the reuse of open data. What these three different reuse practices have in common, however, is that they use the internet and digital technologies to appropriate and remediate cultural heritage beyond the open data practices of traditional GLAM institutions, data aggregators, and open repositories (see chapter 4.3), thereby popularising and widening the distribution of cultural heritage beyond online collections and archives.

4.5. ‘Build genuine bridges with heritage!’: Enabling users and transdisciplinary collaborations with people and groups

In a manner reminiscent of the Nefertiti hack vignette, socio-cultural entrepreneur Mar Dixon emphasised the need to ‘[b]uild genuine bridges with heritage!’ during our conversation on the way to a social media workshop she held at the POEM project’s opening conference in Hamburg in December 2018. This discussion took place against the backdrop of the research project’s theme and rationale, as well as the earlier SharecareX conference in Hamburg titled ‘Opening up! Building Connectivity through Cultural Heritage’, which Dixon also attended in 2017. Her remarks underscored the vital role cultural heritage plays in the lifeworlds of contemporary societies (fieldnote POEM conference, December 2018).

The concepts of ‘open access’, ‘availability’, and ‘reuse’ explored in chapters 4.3 and 4.4 illustrate a significant conceptual shift in the context of digitisation: a shift from viewing audiences as recipients of curated heritage experiences and narratives to recognising individuals as (co-creative) ‘users’, whether this shift is welcomed or not. In light of digitisation, this shift raises important questions regarding cultural practices: How do ‘users’ interact with and navigate traditions and heritage in their everyday lives? What cultural knowledge do they consider worthy of safeguarding? And who qualifies as a ‘user’? In this context, *initiatives aimed at enabling users and transdisciplinary collaborations with people and groups* emerge as a crucial third sustainability strategy for fostering openness in the cultural sector – especially as digitisation continues to advance and expand.

While issues of participation and interaction in the cultural sector are not new in professional heritage work (see chapter 4.3-4.4), and have been explored in fields such as museology (cf. Kidd, 2018; Willim, 2017), digitisation introduces a crucial new dimension to the discourse and cultural practices associated with everyday life. Digitisation places the means and tools of cultural production in the hands of individuals and communities, as smartphones, social media, and digital tools have become increasingly ubiquitous. These mundane media practices are inherently shaped by individuals’ lifestyles, social contexts, personal perspectives, worldviews, and their membership in different social groups within the wider population. However, everyday interactions with cultural knowledge and traditions through digital media practices often remain less socially organised and less visible, typically manifesting as informal or amateur media arrangements (Lutz & Koch, 2017; Marttila & Botero, 2017). Drawing on the POEM project (Koch & Smith, 2025a), I refer to these practices as ‘everyday memory practices’ in digital media environments.

With this context in mind, this chapter presents two different sustainability initiatives that aim to enable users and their memory practices, expanding the concept of open data to a broader understanding of open knowledges in the plural in the cultural sector: First, it examines the initiative of community archiving on social media, illustrated by events such as the #AskACurator Day (#AAC) on Twitter. In this context, socio-cultural entrepreneurs seek to facilitate a dialogue between everyday users and experts from GLAM institutions about the importance and meanings of existing cultural heritage in everyday life (see chapter 4.5.1).

Second, a number of collaborative experiments rooted in action-oriented research and design anthropology have emerged in the field. These transdisciplinary research projects work closely with diverse and marginalised people and groups to explore and develop socially inclusive approaches to heritage designs and knowledge production within the cultural sector, moving beyond a pre-defined ‘canon’ of heritage knowledge and national grand narratives (see chapter 4.5.2). To illustrate these sustainability practices, I will analyse three empirical examples from design-anthropological and action-oriented research interventions in ‘participatory memory practices’, a concept borrowed from the POEM research (Koch & Smith, 2025). The first section will focus on two situated transdisciplinary research experiments in ‘dialogic curation’ (R. C. Smith & Iversen, 2014): the 2010 Digital Natives exhibition in Denmark and the 2018 FOLK exhibition in Norway. The second section will elucidate the relational approach to participatory memory practices developed in the H2020 European Training Network POEM (2018-2022).

In the conclusion (chapter 4.5.3), I will summarise the key findings on how users can be enabled through their everyday memory practices in digital media environments. This offers an important contrast to the sustainability strategies discussed earlier in my discourse ethnography (chapters 4.3-4.4), and underscores the potential of these enabling strategies to foster a more inclusive and dynamic cultural landscape based on pluralistic open knowledges.

4.5.1. Community archiving on social media

GLAM institutions have increasingly embraced social media to share heritage and engage audiences beyond their online collections, physical exhibition spaces, and exhibition catalogues. At the same time, community-archiving activities initiated by social and cultural entrepreneurs on social media have emerged in cultural practices, documenting everyday life and marking a significant shift in the participatory strategies of

professional heritage work outlined in chapter 4.3. A prominent example of community archiving is the #AAC Day initiative, launched in 2010, which has become a leading social media event in the heritage sector. Recent research in heritage studies highlights the crucial role of social media in contemporary participatory professional heritage and outreach work, while also adopting critical perspectives, particularly in relation to digital literacy and research into individual social media initiatives such as #AAC as a participation strategy for heritage work and outreach (cf. Arias, 2021; Kidd, 2018; Parry et al., 2018). Building on this foundation, this analysis examines the initiative through the praxeological lens of community archiving from a user perspective. It focuses on how the enabling of users and their everyday memory practices is initiated and the overarching principles of this sustainability initiative, rather than assessing the extent of ‘meaningful’ participation in cultural practices.

The #AAC Day is a global Twitter-based Q&A initiative, held annually in September, inviting users to ask curators, archivists, and librarians questions in real time around the theme ‘What would you ask a curator?’. Founded by Jim Richardson in 2010, the initiative has been significantly propelled forward by Mar Dixon since 2012. Over the years, #AAC has gained considerable popularity in the field and expanded into a global cross-media event, extending its reach to platforms such as Instagram, YouTube, and Facebook.⁵⁰

Similar to the reuse strategies discussed in chapter 4.4, community archiving involves the appropriation and playful experimentation with heritage materials in an easily accessible way on social media. However, unlike the creative reuse and hacking activities, which focus on fostering engagement with open data and links between GLAM institutions and digital artists, civic hackers, IT and creative sector professionals, this sustainability initiative emphasises everyday cultural understandings and communication, promoting interaction between social media users and heritage professionals:

Going to museums as a mum and what that meant for me was different than what museums thought it should be. And then social media happened. It was just a natural progression to move from an outdated website as such to Twitter and Facebook to engage with people [...]. I always say the platforms will change but the concept is always the same. Whatever you put into it you’ll get it. If you engage with the people you’ll get something out of it. [...] Thousands of people walk through their [museum] doors for whatever reason, but, yeah, they never engage in any kind of conversation. (Dixon, 2017, p. 42)

⁵⁰ As of 2022, the #AAC Day has been running under the new hashtag #AskAMuseum. The study at hand will refer to #AAC, as the data was collected in the time frame of 2014-2018 before this change (see chapter 3.2).

Through its efforts, #AAC seeks to stimulate dialogue and highlight individuals' relationships and experiences with existing heritage knowledge and traditions in everyday life, with the aim of making these everyday memory practices visible in professional heritage work. The initiative advocates for the multiple ways in which people engage with the past and cultural traditions, including those that are not conventionally referred to as 'heritage'. In this context, I will outline three principles of how community archiving is initiated in the context of the #ACC: 1.) Engaging with the sites of everyday communication and sharing cultures; 2.) Facilitating commonplace 'creativity' and humour as part of popular culture; 3.) Appropriating social media for community archiving.

First, community archiving through the hashtag #AAC serves as a means for users to make visible what they consider to be important cultural knowledge relevant to their lives. To open a heritage dialogue, the #AAC initiators have shifted to social media as sites of everyday communication with family, friends, and peer groups, allowing these media practices to expand into exchanges with heritage professionals. As Mar Dixon points out in the expert interview, 'without the museums and the public getting involved none of the hashtags will matter. So, for me, I can't take any credit for the hashtags, it is about the people who get involved.' (Dixon, 2017, p. 43) Through the hashtag, #AAC provides numerous opportunities for users to interact directly with participating heritage experts on social media, offering users an unprecedented level of access to cultural venues (p. 42). A practical approach for users is to post their question on the designated day using the #AAC hashtag:

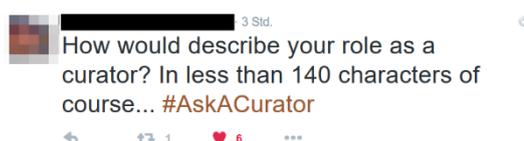


Figure 9: Screenshot of a user's tweet at #AskACurator Day 2016

To ensure that their questions reach specific GLAM institutions, users also tag the institution's Twitter handle, as illustrated in the #AAC guidebook (Richardson, 2021). Another way that users can connect with GLAM experts is by replying directly to tweets from heritage institutions and other users using the reply function, or by commenting on them via quote tweets. In this dynamic environment of sharing cultures, i.e. through actions such as posting, retweeting, tagging, liking, and commenting tweets, individuals are invited to contribute their ways of knowing culture, interests, and experience to the broader tapestry of sharing heritage within professional heritage work.

This brings us to a second crucial principle of community archiving in social media: the integration of an element of fun and a connection to everyday popular cultures are essential components of this sustainability initiative. Questions posed by users cover a wide range of topics, from inquiries about the profession of the heritage expert (see figure 9) to discussions about the social relevance of cultural objects housed in archives and collections. These questions also touch on the role and diversity of audiences, often with a touch of humour. As described in the guidebook for GLAMs on the initiative's website, examples of users queries include questions such as 'What does your typical day look like?', 'How are you making your museum relevant to young people?', and 'Which object would you use to explain humanity to Aliens?' (Richardson, 2021) Participants are also encouraged to ask questions about cultural knowledge in its broadest sense. The initiative invites contributions from a wide range of GLAM institutions, including not only prestigious national heritage institutions, but also smaller and medium-sized heritage institutions. In particular, in recent years, users have had the opportunity to direct their questions to cultural institutions such as aquariums, planetariums, and zoos. In this way, the #AAC initiative is primarily concerned with relating to social media users and their everyday memory and communication practices, where mashup cultures and humour play an important role (Bleicher, 2017; Schönholz, 2017).⁵¹

Third, community archiving on social media underlines the central role of socio-cultural entrepreneurs in managing and promoting the hashtag over the years, as well as in shaping digital initiatives within the cultural sector beyond the confines of GLAM institutions. The #ACC is thus not only an opportunity for heritage professionals to experiment more playfully with social media in professional heritage work contexts. The appropriation of social media platforms to facilitate these enabling strategies has also attracted the attention of various stakeholders, including major international technology companies such as Twitter. For example, as detailed in an interview with the art magazine 'Creative Review', Twitter recognised Mar Dixon's expertise in supporting another now trending hashtag in the GLAM sector, #MuseumWeek. In its formative stages, Dixon played an integral role in promoting this annual event week, providing valuable insight into the strategic planning and management of the week's hashtags (Sinclair, 2016).

⁵¹ To facilitate a humorous and engaging experience with museum objects, Mar Dixon created the hashtag #museum101 as another community archiving initiative on Twitter. The #museum101 hashtag encourages users, such as museum visitors, to share their reactions to the objects, including those that elicit an unusual response or 'freak you out', and to post a selfie or photograph of the object (fieldnote SharecareX, April 2017).

Through these efforts, socio-cultural entrepreneurs actively challenge the established norms and boundaries of GLAM institutions within the cultural sector. Mar Dixon and her activities embody this ‘outsider’ perspective; in her expert interview she aptly describes herself as a ‘troublemaker’:

I’m just a troublemaker, really! As an outsider, I’m really lucky that I get to challenge and push them [memory institutions] into a direction they probably feel uncomfortable with. But because I am not part of the sector they can’t fire me. [...] So, it’s a good advantage that I have. And I don’t have to worry about a step you don’t want to do as such. [...] But I am trying to push it, the staff, into a direction where ... the public already is there, the public don’t want to give up on museums. Museums and heritage sites need to stop looking at their clock because museums and heritage sites work at such a different time than everyone else! (Dixon, 2017, p. 45)

In line with Orvar Löfgren’s (2000) concept of ‘cultural innovators’ in chapter 4.2, socio-cultural entrepreneurs are at the forefront of pioneering new cultural practices through community archiving and digital media. In particular, by relating and appropriating digital principles of sharing cultures as an integral part of today’s everyday communication and popular culture, they create new cultural forms and activities that make use of existing heritage knowledge in the heritage sector. This approach not only disrupts traditional conventions in the cultural field, but also influences the digital industries through their dedicated sustainability efforts to enable everyday uses of cultural heritage and traditions on social media.

4.5.2. ‘Participatory memory practices’ for user and community engagement

In light of the intensifying crises and divisive societal developments that have accelerated across Europe in recent years (Eriksen, 2016) – including contemporary national movements and the polarisation of sustainability debates around issues such as climate change, forced migration, and the COVID-19 pandemic, to name just a few – several recent action and design-anthropological research efforts have directed their focus toward the politics of ‘sustainable’ futures in the context of collective memory making. These research agendas emphasise ‘participatory memory practices’ (Koch & Smith, 2025b) and prioritise the promotion of social inclusivity and diversity, while offering solution strategies for fostering openness in heritage work, particularly in light of the increasing digitisation within the cultural sector. The perspective of participatory memory practices, borrowed from the POEM research, recognises ‘the situatedness of memory making and the multitude of factors that influence the possibilities, meanings,

and outcomes of participation' (p. 3). This approach frames participation not as a uniformly shared concept, but as a complex object of study.

In this chapter, I will highlight two sustainability initiatives of 'participatory memory practices' (PMP) within the cultural sector that aim to enable people and groups in their everyday memory practices, while fostering participatory memory work in the heritage sector. These transdisciplinary enabling strategies include: 1.) The exploration of dialogic curation in museum spaces, approached both externally through initiatives such as the Digital Natives project and internally through the FOLK exhibition; and 2.) The presentation of the POEM project, which serves as a relational transdisciplinary research programme to participatory memory practices. Through these initiatives, I aim to illustrate how participatory memory practices can contribute to a more inclusive and dynamic cultural landscape. These sustainability practices provide another important set of contrasting examples in my analysis.

'Dialogic curation' and participation experiments in design anthropology

In the cultural sector, several research projects have explored 'dialogic curation' (R. C. Smith & Iversen, 2014) as a nuanced approach to enabling individuals and groups within professional heritage work. In contrast to heritage practices that primarily enhance existing collections and their visual representation through digital means, the authors argue for a holistic shift in curatorial practices towards transdisciplinary collaboration (p. 257). This shift redirects the focus towards the inclusion of underrepresented people and groups as 'co-creators' in the curatorial process, from the inception of the exhibition to its final presentation. Within this framework, museums and other GLAM institutions emerge as central spaces for conducting design anthropological research interventions with a focus on dialogic curation. Two notable recent research projects from Denmark and Norway emerge as significant examples that seek to integrate diverse voices and narratives into heritage discourse and practice:

An early example of the dialogic and collaborative approach to curation from the outside into professional heritage work can be found in the seminal work of Danish researcher Rachel Charlotte Smith and her collaborative design anthropology and exhibition experiment 'Digital Natives' (R. C. Smith, 2013). The interactive exhibition at the Aarhus Centre for Contemporary Art in 2010 was co-created over eight months by young people aged 16-19, interaction designers, museum curators, and cultural anthropologists. The design process and resulting exhibition were fundamentally shaped by the individual memory practices of these young participants, closely intertwined with

their everyday interactions with digital technology. As the authors point out in their paper:

Formal or authoritative knowledge about the theme of the exhibition was never the goal of exhibition design. Rather, fragments, possible connections and arbitrary meanings were ingrained in the actual installations and the materials presented. (R. C. Smith & Iversen, 2011, p. 15)

Internet-based communication media, especially social media, were thus an integral part of the interactive exhibition design at a time when Facebook was just getting off the ground. In particular, the teenagers' digital worlds were portrayed through their personal digital repositories, comprising user-generated content in the form of SMS messages, Facebook updates, photo galleries, and musical playlists.

Additionally, in the spirit of remix, mashup, and sharing cultures, audiences also played an important role as co-creators in curating their own in-situ micro-stories around the exhibition theme and heritage issues, as the researchers highlight in their project report:

The concern was no longer the museum's curated story to the audience, but rather the visitors' own stories, contributions, and reflections (to others) around the theme of the exhibition. [...] Simply stated, the exhibition was unfinished without visitors' active contributions and their engagement in connecting cultural heritage issues to their own everyday practices and points of view. (R. C. Smith & Iversen, 2011, p. 15)

Consequently, the dialogic curation experiment encourages everyday experiences and memory practices of young individuals and audiences to emerge in both the curatorial design process and as an integral part of the hybrid exhibition. In line with the authors' perspective, the design-anthropological intervention fundamentally challenges conventional institutional heritage work and predefined heritage knowledge, introducing a transformative influence from outside the heritage sector. It redefines the exhibition space, shifting it 'from a curated, highly facilitated and predictable experience to an emerging cultural space for collective interaction and dialogue.' (Iversen & Smith, 2012, p. 141)

In the context of promoting everyday heritage practices from within professional heritage work, it is noteworthy that GLAMs and their institutional heritage policies have recently become the focus of design-anthropological interventions and significant epistemological reflection. A compelling example of this shift can be found in the collaborative curation project associated with the exhibition 'FOLK – From racial types to DNA sequences' at the Norwegian Museum of Science and Technology

(NTM) in Oslo (Stuedahl et al., 2021).⁵² This initiative is an example of dialogic curation emerging from within the heritage sector itself rooted in internal museum practices, complementing the previous initiative Digital Natives.

In 2016, an interdisciplinary exhibition team consisting of science historians, curators, museum pedagogues, and other heritage professionals, along with an external exhibition designer, came together to curate the FOLK exhibition on scientific racism (2018-2019). The primary aim of the project was to critically examine historical underpinnings of the science of race, and to rethink the biased ideas that inform the museum's collections as part of its knowledge practices in this area. The development of the exhibition was accompanied by a series of three emergent and open-ended curatorial events starting in its early stages 'when both narratives and design were still unsettled' (p. 7). According to the authors, these events were instrumental in fostering transdisciplinary collaboration and co-production with other scholars, heritage professionals, activists, as well as indigenous and marginalised communities subjected to racial research in the past, and artists. The events acted as 'sensitizing devices' (p. 14), facilitating negotiations about the ethics and politics surrounding the exhibition's focus on racial science and contemporary understandings of such 'difficult' and 'dissonant' issues. Discussions included the role of racial photography as part of historical scientific practices, its representation within the exhibition, roundtable dialogues on meaning-making of identity, origins, and belonging in contemporary Norway, and perspectives on human diversity from contemporary biological, social, and cultural research perspectives.

According to the FOLK project report (Stuedahl et al., 2021), three analytical frames emerged as central to assembling knowledge pieces, as well as negotiating transformations and correspondences (p. 15), which in turn iteratively informed the team's dialogic curatorial practice and exhibition design. In their paper, Norwegian ethnologist and design anthropologist Dagny Stuedahl and her co-authors point to the transformative dynamics and potential of such a collaborative approach to heritage design in the context of major museum exhibition projects:

The fundamental reorientation that this shift [from interactions to correspondence (Ingold, 2017)] entails for curatorial thinking goes beyond merely adding the word collaborative and arranging open public events as part of the exhibition design. It includes re-adjusting all the professional, institutional and societal lines that curators adhere to [...]. (Stuedahl et al., 2021, p. 19)

⁵² See also the website of the FOLK exhibition: <https://www.tekniskmuseum.no/folk/en/> (retrieved April 27, 2025).

In this sense, the FOLK exhibition project highlights an important organisational dimension of the change processes initiated by dialogic curation: the epistemological implications and long(er)-term perspective of integrating everyday memory practices into institutional archives and collections, challenging institutional path dependencies in professional heritage work.

POEM’s relational research programme of ‘Participatory Memory Practices’

Given the proliferation of pioneering transdisciplinary dialogic curation projects, it is apparent that sustainability efforts in this field are scattered as individual research projects across different disciplines within the humanities and social sciences. In this context, I present a third empirical example of enabling strategies: the H2020 Innovative Training Network ‘Participatory Memory Practices’ (POEM) (Koch & Smith, 2025a). The POEM project takes a relational approach to exploring ‘participatory memory practices’ in digital media environments, with a particular focus on promoting social inclusion in heritage work and public memory, as the call for papers of the POEM 2018 opening conference made clear: ‘Being part of the public memory is crucial for envisioning positive futures, acknowledging people’s and groups’ history, identity, belonging, and membership.’ (POEM-ETN, 2018a, p. 1)

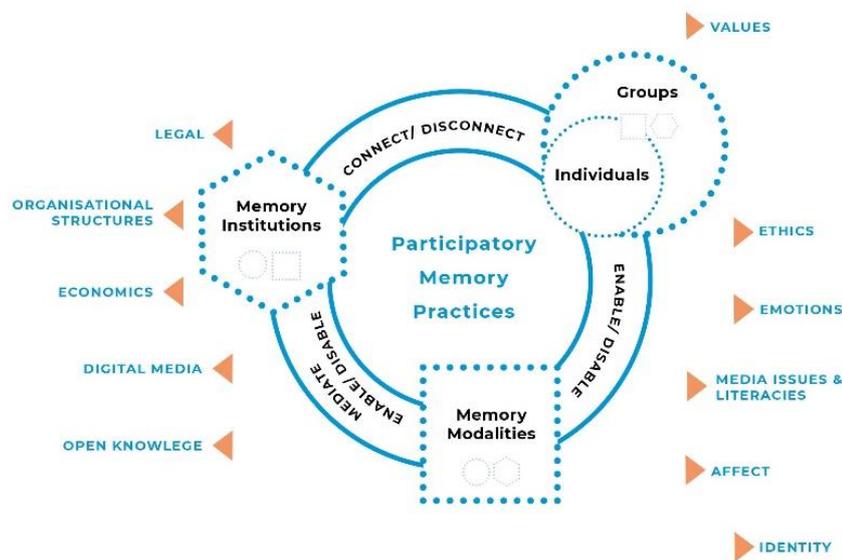


Figure 10: The POEM Model as a heuristic framework for PMP (Koch & Smith, 2025b, p. 7)

In order to reimagine and probe our relationships with traditions and heritage – both past, present, and future – the 13 research projects within the POEM project develop inclusive approaches to often contentious, contested, and silenced historical issues found in national ‘grand narratives’ and public memory in Europe and beyond. In

line with the heuristic framework of the POEM Model (see figure 10), the POEM research investigates participatory memory practices (PMP) from three distinct but inter-related angles, drawing on different disciplines and transdisciplinary approaches, as follows:

In the first work package titled ‘Connectivities built by memory institutions’, four POEM research projects aim to understand and enhance participatory memory practices within GLAMs, involving their audiences and stakeholders in professional heritage work. With museums as sites of co-creative potential and experiments in participation, the research projects study the expert knowledge and meanings associated with conducting participatory projects in museums (Zwart, 2023) as well as the formats and outcomes of participatory museum projects in response to forced migration to Europe (Boersma, 2022). Additionally, they explore the intricate processes and organisational frameworks impacting the interplay between social inclusion and the use of social media within the realm of professional heritage work (Kist, 2022). They also seek to illuminate the value associated with reusing digitised collection objects in professional heritage work (Mucha, 2022).

The second work package, ‘Connectivities built by people and groups’, focuses on enabling strategies in relation to personal participatory memory practices in everyday life and so-called pluriversal heritage designs in professional heritage work (R. C. Smith, 2022, p. 4). Specifically, these five action-oriented research interventions delve into how people and groups engage in personal memory practices through digital and social media, both within institutional and non-institutional settings. This includes the everyday (re-)use of institutional digital photographic repositories (Theocharidou, 2023) and the commemoration of the deceased in the digital realm (Widmaier, 2023). Furthermore, the research projects explore decolonial and pluriversal heritage designs in Namibia, Greenland, and Denmark, emphasising dialogic curation processes that integrate diverse perspectives and cultural representations of material, historical, and digital cultures (Chahine, 2022; Kambunga et al., 2021; Kambunga, Winschiers-Theophilus, & Smith, 2020). Additionally, young heritage perspectives and the educational potential of school memory work are examined (Moraitopoulou, 2023).

The remaining four research projects also investigate the digital ‘memory modalities’ (Koch, 2021a; Krueckeberg et al., 2025) that underpin enabling strategies (Work package 3). These technical infrastructures and digital qualities play a pivotal role in either facilitating or constraining processes of openness and participation within institutional and national heritage-making processes and in contexts of everyday lives. This encompasses scrutinising sociotechnical agencies and negotiations that unfold behind the scenes within GLAM institutions, encompassing aspects such as maintenance

and repair processes (Tran, 2022). Furthermore, the research delves into the impact of algorithms on the interplay between young people's personal memory practices and their engagement with digital media in their daily lives (Krueckeberg, 2022). Another project focuses on how people navigate their personal participatory ecologies in heritage work across diverse networks (POEM-ETN, 2018b). Additionally, the project explores models that promote democratic data governance and individual stewardship of open data and its reuse within the cultural sector (Tzouganatou, 2023).

In summary, the POEM projects and its transdisciplinary Community of Practice illustrate that enabling strategies to promote more open and socially inclusive potential futures within the cultural sector, and to reflect the complexities of contemporary democratic societies in the midst of digitisation, require a relational approach informed by heuristic frameworks such as the POEM Model (figure 10). This framework not only guides the exploration of participatory memory practices and the development of situated solution strategies for participatory memory work, but further research can also take the model forward in an iterative way.

4.5.3. Conclusion: From open data to open knowledges

With the call to '[b]uild genuine bridges with heritage!', a third sustainability strategy for promoting openness in the cultural sector emerges, aimed at enabling users and strategies that recognise and integrate everyday uses and relationships with heritage and traditions through digital media, which are seen as crucial parts of a vital transmission of cultural knowledge. Community archiving events on social media such as Twitter serve as a platform where socio-cultural entrepreneurs seek to actively engage GLAM institutions and users in a participatory dialogue about cultural heritage and traditions and their meanings in everyday life. In addition, several recent transdisciplinary research experiments within design anthropology and action-oriented research – including the Digital Natives project (2010), the FOLK exhibition (2018-2019), and the relational research programme of the POEM research network (2018-2022) – have explored dialogic curation and strategies for participatory memory work to engage marginalised individuals and groups and their everyday memory practices, particularly in relation to the context of racism, postcolonial debates, young people's perspectives, issues of forced migration, as well as the ways in which we remember in the realm of everyday digital media practices. The exploration of 'difficult' and 'dissonant' traditions (Macdonald, 2009a), as also exemplified by the Nefertiti hack vignette in the con-

text of postcolonialism, offers important opportunities and entry points for transdisciplinary and relational sustainability activities that promote open knowledge(s) in the cultural sector.

Taken together, the examples of enabling strategies of community archiving and participatory memory work therefore provide an important contrast to the sustainability strategies that are emerging in the field beyond institutional efforts to open data (see chapters 4.3-4.4). They reorient the focus from a pragmatic perspective that emphasises the provision and reuse of open data made available by GLAM institutions to diverse lifeworlds and a more nuanced understanding of open knowledges in the plural. This approach highlights the micro-level dynamics of ‘users’ actively engaged in their everyday memory practices in and through digital media and platforms. Collectively, this set of practices of enabling everyday uses of the past to varying degrees seeks to promote a more inclusive and responsive understanding of heritage and traditions in situated contexts – one that values a multiplicity of narratives and perspectives on the past, present, and futures in public memory in Europe and beyond.

4.6. Emerging sustainability issues and conflicts in pursuing openness in cultural practices in the context of digitisation

The provision of relevant heritage materials to a wider range of individuals and groups is essential for the promotion of social and cultural life and serves as a hallmark of open societies in which the cultural sector plays a crucial role. In this context, the opening up of cultural heritage materials on a broader scale to people and groups contributes significantly to identity-building processes and reflects a shared consensus and boundary object among various sustainability strategies at different societal levels, including open access, reuse, and enabling user perspectives (see chapters 4.2-4.5). However, the digitisation of heritage materials is not without its challenges and the promise of open knowledge is not easily realised within cultural practices. The vignette discussing the Nefertiti hack at the beginning of chapter 1 illustrates the barriers to implementing open data in the heritage sector. Beyond the complexities surrounding the contemporary presentation of ‘difficult heritage’ in relation to colonialism, the artistic intervention raises broader questions about how open and free access to the bust of Nefertiti is in the face of digitisation. While the bust can be viewed in the exhibition halls for an entrance fee, photography is not permitted for museological reasons, and digital images can be purchased for reuse (fieldnote SharecareX, April 2017). These pragmatic negotiations over access to heritage reveal ethical considerations that challenge the openness and vitality of contemporary sustainability strategies in the cultural sector.

This sets the stage for the second part of the discourse ethnography, which focuses on emerging sustainability issues and conflicts in the pursuit of openness in the context of digitisation. Against this backdrop, chapter 4.6 will examine the ethical issues arising from the pragmatic negotiations involved in opening up of the heritage sector, particularly in relation to my fieldwork on institutional digitisation projects and the reuse of open data (see chapters 3.2 and 4.3-4.4). From a praxeographic perspective, this analysis will explore emerging contestations, paradoxes, and pitfalls that arise from the interplay between discourse and cultural practices, as well as between the three sustainability strategies introduced in the first part of this discourse ethnography. The design-anthropological and action-oriented research experiments presented in chapter 4.5 illustrate the complexities involved in enabling users and their everyday memory practices in the cultural sector. While the difficulties faced by these initiatives are not the focus of the analysis that follows, they implicitly inform both the analysis through my positioning and participation in the POEM project (see chapter 3.3).

Exploring ‘differences’ and divergences in how open knowledge is realised and practised in the cultural sector will be guided by the following research questions:

- What pragmatic negotiations emerge in professional heritage work in the face of increasing digitisation? How do OpenGLAM institutions reflect the diverse experiences of individuals and groups in their digitisation and open data efforts?
- What challenges, problems, paradoxes, and conflicts arise in cultural practices related to digitisation and open knowledge at the meso and micro levels?
- What gaps exist between discursive practices and non-discursive practices in the field?
- What issues of sustainability in terms of cultural vitality and openness emerge from these pragmatic negotiations?

Based on the findings of my fieldwork in relation to the three identified sustainability strategies, this study identifies ethical negotiations in three key areas of contention relevant to meso- and micro-level activities within cultural practices. First, the sustainability strategies adopted by OpenGLAMs to promote open access and availability are under considerable pressure to justify the value of their open data initiatives, with issues of social impact measurement emerging amidst a reuse gap in open data (chapter 4.6.1). Second, as OpenGLAMs increasingly seek to promote the reuse of open data, they must navigate emerging distributional conflicts arising within the context of public-private partnerships and interactions between the IT and creative sectors in cultural practices (chapter 4.6.2). Third, enduring issues of authority over cultural heritage continue to pose significant barriers to open access in the cultural sector. Chapter 4.6.3 examines how the lack of dialogue and reciprocity often hinders the integration of meso-level initiatives into professional heritage work. In the conclusion of this section (chapter 4.6.4), I will summarise the key findings related to these areas of tension and the fundamental ethical questions of sustainability they raise about how we should remember the past and transmit our cultural legacies and traditions in evolving digital media environments.

4.6.1. Reuse gap: Pressures for exploitation and justification of open data in professional heritage work

The question ‘Open data – now what?’ (SharecareX, 2019) has emerged as a central concern within the GLAM sector, encapsulated by the theme of the 2019 Sharing is Caring conference in Stockholm. This theme, ‘Open data – now what? Applying principles of openness and collaboration in strategy and practice’, along with the practices

analysed in chapters 4.3 to 4.5, underline that the discourse on open knowledge has become an integral part of GLAM institutions and their participatory approaches. However, the more pressing issue remains: how should we engage with the vast amounts of digitised heritage materials that are now freely available as open data? Despite notable efforts by OpenGLAM institutions to ensure that societal development divorced from the histories and legacies of the past, traditional preservation practices – including collecting, preserving, and curating – do not translate seamlessly into the digital realm. As a result, the institutions often find their open data initiatives caught up in pragmatic negotiations that can leap right to logistic problem-solving. My research reveals that this phenomenon reveals a significant reuse gap in cultural practices, suggesting that these pragmatic negotiations are closely linked with overarching sustainability challenges related to social relevance and productivity. This can be observed in the following areas.

More specifically, in professional heritage work, a notable example of the difficulties associated with making open data freely available online is in the area of copyright, particularly in relation to orphan works. Heritage professionals tend to focus their problem-solving efforts on achieving legal clarity, recognising that the digitisation and dissemination of open data in the cultural sector involves extensive efforts to identify the rights associated with works whose ownership is unclear, and to determine whether such works can be digitised and made publicly accessible, as Antje Schmidt (2017a) points out in her project report. A number of scholars and heritage professionals have highlighted the complexity of copyright law as a significant barrier to open access. In their view, the result is that cultural artefacts from the last century remain inadequately represented in digital formats due to copyright restrictions (Sanderhoff, 2014; Tanner, 2016; Wallace & Deazley, 2016b; Wallace & Euler, 2020).

In addition, the digitisation and making available of open data in the cultural sector requires significant resources to digitally index objects in archives and repositories. Smaller GLAM institutions, such as the City Archive of Speyer, which operates with the support of volunteers and was featured at the CDV hackathon in Berlin in 2015, are often overwhelmed by the organisational, financial, staffing, and technological demands required for comprehensive digitisation. GLAM institutions are often dependent on public funding or private investment, which makes long-term planning and strategic alignment of (raw) digitisation initiatives within the often fluctuating parameters of funding periods difficult. These challenges are compounded by ongoing technological negotiations around data quality and issues of digital literacy in cultural practices. During the CDV hackathon in 2015, our team invested considerable effort in making the archive's datasets machine-readable to facilitate the viewing of digitised

slides and the development of a collaborative project at the kick-off event (fieldnote CDV hackathon, April 2015). Inconsistent naming conventions required manual standardisation by team members and much of the metadata, including location and dates, was handwritten on the slides, reflecting wider issues of digital literacy. To address these barriers the CDV hackathon series set up pre-event consultation hours for GLAM institutions to improve their dataset preparation in the hackathons that followed. The quality of (meta)data is crucial for fostering communities of practice and enabling rapid prototyping, as discussed in chapter 4.4.

My fieldwork shows that rapid prototyping involves significant translation and volunteer work in (meta)data management and maintenance. In this context, data literacy has become a new requirement for OpenGLAM institutions, as it is regarded as a key skill in facilitating the reuse of digitised cultural materials. Technological solutions are becoming increasingly advanced at a political level, with initiatives such as the CDV pre-workshops aligning with broader transnational cultural policies. Notably, the 2021 Declaration of Rome by the G20 group of ministers of culture, representing the world's largest economies, endorses data literacy as a means 'to unlock the value of open data' (UNESCO, 2021) and to promote accessibility to culture. Data literacy is seen as a way of addressing the growing digital divide 'that has been worsened by the COVID-19 pandemic' (UNESCO, 2021).

Furthermore, the experiences of OpenGLAM institutions, which are pioneering comprehensive open data policies in professional heritage work, highlight additional structural barriers embedded in cultural policy. At the 2017 SharecareX conference in Hamburg, an expert from a European OpenGLAM institution humorously noted that she was considering re-digitising the digitised collections of the museum she works for. She attributed this to the fact that funding is primarily allocated to initial digitisation efforts, rather than to the preservation and maintenance of already digitised materials (fieldnote SharecareX, April 2017), illustrating a critical structural challenge within cultural policies in the midst of technological advances.

Transferring preservation strategies to the digital realm is far from straightforward. GLAM institutions face a number of significant challenges – legal, technological, organisational, and structural – as they seek to improve access to and availability of open data. This inclination towards logistical problem-solving is understandable, given the pressing obstacles the heritage sector faces in its ongoing digitisation efforts. However, as GLAM institutions increasingly prioritise pragmatic approaches to implementing and regulating open access, I argue that they are under increasing pressure not only to use and exploit the vast amounts of open data they generate, but also to justify its value, revealing a significant reuse gap in cultural practices.

In the cultural sector, discussions on accessibility are closely intertwined with issues of usability. The reuse initiatives outlined in chapter 4.4 illustrate that open data does not inherently facilitate productive use in everyday contexts; successful engagement necessitates dedicated efforts to popularise and contextualise this data within cultural practices, as exemplified by cultural hackathons and initiatives focused on developing public-interest technology. The prominent saying ‘if you build it, they will come!’ suggests that these initiatives of reuse can be viewed as development strategies that prioritise dissemination and use of open data over mere accessibility or comprehensive digitisation. This emphasis by OpenGLAMs on regulating open access raises critical questions about the usability and value of the data they provide, particularly concerning cultural vitality and openness.

While digital interactions expand the scope of professional heritage work, it is important to acknowledge a gap between everyday memory practices and institutional approaches to open data in digital media environments. Engagement on popular social media platforms reveals the cultural productivity of media amateurs and the topics they deem worthy of sharing with their friends, family members, and followers. Initiatives such as the *ZeitblickApp* or the #AAC Day seek to bridge this gap by linking to sites of everyday communication and cultural production (see chapters 4.4-4.5). For instance, in the expert interview, Mar Dixon (2017) observes that professional heritage work appears to operate ‘at such a different time[scale] than everyone else!’ (p. 45), failing to keep pace with technological change and necessitating institutions ‘to stop looking at their clock’ (p. 45). Individuals’ interactions on social media raise pertinent questions about why they are so active in media practices in these areas while remaining relatively unresponsive to the engagement initiatives of OpenGLAMs, data aggregators, and digital repositories.

Furthermore, the increasing pressure to use open data is accompanied by a growing need for GLAM institutions to justify their open data actions and initiatives, especially as the volume of digitised material and open data continues to grow. With the rise of open data, heritage institutions face increased scrutiny in terms of their social impact. Funding bodies increasingly demand demonstrable and measurable outcomes from digitisation efforts, as evidenced by the conference theme ‘Digitisation and Social Impact?’ at the *Sharing is Caring* conference in Aarhus in 2017 (Sharecare, 2017). This event highlighted the urgent need for OpenGLAM institutions to establish evaluation frameworks and measurable metrics in response to requests from sponsors and funders. The formation of a Europeana Task Force on Social Impact Measurement and the publication of an *Impact Playbook* as a GLAM toolbox is an example of these emerging

developments, promoting audit and impact assessment practices within the GLAM sector (Sanderhoff, Fallon, & Verwayen, 2017). In addition, the publication of the EU Impact Factors (van den Besselaar, Flecha, & Radauer, 2018) within the framework of Horizon Europe further emphasises that as digitisation progresses and open data becomes more widespread, questions of societal relevance and productivity – particularly in relation to cultural knowledge as a valuable resource – are becoming increasingly important within the cultural sector. Initial efforts by OpenGLAMs and related fields such as digital humanities, museum studies, and digital heritage studies have begun to explore social impact measurement as a means of demonstrating their social relevance and informing contemporary digitisation practices in the cultural sector (Damala, Ruthven, & Hornecker, 2019; Economou, Ruthven, Galani, Dobрева, & Niet, 2019; Tanner & Deegan, 2013).

4.6.2. Conflicts over distribution of open data in the context of public-private partnerships

After four years of running the ZeitblickApp, the development team announced on Twitter in August 2020 that they would be removing the mobile application from the App Store by the end of the month. This decision prompted the MKG in Hamburg to extend its support, as the museum's online collection of historical portraits had served as data provider and basis for the application, which was originally created during the CDV Nord in 2016 (see chapter 4.4.3). However, despite the museum's prompt offer of support, the personal commitment and effort required by the team of digital volunteers to independently maintain the open source app in their spare time had become increasingly time-consuming. In response to the museum's request, the team said that after four years of dedicated work, they were ready to move on, leading to the decision to take the mobile application offline (Twitter log, August 2020).

Building on the ZeitblickApp vignette from Twitter mentioned above, this chapter explores the differences and discrepancies that arise between the discourse and cultural practices within the cultural sector regarding sustainability strategies related to the reuse of open data (see chapter 4.4). Contrary to the promise of 'if you build it, they will come!', numerous 'hacks' and open source developments find it difficult to find their way into professional heritage work. Despite winning the Best of Show Award at the 2016 CDV cultural hackathon and being frequently cited as an example of best practice by advocates of OpenGLAMs and open knowledge, my fieldwork suggests that examples of reuse such as the ZeitblickApp are often the exception rather than the rule. In many cases, these digital developments remain at the alpha prototype stage, not fit for

public use, with their code stored in open source infrastructures such as the CDV repository or GitHub, allowing for potential reuse and further development by others.

This example from the CDV hackathon highlights the underlying conflicts over the distribution of investment returns in the context of these sustainability strategies, emphasising that such returns may not always be monetary in nature. My fieldwork reveals two different types of distributional conflict. The first is between the heritage sector and the IT and creative sectors (see chapter 4.6.2.1), while the second relates to the horizontal conflicts over access to public funding for open data and hierarchies that arise within the IT and creative sectors themselves (see chapter 4.6.2.2).

4.6.2.1. Distribution conflicts between the cultural and economic sectors

In March 2017, the German Federal Ministry for Culture and Media (BKM) announced the allocation of substantial funding – 460,000 euros over two years – to ‘bpk Bildagentur’ (bpk), part of the Stiftung Preußischer Kulturbesitz (Prussian Cultural Heritage Foundation, SPK). This image payment platform was designed to facilitate the economic reuse of digital heritage material. The BKM’s goal was to transform this institutional platform into a national marketing platform, thereby streamlining the dissemination of open data for the cultural and creative industries. In addition, the BKM’s press release stated that this initiative was in line with the principles of open knowledge and aimed to improve public access to and recognition of cultural heritage on a wider scale (Presse- und Informationsamt der Bundesregierung [BPA], 2017). However, critics quickly took to Twitter to rally support and solidarity from international open knowledge advocates across the OpenGLAM and civil society sectors, resulting in a significant Twitter outcry in the days that followed. I was alerted to this development by a collective message on Twitter from a heritage professional, a research participant expressing her disbelief and disappointment at the funding decision. The author and other recipients of the message, including those from international contexts, expressed concern that the German government’s actions contradicted the fundamental principles of the public domain and open knowledge approaches in the cultural and scientific sectors – principles supported by major national and supranational institutions, including the German Federal Government and the European Commission (Twitter log, March 2017).

While the German government’s initiative recognises the role of the economic sector in the reuse and dissemination of cultural knowledge, representatives of OpenGLAM institutions, both in Germany and internationally, have expressed concern about the funding decision for the bpk image platform. Critics argue that this decision contradicts the principle of open knowledge. In particular, some have articulated moral arguments emphasising that ‘what is public should remain public’, especially in relation to the digitisation of copyright-free heritage material. Influential voices within the GLAM

sector perceive these political and practical moves as infringements of the public domain doctrine in the cultural sector. In a similar vein, in the MKG's project report, Antje Schmidt underlines this perspective, stating that:

[...] But more importantly, the legal concept of the public domain is also violated by restricting access to digital reproductions of artworks and objects that are already in the public domain. We [in the MKG] asked ourselves why museums that seem to be very concerned about the distribution of their digital images in terms of moral aspects often violate the concept of the public domain by claiming copyright over an automated scan of an out of copyright artwork. (A. Schmidt, 2017a, p. 33)

In addition, the author of the collective Twitter message highlighted another paradox in this situation. More specifically, the DDB, which acts as a national data aggregator in cooperation with national GLAM institutions such as the SPK, provides the (meta)data for the same images under a Creative Commons Zero licence (CC0). As a result, these digital images are freely available for commercial reuse on the DDB platform. In contrast, these same images are available for purchase on the publicly funded bpk image platform, illustrating a notable discrepancy in cultural practices regarding access to heritage materials (fieldnote bpk, March 2017).

Beyond the introduction of fees and new legal frameworks such as intellectual property rights, my fieldwork also reveals several challenges and inconsistencies in the pursuit of open knowledge, particularly in relation to data quality and digital aesthetics. For example, GLAM institutions may provide open data with reduced image quality, using measures such as pixelation or offering low-resolution images as protective measures. At the SharecareX conference in Hamburg, legal scholar Andrea Wallace gave a keynote address about the 'Display At Your Own Risk' (DAYOR) research-led exhibition project, noting these practices and arguing, that while such countermeasures are intended to protect cultural property, they paradoxically inhibit detailed examination and regulation of heritage through open access (cf. Wallace & Deazley, 2016a). As shown in chapter 4.3, high image resolution is often emphasised as a critical factor in ensuring greater control over the distribution of digital resources, while at the same time reinforcing the authority and social relevance of GLAMs in the context of digitisation.

While the criticism of legal regulations and restrictions on open access is reasonable given the extensive digitisation and open data initiatives undertaken by GLAM institutions, I argue that the bpk vignette reveals a more profound conflict regarding the distribution of investment returns from open data between the cultural and economic sectors. This conflict manifests itself in two significant ways, highlighting ethical negotiations about sustainability that are closely intertwined with socio-economic dimensions within the cultural sector.

On the one hand, OpenGLAM institutions consider heritage materials as part of their cultural assets, raising critical questions of ownership and cultural property in the field of open knowledge and professional heritage work. These institutions have made considerable efforts to secure public funding and to digitise cultural heritage to make it accessible online. However, the ongoing debate within the OpenGLAM sector and professional heritage work in general places more emphasis on the indirect and symbolic benefits of investing in open data. As outlined in chapter 4.3, these benefits include preserving heritage for future generations, increasing visibility and accessibility, encouraging greater user participation, and providing educational benefits, all of which are seen as contributing to greater openness in the heritage sector through digitisation. This raises a crucial question for OpenGLAMs: what is the rationale for making heritage freely available if parties outside the GLAM institutions benefit financially from commercialisation of open data? This is a question that researchers have begun to address for the cultural sector, and increasingly for other sectors (cf. Axelsson, 2019; Koch, 2017, 2021a; Tzouganatou, 2023).

On the other hand, the financial viability of creatives and IT developers who have their own commercial interests in open data is equally important. This tension was illustrated during my fieldwork at the 2015 CDV hackathon in Berlin, where I witnessed a conversation between a self-employed participant and one of the organisers. The participant expressed enthusiasm for using a dataset from an OpenGLAM institution for a pre-developed image application, seeing it as an ‘ideal’ fit and content for his commercial venture. However, the organiser rebuffed this request, invoking the increasingly common phrase ‘what is public should remain public’, a phrase I first encountered at the hackathon (CDV fieldnote, April 2015).

While the CDV organisers argue against the use of open data in proprietary applications and aim to provide an alternative to the commercialisation of open data in the professional heritage work, this vignette highlights the challenges and limitations that digital volunteering faces in promoting the open source ethos in the cultural sector. Civic hackers invest considerable effort and personal agency in digital volunteering to support GLAM institutions in their digital transformation and to experiment with their datasets for reuse. However, it is evident that communities of practice among civic hackers often disband after the hackathons, with participants redirecting their focus to their individual livelihoods and projects. As mentioned above, many CDV projects often remain in the early prototype and demo stages, with many ideas for further development unrealised. The *ZeitblickApp* vignette further illustrates this dynamic (see chapter 4.6.2). In essence, a crucial factor in digital volunteering is the flexibility to find synergies between individuals’ professional roles and their volunteer work. The

lack of resources and support from GLAM institutions and policy makers proves to be a significant barrier to developing promising prototypes into viable open source solutions within the cultural sector.

4.6.2.2. Distribution conflicts and hierarchies within the IT and creative sectors

At the open data conference ‘Forum Offene Stadt (Open City Forum)’ in Hamburg in 2017, I attended a series of public talks and workshops dedicated to open data and urban development, organised by the local civic hacker club Code for Hamburg e.V. (Code for HH), in collaboration with the OKF in Germany and the Körber-Stiftung in Hamburg. During this event, I met a research participant from the 2015 CDV hackathon in Berlin, as well as another participant who is also an organiser of the same event. In a conversation that arose during a presentation we attended at the event, my research participant shared insights into her current film project focused on open knowledge and free cultures, which had initially inspired her to participate in the 2015 CDV hackathon for gathering materials for her film. As an independent filmmaker and open knowledge advocate, she articulated the challenges she faces in securing public funding from digitisation and open access available to the local cultural sector in Hamburg. She contended that these funds primarily focus on promoting digitisation and open access to heritage and education, as well as promoting ‘gamification’ in the cultural sector. In light of these challenges, she expressed her intention to launch a crowdfunding campaign to realise her film project and ensure that it is freely accessible online, which is uncommon in the film industry (fieldnote Forum Offene Stadt, March 2017).

In addition to ethical negotiations regarding the allocation of revenues between the economic and cultural sectors, the vignette sheds light on the horizontal distributional conflicts over access to public funding for open data initiatives, highlighting hierarchies that exist within the fields of IT and creative industries themselves. Against this background, this chapter seeks to highlight two key facets of horizontal distribution conflicts within these sectors.

First, there are distributional conflicts over access to public funding, characterised by different levels of social organisation in relation to the degree of institutionalisation and recognition of qualifications. In relation to the notion of ‘gamification’ mentioned in the vignette, the informant highlighted the challenges associated with public funding schemes, which often favour public-private partnerships with the IT and digital industries in the cultural field. This preference has become increasingly prevalent in public budgets, where proprietary solutions are favoured over open source alternatives, as Anke Domscheit-Berg (Buschert, 2024), a member of the Bundestag from the Left Party, recently pointed out. This tendency is also prevalent in the cultural sector as underlined by regional initiatives such as Hamburg’s eCulture Agenda 2020 and

broader supranational programmes such as Creative Europe and Horizon 2020 (see chapter 4.2). In contrast, many of the working cultures and processes of knowledge production in the cultural sector are predominantly characterised by freelance working cultures and agile networked socialities and communities of practice that include IT experts, digital artists, digital publishers, and data analysts engaged in civic activities, a finding supported by my fieldwork at the CDV hackathons (see chapter 4.4) and previous research (cf. Kelty, 2008; Murillo & Kelty, 2017; Oechslen, 2023). These environments also often rely on amateur arrangements involving many hobby developers who, despite their valuable contributions, lack formal IT qualifications. As a result, these individuals often find themselves marginalised in the complex landscape of public funding opportunities to develop open source software. Given these structural challenges, sustainability initiatives such as cultural hackathons and the concept of digital volunteering face significant obstacles from large technology companies driven by the prospect of higher direct returns on investment. This competitive environment undermines the potential for grassroots efforts and socio-cultural entrepreneurship to secure the necessary resources and support.

Taking this into consideration, solution strategies are emerging in cultural practices at the meso level, with the goal of addressing the distributional conflicts observed in the field. Beyond significant individual solutions, such as the formalisation of the local computer club as an association in Hamburg (formerly OKLab HH) or the launch of a crowdfunding campaign for open access projects in the cultural sector, a more strategic effort has emerged in the context of the Prototype Fund (fieldnote Forum Offene Stadt, March 2017). The OKF has launched a funding initiative for public-interest technology, which has been financially supported by the German Federal Ministry of Education and Research (BMBF) since 2016. The Prototype Fund, as it is called, aims to provide seed funding of up to 47,500 euros for projects led by communities of practice consisting of civic hackers, designers, and socio-cultural entrepreneurs in Germany. By December 2021, the Prototype Fund had provided 10 million euros to support a total of 248 projects, with the initiative set to continue through 16 funding rounds until 2024. Recognising that the development of prototypes for open source software requires substantial resources and that self-employed creatives deserve fair compensation for their expertise and investment (see chapter 4.6.2.1), this public funding scheme is designed to support independent coders and ICT designers working either alone or in small teams within interdisciplinary networks, even if they have no institutional affiliations, (public) legal entities, or formal academic qualifications in this area. According to the initiative's website, the programme features a non-bureaucratic application

process tailored to the needs of self-employed individuals and includes coaching programmes to help them develop sustainable business model for their proposed open data projects. As a result, the OKF's approach creates a vital support structure for meso-level networked socialities, particularly in the creative and IT sectors that promote technology in the public interest.⁵³

Second, there are horizontal distributional conflicts in the creative and IT sectors that cut across different knowledge domains and areas of expertise regarding the specific types of knowledge that are in demand and valued. As highlighted in the vignette from the Forum Offene Stadt above, the emphasis on open knowledge and digitisation in the cultural sector often focuses on coding and cultural practices of fast prototyping involved in developing digital products and services for sectors such as heritage, education, and science. While there are notable exceptions in other cultural fields emerging – such as the example of film and open access in the vignette – these represent less common practices and do not represent the prevailing norm in the field. In a similar vein, Mar Dixon's reflections on the remix event of the 'Open Community Lab' in the interview highlight that reuse and the popularisation of heritage requires expertise beyond mere coding skills. She said: 'We call it a remix rather than a hackathon so it is not just about coding. [...] We wanted a variety. So, you don't want a team of just coders. We want people who bring in the fun element, the family element or the graphic designer element.' (Dixon, 2017, pp. 43–44) My fieldwork at the CDV hackathon from 2015 to 2016 echoed this sentiment, revealing that teams with diverse expertise beyond technology backgrounds were relatively uncommon, although so-called 'cultural geeks' were more than welcomed.

⁵³ Furthermore, the Prototype Fund conducts accompanying research to develop its activities and investigates technological trends. Following its evaluation in 2024, the funding instrument was extended until 2029 and is undergoing further development. For more information, see the website: <https://prototypefund.de/en/the-prototype-fund-is-going-strong/> (retrieved April 27, 2025).

4.6.3. Prevailing authority conflicts in open data and the challenge of reciprocity

During my fieldwork at the CDV hackathon in Berlin in 2015, the preparation of the municipal archive dataset took a considerable amount of time during the kick-off event. As a result, my team struggled to fully explore the dataset and generate ideas for a collaborative project to be implemented in a decentralised manner during the sprint phase before the awards ceremony. However, we were able to gain some initial insights from the set of digitised slides on the second day. While delving into the dataset, one team member interrupted an archivist who was trying to provide context for a particular photograph. The professional was expressing her fascination with the convolute and explaining how, from her professional perspective, it could be used ‘correctly’. However, our team member intervened, signalling that it was now our turn to take the lead in experimenting with the data from the archive (fieldnote CDV hackathon, April 2015).

User involvement and participation are central arguments in the discourse advocating significant efforts to promote open access and availability of open data in the cultural sector (see chapter 4.3). In cultural practice, however, the sharing of authority in professional heritage work seems to remain a challenge. The vignette illustrates the tensions that can arise between heritage professionals and hackathon participants as they negotiate the delicate balance between expert guidance and the need for creative exploration and autonomy throughout the project development process. My fieldwork has revealed a notable lack of reciprocity and dialogue between the hacking activities and professional heritage work, which emerges as a more subtle but profoundly influential issue in the field. This discrepancy poses a significant challenge to the sharing of authority for the various sustainability practices outlined in the first part of chapter 4 (see chapters 4.4-4.5) – a challenge that, while not new, is increasingly persistent and that I have encountered in different situations in the field. Nevertheless, I argue that this lack of reciprocity is leading to meso-level activities moving away from the cultural sector.

In cultural practice, there seems to be a growing sense of frustration among civic hackers and hackathon organisers. My fieldwork suggests that the contributions of digital volunteers often go unrecognised by heritage professionals, academics, policy makers, and funding bodies, who may hold a somewhat optimistic belief that ‘if you build it, they will come!’. This viewpoint seems to contrast with ongoing discussions in the field, which emphasise a service-oriented approach among GLAM institutions participating in the hackathon. In a conversation after the CDV Nord 2016 with a civic hacker and participant involved in the CDV hackathon, it was shared that many hackers feel that they are being used as a free resource and service in processing and enhancing GLAM datasets to make them machine-readable for potential reuse (fieldnote CDV Nord, April 2017). This sentiment is further supported by a statement in the list of

frequently asked questions on the CDV website, which emphasises the need for institutional commitment from participating GLAMs. The statement advises: ‘Be aware that participating as a data provider requires a certain level of commitment. Both the preparation and the sprint phase – the time between the kick-off and the award ceremony – are time-consuming. But it is worth it!’ (CDV, 2025)⁵⁴ This conveys the idea that the active engagement of GLAM institutions is essential, not only to recognise the valuable contributions of civic hackers, but also to provide the necessary support for collaboration and its integration in professional heritage work.

The challenge of digital literacy is undeniably significant in the field of professional heritage work, as highlighted by researchers in the field (Parry et al., 2018; Tran, 2021). Although some frustrations associated with this challenge have led to constructive adjustments to the CDV hackathon format – including the introduction of pre-workshops and drop-in sessions to allow heritage professionals from OpenGLAMs to prepare their datasets – there is an urgent need to address the deeper issues of reciprocity and capacity for meaningful dialogue raised by these pragmatic negotiations on the ground. This need is increasingly recognised in EU reports, which increasingly address conflicts over authority, shaped by fears of loss of control by professional heritage work, as a barrier to open access (Wallace & Euler, 2020, p. 837).

My fieldwork suggests that this lack of reciprocity not only leads to dissatisfaction among participants, but also drives civic hackers and open data activists to redirect their efforts to areas outside of heritage and open data. These areas may offer more opportunities, which are not primarily motivated by financial considerations per se. Despite the successful reception of the 2016 CDV hackathon in Hamburg, the organising team decided not to pursue the original concept for a follow-up event, resulting in the 2017 hackathon returning to Berlin before continuing its journey across Germany (fieldnote CDV Nord, April 2017). While varying degrees of involvement and collaboration for limited periods of time are inherent characteristics of communities of practice (Lave, 2019) – as seen with the local CDV organising team in Hamburg – this decision not to pursue a follow-up hackathon also reflects the reality that team members must navigate the balance between their participation in these initiatives and their need for financial stability (see chapter 4.6.2).

In the field, this tension is further illustrated by the shifting focus of open data events towards local open governance, as exemplified by the Forum Offene Stadt in

⁵⁴ Translated from German: ‘Seien Sie sich bewusst, dass die Teilnahme als datengebende Institution ein gewisses Commitment voraussetzt. Sowohl die Vorbereitung als auch die Sprintphase – die Zeit zwischen Kick-Off und Preisverleihung – bedeuten Zeitaufwand. Doch der lohnt sich!’

Hamburg. While the cultural authority's new digital strategy increasingly emphasises open governance (see chapter 4.2), cultural heritage has been relegated to a less central role and has become absent from this format, which has migrated towards various facets of an open city, encompassing governance, mobility, climate change, and related issues of urban development in the context of digitisation (fieldnote Forum Offene Stadt, November 2022).

Fast forward to 2022, during an expert plenary session on digital innovation through participation at the Open City Forum, a similar observation emerged from discussions among a panel that included an international civic hacker and activist, a participation educator, and a representative from the German Federal Ministry for Digital Affairs and Transport. Local civic hackers attending the opening event expressed frustration at the stagnation in translating civil society initiatives such as the advances made by communities of practice involving civic hackers and digital artists into tangible policy changes. Their responses reflected a growing sense of resignation, underlined by the phrase 'we don't need another hackathon', expressing their disappointment at the repeated cycle of creative engagement without follow-up and governmental response (fieldnote Forum Offene Stadt, November 2022). While practices of rapid prototyping appears to be gaining traction as a policy response to societal challenges in a rapidly evolving world, particularly in light of crises such as the 'EU vs. Virus' hackathons to combat the COVID-19 pandemic,⁵⁵ it is evident that institutional and macro-political structures remain rigid and resistant to both change and solution strategies emerging from civil society.

This rigidity coupled with a lack of reciprocity in sharing authority poses a significant barrier to the pragmatic negotiations about openness in the cultural sector. In this context, socio-cultural entrepreneur Mar Dixon emphasises the critical challenge of sharing authority and incorporating diverse viewpoints of people and groups in professional heritage work. In her expert interview, she articulated this challenge succinctly:

[T]here are very resilient ideas that are coming out from people that are not being listened to. And to be sustainable, we need to be able to fold these new ideas in and not just go: 'Oh, you don't know what we're talking about, you don't have a degree!'... And we tend to do that a lot, we tend to go: 'Oh, you haven't worked in a museum, so your opinion doesn't matter', whereas actually outsiders are usually the most insightful. (Dixon, 2017, pp. 47–48)

⁵⁵ <https://www.euvsvirus.org/> (retrieved April 27, 2025).

This reiterates the need to ‘build genuine bridges’ in terms of collaboration and inclusivity within the heritage sector in order to maintain its relevance and societal impact amidst increasing sociotechnical change (see chapter 4.5).

4.6.4. Conclusion: Equity, reciprocity, and social inclusion as issues of sustainability in the context of heritage and digitisation

The challenges faced by professional heritage work in the translation of contemporary safeguarding approaches are often perceived merely as regulatory or implementation barriers (fieldnote Forum Offene Stadt, November 2022), which can leap directly to logistical problem-solving in cultural practices. This focus on practical solutions is understandable given the pressing challenges facing the heritage sector amidst ongoing digitisation efforts. However, this research argues that these concerns go beyond operational matters and are closely linked to broader issues of sustainability, particularly in terms of cultural vitality and openness in the cultural sector.

Current pragmatic negotiations reveal overarching sustainability issues around equity, reciprocity, and social inclusion. The phenomenon of reuse illustrates that simply digitising heritage and making it freely available as open data does not necessarily become productive in terms of fostering social organisation among individuals and groups, or helping people navigate their everyday lives. The sheer volume of open data in online collections contrasts sharply with the cultural productivity of media amateurs on social media platforms, raising pertinent questions about the social impact of contemporary professional heritage work.

As the saying goes, ‘if you build it they will come!’, it is clear that these cultural resources need to be translated into everyday contexts through popular culture and remediations (see chapters 4.4-4.5). GLAM institutions are increasingly under pressure to manifest the social impact of their initiatives and deliver measurable results to funders. In addition, conflicts over the distribution of returns on investment and access to public resources have emerged in the context of the establishment of more or less formalised public-private partnerships and civil society activities in the cultural sector. The abundance of unused prototypes, coupled with a growing sense of frustration among digital volunteers at the lack of responsiveness from GLAM institutions and cultural policy, raises important questions about usability and reciprocity. Moreover, the rise of user enabling strategies invites critical reflection on the participatory nature of contemporary digitisation efforts and knowledge production within professional her-

itage work. This situation has highlighted a significant gap between the reuse of heritage materials made available through online collections and everyday memory practices prevalent in digital media environments.

How open and participatory are contemporary sustainability activities in the context of digitisation? These new forms of cultural representation and digital production not only challenge established safeguarding practices, but also highlight the diverging ethical negotiations about sustainability that inform the pragmatic negotiations outlined in this chapter. In light of these complexities and emerging tensions within cultural practices, ongoing digitisation initiatives within OpenGLAM institutions raise fundamental questions about how we, as pluralistic societies, should remember the past in an increasingly digital Europe (Collier & Lakoff, 2005).

5. Synthesis and discussion: Re-assembling heritage as a global assemblage

The question ‘What understandings of sustainability emerge in cultural practice amidst digitisation of cultural heritage?’ is inherently contentious, inviting a nuanced exploration of the relationship between sustainability and culture in a digital, pluralistic Europe. In open, democratic societies, foundational principles such as participation, cultural diversity, and the inclusion of diverse societal perspectives establish an internationally recognised normative framework that guides efforts towards open knowledge in the cultural sector across Europe. The importance of openness and participation is particularly evident in professional heritage work and Critical Heritage Studies. Both emphasise the societal responsibility to maintain the vitality of cultural knowledges for future generations, including heritage and traditions, which provide a sense of identity, continuity, and aspirations for future generations. The sustainability strategies outlined in chapters 4.3-4.5, which address open data, reuse, and enabling users, emphasise the importance of these values in the context of ongoing digitalisation. However, these strategies also acknowledge that digitisation is not a seamless endeavour, highlighting the varied interpretations of openness as a boundary object in cultural practices. The ethnographic vignette of the Nefertiti hack, for instance, illustrates the complexities and ethical issues around cultural vitality introduced by digital media. This is particularly evident in the pragmatic negotiations that arise in response to challenges such as the reuse gap, emerging distribution conflicts, and ongoing struggles over authority and reciprocity (see chapter 4.6). These pragmatic negotiations shed light on important sustainability issues related to equity, reciprocity, and social inclusion, revealing different views on the relationship between sustainability and culture in the context of open data.

My findings in chapter 4 demonstrate that heritage, when considered in terms of the valorisation of specific cultural traditions, is inherently political. Consequently, the question of sustainability cannot be disentangled from the politics and ethics involved in safeguarding heritage for future generations in a digital, pluralistic Europe. The political and ethical dimensions inherent in domains of living such as heritage and the public domain significantly influence how sustainability is conceptualised and enacted in discourse and cultural practices in the context of digitisation (Collier & Lakoff, 2005). As these dynamics put contemporary national heritage regimes (Kirshenblatt-Gimblett, 2004) and their practices of collecting, preserving, and curating at stake, it is crucial to critically examine the evolving assemblage of global values, power dynamics, and social orders shaping our notions of openness and shared heritage in pluralistic

societies in the digital age. This scrutiny is particularly important given that our understanding of heritage and how we safeguard legacies from the past are being reconfigured amid the rise of digital technologies within these global assemblage(s).

In the following synthesis and discussion, I will develop a theoretical framework of *living sustainabilities* that conceptualises ‘sustainability’ as an ongoing process of ethical-moral negotiations regarding the ‘good life’ in relation to my empirical findings. In this context, I argue that the notion of sustainability is currently a site of ethical problematisation rather than a well-defined and universally accepted concept in the heritage field. To emphasise the ongoing negotiation of the ‘good life’ in terms of cultural vitality and openness within the cultural sector, I refer to the concept of *sustainability**, adding an asterisk to signify the inherent complexity and ethical negotiations in cultural practices that characterise the divergent interpretations of openness in this digital context.

In chapter 5.1, I will present a typology that synthesises heritage as a global assemblage of these divergent sustainability* understandings – what I call sustainability* regimes. Through the dispositif analysis – a component of the discourse ethnography detailed in chapter 3.2 – the typology contextualises five different sustainability* regimes in relation to each other (see chapters 5.1.1-5.1.5). By re-assembling heritage as a global assemblage in the dispositif analysis, we can illuminate the relationships between sustainability practices and challenges highlighted in the discourse ethnography presented in chapter 4, and identify the different sustainability* understandings at play in the context of open knowledge in the cultural sector.

Chapter 5.2 will expand on the discussion of the typology towards living sustainabilities, examining the power dynamics, challenges, and potentials involved in reconfiguring openness within this assemblage. To navigate the ethical negotiations around sustainability* in the cultural sector, I will introduce the ‘living sustainabilities’ framework (see chapter 5.2.1). This discussion will consider which notions of sustainability* prevail and dominate, and which remain less visible in the ethical negotiations between different sustainability* regimes (see chapter 5.2.2). It will also consider how these notions influence the processes of doing and undoing openness in digital media environments. I will argue that new understandings of sustainability* are emerging which go beyond traditional institutional approaches to heritage and seek to foster more dynamic and vibrant practices of remembering in everyday life. Based on this, the discussion will conclude by outlining the potential for translation between these sustainability* regimes within the cultural sector and for navigating sustainability initiatives in the cultural sector towards living sustainabilities within the global assemblage (see chapter 5.2.3).

5.1. Dispositif analysis: A typology of diverging sustainability* regimes in the cultural sector

The discourse ethnography in chapter 4 shows that divergent understandings of sustainability* emerge in the context of heritage and open data, with some understandings of sustainability* complementing each other, while others exist in parallel or in conflict with each other. This chapter aims to provide a theoretical framework to the empirical research findings by developing a typology of these divergent interpretations of sustainability*, thereby offering a basis for future inquiry and practical application in this area. Based on my findings, I argue that in the context of digitisation, it is necessary to reflect on the modes of openness and ways of opening up, as well as the cultural differentiations and ethical negotiations inherent in cultural practices. Existing literature has focused on specific heritage institutions and their large-scale digitisation project as isolated case studies (e.g., the raw digitisation of archives and collections). Such research typically emphasises the sharing of cultural heritage as open data, as well as the circumstances and challenges associated with these processes (e.g. issues of copyright and metadata standardisation in the context of linked data). By offering an empirically grounded typology, this study makes a valuable contribution to existing literature by taking a relational approach to heritage as a global assemblage. Mapping these situated notions of the ‘good life’ across different societal contexts can inform concrete, strategic problem-solving initiatives within the cultural sector that promote living sustainabilities and are based on heuristic frameworks and empirical evidence.

Building on the framework of regimes of living (Collier & Lakoff, 2005), this research proposes that notions of sustainability* are manifested within what I call different *regimes of sustainability**. These regimes are characterised by their dispositifs, which assemble the dynamic interactions between sustainability practices, regulations, norms, discourses, and relationships within the global assemblage amidst ongoing digitisation. Using the heuristics introduced in chapter 2.3, this work examines the ethical-moral negotiation processes in the circulation of cultural knowledge in digital media environments (Barth, 2002; Bolter & Grusin, 2000; Koch, 2013). Through a dispositif analysis of the regimes of (re)production, representation, distribution, and uses of cultural knowledge, this chapter seeks to identify both implicit and explicit norms that shape divergent understandings of sustainability* in the cultural sector, and how these understandings are manifested in the respective dispositifs that constitute each sustainability* regime. Importantly, the objective is not to formulate generalised statements about ‘sustainability’ or to define what practices can be considered ‘sustainable’. Instead, the focus is on creating situated perspectives (Haraway, 1988; Krieg & Toivanen,

2021b) that capture the multiple interpretations of sustainability* emerging within heritage as a global assemblage.

The exploration of ‘how one should live’ in the cultural sector in the context of digitisation serves as a basis for organising the comparison and developing the typology of divergent sustainability* regimes. The dispositifs are informed by an abductive mode of research based on the heuristic framework and the principles of an ‘intact culture’ (see chapter 3). From a praxeological perspective, it is crucial to consider the various levels of society involved in the ethical negotiations through their sustainability activities. This includes not only the institutional and macro-political levels, but also the role of civil society and civic engagement at the meso and micro levels (see chapter 4.2). To facilitate the dispositif analysis, the following set of guiding sub-questions on ‘how to live’ will frame the outline of the regimes and dispositifs discussed in the following chapters. Each chapter will present a sustainability* regime as a possible means for organising, reasoning about, and living ‘ethically’ in relation to a particular understanding of openness and cultural vitality among the other regimes (Collier & Lakoff, 2005, p. 31):

- What is the idea of an ‘intact culture’ that characterises the regime of living? How should the cultural sector keep cultural knowledge alive for future generations?
- How is the notion of an ‘intact culture’ manifested in cultural practices? What are the dispositifs that characterise the regime in which the idea of openness is embedded?
- Who are the key actors? Where is the social location of their activities in which the regime is manifested? Which is the social level involved in the regime (macro, meso, micro)?
- Where does the regime’s agency come from and how is it constituted?
- What are the prevailing and dominant practices of sustainability* that are assembled within the regime and its dispositifs?
- What policies and underlying logics characterise the idea of an ‘intact culture’ in the regime? Which are the implicit and explicit norms that shape the regime’s understanding of sustainability*? What is the social relevance and power position of the regime within the larger global assemblage?

Recognising that a typology inevitably represents a simplification of complex realities, it serves as a valuable tool for highlighting specific commonalities and differences (R. Schmidt, 2011) identified through my discourse ethnography. As a result, this typology categorises five different sustainability* regimes and the following dispositifs:

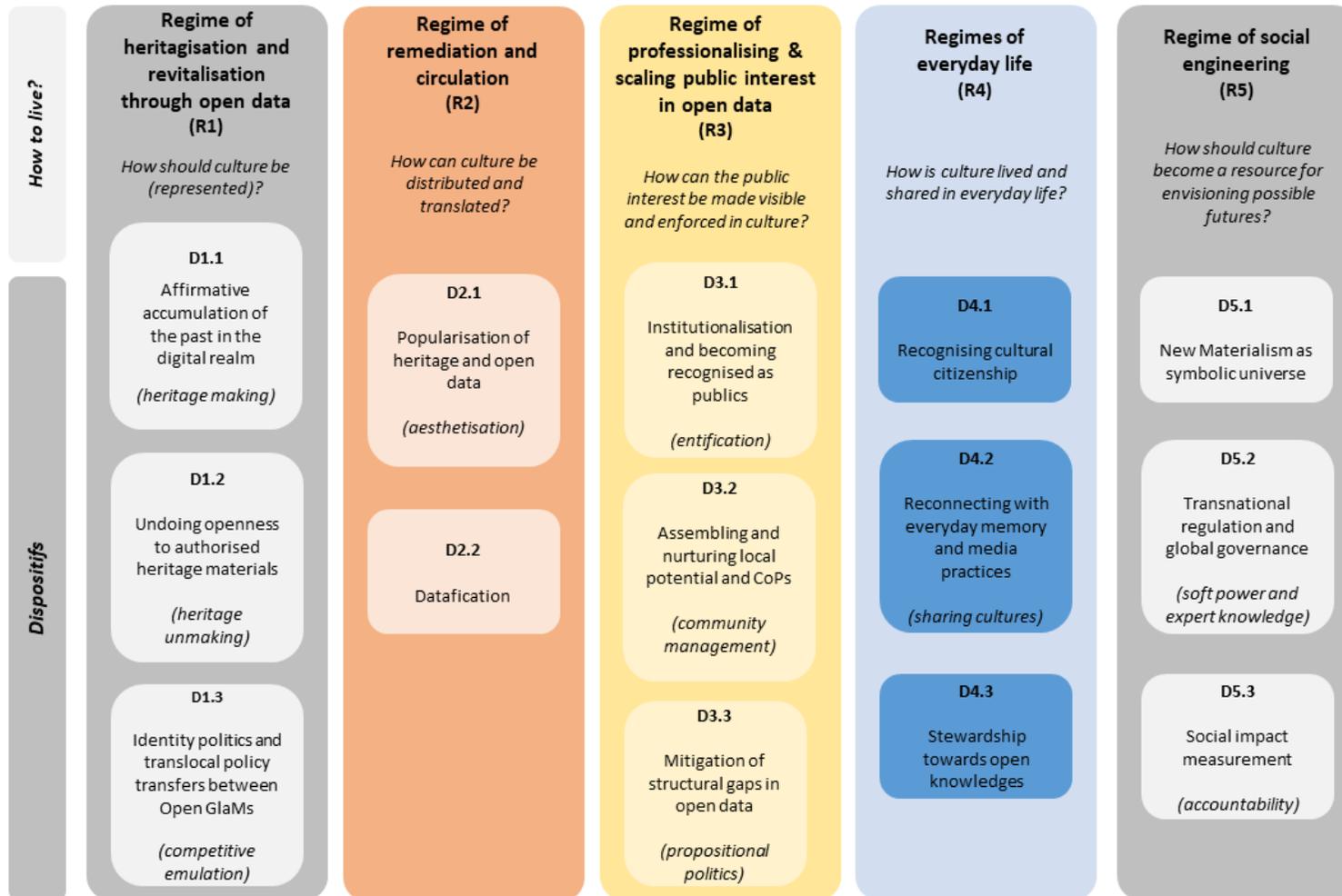


Figure 11: Typology of diverging regimes of sustainability* and dispositifs

By elucidating these different sustainability* regimes (see figure 11), the typology offers a more vivid and nuanced perspective on how different approaches to sustainability* coexist, interact, and evolve in relation to the remediation and circulation of cultural knowledge in the context of digitisation. It provides a snapshot of the understandings of sustainability* that emerged in the digital landscape at the time of my fieldwork. From the perspective of regimes of living, it is important to recognise that while the sustainability* regimes and their dispositifs depicted in the typology are presented as distinct entities, they are in fact in flux and their temporality is characterised by emergence – constantly shifting, open-ended, and inherently interrelated. However, in order to facilitate a detailed discussion in the following chapters, I have chosen to present these divergent conceptions of sustainability* separately.

In addition, it is important to recognise that certain analytical categories – such as memory modalities, temporalities, and resourcing (Koch et al., 2025; Krueckeberg et al., 2025) – have emerged in the abductive research process through the praxeological modus operandi and circulate between regimes within the larger assemblage. These overlapping elements are crucial for a rich understanding of how sustainability* is lived in cultural practices and negotiated in different regimes, and are contextualised in the respective regimes where applicable. The power relations between regimes are an important aspect of the typology. However, a more detailed discussion of these relations will be outlined in chapter 5.2, where we will reflect on which conceptions of sustainability* prevail over others and dominate in the discourse ethnography, subsequently shaping what is considered as ‘good life’ in the assemblage. In the following chapters (5.1.1-5.1.5), I will elaborate on these sustainability* regimes, their respective dispositifs, and the ideas of the ‘good life’ that collectively negotiate and re-assemble heritage as a global assemblage in the context of digital, pluralist Europe.

5.1.1. Regime of heritagisation and revitalisation through open data (R1)

How should culture be (represented)?

Vignette: The Digital Repository of Ireland

As an open repository, the DRI represents an early attempt at a more strategic institutional sustainability approach to making cultural heritage accessible online. The DRI offers services for the long-term digital preservation of institutional heritage archives and collections that can be deposited in the DRI's national digital infrastructure. Through initiatives like the '*Inspiring Ireland*' project, the DRI has worked with various GLAM institutions to aggregate and curate open data, representing the richness of Irish history and national identity. Through its public history project 'Weaving Public and Private Narratives', the DRI has sought to enrich national historical narratives by incorporating perspectives from personal collections of everyday life. The DRI also provides vocational and postgraduate training for (future) heritage professionals, and advises GLAM institutions, including academic collections in the humanities and social sciences, on long-term digital preservation. It also participates in transnational expert exchanges on digitisation and open knowledge, such as with Europeana at the supranational level (see chapter 4.3).

The first regime addresses a central question: *how should culture be represented in the official accounts of contemporary national heritage regimes?* Within R1, three dispositifs emerge which, taken together, reflect the notion of sustainability* in terms of heritagisation and revitalisation in the context of digitisation. The first dispositif (D1.1) concerns the *affirmative accumulation of the past in the digital realm*, driven by practices of heritage making. The second dispositif involves practices of *undoing openness to authorised heritage materials* (D1.2). While much research in Critical Heritage Studies (CHS) highlights the unmaking of heritage due to neoliberal pressures on professional heritage work and communities (cf. Welz, 2015), my research shows that this phenomenon can also originate within the cultural sector itself, particularly in the context of digitisation. The third dispositif (D1.3) focuses on *competitive emulation between OpenGLAMs*, exploring the inter-institutional dynamics that drive the proliferating of institutional open data approaches across the cultural sector and the rapid emergence of R1. In what follows, I will elaborate on these three interrelated dispositifs, drawing on the catalogue of questions for dispositif analysis introduced at the beginning of chapter 5.1, as we explore the moral economies (Herzfeld, 2004; Stehr et al., 2017) of the first regime of heritagisation and revitalisation of culture in the digital landscape.

Actors and sociotechnical agencies constituting R1

The first regime is predominantly shaped by key institutional actors within the heritage and academic sectors operating at the macro level of society (see chapter 4.2). Central to this regime are OpenGLAM institutions, heritage professionals, data aggregators, digital repositories, and related research areas such as digital humanities, all of whom play a vital role in facilitating the heritagisation and revitalisation of pre-existing heritage in the context of digitisation. This section will focus on their contributions, as these actors significantly enhance the agency that emerges within R1. In addition, other public and non-profit actors also play an influential role in this regime. For example, the federal digitisation agency digiS in Berlin and think tanks specialising in digitisation, such as iRights.Lab in Berlin, contribute significantly to these efforts. They support institutional activities of heritagisation and revitalisation, further strengthening the first regime emerging around open data and heritage in the digital age.

Agency within this first regime arises from the dynamic interplay between human actors, in particular the collaboration between museums and heritage professionals. On the one hand, national GLAM institutions maintain their responsibility as custodians of heritage collections and as facilitators of national identity building. Expertise plays a crucial role in the field of open data, characterised by a dynamic exchange of knowledge, best-practice examples, and technology transfer between heritage experts and GLAM institutions at the inter-institutional level. This leads to a phenomenon of ‘competitive emulation’ (D1.3), similar to what McCann and Ward (McCann & Ward, 2012, p. 326) describe as ‘fast policy transfers’ (p. 326) between cities in the context of urban development, which is particularly evident in the emergence of institutional open data approaches across the cultural sector in Europe and beyond. Museums, in particular, have been instrumental in shaping the transnational inter-institutional exchange of open data approaches as part of regime R1, which is why I refer to OpenGLaMs with a capital ‘M’. Renowned national museums such as the Rijksmuseum and the SMK are often cited as pioneers in this field. Indeed, many of the open knowledge advocates and heritage professionals I met during my fieldwork have a background in museum work and studies. As a result, museums play a central role in shaping the cultural sector’s transition from heritage to open data (see chapter 4.3).

On the other hand, individual heritage professionals – such as my research participants Antje Schmidt (MKG) and Natalie Harrower (DRI) – play a key role in driving forward institutional open data initiatives across Europe. These professionals exemplify the role of new policy actors that political analysts Eugene McCann and Kevin Ward (2011) call ‘transfer agents’ (p. xiv). As translocal intermediaries between the

EU, national governments, and their national heritage regimes, they play a crucial role in shaping how heritage can be accessed in the context of digitisation. As described in chapters 4.2 and 4.3, their influence is further strengthened by their participation in international conferences such as Sharing is Caring, where they present their institutional digitisation and open data projects as best practice examples. They also contribute to professional publications, reports, and media coverage. By acting as keynote speakers, consultants, and award winners, these experts increase their visibility and have a significant impact on the proliferation of the discourse on open knowledge within the cultural sector (D1.3). Their prominent positions in the discourse and cultural practices have led to increased national and European travel and consultancy work, enabling them to help other GlaM institutions adopt open data strategies. Through their participation in transnational activities, including Europeana task forces, board meetings, and EU network meetings, these heritage professionals also facilitate engagement with EU administrators and policy makers (see chapter 4.6). In addition, social media platforms such as Twitter have gained prominence as discursive arenas in the cultural sector, influencing not only heritage communication and outreach strategies in professional heritage work, but also the competitive emulation of open data strategies in the cultural sector. This is exemplified by the #AAC Day initiative and the bpk vignette, in which heritage experts swiftly turned to Twitter to garner support and solidarity from international open knowledge advocates against the government's funding decision for the image payment platform (see chapters 4.5.1 and 4.6.2).

In particular, data aggregators and digital repositories, as emerging new actors in the context of digitisation, highlight the dynamics of sociotechnical agencies. The expanding scope of institutional online archives and collections highlights the need for CHS, typically informed by a social constructivist perspective (cf. Macdonald, 2013; Welz, 2015), to take greater account of the agency of digital infrastructures and open data, and their entanglement with human agency. This technological dynamic is further discussed in the context of remediation, which is the focus of regime R2 (see chapter 5.1.2).

Key sustainability practices assembled within R1

Heritagisation and revitalisation are increasingly shaped by practices of heritage making *and* unmaking (D1.1-1.2), which operate through competitive emulation between GlaM institutions, data aggregators, digital repositories, and heritage professionals (D1.3), rather than being driven from the top down by cultural policy. In the heritage sector, symbolic valorisation is a defining practice to keep cultural knowledge vital and

is particularly relevant to regime R1, which emphasises on the heritagisation and revitalisation of heritage by making heritage accessible as open data through digitisation. This process typically involves extensive raw digitisation of existing collections, especially those that have entered the public domain, in line with the principle ‘if it’s not online [and available], it doesn’t exist.’ In digitisation projects, GlaM institutions transfer traditional institutional safeguarding practices – such as collecting, documenting, inventorying, preserving, curating, and exhibiting – into the digital realm, with the aim of attracting wider audiences and engaging new user groups beyond those who physically visit a museum (see chapter 4.3).

However, while digitising everything and transferring GlaMs’ knowledge practices to the digital realm may seem straightforward, institutional large-scale digitisation activities are not without their problems (see chapter 4.6). Although digitisation and open data initiatives prioritise what is technically, legally, organisationally, and financially feasible within professional heritage work, these heritage-making activities of open data often perpetuate the affirmative accumulation of authorised and pre-existing cultural heritage in digital form (D1.1). Despite this, few scholars have critically examined the heterogeneous accumulation of the past in the context of digitisation (Koch, 2015; Lutz, 2017a; Tzouganatou, 2023; Willim, 2017). I argue that the uncritical transfer of heritage into the digital realm and the affirmative accumulation of open data are intertwined with practices of heritage unmaking, driven by heritage professionals and OpenGlaMs, which ultimately undermine openness within the cultural sector. Contemporary institutional open data approaches often narrow down open data to authorised heritage materials (D1.2), which raises significant questions about inclusivity and accessibility. From a media anthropological perspective, this tendency to digitise authorised heritage material reflects the sector’s preoccupation with certain types of heritage and media of representation in the context of open data, particularly out-of-copyright objects, images, and texts (see chapter 4.3). The European Commission’s 2021 report on the digital transformation of cultural heritage supports this trend, noting that ‘images and text make up 97.5% of Europeana’s assets, with only 2.47% audiovisual content and 0.03% in 3D’ (European Commission, 2021b). My findings also show that OpenGlaMs often limit openness by reducing image quality, charging for reuse, or creating new copyrights on digital surrogates and open data (see chapter 4.6.1). This reinforces the notion that heritage making and unmaking are interrelated metacultural operations that drive the heritagisation and revitalisation of heritage in the context of open data.

Sustainability* logics, politics, and power dynamics of R1

Against this backdrop, the first regime is situated within the ‘memory complex’ (Macdonald, 2013), which is characterised by efforts of heritagisation and revitalisation under the authority of heritage experts in the context of digitisation. The preservation of authorised heritage as open data is regarded as a sustainable development approach to promoting openness in professional heritage work. The regime R1 is driven by underlying logics of representation and national identity politics that control how culture should be represented in official grand narratives and public memory in the context of digitisation.

In terms of social relevance and power dynamics, regime R1 emerges as a dominant force within this assemblage, characterised by its rapid emergence through competitive emulation and alignment with national heritage regimes. Digitisation is framed as a means to enhance the democratisation of existing national heritage regimes by promoting online accessibility and participation. This leads to the translation of current national heritage regimes into the digital domain, which can be described as attempts of a form of ‘recalibration’ (Coombe & Kisin, 2021) that revives the symbolic valorisation spiral anew. The practices of making *and* unmaking heritage in the context of digitisation are thus interrelated metacultural operations within regime R1, reinforcing the heritagisation and revitalisation of pre-existing heritage collected and archived in the past. Thus, institutional actors and experts involved actively contribute to the differentiation of regime R1 through competitive emulation in heritage making and unmaking and counter other sustainability* regimes and concepts present in the global assemblage in the context of digitisation. This sets the stage for exploring the next regime (R2), focusing on the remediation and circulation of cultural knowledge under digital conditions.

5.1.2. Regime of remediation and circulation under digital conditions (R2)

How should culture be distributed and translated under digital conditions?

Vignette: Nefertiti hack

In 2015, German artists Nora Al-Badri and Jan Nikolai Nelles caused a stir in the heritage sector with their artistic intervention, the ‘Nefertiti hack’ (see chapter 1). Using 3D scanning technology, they reproduced the bust of Queen Nefertiti, which is housed in the Neues Museum in Berlin. They made the 3D model available for free on their website, and the dataset was reportedly downloaded over 100,000 times shortly after its release. They presented their work at the Chaos Communication Congress and they also exhibited a 3D-printed reproduction in Cairo. This controversial intervention offered a postcolonial critique of regime 1 (R1), arguing for openness and vitality through the experimentation and circulation of open data, as the artists explained on their website: ‘We want to activate the artefact, to inspire a critical re-assessment of today’s conditions and to overcome the colonial notion of possession in Germany.’ (Al-Badri & Nelles, 2015)

As outlined in chapter 2.3, digitisation leads to a significant remediation of media technologies and practices, fundamentally reorganising cultural production and transmission. This transformation permeates almost all aspects of everyday life and has profound implications for the cultural sector (Bolter & Grusin, 2000; Koch, 2013). In this context, digitisation can be conceptualised as a sustainability* regime in its own right that redefines the circulation of cultural knowledge in digital media environments. The changes brought about by this transformation are illustrated by the aesthetic practices encountered during my fieldwork, which serve to popularise and remediate heritage for practical uses and media production – the *popularisation of heritage and open data through digitisation* constitutes the first dispositif (D2.1). In addition, the central role of open data in the cultural sector highlights the importance of *datafication* in the contemporary remediation, forming the second dispositif (D2.2) that underpins this regime. In the following sections, I will elaborate on these two interrelated dispositifs, which provide a framework for understanding how this regime operates and becomes analytically identifiable. As the Nefertiti hack vignette illustrates, it will be argued that the notion of ‘the good’ and an ‘intact culture’ in this regime, as initially highlighted by the question of sustainability above, is closely related to the remediation and wider distribution of cultural knowledge, going beyond heritage institutions and their open data strategies.

Actors and sociotechnical agencies constituting R2

In the second regime, the diverse array of actors across the societal levels play a central role in contemporary remediation within the assemblage (see chapter 4.2) The sites of digital media production and everyday communication and interaction, which have also become more digital, are the key social spaces, in which this regime manifests and in which actors engage in sustainability activities related to remediation and circulation of cultural knowledge. Prominent among these actors spanning both academic and non-academic contexts are IT professionals and amateurs, computer and data scientists, digital artists, web designers, and civic hackers and makers, whose activities will be further explored in the context of regime 3 (see chapter 5.1.3). In addition, socio-cultural entrepreneurs, and cultural innovators from digital media production and digital publishing, who will be discussed in more detail in the context of regime 4 (see chapter 5.1.4), as well as commercial actors and large IT companies – such as Twitter and the Tech Giants like Alphabet, Amazon, Apple, Meta, and Microsoft commonly referred to as the ‘Big Five’ – are also integral to public-private partnerships in the cultural sector.

As digitisation increasingly permeates different aspects of life, remediation is particularly evident in sustainability initiatives at institutional, meso, and micro levels. Heritage professionals within OpenGlaM institutions increasingly serve as data creators and providers in this evolving digital landscape. In addition, new institutionalised sociotechnical actors in the cultural sector, including data aggregators and open repositories, illustrate the reorganisation in the way cultural knowledge is (re)produced and disseminated in the context of growing datafication (D2.2). On social media platforms, the productivity and contributions of media amateurs, individuals, and groups further enrich the assemblage of actors within this regime. Despite the wide range of (human) actors involved, expertise in digital media production and information technology remains central to this regime. Ultimately, the agency associated with this regime is profoundly influenced by technology and digitalisation, which act as both catalysts for and subjects of sociotechnical change. As a result, the regime R2 evolves through the dynamic interplay of human and non-human agencies associated with digital media production, digital publishing, and technology in the broader context of sociotechnical change.

Key sustainability practices assembled within R2

This regime is integral to all sustainability strategies described in chapters 4.3-4.5, including open data initiatives in professional heritage work, reuse activities, and enabling strategies for users and open knowledge. Actors at different levels of society seek

to adapt their practices within the regime of circulation and remediation, while at the same time developing strategies to promote openness across the cultural sector. This bundle of diverse sustainability initiatives highlights its importance as a distinct regime in its own right, facilitating contemporary remediation through digitisation within the cultural sector, characterised by changes underway, as well as ambivalences and tensions in cultural practices.

Nevertheless, the popularisation of heritage through the global aesthetics of digital media and popular culture (D2.1) emerges as foundational sustainability practices within this regime. The accelerating digitisation of all aspects of life has resulted in an increased demand for content, particularly ‘raw data’ such as open data from OpenGlaMs, to fuel digital products and services in both the IT and creative sectors, as well as to inspire new forms of digital art through global aesthetics. They also enhance the visualisation and use of the ever-growing pool of open data derived from the collections and databases of OpenGlaMs, digital repositories, and data aggregators, thereby driving technological innovation and development. The idiomatic expression ‘if you build it, they will come!’ from the CDV hackathon encapsulates principles of aesthetisation and cultural production that are rooted in a developer- and technology-driven approach within the cultural sector. In addition, these approaches involve the retranslation of data into non-digital formats, as demonstrated by the activities of maker cultures carried out at the CDV hackathons (see chapter 4.4).

The examples of reuse and enabling strategies, such as the CDV hackathon and #AAC Day (see chapters 4.4-4.5), illustrate this shift and highlight the growing importance of experimental knowledge practices and creative originality. These practices – including co-creation, design thinking, model building, prototyping, and simulation – and digital principles play a crucial role in digital media production aimed at exploring potential new futures for the representation, distribution, and use of heritage and traditions. Moreover, the knowledge practices that constitute this regime require constant circulation and ‘infrastructuring’ (Star & Bowker, 2016), reflected in the maintenance and management of (meta-)data and the emerging sustainability issues of digital literacy in the field (see chapter 4.6.1). Importantly, the logic of media production extends beyond traditional economic markets and industries. As the CDV hackathons demonstrate, this civic initiative is inherently aligned with the production logic of open-source solutions within the cultural sector, which will be explored further in terms of professionalising the public interest in open data (see R3, chapter 5.1.3).

Sustainability* logics, politics, and power dynamics of R2

The digital principles of remediation and circulation form the basis of regime R2, facilitating the translation and dissemination of cultural knowledge within different contexts of use and cultural practices. Datafication (van Dijck, 2014) plays a central role in the discourse of open knowledge and the associated logics of digital production, as outlined above. This data-oriented logic is particularly pronounced in contemporary heritage management practices at the institutional level, where the importance of digital literacy has risen sharply (see chapter 4.6.1). As discussed in chapter 4.3, the creation of online collections and digital infrastructures is essential for cultural institutions, open repositories, and data aggregators. These digital infrastructures are essential to support the creation of new knowledge, services, and products. At the same time, the growing emphasis on digital literacy in heritage management highlights the challenges that datafication poses to established knowledge practices within professional heritage work.

Digitisation and datafication significantly expand the repertoire of forms, means, and channels available for conveying, producing, and communicating cultural knowledge across different levels of society and knowledge domains. Digitisation not only affects the tools and means by which we practice, experience, share, collect, document, preserve, and display cultural traditions – in essence, how we safeguard and transmit cultural heritage – but also fundamentally changes the nature of artefacts and forms of cultural expression (Bolter & Grusin, 2000). Today, images, objects, and texts are not only digitised, they are born-digital, i.e. increasingly created in digital form from the outset. Tweets and websites have become the subject of archiving, as the Internet Archive and the Library of Congress' Twitter archive show (see chapter 3.2).

The position of power and relevance within the broader assemblage is significant in light of the ongoing remediation. The second regime emerges from advances in technology, digitisation, and datafication, and exerts its influence through the reorganisation of contemporary cultural production, aesthetics, and transmission of cultural knowledge. The various sustainability practices discussed in chapter 4 highlight the need to adapt to this regime and its digital principles in order to reproduce or achieve speaker positions (Keller, 2013) and to secure a voice within the assemblage, particularly in relation to the ethical negotiations around the idea of the 'good life' in the context of digitisation (see chapter 5.2). However, it is important to recognise that these translations are far from seamless within the cultural sector, as the ethical issues of equity, reciprocity, and social inclusion illustrate (see chapter 4.6.4). In addition to the technological implementation issues and regulatory challenges involved in professional

heritage work, I argue that these translations are often complicated by critical sustainability* questions that are linked to divergent notions of cultural vitality and openness, particularly as they relate to changing modes of production and transmission in digital media environments (see chapter 5.2).

5.1.3. Regime of professionalising and scaling public interest in open data (R3)

How can the public interest in open data be made visible and enforced in culture?

Vignette: Coding Da Vinci Hackathon Nord 2016

The first interregional hackathon spin-off, CDV Nord 2016, held in Hamburg, aimed to foster collaboration between local and regional stakeholders from the GlaM sector, as well as those in the IT and creative sectors, including civic hacker networks in Northern Germany, Denmark, and Sweden (see chapter 4.4.3). In addition to introducing innovative and engaging ways to popularise heritage through hacking and technology, the CDV Nord pioneered new formats that enhanced collaboration across different levels of society and sectors (see chapter 4.6). Central to these efforts were pre-workshops designed for OpenGlaMs to effectively prepare their datasets, along with training programmes tailored to improve the coding skills of civic hackers. The CDV Nord hackathon is also situated within the larger context of follow-up events such as the Forum Offene Stadt (Forum Open City), which was initiated by the local computer club Code for Hamburg e.V. (Code for HH) in partnership with the Körber-Stiftung and the Open Knowledge Foundation (OKF) in Germany. This local forum brings together several open data domains, including cultural heritage, public administration, urban development, and climate change. In addition, the OKF's Prototype Fund supports civic hackers by providing seed funding to help them turn their prototypes into marketable open source projects. These digital solutions are often developed within communities of practice through digital volunteering, fostering synergies between professional expertise and volunteer engagement.

The third regime in the cultural sector, professionalising and scaling public interest in open data (R3), focuses on promoting open-source solutions as an alternative to the commodification of open data in the cultural sector. A key issue in this regime is *how to make public interest in open source visible and enforceable*. This regime is shaped by three interrelated key dispositifs that prove to be central to the synthesis of the third regime. The first dispositif, *institutionalisation* (D3.1), highlights the need to be recognised as a public through entification strategies (Larsen, 2010; Larsen, Blim, Porter, Ram, & Rapport, 2021a) that aim to scale and embed public interest across different societal levels – local, regional, and supranational, as well as transnational – and across different domains of knowledge associated with open data. The second dispositif focuses on the importance of *assembling and nurturing the local potential of communities of practice* at the meso level (D3.2). This requires experimental community management that promotes situated learning at hackathons and allows for varying degrees of 'legitimate peripheral participation' (Lave & Wenger, 1996) within communities of

practice, as regime R3 relies heavily on digital volunteering. The third dispositif addresses the *mitigation of structural gaps* (D3.3) in the context of open data by establishing new formats of resourcing and feedback loops to cultural policy and institutional levels.

Actors and sociotechnical agencies constituting R3

Cultural heritage and cultural sustainability* issues of open data have increasingly emerged as matters of public concern, requiring negotiation with and within civil society. Professionalising and scaling up open source initiatives in the public interest refers to ‘publics’ at the meso level. In the cultural sector, open data initiatives involve a wide range of actors at this level, including individual experts in digital media production as well as transnational civil society organisations (NGOs) such as the OKF and Wikimedia in Germany (see chapter 4.2). Together, these NGOs have combined efforts in the cultural sector to professionalise their campaigns, resulting in a public-public partnership alongside a national data aggregator (DDB) and a federal digitisation service (digiS) in the context of the CDV hackathon. Their collaboration has been formalised through the establishment of the CDV brand, a CDV code of conduct, and a coordination office in Berlin. These non-profit organisations can be seen as figurations of a ‘recursive public’, a term coined by anthropologist Christopher Kelty (2008) to describe communities engaged in the open software movement. While this concept is relevant to many studies in the field open software (cf. Lezaun et al., 2017; Murillo & Kelty, 2017) and is also adopted by civic hackers and open data advocates in the field (fieldnote Forum Offene Stadt, November 2022), my findings suggest that the social dynamics and agency driving professionalisation within regime R3 at the meso level are more heterogeneous, fluid, distributed, and networked than the concept of the recursive public suggests.

Moreover, communities of practice composed of civic hackers, cultural geeks, and other digital volunteers – such as the local computer club Code for Hamburg and the CDV teams formed during hackathons – are emerging around shared interests in developing public interest technologies using open data from the heritage sector and other domains. The practice of digital volunteering resonates with Lave and Wenger’s (1996) concept of ‘legitimate peripheral participation’, allowing participants to engage in communities of practice through situated learning experiences that vary in commitment and duration. This distributed and networked social organisation significantly influences the working cultures and realities within the IT and creative industries, as well as those of many civic hackers and open knowledge advocates at the meso level. My

research suggests that formal recognition as a ‘(recursive) public’ by external entities, such as EU funding agencies, is crucial for qualifying as a ‘beneficiary’ of public funding as defined in the functional language of the European Commission (2024b). It is crucial that these individuals and groups are regarded as ‘citizens’ within more or less formalised publics at the meso level. ‘Acts of entification’ (Larsen, 2010) are significant across different levels and scales, including becoming a public entity like in the case of the association Code for HH (formerly OKLab HH) (see chapter 4.6.2).

In this context, regime R3 manifests agency through these communities of practice, facilitating their professionalisation and institutionalisation to a certain extent (D3.1). As noted by STS scholars, including Lezaun et al., their participatory experimentation inherent in hacking and prototyping fulfil several important functions:

[...] they mediate between institutions and communities, bring diverse actors together (sometimes to dramatize their differences), produce hands-on solutions, pilot unorthodox technologies, and, last but not least, test new ways of articulating issues. (Lezaun et al., 2017, p. 211)

Agency within regime R3 is thus also a result of the sociotechnical entanglement of the regime with digital cultures and technological advances (R2).

Key sustainability practices assembled within R3

Hacking forms a central sustainability strategy with a focus on promoting heritage as a public good in the context of digitisation (see chapter 4.4.3). In this context, resourcing practices underpin the dynamics of the third regime and its conceptualisation of sustainability*. To adequately capture the monetary and non-monetary values inherent in the professionalisation and scaling up of civic engagement for open source at the meso level, the concept of ‘resourcing’, as discussed by Koch et al. (2025) and Oechslen (2023), serves as a critical analytical category. Both studies emphasise the importance of non-monetary practices within cultural economies. From an assemblage theory perspective, Oechslen notes that although the term ‘resourcing’ is not explicitly used, the practices of assembling and connecting relations are central to gig workers’ daily routines and their navigation of global platform work. Koch et al. emphasise the role of non-monetary contributions, such as community-based resourcing, in sustaining the vitality of cultural traditions within the context of intangible heritage.

Within regime R3, different resourcing practices significantly influence the dynamics of hacking activities, complementing the technical principles and practices associated with the aesthetisation and datafication highlighted in regime R2 (see chapter 5.1.2). Beyond acts of institutionalisation (D3.1), achieving visibility as ‘publics’ and

‘citizens’ across multiple scales requires responsive and experimental community management to support digital volunteering (D3.2). Open data is not inherently productive; as shown in chapter 4.6, it requires translation through digital aestheticisation by IT experts and civic hackers, and faces challenges, particularly in the cultural sector where new distribution conflicts may arise. In addition to the aestheticisation processes described in R2, community management plays a crucial role in accommodating the diverse and distributed socialities of these communities of practice and nurturing their local potential. This involves encouraging situated learning and facilitating legitimate peripheral participation in cultural hackathons (see chapter 4.4.3). Shifting open data activities like the CDV hackathon away from GlaM institutions and towards local and regional sites of digital production, such as fab labs and co-working spaces, has proved successful in fostering local potential for the situated reuse of open data. Furthermore, fostering connections and synergies with existing networks, as demonstrated by the Open City Forum in Hamburg – a collaboration between the association Code for Hamburg and the Körber-Stiftung – contributes to the development of supportive ecosystems in the context of open data (see chapter 4.6.2).

This links to resourcing practices aimed at mitigating structural gaps in open data (D3.3) in order to promote open source solutions on a larger scale. This resourcing practice within R3 is particularly evident through educational initiatives, drawing attention to the concerns of both meso-level publics, as well as the challenges faced by cultural institutions. For example, resourcing OpenGlaMs involves educational initiatives like data preparation workshops prior to the CDV hackathon, which equip heritage professionals with the skills needed to provide high quality open data for potential reuse (see chapter 4.6.1). In addition, the coaching on new business models provided by the Prototype Fund points to the need for professionalisation and scaling, which positions open source as a viable alternative capable of competing with commercial and proprietary business models in the digital economy (see chapter 4.6.2). Given the limited public resources available for the technological development and maintenance of open-source solutions – as illustrated by the case of the ZeitblickApp, which was run and maintained by digital volunteers for four years (see chapter 4.6.2) – the Prototype Fund offers vital support for civil society efforts to promote open source solutions in the cultural sector.

Finally, resourcing practices that aim to mitigate structural gaps in open data by establishing feedback loops with policymakers are essential to address these issues at the policy level. A prime example is the Prototype Fund, which serves as a seed funding initiative supported by public funds with public funding until 2029 (see chapter 4.6.2). Similar to the role of OpenGlaM institutions as new policy agents (see R1), open

knowledge advocates from the non-profit sector and civic hackers also engage with supranational bodies and task forces, facilitating interactions with EU officials and GlaM stakeholders, positioning themselves as new policy agents. By making both the achievements and challenges of open data visible through prototyping, periodic reporting, and accompanying research, these resourcing and mitigating efforts – particularly through the CDV hackathon and Prototype Fund – help identify areas that require further attention from policymakers and heritage experts, thereby facilitating the scaling up of public interest to the macro level of decision-making and policymaking in the cultural sector.

Sustainability* logics, politics, and power dynamics of R3

Regime R3 is a powerful regime and transformative force within the assemblage. It emphasises the vital role of civil society and publics at the meso level in promoting public-interest technology, providing an alternative to the commercialisation of open data and addressing the structural challenges related to its resourcing. In this context, the digital is envisaged as a means of addressing contemporary societal issues through technological solutions and open data, highlighting the future-oriented mission of public-interest technology in the cultural sector. The regime operates according to a ‘recursive logic’ (Kelty, 2008) that is fundamentally rooted in a developer- and technology-driven approach. Building on Kelty’s insights into recursive logics, communities of practice – such as the civic hackers at the CDV hackathon – navigate and appropriate power dynamics through technology, as well as through assembling actors and practices across societal levels, as well as regional, national, and supranational scales. As Kelty articulates, these collectives ‘argue about technology, but they also argue through it. They express ideas, but they also express infrastructures through which ideas can be expressed (and circulated) in new ways’ (Kelty, 2008, p. 29). Consequently, the regime that seeks to professionalise and scale public interest in open data intersects with the sustainability logics outlined in the context of remediation and circulation through digitisation (R2). Moreover, the sustainability logic of technology development and digitisation aligns with the innovation discourse of New Materialism at the cultural policy level and serves as a macro supply. This relationship will be explored further in the context of the social engineering regime (see R5).

What is more, with regard to the social relevance and power dynamics within R3, the dispositifs that constitute this regime indicate that its ramifications transcend mere technical and aesthetic engagement with hacking. Enforcing public interest in open source requires resourcing efforts to be scaled up across multiple regimes and

societal levels, including OpenGlaMs, cultural politics, and civil society (see chapter 5.2). Together, the three dispositifs – institutionalisation, community management, and mitigation (D3.1-3.3) – underscore the importance of resourcing through technical, aesthetic, organisational, financial, educational, and political modalities within R3.

5.1.4. Regimes of everyday life (R4)

How is culture lived and shared in everyday life?

Vignette: The POEM project – Participatory Memory Practices and social inclusion

The POEM project establishes a transdisciplinary community of practice dedicated to promoting open societies in the context of digitisation. It is vital for fostering socially inclusive futures in Europe that individuals and groups are able to become part of public memory. By adopting relational, action-oriented and design anthropological approaches, the project explores how participatory memory practices and connections are created and challenged among institutions, individuals, groups, and various memory modalities, with a specific focus on social inclusion in the context of digitisation. This research investigates how everyday realities and meanings can be integrated into professional heritage work, considering personal memory practices and the appropriation of digital and social media for everyday memory-making in an increasingly digital environment. The research covers diverse topics, including the navigation of grief, youth engagement with heritage in educational settings (such as schools), personal memory-making, community archiving in digital media environments, and the envisioning of postcolonial potential futures in (trans-)national heritage regimes (see chapter 4.5).

Against this backdrop, the chapter focuses on the regimes of everyday life (R4). R4 offers a nuanced understanding of sustainability* that encompasses individuals' and groups' mundane aspirations, perspectives, and visions regarding the idea of the 'good life' (Collier & Lakoff, 2005) at a micro level. As individuals' experiences are shaped by their diverse affiliations, identities, ways of knowing, and socio-cultural backgrounds, I use the plural 'regimes' to emphasise the existence of different interpretations of the 'good life' in everyday life (see chapter 4.1). Three key dispositifs emerge in my dispositif analysis relating to personal memory practices in everyday life and varying degrees of involvement in the context of digitisation. The first dispositif, which centres on *recognising cultural citizenship* (D4.1), sheds light on the role and popular agency of users. The second dispositif focuses on *reconnecting with everyday memory practices in digital media environments* (D4.2) and emphasises the cultural productivity of users' everyday media activities. The third dispositif addresses *stewardship towards open knowledges* (D4.3), reflecting empirically grounded and heuristically informed approaches to participatory memory practices developed through action-oriented and design-anthropological research projects. This third dispositif specifically considers how the lived experiences of cultural citizens, along with the cultural knowledge and traditions that are important to them in everyday life, can be reflected

in the knowledge practices of professional heritage work and in the public memory of pluralistic societies in Europe.

Actors and sociotechnical agencies constituting R4

When analysing the actors involved in the regimes of everyday life, people and groups and their aspirations, perspectives, and visions emerge as central to these regimes. At the micro level, civil society is organised more decentralised, with memory practices being organised in a less institutionalised way than the publics constituting the professionalisation of public interest in open data (Marttila & Botero, 2017). In this context, cultural facilitators, intermediaries, and socio-cultural innovators emerge in my research as pivotal social actors, emphasising the social productivity of traditions as part of people's identities and the role of popular agency 'in the wild' at the micro level. Although the analysis does not primarily focus on everyday memory practices, the ways in which individuals and groups know and make meaning of culture are implicit in the findings relating to the sustainability strategies employed by these facilitators (see chapter 4.2). Prominent brokers include socio-cultural entrepreneurs such as Mar Dixon from the #AAC Day hashtag initiative. In some cases, communities of practice, such as civic hackers and other digital volunteers, as exemplified by the ZeitblickApp from the CDV hackathon (see chapter 4.4.3), also emerge as significant actors within this regime, highlighting the personal media practices for everyday communication and sharing of cultural knowledge. Furthermore, researchers engaged in action-oriented and design-anthropological research projects that focus on participatory memory practices play a crucial role in reflecting the dynamics of everyday life. As discussed in chapter 2.3, concepts such as 'transdisciplinarity' and 'collaborative research' demonstrate how these engaged research initiatives have evolved from applied and community-oriented knowledge paradigms. These approaches emphasise transformation and openness through 'citizen science' and 'community engagement'.

The agency within this regime is rooted in the interplay of both popular agency and technological agency. With regard to human agency, contemporary institutional open data initiatives advocate participatory approaches that encourage users to adopt the role of 'responsible citizens' and be activated as custodians of authorised historical records (D4.1). In contrast, the POEM project's framework of participatory memory practices is based on the fundamental anthropological premise that audiences and users are considered 'experts' in their everyday lives and, consequently, should be recognised as 'cultural citizens' (Beaman, 2016, as cited in Koch & Smith, 2025b, p. 3). These individuals have the ability to actively determine what is relevant to memory practices

in their daily lives, and to develop coping strategies and future perspectives within their own contexts. This conceptualisation of cultural citizenship is closely linked to broader issues of cultural representation and social inclusion, which have emerged as key challenges in the analysis of sustainability conflicts in the cultural sector (see chapter 4.6).

In terms of technical agency, digital media, especially social media and sharing cultures (Giaccardi, 2012; Schönholz, 2017), plays a crucial role in shaping communication and daily interactions within regimes of everyday life. Significant remediation of cultural production has altered the way cultural knowledge circulates in digital media environments (see R2). Concepts such as ‘open data’, ‘reuse’, and ‘public interest technology’ highlight the transition from passive ‘audiences’, who engage in highly curated and predictable exhibition experiences, to active ‘users’, who contribute to the creation and sharing of cultural knowledge in digital media environments. This has given individuals and groups unprecedented agency over cultural production and transmission, facilitated by digital and social media (see chapter 2.3). Consequently, this dynamic regime manifests through both human and non-human agency within the context of everyday media practices.

Key sustainability practices assembled within R4

A primary strategy for engaging with the experiences of individuals and groups at a micro level is to explore and reconnect with the media and memory practices that shape their daily lives (D4.2). This approach involves moving activities to the sites of everyday communication practices, as demonstrated by the *ZeitblickApp* (see chapter 4.4.3). The app focuses on sharing cultures, including copying, pasting, and taking selfies that correspond with historical portraits. In a similar vein, the #AAC Day initiative seeks to popularise cultural heritage by encouraging open dialogue between individuals and curators about personal memory practices and the relevance of existing heritage collections to everyday life (see chapter 4.5.1). The appropriation of social media platforms, including Twitter, Facebook and Instagram, has encouraged contributions from people with a wide range of educational and social backgrounds, promoting personal archives on social media, documenting everyday life, and encouraging them to share cultural materials and perspectives on history using the #AAC hashtag. These practices facilitate identity-generating uses through existing heritage collections and highlight the growing prevalence of personal archives on social media.

In addition, stewardship practices towards open knowledges (D4.3) aim to amplify the voices of individuals and groups within public memory, while also disrupting the current institutional safeguarding and open data approaches in the cultural sector.

Although levels of community engagement may vary, the stewardship approaches employed in design-anthropological research experiments and the POEM project take a more strategic approach guided by scientific heuristic principles, and encompass a variety of collaborative activities designed to promote more nuanced and situated understandings of cultural knowledge, identity, belonging, and civil society within increasingly complex societies (see chapter 4.5.2). These stewardship approaches encourage a transformative re-evaluation of the epistemologies that underpin contemporary professional heritage work in the context of digitisation. In doing so, they prioritise the experiences and perspectives of marginalised individuals and communities as cultural citizens and agents in everyday life. Moreover, they emphasise the exploration of ‘near futures’ (R. Bryant & Knight, 2019; Rabinow et al., 2008; R. C. Smith et al., 2016) that are envisaged and actively cultivated in contemporary everyday life, forming a central rationale within R4. Furthermore, these initiatives often address the ‘difficult issues’ of cultural representation encountered in biased collections or politicised heritage contexts, using these challenges as entry points for transdisciplinary collaboration and intervention. Consequently, these stewardship approaches nurture more socially inclusive approaches to national ‘grand narratives’ and heritage futures, extending beyond the digitisation and sharing of authorised heritage in professional heritage work (R1).

Sustainability* logics, politics, and power dynamics of R4

The politics of regimes of everyday life are increasingly shaped by a shift in focus from a narrow orientation on open data to a broader forward-looking conception of open knowledges. Although participation is emphasised as a top-down global value within the assemblage, this emerging regime highlights the cultural practices and contributions of cultural citizens that facilitate the creation and circulation of cultural knowledge in everyday life (Barth, 2002). At the micro levels, traditions provide a foundation for reflection and a valuable resource for action, helping individuals to navigate the challenges they face, underlining the regime character of R4.

In order to address the social relevance and power dynamics inherent in the regimes of everyday life effectively, the POEM project’s stewardship approaches highlight the importance of examining individuals’ everyday memory practices within the context of remediation (D4.1-4.3), a sustainability approach that has also been emphasised by other researchers in related fields (e.g. Giaccardi, 2012; Marttila & Botero, 2017). Identity-creating sustainability initiatives like the #ACC Day that aim to reconnect with sharing cultures in everyday life have attracted the interest of GlaM institu-

tions while simultaneously challenging the traditional boundaries of professional heritage work. Furthermore, transdisciplinary stewardship approaches that focus on participatory memory practices reveal transformative potential with regard to the epistemologies of contemporary heritage work and public memory.

However, everyday understandings of sustainability* are often overshadowed by dominant regimes and overlooked by decision-makers at institutional and macro-political levels. Initiatives that advocate for these sustainability* understandings run the risk of being disregarded or ‘museumified’ within professional heritage contexts. For example, hashtags such as #AskACurator are often subject to top-down heritage curation on social media, while public-interest technologies like the ZeitblickApp tend to receive little attention within professional heritage contexts, as ongoing conflicts over distribution and authority illustrate (see chapters 4.6.2 and 4.6.3). Moreover, it is important to acknowledge that social networks are intertwined with economic reuse and commercial datafication strategies. This sustainability issue requires further consideration within the cultural sector’s discourses and practices. Many critical voices in the research field emphasise the importance of carefully developing strategies that integrate symbolic and economic valuation in the context of open data and sharing cultures in the cultural sector (Axelsson, 2019; Koch, 2017; Tzouganatou, 2023). While many action-oriented research initiatives remain fragmented across various projects and disciplines within the cultural sector, the POEM-ETN’s relational approach is notable for its dedication to fostering a transdisciplinary POEM Community of Practice that extends beyond the scope of individual project cycles.

Together, the three dispositifs – recognising cultural citizenship, reconnecting with everyday communication, and developing stewardship approaches towards open knowledges (D4.1-4.3) – are vital for nurturing an open society within the ever-evolving landscape of digital media. They emphasise the importance of situating European public memories within the broader context of everyday life, highlighting the need for greater interconnectedness between regimes and heuristic stewardship to open up the heritage sector through citizen science (see chapter 5.2).

5.1.5. Regime of social engineering through New Materialism (R5)

How should culture become a resource for envisioning possible futures?

Vignette: Social impact measurement in the cultural sector

OpenGlaM institutions have successfully secured (inter-)national and regional public funding (e.g. EU, eHeritage, and eCulture Agenda 2020) to implement large-scale digitisation and open data projects to enhance the accessibility and availability of their archives and collections (see chapters 4.2-4.3). In recent years, there has been a growing demand for social impact measurement, particularly in relation to the accountability of public funds and the identification of tangible outcomes of open data projects. At the transnational level, particularly in relation to the European Union and Europeana, actionable recommendations have been formulated in line with the latest EU Impact Factors under the Horizon Europe framework. A Europeana Task Force for Social Impact Measurement has been established, and the Europeana Playbook offers OpenGlaMs seemingly easy-to-follow guidelines to assess their open data initiatives. Recent research in the digital humanities, digital heritage, and heritage studies increasingly integrates social impact measurement to assess the preservation of heritage through digitisation and open data initiatives, and to validate the practical and democratic potential of knowledge production in the cultural sector under digital conditions (see chapter 4.6.1).

According to Tolina and Vesselin Loulanski, cultural heritage has both resource and developmental value, both of which are critical for managing its utilisation (Loulanski & Loulanski, 2011a, p. 613). In this context, it is essential to examine the political governance of open knowledge within the heritage sector at a macro level, particularly with regard to the social engineering processes that emerge as a fifth sustainability* regime (R5) within the global assemblage. From an assemblage perspective on governmentality, this chapter explores the moral economies and political ecologies at the macro level that frame culture as a vital resource for producing the social and envisioning potential ‘sustainable’ futures, as well as shaping ‘the conditions under which lives are [to be] lived’ (Li, 2007b, p. 379) in Europe.

My findings reveal three key dispositifs that constitute regime R5. The first dispositif, *New Materialism* (D5.1), lies at the core of this regime and serves as the ‘symbolic universe’ (Berger & Luckmann, 1967) guiding social engineering efforts that aim at shaping and controlling future trajectories within the cultural sector. Drawing from STS research, this dominant imaginary is characterised by a political belief in technological determinism (Lezaun et al., 2017), or even ‘technopositivism’, which posits that contemporary societal challenges can be solved through advancing (digital)

technology. The following two dispositifs – *transnational regulation* (D5.2) and *accountability* (D5.3) – serve as essential governance technologies that employ soft power to engineer the conditions under which lives are (to be) lived within the European Union and the cultural sector. The dispositif of regulation (D5.2) emphasises the importance of public-private partnerships in economic development programmes within an open knowledge context in the cultural sector. The third dispositif, accountability (D5.3), focuses on the increasing importance of measuring social impact as a novel memory modality for OpenGlaMs as part of social engineering within the global assemblage in digital, pluralistic Europe (Lutz et al., 2025).

Actors and sociotechnical agencies constituting R5

When examining the actors that constitute regime R5 and its social engineering approach in the cultural sector, I previously argued (Lutz, 2017a; Lutz & Koch, 2017) that rather than open knowledge being delegated straightforwardly as a transnational governance approach to national or local authorities, political authority is instead devolved to new sociotechnical agencies and coalitions. Throughout the earlier chapters (R1-R4), I have outlined these emerging policy agents and coalitions within the established typology at hand. In this section, I will briefly summarise the key actors to contextualise in the section how regime R5 assembles this diverse range of actors, agencies, and their sustainability initiatives with regard to New Materialism through soft power.

Cultural policy within the European Union (EU) is primarily the responsibility of Member States. Consequently, national governments, alongside heritage institutions and professionals, continue to play a primary role in managing national histories and cultural identities, thereby emphasising the role of national heritage regimes. At the same time, new policy actors, such as experts from national and local OpenGlaM institutions, data aggregators, and digital repositories, as well as open knowledge advocates, legal advisors, and civic hackers from civil society organisations like the OKF and Wikimedia play a key role in spelling out and facilitating the circulation of open knowledge as a boundary object across national heritage regimes in Europe (see chapter 4.2). Social engineering through New Materialism (D5.1) goes hand in hand with attracting expertise from digital media production and technoscience, particularly through public-private partnerships with the research and development (R&D) departments of IT and creative industries, including major corporations in Silicon Valley. These partnerships form the basis of digital strategies at local, regional, national, and

transnational levels, especially with regard to economic development initiatives, as illustrated by examples such as the Hamburg's eCulture agenda and the EU's Horizon 2020 framework (see chapter 4.2). In addition, socio-cultural entrepreneurs as well as researchers in related fields of technoscience such as digital humanities, cultural informatics, and computer scientists play an essential role as new policy actors within this global assemblage.

Examining the agency exercised by regime R5 through the lens of governmentality reveals that social engineering in the cultural sector is essentially an exercise in agency manifesting in soft power, regulation, and innovation management. This perspective aligns closely with renewed assertions of sovereign power held by expert authorities in digitisation-related fields. The regime engages in social engineering at multiple levels of society by assembling a diverse array of actors, sociotechnical alliances, and coalitions to 'manage social change and regulate the future development and behaviour of a society' (Oxford English Dictionary, 2025). Unlike conventional top-down governmental models, which are characterised by state and supranational control over policymaking and the transposition of directives into national legislation (cf. Coombe, 2013; Li, 2007b), the R5 regime operates within a more complex and nuanced framework across regimes within the global assemblage. It comprises agencies operating at the intersection of institutions and academia, alongside civic tech engagement and cooperation with digital economies. This multifaceted approach of distributed agencies highlights the importance of New Materialism (D5.1) as a symbolic universe of governance, manifesting in contemporary translocal situated contexts of open knowledge in the cultural sector across Europe.

Key sustainability practices assembled within R5

In order to envision possible futures through culture as a resource, it is crucial to consider the role of transnational regulatory activities (D5.2) and accountability practices (D5.3) that facilitate the global circulation of New Materialism (D5.1) across European national heritage regimes through economic development programmes and incentives. In framing it as a form of innovation management in the cultural sector, the category of resourcing also plays an important role for social engineering through New Materialism. In this context, a key practice of social engineering through soft power revolves around regulatory action (D5.2), which is understood as 'any form of policy change intended to introduce, maintain, or extend control' (Murillo & Kelty, 2017, p. 110). Despite its limited legislative authority over cultural matters, the EU exerts significant influence on national heritage regimes through transnational governance approaches of

open knowledge and funding schemes for public-private partnerships (PPPs) (see chapter 4.2). Financial flows, particularly in the wake of recent political austerity measures across Europe, tend to favour public-private partnerships over open-source solutions and public-public collaborations (see chapter 4.6.2). Such an orientation of social engineering efforts reinforces the role of private entities in managing public objectives and resources, including the digitisation of cultural heritage and the promotion of open data (Tzouganatou, 2023; Tzouganatou & Krueckeberg, 2021). However, it also raises critical concerns regarding the equitable distribution of financial benefits linked to these open data initiatives within PPPs.

These regulatory frameworks lay the foundation for the competitive emulation of open data initiatives among OpenGlaMs and heritage professionals at the inter-institutional level (see D1.3). Contemporary economic and cultural policies that promote open knowledge provide an incentive for GlaM institutions to restructure themselves as OpenGlaMs, positioning them as knowledge organisations (see chapter 4.3). This shift aims to foster innovation by enhancing access to scientific and cultural knowledge in online collections and archives, thereby aligning with innovation cycles and public resource management oriented at New Materialism. However, as this transformation is not seamless, digital literacy has become an increasingly important part of recent cultural policy agendas, as emphasised by the G20 culture minister's resolution that underlines the role of digital literacy in light of growing datafication (see chapter 4.6.1).

In this regime, we observe the recurring global pattern of adopting knowledge practices, such as hacking and prototyping technological solutions, as a rapid response to contemporary societal challenges through innovation management, as exemplified by economic reuse initiatives or the series of cultural hackathons (see chapter 4.4). Open data increasingly emerges as a valuable resource for the just-in-time development of ideas, digital services, and tools, as the recent EU hackathon 'We vs. virus' illustrates, which aimed to mitigate the risks of the COVID-19 pandemic. Alongside the transition to OpenGlaMs, this regime demonstrates the growing adoption of corporate principles associated with New Materialism in social engineering initiatives within the cultural sector.

These considerations are closely linked to accountability practices (D5.3), which are another crucial set of sustainability practices in R5, evident in the emerging phenomenon of social impact measurement in the context of digitisation in the cultural sector. In the context of heritage management, the process of metrification introduces new dynamics, emphasising control mechanisms enabled by datafication and a reliance on quantifiable evidence. As the volume of open data in online collections and archives continues to grow, my findings suggest that OpenGlaMs face dual pressures. Not only

are they tasked with translating open cultural data into applicable contexts through public-private partnerships, they are also required to elucidate and justify the ‘impact’ of their digitisation efforts to funders and policymakers (see chapter 4.6.1). The increasing objectification and standardisation of value – a phenomenon termed ‘qualculation’ by Callon and Law (2005) – illustrates a growing trend towards quantification in various social and cultural fields, including the heritage sector, where symbolic values have traditionally held sway (R1). Through qualculation, a term combining ‘qualification’ and ‘calculation’, both transnational and national cultural politics seek to promote social engineering that aligns with New Materialism and evidence-based policymaking. Despite these being inherently subject to judgement and valuation, this approach increasingly prioritises the measurement, evaluation, and ‘objective’ representation of values, qualities, and relationships in the cultural sector in the context of digitisation.

Sustainability* logics, politics, and power dynamics of R5

The management of national identities through digitisation as a means of innovation and control plays a pivotal role in the implementation of social engineering regimes in the cultural sector. The politics and logics of sustainability* in regime R5 are intrinsically aligned with New Materialism as symbolic universe, which promotes heritage as a resource and advocates a future-oriented approach to heritage management in the context of digitalisation (R2). This regime asserts that developing new digital products and services requires adherence to specific innovation management strategies that align with digital production principles and data logics to enhance control over future outcomes in the cultural sector. Alongside the production and data logics detailed in regime R2, control through materiality incorporates corporate and qualculative logics derived from governance frameworks rooted in business management and audit cultures (Callon & Law, 2005; Larsen, Blim, Porter, Ram, & Rapport, 2021b; Strathern, 2000). Given this regime’s social relevance and power dynamics, the convergence of data, corporate, production, and qualculative logics within regulatory and resourcing activities of cultural policy has significant implications for the translocal governance and management of heritage in an increasingly digital world. The regime of social engineering through New Materialism emerges as a powerful force within the global assemblage, actively shifting the power dynamics that redefine the circulation of heritage through control, materiality, and soft power in the context of digitisation and open knowledge.

5.2. Discussion: Towards living sustainabilities in the cultural sector

This thesis highlights the fragile and evolving relationship between culture and sustainability in the context of heritage and digitisation. This relationship is influenced by multiple sources, memory modalities, and complex negotiations around the idea of the ‘good life’ within the cultural sector. The question of how we should live as an open society has become increasingly contested, particularly against the backdrop of ongoing digitalisation that permeates various social and cultural spheres. These sociotechnical changes have triggered significant shifts within numerous ‘regimes of living’ (Collier & Lakoff, 2005), including the sustainability* regimes at the heart of this study, which is situated in the cultural sector in pluralistic Europe. By discussing which ideas of sustainability* are prevalent and how they inform notions of what is considered ‘good’, ‘open’, and ‘sustainable’ practices in the cultural sector across Europe, this thesis set out to illuminate the diverse notions of *living sustainabilities* in the plural that are currently being experienced and actively negotiated in the emerging global assemblage. Crucially, with living sustainabilities as the overarching framework for this discussion, the aim of this research is not to advocate a singular perspective of sustainability* as inherently ‘good’ or ‘sustainable’. Rather, it seeks to foster a dialogue about the myriad, often conflicting or even marginalised conceptions of sustainability* that emerge within the cultural field. This engagement is intended to highlight the complexities and nuances of living sustainabilities within the cultural sector, and to promote a richer understanding of its implications in an increasingly digitalised world.

The typology presented in chapter 5.1 shows that sustainability activities related to heritage and openness are distributed across a global assemblage of actors, practices, memory modalities, infrastructures, regulations, discourses, politics, cultural economies. This perspective sheds light on the intricate interrelationships between five different sustainability* regimes (R1-R5) situated within translocal contexts of doing and undoing openness in the cultural sector. Such dynamics require continuous negotiation and navigation through translations between regimes, dispositifs, and memory modalities. Therefore, this chapter will discuss the broader implications of the typology in conjunction with the heuristic framework (see chapter 2.3) for promoting living sustainabilities in the cultural sector, with a particular focus on the role of citizen science for openness.

In order to frame this discussion, the chapter is divided into three main parts. First, it introduces the framework of ‘living sustainabilities,’ which offers a relational perspective on sustainability*, emphasising its ethical negotiations and situatedness,

especially in light of the ongoing digitalisation and sociotechnical changes in the cultural sector (see chapter 5.2.1). Second, it summarises the results of the typology presented in the synthesis (see chapter 5.2.2). It reflects on the power dynamics in terms of openness inherent in the assemblage, currently manifested as a form of expert debate, paying particular attention to the contributions of the typology with regard to reconfigurations of openness in the cultural sector. Finally, despite the criticisms made throughout the chapter, I would like to emphasise the potential benefits of the typology in promoting dialogue between different sustainability* regimes in the digital transformation of the cultural sector (see chapter 5.2.3). Based on my findings, I will highlight three trajectories for navigating towards living sustainabilities through citizen science. These discussions of how culture is lived – rather than how culture should be – have significant implications that invite application and development for future heritage work, policymaking, civic engagement, and research.

5.2.1. Conceptualising ‘living sustainabilities’ as an empirical framework for the cultural sector

In the realm of culture, sustainability* must be understood as a multifaceted debate deeply entwined with notions of openness in the social and cultural sphere and it is not enough to consider the concept of sustainability in isolation. This link between cultural sustainability* and openness is often only implicit, as open knowledge emerges as a crucial boundary object across the sustainability strategies compiled in the study (see chapter 4.2-4.6). This embedded understanding of sustainability* requires a relational perspective that takes into account the complexities of heritage as a global assemblage in the context of ongoing sociotechnical change. My findings underscore the pressing need for greater recognition of civil society’s and cultural citizens’ contributions to sustainability discourses and theoretical conceptualisations that extend beyond institutional perspectives on sustainability and an ecological understanding (Adloff & Neckel, 2019; Krieg & Toivanen, 2021b). This recognition is particularly critical in fostering open societies within the ongoing digitisation processes in the cultural sector.

Accordingly, I reconceptualise ‘sustainability’ in the cultural sector as *‘living sustainabilities’* – in the plural – representing an ethical negotiation process about the idea of an ‘intact culture’. This typology-based framework can be used to guide future sustainability strategies and related research in the context of digitisation in the cultural sector. Drawing from my synthesis, I identify five key dimensions of the analytical framework, which is not some kind of static template or blueprint (see figure 12). First,

what constitutes valued cultural heritage, along with the criteria for its symbolic valuation and the stakeholders involved, is intricately linked to moral questions in sustainability debates. Therefore, living sustainabilities addresses these moral debates as reflected in the regimes of living concept (see chapter 2.3).



Figure 12: Living sustainabilities framework

Second, this approach also considers the multifaceted dimensions of sustainability across societal levels – ranging from micro to meso and macro – where these ethical negotiations take place. The relational framework living sustainabilities emphasises the interconnectedness of various societal levels, scales, memory modalities, moral economies, and power dynamics within the assemblage. Building on the work of Collier and Lakoff (2005), living sustainabilities encapsulates the situated ethical negotiations that characterise our responses to situations where ‘living’ has become problematic in different societal and cultural domains. My research thus frames living sustainabilities as context-specific concerns, closely linked to particular situations and the processes designed to facilitate sustainable development within them. In this sense, the regimes of living concept needs to be spelled out further through heuristics that guide stewardship approaches for opening up towards living sustainabilities in relation to the specific domain. In addition, identifying memory modalities (Krueckeberg et al., 2025) – such as museological, organisational, technical, aesthetic, economic/corporate, political, and ethical – that hinder or facilitate actions to translate between regimes within a global assemblage is crucial to guiding such efforts towards living sustainabilities.

Third, living sustainabilities underscores the vital role of civil society in fostering open societies, particularly in the context of digitisation. This framework integrates

not just institutional and structural perspectives and meso-level publics, such as recursive publics in public-interest technology, but also emic perspectives, including individual and group aspirations, visions, and interpretations of the ‘good life’ (Lutz & Koch, 2017) as part of cultural citizenship. While institutional perspectives on sustainable development focus on control, innovation, and transformation as responses to uncertain situations, as articulated by Adloff and Neckel (2019) in ecological and economic domains, these may overlook the lived experiences of individuals and groups as they unfold in heritage domains in the context of digitisation (e.g. R3-R4). Recognising the diverse contributions of civil society, in relation with institutional and structural multi-scaled strategies, is essential for envisioning sustainable futures across different levels of society and knowledge domains (Beaman, 2016; Hickey & Mohan, 2008; Koch & Smith, 2025a).

Fourth, the framework also sheds light on the complexities inherent in differing interpretations of the ‘good life,’ revealing the diversity of (world)views present (whether explicitly or implicitly) in sustainability discussions. However, this diversity of living sustainabilities brings forth conflicts and challenges regarding ideas of the ‘good life’ within the assemblage, which must be addressed when navigating those ethical negotiations in cultural and social domains. A holistic approach to sustainability and heritage can reveal the many memory modalities involved that challenge and are necessary to become part of public memory in the present and to shape potential, more socially inclusive heritage futures in the context of digitisation. This underscores that sustainability is enacted across various societal levels, with a particular emphasis on everyday practices and ways of knowing, while considering the power dynamics and remediations shaping these perspectives. I thus frame these negotiations as living sustainabilities in the plural.

Finally, the use of the present participle form in ‘living sustainabilities’ advocates for a practice-oriented approach that seeks to counterbalance the more dominant narratives of sustainability in discourses (Keller, 2013; Schatzki, 2016; R. Schmidt, 2011), which often tend to offer overly optimistic and detached perspectives from everyday realities. In doing so, living sustainabilities embraces a more nuanced understanding of the complex realities and challenges associated with pursuing a ‘good life’ in contemporary pluralistic societies. This framework fosters an understanding of sustainability* as an evolving and contested debate within cultural contexts. Consequently, this research foregrounds a holistic perspective on living sustainabilities in the cultural and social fields, inviting further empirical analysis, practical application, and development in cultural practices and research across knowledge domains and fields.

5.2.2. Reconfiguring openness in the cultural sector and digitisation

Openness in the cultural sector is a contentious issue, characterised by ongoing tensions between continuity and change (Brown, 1998). As Collier and Lakoff (2005) note, digital transformations are fundamentally reshaping contemporary everyday life, raising questions about how one should live in the context of digitisation. Emerging debates about ongoing digitisation in the cultural sector generate political, ethical, and technological pressures on the practices and relationships between GlaM institutions, scholarly communities, cultural politics, market distribution mechanisms, and people and social groups in everyday life. The dynamics of remediation diversify how heritage is socially organised and managed, as well as represented, distributed, and used in the digital landscape (Barth, 2002; Bolter & Grusin, 2000). As a result, digitisation and datafication (R2) lead to shifting sustainability* regimes, thereby reconfiguring the question of sustainability in terms of cultural vitality and openness within the cultural sector. This development requires reflection in both discourse and practice, and underlines the importance of engaging with sociotechnical change in professional heritage work, cultural policy, and related research fields such as CHS and beyond.

As mentioned before, sustainability* is currently an ongoing debate of the idea of an 'intact culture' in this context; the typology helps to identify the divergent conceptualisations of sustainability* that are currently being negotiated and asserted against other regimes and inherent power relations, particularly in relation to open knowledge as a boundary object in the context of digitisation. These shifting regimes include living sustainabilities and moral economies related to: 1) Heritagisation and revitalisation through open data; 2) The remediation and circulation of heritage through global aesthetics shaped by digitisation and datafication; 3) The professionalisation of public interest in open data; 4) Memory and media practices in everyday lives; and 5) Social engineering in line with New Materialism (R1-5). Building on these findings, I argue for the importance of reflecting on the modes and modalities of openness and the cultural differentiations inherent in cultural practices that challenge the organisation of an open society in the context of digitisation.

Despite the complexities inherent in the cultural practices re-assembled in chapter 5.1, the typology and associated power relations reveal that heritage in the context of digitisation often re-emerges as a specialised debate, prioritising expert knowledge and national identity politics associated with the revitalisation of authorised heritage. Driven by the impulse to safeguard heritage for future generations, the prevailing sustainability* regime of heritagisation promotes top-down representations and transmis-

sion of open data in the digital realm (R1). However, as the typology emphasises, heritage is currently being reorganised within a global assemblage shaped by digitisation. While the affirmative heritagisation and revitalisation of the past is often at odds with other emerging regimes within the assemblage and central tenets of CHS and remediation (see chapter 2.3), which will be detailed below, it would be an oversimplification to suggest that it can evade the intensifying dynamics of digitisation while striving to maintain the vitality of heritage in the face of sociotechnical change. Rather, in relating these newer emerging regimes of professionalising public interest in open data, everyday memory practices, and social engineering in the context of the digital zeitgeist (R3-5), they ‘trace little lines of mutation’ (Collier & Ong, 2005, p. 18) of openness within this evolving digital landscape.

In this context, the social engineering approach (R5) reinforces the control over national identities through accountability and the authority of new expertise in digital media production and technoscience within the cultural sector, while the political ecologies and moral economies associated with New Materialism increasingly serve as a future-oriented imaginary of the digital zeitgeist for the cultural sector. Moreover, my findings on the regime of professionalising public interest in open data, together with the regimes of everyday life (R3-R4), suggest that sustainability in the cultural sector has become an increasingly pressing public concern in the midst of digitisation. These shifting regimes underscore the vital role of civil society – comprising meso-level publics and micro-level cultural citizens – in driving and embracing sociotechnical change within cultural practices. They are essential in negotiating how we should remember and navigate open societies within an emerging global assemblage shaped by ongoing digitisation.

Against this background, I argue that openness is both constrained and enabled by different sustainability* regimes and their moral economies, which are deeply embedded in social conventions, power dynamics, memory modalities, and digital technologies. In what follows, I will discuss the challenges and opportunities identified by the typology with respect to openness within the global assemblage, detailing both the modes and modalities of doing and undoing openness in the midst of sociotechnical change. The discussion of the typology will highlight the range of memory modalities assembled in these regimes – museological, organisational, technical, aesthetic, monetary/non-monetary, corporate, everyday, political, and ethical – that can either hinder or promote openness in the context of digitisation. These modalities can also offer potential points of connection for translation between the different regimes (see chapter 5.2.3).

Undoing openness through heritagisation and revitalisation in the context of open data

My findings reveal that, in the context of digitisation, the processes of making and unmaking heritage are interrelated cultural operations within the first regime (R1). These practices reinforce the heritagisation and revitalisation of authorised heritage materials that were collected and archived in the past, thus driving the spiral of symbolic valorisation anew (see chapter 5.1.1). Despite the well-intentioned participatory efforts of heritage professionals and OpenGlaM institutions regarding open data, their practices of authorised heritage making and unmaking challenge the principle of openness in the cultural sector. Heritage increasingly re-emerges as a specialised debate that prioritises the authority of expert knowledge. The concept of sustainability* is closely associated with museological memory modalities of cultural representation, reflecting a strong emphasis on materiality and authenticity, as well as a desire to assert control over national identity politics and grand narratives of how culture should be.

However, as previously discussed (cf. Lutz, 2017a; Lutz & Koch, 2017), these activities are rarely integrated into the strategic and systematic re-evaluation of contemporary collection and memory policies within GlaM institutions. This is particularly true when viewed through the lens of CHS, a discipline that provides heuristics of an ‘intact culture’ to guide the cultural sector. Although CHS has not yet devoted much attention to the dynamic reorganisation of heritage brought about by digitalisation, the absence of reflection on open data strategies contrast sharply with contemporary debates within CHS concerning living heritage, decolonisation, and de-collection (see chapter 2.3). The affirmative focus on collective grand narratives tends to reinforce the notion of heritage as a metacultural product, disconnected from its practical uses and appropriations in the face of sociotechnical change, rather than recognising it as a process closely interwoven with everyday life. Furthermore, the unsystematic revitalisation of heritage and its top-down presentation in the context of digitisation has also drawn criticism from other scholars addressing the challenges posed by digitisation (Koch, 2015; Willim, 2017). This raises important concerns about the potential for ‘heritage overload’ (Lowenthal, 1998, as cited in Loulanski & Loulanski, 2011a, p. 613), particularly in light of the ever-growing piles of unused data generated by online collections, data aggregators, and digital repositories.

What is more from the perspective of CHS, concepts such as ‘memory complex’, ‘authorised heritage discourse’, and ‘living heritage’ (Kirshenblatt-Gimblett, 2004; Macdonald, 2013; L. Smith, 2006) regain relevance from the perspective of heritage regimes. When considered in the context of the affirmative accumulation of the

past through open data, these concepts reflect sustained efforts to translate the current ‘monumental regime’ into the digital realm. ‘Monumental heritage’ is a term coined by Laurajane Smith to frame ‘the 19th–century European discourse of heritage that privileged the pastoral care of material artifacts as witnesses to history and works of art that reflected universal aesthetic values’ (Coombe, 2013, p. 375). Considering the transnational developments facilitated by UNESCO among others, in the context of emerging ‘intangible heritage’, this monumental view of heritage has given way to greater appreciation for practice-oriented forms of cultural expressions and cultural diversity in the context of the living heritage discourse (see chapter 2.3). In the context of digitisation, Sharon Macdonald’s question of how much heritage and memory Europe can take (Macdonald, 2013, p. 227) remains highly relevant, particularly in the context of an era marked by extensive digitisation in the cultural sector. Her perspective is primarily concerned with the proliferation of non-digital, authorised traditions and the conceptual expansion of ‘heritage’, but it also resonates with the ongoing challenges posed by the heterogeneous accumulation of open data through the first regime.

In considering the contribution of the living sustainabilities typology to these discussions, it becomes clear that GlaM institutions and heritage professionals often undermine openness by narrowing heritage to authorised heritage materials in the context of digitisation (see chapter 5.1.1). Even if some practitioners involved in making heritage available as open data aimed for cultural rather than metacultural outcomes in the first place – focusing on practices that directly support cultural production by cultural citizens – these metacultural operations within regime R1 are currently taking place in isolation from sociotechnical shifts in other regimes (R2-R5). This separation further entrenches the memory complex as a distinct, isolated ‘knowledge ecology’ (Coombe & Kisin, 2021). For example, the ongoing competitive emulation of open data approaches at an inter-institutional level in the GlaM sector (see chapter 5.1.1), as well as the challenges of authority and reciprocity in the context of civic tech developments within professional heritage work (see chapter 4.6.3) illustrate its separation from other emerging regimes and alternative notions of sustainability* that aim to maintain cultural vitality and openness in the digital age. Sociologists Luc Boltanski and Arnaud Esquerre (2020) also characterise heritage making as an ‘enrichment economy’ – a unique form of capitalism in Europe rooted in symbolic valuation – yet they do so without considering digitisation. This notion of a new regime of heritagisation emerging is reinforced; however, it should be understood less as a set of institutionalised governance mechanisms and more as evolving regimes of living that are formative and constitutive in nature within the global assemblage.

Furthermore, the issue of undoing openness through professional heritage practices has received insufficient attention in CHS, both in relation to digitisation and in the broader context of the moral economies of professional heritage work. While existing research on the unmaking of heritage often highlights the neoliberal pressures driving the economic valorisation of heritage, affecting both professional heritage work and community engagement (Bendix, 2007; Coombe, 2013; Welz, 2015), and is also evident in the context of distributional conflicts between the heritage and economic sectors (see chapter 4.6.2), my research suggests that this phenomenon may also stem from deeper issues related to conservationist and protectionist notions of ‘intact culture’ within the cultural sector itself. This detrimental ‘heritage effect’ (Macdonald, 2008, p. 61) is particularly implicit in the emerging platforms of data aggregators and the emerging pressures to justify the social impact of large-scale digitisation initiatives (see chapter 4.6.1). Such an emphasis on anecdotal evidence of heritage status and museological memory modalities continues to play an important role in maintaining the moral and cultural economies of symbolic valuation in the midst of digitisation.

This raises the critical question of sustainability: how open are open data approaches in professional heritage work? Why preserve, digitise, and make everything available if heritage and creative and commercial reuse are of limited significance in everyday life? Addressing this question, along with the related contingencies and dynamics of heritage making and unmaking in the context of digitisation, requires a critical examination at the intersection of CHS and digital humanities in order to ‘probe and unsettle the ways in which memory, and especially the ongoing memory and heritage boom, are typically addressed and theorised.’ (Macdonald, 2013, p. 2)

Redoing openness through popularising open data as a resource

In contrast to the affirmative heritage management approach, which is predominantly focused on the preservation and revitalisation of authorised heritage (R1), the growing awareness of sustainability* in civil society is increasingly challenging the boundaries of professional heritage work and reconfiguring notions of openness in the cultural sector in the context of open data. Engagement with digital media has moved beyond the mere creation of digital copies, cataloguing, displaying, and outreach on social media in heritage work (see chapter 4.4-4.5). The initiatives of reuse of heritage and enabling strategies of users emphasise future possibilities rather than merely protecting the past, redirecting the focus towards the social productivity of traditions and technology. They seek to establish new uses for heritage materials, to engage new audiences, and to probe new practices of bringing heritage into the world of digital cultural production. The

dynamics of remediation diversify the ways of how heritage is socially organised and managed, as well as represented, distributed, and practised in the digital landscape (Barth, 2002; Bolter & Grusin, 2000). This shift in sustainability* understandings underscores the need for change in current professional heritage practices to adapt more dynamically to digital realities. Without such adaptation, these practices risk becoming disconnected from people's lived experiences and social contexts, a challenge that is likely to intensify with the continued digitisation and distribution of cultural heritage as open data (see chapter 4.6.1).

Projects such as hacking heritage highlight the importance of popularising open data and translating specialised discourses such as heritage into everyday contexts. This is consistent with sociologist Harald Welzer's (2018) perspective on the role of contemporary art in promoting (ecological) sustainability, in particular his observation that performative art can make specialist issues such as climate change more accessible in daily life and has potential to enhance civic engagement across societal levels. In the context of open data, this focus highlights the importance of aesthetic and technical memory modalities in the context of ongoing remediation in the cultural sector. However, as the typology of living sustainabilities in terms of inherent power relations suggests, the question of who can obtain and maintain a 'speaker position' (Keller, 2013) in the open knowledge discourse in the cultural sector – specifically who becomes visible and has the 'authority' to contribute to the sustainability debate – remains complex.

As the typology shows, the establishment of professionalised, scalable public interest regimes (R3) emerges as a key strategy for redoing openness in the context of public interest technology and open data. Specifically, public interest tech initiatives and emerging publics from meso-political spheres resonate with New Materialism as a foundational principle of innovation management and the digital zeitgeist, informing contemporary social engineering approaches in the cultural sector (R5). This perspective on 'recursive publics' is echoed in STS research, which highlights the role of infrastructuring technological solutions to act materially in practice and discourse (Lezaun et al., 2017, p. 211).

In addition to aesthetic and technical modalities of remediation (R2), my findings highlight the critical role of organisational, financial, volunteer/non-monetary, and political memory modalities. These modalities facilitate the translation between the different sustainability* regimes within the memory complex (R1) and contemporary social engineering efforts (R5) in the assemblage. It is crucial to recognise the networked and fluid socialities within communities of practice, such as those formed by civic hackers at CDV hackathons, as they exemplify the working cultures of the cultural and creative sectors that social engineering approaches also seek to address (cf. Kelty,

2008; Murillo & Kelty, 2017; Oechslen, 2023). The lack of integration of cultural objectivations such as mashups across social networks, computer games, and digital art into professional heritage work poses significant challenges. This underlines the need to mitigate structural resource gaps and create feedback loops with transnational regulations, highlighting the political dimensions of redoing openness to work around conflicts over distribution, authority, and reciprocity in the cultural sector.

This perspective aligns with and extends Murillo and Kelty's (2017) typology of hacking as 'a stack of power', framing it not just as a technical or aesthetic endeavour, but as a set of experimental and emergent practices that engage with the politics of doing openness. As they note, in addition to the first three practices of invention, inversion, and figuration:

The last two (regulatory action and enforcement), however, are often more second-order or 'representative', in that they often require physical, financial, or organisational resources and a certain scale and depth of involvement to perform. But we suggest that even these two forms have a 'hackish' character in the contemporary. (Murillo & Kelty, 2017, p. 107)

In relation to meso-level publics within the assemblage at hand, this perspective emphasises the enforcement of public interest in open data through resourcing strategies that act as regulatory measures at this level, including digital volunteering, community management, and the mitigation of structural gaps through education and seed funding (D3.1-3.3).

These future-oriented dynamics of openness offer valuable insights for navigating the emerging regimes within the assemblage. By integrating aesthetic, technical, organisational, and political modalities within the assemblage, the practices of re-doing openness through open data initiated by recursive publics and communities of practice develop a distinct dynamic that is conducive to the transnational governance approach in cultural policy, effectively scaling open source as a viable alternative in the cultural sector. This dynamic aligns with the concept of 'propositional politics' as defined by anthropologist Hannah Knox (2020, pp. 230–231). While open source offers an important alternative to the commodification of open data in proprietary solutions, the strategies employed in hacking open data do not directly oppose or resist contemporary cultural politics associated with New Materialism. Instead, they experiment with, mimic, and reconfigure existing governmental and supranational logics associated with New Materialism, transnational regulation, and accountability (see R5). This experimental approach to assembling meso-level practices in professionalising public interest in open data and establishing feedback loops with other regimes within the assemblage creates unique opportunities for the appropriation of public resources for digital volunteering. Social organisation, resourcing, and scaling across distributed socialities and

social levels are essential for reconfiguring openness in cultural policy and the wider cultural sector.

While these significant civic initiatives within popular culture play a crucial role in translating specialised expert discourses such as heritage, they are not without critique. I argue that their hacking and public tech efforts also serve to reinforce the affirmative distribution of authorised open data (R1). However, the reuse of pre-existing authorised heritage materials made available by OpenGlaMs runs the risk of promoting uncritical remediations within the assemblage, despite the need for critical reflection in relation to current issues of socio-cultural change. Such reuse practices may potentially disconnect these efforts from everyday life (R4), despite their well-meaning intentions. This raises a critical question: to what extent are public interest technologies, and the way they recreate openness through open data as a resource for possible digital futures, truly open?

Controlling openness through innovation and regulation

In discussing the interrelated dynamics of doing and undoing openness within the assemblage, it is essential to reflect on social engineering and its implications for sociotechnical transformation from the perspective of the heuristic framework of this study (see chapter 2.3) and cultural anthropology at a broader level. The premise of social engineering through digitisation establishes a global imaginary and foundational macro-supply framework for the sustainability* regimes within the broader assemblage at hand. New Materialism (D5.1), which I have characterised by corporate, data-driven production, and qualculative logics, plays a crucial role in shaping societal control over perceptions of the ‘good life’ and is instrumental for national identity politics in Europe. As a result, cultural heritage is emerging as a vital resource for innovation management and has become a focal point for evidence-based policymaking in the cultural sector (R5).

However, the notion of controlling societal development and potential digital futures through New Materialism raises legitimate concerns about social engineering. Anthropologists have criticised such approaches for instrumentalising culture for specific ends, such as innovation management (cf. Welz, 2003) or community-based valorisation within the emerging intangible heritage regime (cf. Coombe, 2013). This is especially relevant when reviewing historical examples, such as the Nazi regime’s strategic use of cultural heritage and academic fields (e.g. Anthropology) to advance its own agenda (Fischer, 2025; Hobsbawm & Ranger, 1983; Welz, 2004), which highlight the dangers of such instrumentalisation.

Although current transformative governance efforts guided by New Materialism are often well-intentioned and perceived as urgent responses to accelerating change in our seemingly ‘overheating’ world, scepticism remains about strategies that deliberately seek to induce societal change through technology – such as open access and creative reuse initiatives (see chapters 4.3-4.4) – in order to enhance competitive advantage, creativity, or ‘sustainability’ within the cultural sector. From an anthropological perspective, the current regime of transnational governance approaches to New Materialism (R5) risks resembling social engineering, or at the very least demonstrating a disregard for the inherently open-ended and context-dependent nature of social and cultural fields in the context of digitisation. These fields are continually shaped by various contingencies and ongoing change, as demonstrated by sustainability issues such as the emerging reuse gap, justification pressures, and conflicts over distribution and authority (see chapter 4.6). These dynamics also pose a challenge for us anthropologists who seek to do ‘impactful’ work for and with society. It requires navigating complex dynamics and contingencies, while remaining sensitive to the nuanced and situated realities within social and cultural contexts – a challenge that we need to continually reflect on the extent to which we are living up to these principles in our research.

In this context of social engineering, my findings highlight that the commercialisation of open data remains a significant challenge for the public domain, as evidenced by the distributional conflicts between the cultural and economic sectors (see chapter 4.6.2). Adopting resourcing (Koch et al., 2025; Oechslen, 2023) as a category in the typology – rather than neoliberalisation in previous works (cf. Lutz, 2019) – provided a more nuanced perspective on the cultural economies at play in the global assemblage. While the influx of expertise through public-private partnerships (PPPs) introduces a distinct regulatory influence aimed at harnessing cultural resources for future-making, it also generates tensions between different sustainability* regimes regarding the symbolic and economic valorisations of culture in the assemblage (see chapter 4.6.2). As resources and control in heritage management increasingly shift to the private sector in the context of digitisation, the economic exploitation and privatisation of open data in globalised markets becomes more pronounced, often prioritising quantitative and economic metrics as memory modalities in the regime of social engineering.

Such shifts have prompted calls for critical reflection within CHS, which has yet to fully address the cultural economies and forms of transnational governmentality that emerge in a digital, pluralistic Europe. This gap requires a discourse within research, professional heritage work, and cultural policy. Researchers in related fields are now starting to highlight the need for new business and social models around open data,

in order to ensure that cultural knowledge and the public domain remains accessible and equitable in the digital age (Axelsson, 2019; Koch, 2017; Tzouganatou & Krueckeberg, 2021). There is also growing interest in exploring stewardship approaches as potential solutions for the cultural sector, exemplified by the POEM project (Koch & Smith, 2025a; Tzouganatou, 2023). In addition, the typology and the earlier discussion of the scalable public interest regime (R3) contributes to our understanding of cultural practices and living sustainabilities at the meso level in this regard. My findings suggest that citizen initiatives of public interest technology seek to strengthen the public domain by appropriating the memory modalities associated with the social engineering approach of New Materialism – i.e. the principles of corporate cultures, datification, media production, and qualculation (R2, R5) – thereby scaling open source and reconfiguring openness in cultural practices. As a result, the meso level and citizen science emerge as crucial components in promoting the social organisation of open societies in the digital age.

What is more, the typology offers a nuanced understanding of heritage as a global assemblage of different sustainability* regimes, moving beyond perspectives of heritage as merely a vehicle for neoliberalisation or a product (cf. Kirshenblatt-Gimblett, 2004, 2006; Welz, 2015). I argue that the increasing demand to justify open data initiatives in professional heritage work is not only due to neoliberal influences and digitisation, but it is also, as mentioned above, a heritage effect rooted in ongoing efforts to translate the monumental regime into the digital realm (R1). In this context, social impact measurement has emerged as an important memory modality for the cultural sector in the context of digitisation (Lutz et al., 2025), with GlaMs experiencing new forms of social engineering. Although audit cultures and accountability have been critically examined as social engineering approaches within CHS, particularly in relation to neoliberal governmentality and market logics in fields of intangible heritage and European integration (Bendix, 2007; Coombe, 2013; Welz, 2015)⁵⁶, the rise of social impact measurement cannot be exclusively linked to the expansion of neoliberal governmental economies associated with New Materialism (D5.1). My synthesis of regime R1 suggests that this development is also driven by the revitalisation and mystification of culture as ‘heritage’ in the context of digitisation.

⁵⁶ For instance, in the field of intangible heritage, Regina Bendix (2007) observes that the rise of a knowledge-based society has facilitated the emergence of a managed evaluation society, which has significant implications for the heritage sector. Similarly, Rosemary Coombe (2013) argues that the UNESCO’s participatory governance approach to intangible heritage has led to a neoliberal distribution of agency among communities, NGOs, GlaMs, and other stakeholders in national heritage regimes. According to her, this shift towards human rights-inflected policies fosters the development of abstract normative criteria and ‘objective’ evaluation practices in the cultural sector, including new measures and metrics for assessing impact and conducting cost-benefit analyses.

Furthermore, while these new accountability measures may seem at odds with the knowledge practices that heritage institutions, professionals, international conventions, and anthropologists seek to ‘protect’ (Coombe, 2013, p. 378), digital humanities scholars Simon Tanner and Marilyn Deegan (Tanner & Deegan, 2013, p. 15) argue for social impact assessment approaches in the cultural sector, such as their Balanced Value Impact Model (BVI), which seek to move beyond ‘anecdotal evidence’ in the evaluation of digital heritage projects, thus rendering digital heritage and open data legible in the context of evidence-based policy frameworks. Consequently, the pressure for accountability and applicability in the cultural sector arises not only from external global cultural economics and calculation imposed from ‘above’, but also from inherent moral economies and memory modalities of the emerging monumental regime itself and its affirmative symbolic valuation of an enrichment economy (R1). This reflects a moral and professional obligation tied to heritage status, national identity, and the past, which shape as museological modalities the processes of heritagisation and revitalisation through open data.

Adopting a resourcing perspective on heritage as a global assemblage thus offers a relational understanding of the monetary and non-monetary modalities within the complex and contingent interplay of cultural economies shaped by shifting neoliberal governmentality and market distribution logics in the context of digitisation. Nonetheless, a critical question remains with regard to open knowledges in the cultural sector: how do contemporary cultural policies and recursive publics of public interest technology reflect the realities of everyday life in the context of ongoing sociotechnical change?

Opening up towards living heritage through citizen science

Heritage increasingly re-emerges as a specialised discourse in the global assemblage, shaped by expert knowledge linked to heritagisation and oriented towards New Materialism, yet it appears disconnected from everyday life. The findings from the regimes of everyday life (R4) underline the need for a more nuanced understanding of civil society on sustainability* from the perspective of cultural citizenship (Beaman, 2016) in the context of digitisation. This understanding needs to go beyond the relevant ‘hack-ish’ dynamics of recursive publics addressed by the social engineering associated with New Materialism, while also taking into account micro-level experiences of cultural citizens within open societies.

In the typology, the sustainability strategies to enable users assembled in the regimes of everyday life underline the situatedness of sustainability* as it manifests in

everyday life, revealing that heritage operates as a global assemblage, increasingly shaped by local experiences, traditions, and digital media practices (see chapter 4.5). While OpenGlaMs, heritage professionals, and policymakers often celebrate the artistic and technological merits of appropriating cultural artefacts through global digital aesthetics and datafication, they discursively reinforce creative and economic reuse as a global norm in the context of digitisation (see chapter 4.4). However, the cultural productivity inherent in regimes of everyday life (R4) suggests that reuse is not a new outcome of digitisation, only inherent in media production and remix cultures. The proliferation of sharing cultures and digital platforms has significantly increased cultural production, a phenomenon that is pervasive in both popular culture and digital media production as well as everyday (memory) practices.

According to cultural anthropologist Christian Schönholz (2017), such interpretations of ‘creativity’ and doing digital cultures are the exception rather than the rule. The unprecedented mass availability of cultural material through digitisation has transformed everyday media practices – such as copying, duplicating, pasting, liking, commenting, and sharing – into integral components of everyday communication, making them the norm rather than merely practices of creative and economic reuse of open data. Furthermore, while not addressing digitisation, concepts such as ‘creolisation’ (Hannerz, 1987) and the knowledge cycle (Barth, 2002) in cultural theory illustrate that heritage and traditions are continually appropriated by individuals and groups in everyday contexts, thereby emphasising commonplace agency in everyday life amid socio-cultural change (cf. Löfgren, 2000; Warneken, 2006). ‘Reuse’ is deeply embedded in multiple ways of knowing and engaging with (digital) cultures across societal levels, including the micro level of pluralistic societies.

From the perspective of a discourse ethnography, the typology accounts for the uneven distribution of means to reproduce or obtain a speaker position in discourse and cultural practice. The stewardship approaches and enabling strategies embedded in the regimes of everyday life bring attention to the fact that people have different capacities to respond and incorporate the digital. While these technologies are an integral part of everyday life, social inequalities and digital divides persist, resulting in some individuals and groups facing greater barriers than others (Marttila & Botero, 2017; van Dijk, 2005).

My research into the enabling strategies employed by socio-cultural entrepreneurs, such as the #AAC Day on social media, suggests that open data initiatives in professional heritage work, and the development of public interest technology, need to reflect the micro-level realities of individuals and groups more closely, including their

media and memory practices as part of everyday regimes operating within the assemblage. Examples such as the ZeitblickApp and its ‘hack’ of reconnecting to everyday communication practices (see chapter 4.4.3) are rather the exception in this field, where digital developments from cultural hackathons often remain at the alpha prototype stage and are not fit for public use. Furthermore, the typology highlights the importance of understanding openness in the cultural sector in a broader sense, as open knowledges in the plural. This means moving beyond heritage and open data to highlight social inclusion in the context of digitisation.

Consequently, the typology indicates that more strategic efforts are necessary in order to better reflect the realities of everyday life and to support cultural citizenship in promoting the social organisation of open societies in the context of digitisation, as exemplified by the stewardship approaches of the design anthropological interventions through dialogic curation and the POEM project (see chapter 4.5.2). Using heuristics such as the POEM Model, these strategies of citizen science promote the relational, collaborative, and transdisciplinary engagement with epistemologies of open knowledge and public memory in Europe (see chapter 5.1.4).

This understanding of opening up to the lived cultural experiences at a micro level goes beyond mainstream ideas of participation, whether expressed through top-down or grassroots approaches in discourse and cultural practices (Hickey & Mohan, 2008, p. 11). This typology challenges the assumption that open data, reuse, and social media as inherently ‘sustainable’ or ‘democratic’ in the cultural sector, aligning with previous research (Kidd, 2018; Schönholz, 2017). Nevertheless, the dynamics observed in the regimes of everyday life often take place outside the scope of state recognition and are often overlooked by dominant sustainability* regimes, especially by decision-makers in heritage work and cultural policy (R1, R5) within the emerging global assemblage. This aligns with Rosemary Coombe’s (2013) analysis in relation to the field of intangible heritage and community-based valuation of tradition, which ‘tend to be ignored or obscured in official accounts but are never fully contained.’ (p. 382) Although stewardship approaches in design anthropology and action-oriented research are currently scattered across different disciplines (see chapter 4.5.2), this development is likely to become more pronounced as research and strategies of scaling up emerge in the public domain (cf. Koch & Smith, 2025a; R. C. Smith, Loi, Winschiers-Theophilus, Huybrechts, & Simonsen, 2025).

Consequently, the typology underscores the need for multi-scaled strategies for opening up towards living sustainabilities that are operationalised across societal levels – micro, meso, and macro (institutional, structural) – which will be discussed further in chapter 5.2.3. In this light, the media practices and memory modalities highlighted

by stewardship approaches raise important questions for future research and practice in heritage management and public memory regarding opening up towards regimes of everyday life across regimes and scales: how do individuals and groups refer to different ways of ‘living’ and conceptions of the ‘good life’ as they integrate digital technologies into their everyday experiences, anticipations, and aspirations for possible futures? What do they consider to be ‘relevant’ cultural knowledge in our increasingly digital lives, and consequently what is considered ‘worth preserving’ for future generations?

5.2.3. Openness through citizen science across regimes: Challenges and opportunities for the cultural sector

Negotiating living sustainabilities within the cultural sector requires fundamental changes to professional heritage practices in the context of digitisation. My research suggests that heritage should be understood as a specialised debate that does not automatically become more participatory or democratic through digitisation and open data. My discourse ethnography reveals that, instead, fostering greater openness within the cultural sphere in light of ongoing digitisation requires a series of translations and re-configurations of emerging sustainability* regimes in the context of heritage as a global assemblage. The question is therefore not whether, but how, to steward and ‘invest’ in digitisation more strategically in the cultural sector. This shift in professional heritage work involves moving beyond prescriptive and static notions of culture and national identities to embrace a more dynamic understanding of how culture is actively lived, i.e. experienced, shared, and appropriated in open, pluralistic societies in the context of public memory and increasing digitisation. Such a shift in official narratives is essential for remaining relevant and vital in pluralistic societies, as it enables us to address the numerous challenges and crises posed by the complexities and sociotechnical changes shaping contemporary everyday life and near futures in Europe.

As we engage in discussions about navigating living sustainabilities and the diverse moral regimes that accompany them, the typology and framework of living sustainabilities – along with the identified dispositifs and memory modalities (see chapter 5.1) – provide essential starting points for guiding heritage work, cultural politics, civic engagement, and further research. Researchers have emphasised the need for multi-scale strategies (cf. Hickey & Mohan, 2008), and this framework can support such strategies in the cultural sector in determining how to reorient, emphasise, or de-

velop further what understanding of sustainability* in the cultural sector should be applied or facilitated, particularly in relation to cultural citizenship at the meso and micro levels. In the following, I will outline the associated potential of the previously mentioned issues, problems, and paradoxes, emphasising the need to address these issues to navigate towards living sustainabilities within discourse and cultural practices. Building upon this typology, I have identified three key areas of focus that present opportunities for further exploration and probing potential solutions, as we work towards negotiating living sustainabilities through citizen science.

Strengthening civil society through citizen science: practice-based and future-oriented perspectives on traditions

A central challenge in the negotiations surrounding living sustainabilities is the extent to which contemporary safeguarding approaches in professional heritage work reflect the lived experiences and diverse memory practices of individuals and groups within Europe's national heritage regimes in the digital age. As Ong and Collier (2005, pp. 8–9) contend that global assemblages and reflections of technology are by definition 'elite', this perspective highlights concerns about social inclusion and cultural citizenship. It is crucial that future developments within the assemblage at hand are better aligned with already existing and emerging efforts of cultural citizens and publics towards living sustainabilities and reflect the realities in regimes of everyday life.

Consequently, this calls for more strategic approaches and a reassessment of current efforts and their underlying epistemologies within the cultural sector in relation to digitisation and open data. Stewardship strategies that foster open knowledges (D4.3), including action-oriented research and design anthropology focused on dialogic curation and participatory memory practices (see chapter 4.5), have begun to explore and probe pathways for organising more open and socially inclusive societies in the context of digitisation (Koch & Smith, 2025). Adopting a relational and heuristically-informed stewardship approach to living sustainabilities can encompass not only more socially organised civic initiatives and publics that resonate with the digital zeitgeist and New Materialism or with what is qualified and authorised as 'heritage' (R1), but also the everyday contributions and cultural productivity of cultural citizens. Their diverse identities, affiliations, and perceptions of the 'good life' shape memory practices at the micro level (R4). A critical question that remains and warrants further research is: what cultural knowledge should be deemed worthy of safeguarding as we navigate the complexities of everyday life and uncertain futures in Europe? Further research into

everyday ways of remembering and forgetting, associated media practices, and different memory modalities is crucial for embedding professional heritage work and cultural politics in regimes of everyday life.

Equity and reciprocity in open data: Navigating symbolic and economic valorisation in the cultural sector

A significant point of contention of living sustainabilities revolves around issues of equity and participation, particularly in relation to the returns on investment in open data and public resources. This highlights conflicts over the symbolic and economic valuation of open data (see chapter 4.6.2). My findings, along with related studies (Axelsson, 2019; Koch, 2017; Tzouganatou, 2023), suggest that GlaM institutions face significant tensions of equity, particularly when in digital economies that rely on business models that prioritise the accessibility of cultural heritage as open data. These tensions expose structural shortcomings in regulation and funding policies within the cultural sector that require further discourse, practical experimentation, and research to address.

In this context, there is much to learn from civil society assembling practices and their ways of translating through aesthetisation, propositional politics, and nurturing local potential of communities of practice (see chapter 5.1.3). Civil society initiatives such as the CDV hackathon and the Prototype Fund are examples of emerging efforts to promote the openness of the public domain in the context of digitisation. Nevertheless, persistent issues of authority and reciprocity remain salient in the heritage sector, particularly in relation to the contributions of communities of practice to the popularisation of heritage (R2) and the development of public interest technologies for professional heritage work (R3). These challenges go beyond resource allocation and touch on issues of interpretative sovereignty and the negotiation of different sustainability* regimes.

This raises important questions: what models can be developed to ensure that the returns on investment are shared more equitably and are not limited to the digital economy? How can the tensions between economic interests and cultural values be reconciled in the digital realm? Involving the public domain in decision-making processes and returns on investment related to technological development is crucial to addressing the challenges between symbolic and economic valuation (Koch et al., 2025; Tzouganatou, 2023). Further research is needed to explore approaches that promote the more equitable and reciprocal circulation and transmission of cultural knowledge within the cultural sector and digitisation.

Reflecting living sustainabilities in social engineering

The final focus area builds on the rationale of propositional politics fostered by scalable public interest regimes for open data (R3). It centres on the representation of complex, pluralistic societies within social engineering approaches informed by New Materialism and evidence-based policymaking (R5). Social impact measurement (SIM) has emerged as an important memory modality within the cultural sector (Lutz et al., 2025), subjecting GlaMs to new forms of social engineering. Rather than resisting this dynamic in the assemblage, there is a potential to translate the aspirations and realities of everyday life into the contemporary social engineering regime in terms of accountability and qualculation. Recent studies in social impact measurement (SIM) within digital heritage projects have begun to integrate qualculation practices, adapting digitisation and open data initiatives into new memory modalities of accountability (Damala et al., 2019; Economou, 1998; Economou et al., 2019; Tanner & Deegan, 2013). These initiatives focus on employing SIM to substantiate the outcomes of digitisation and open data projects beyond anecdotal evidence and retrospective evaluations, but they remain primarily focused on professional heritage work. To further advance living sustainabilities in this context, it is essential to explore and probe more relational assessment frameworks within citizen science that reflect lived experiences and realities – especially in contexts beyond traditional professional heritage work – within the social engineering regime and its evidence-based policymaking. This brings us to crucial questions: how can we develop assessment frameworks in the cultural sector that are capable of capturing the complexities of pluralistic societies in situated contexts, including the ethical negotiations inherent in the cultural sector? Furthermore, how can these frameworks be translated into actionable insights to inform evidence-based policymaking for the cultural sector and shape more socially inclusive futures in a pluralistic, digital Europe?

As Collier and Lakoff (2005) highlight, digital transformations shape and alter contemporary daily life, raising questions about how one should live in the context of digitisation. These three areas of focus shed light on the multifaceted nature of living sustainabilities and their challenges and potential within the cultural sector. They emphasise the need for more inclusive and reciprocal approaches that recognise and value the vital contributions and aspirations of diverse individuals and communities more strategically across levels of society – the macro (institutional, structural), meso, and micro. Citizen science can make a significant contribution to promoting openness in nuanced ways within a pluralistic, digital Europe – shifting the focus from how culture should

be represented to how it is lived and experienced in everyday life in the context of ongoing remediation. Ultimately, this typology of living sustainabilities encourages us to reconsider sustainability* within social and cultural contexts by examining how cultural knowledge is valued, safeguarded, transmitted, and practised in the digital age. It is essential to address the ethical questions and moral considerations emerging in relation to heritage as a global assemblage from a relational perspective by identifying the museological, technical, aesthetic, organisational, political, economic, non-monetary, and everyday memory modalities that affect the circulation of cultural knowledge in the digital landscape, in order to navigate and steward professional heritage work, cultural politics, and civic engagement, including the role of citizen science towards promoting more ‘sustainable’ futures in the cultural sector. Reflecting living sustainabilities within and with civil society and cultural citizenship can help us to navigate the complexities of the cultural sector in a digital, pluralistic Europe.

6. Conclusion

Any ethnographic exploration inevitably raises numerous new questions and invites conversation. With a focus on *living sustainabilities*, this discourse ethnographic study aimed to capture social and cultural dimensions as vital, independent, and at the same time central fields of sustainable development, while highlighting the transformative role of civil society. The primary objective was to explore and theorise the varying conceptions and understandings of sustainability* – both in its discursive and, crucially, practical dimensions – as currently experienced and lived within the cultural sector. This research was prompted by the observation that the increasing digitisation of heritage and the proliferation of open data in online archives and collections are fundamentally changing professional practices in heritage work and reshaping public memory and traditions across Europe. I argue that sustainability* in the cultural sector is rather a debate currently under negotiation in terms of the idea of the ‘good life’. Digitisation renders our ‘living’ in the cultural sector problematic, giving rise to ‘new’ sustainability practices (see chapter 4) that existing and widely accepted sustainability frameworks – such as UNESCO’s four pillars of sustainable development and the Brundtland Report’s ‘Our Common Future’ (see chapter 2.1) – are ill-equipped to address. Moreover, contemporary sustainability paradigms, with their ecological and economic focus, remain ambiguous when applied to social and cultural contexts.

This raises a crucial question: *What is regarded as ‘sustainable’ in the field of heritage, particularly in relation to digitisation?* The study ‘Towards living sustainabilities’ examined how cultural knowledge can remain accessible to diverse actors in cultural practices, serving as living and rich ‘materials for reflection and premises for action’ (Barth, 2002, p. 1) in the context of sociotechnical change. Rethinking heritage as a global assemblage (Collier & Ong, 2005), it addresses the tensions between sustainability discourses and practices by focusing on the emic perspectives of sustainability* that emerge as coping strategies in response to the challenges posed by digitalisation in cultural practices. Openness in particular emerges as a key sustainability concept and boundary object (Star & Griesemer, 1989) within the cultural sector. While openness is not new to heritage preservation and educational mandates of GlAM institutions, it is now closely intertwined with the discourse of open knowledge, driven by advances in digital technology and open data. Using a discourse ethnographic approach, I analysed emerging sustainability strategies in this context, taking into account the inherent power dynamics and relationships between various stakeholders in pragmatic negotiations about the idea of an ‘intact culture’ in terms of cultural vitality and openness at different societal levels and scales within the assemblage (chapters 4-5).

This framework shifts the focus from authorised and established ideals of ‘how culture should be’ towards ‘how culture is actively lived and shaped’ by diverse actors in cultural practices in the face of digitisation. This research argues that sustainability* in the cultural sector encompasses more than just the accessibility and availability of heritage in digital form. It also involves promoting an open, pluralistic society in the context of increasing digitisation (Koch & Smith, 2025b), thereby highlighting the transformative role of civil society and citizen science in navigating public memory in line with lived experience in an increasingly digital world.

With this in mind, I have examined living sustainabilities in the context of digitisation using a discourse ethnography approach with a praxeographic *modus operandi* (Keller, 2013; R. Schmidt, 2011). The research programme was composed of an iterative two-stage process (see chapters 2.3-3). My theoretical sampling (Strauss & Corbin, 1996) of living sustainabilities was informed by a heuristic framework that combined the ‘regimes of living’ framework (Collier & Lakoff, 2005) with the heuristics of cultural vitality and transmission (Koch, 2013), including perspectives from Critical Heritage Studies (CHS), an anthropology of knowledge (Barth, 2002), and remediation (Bolter & Grusin, 2000). First, in the discourse ethnography – comprising participant observations both online and offline, as well as expert interviews – I have dis-/assembled and analysed three distinct sustainability strategies implemented by GlaM institutions and heritage professionals, as well as various stakeholders, including the creative and IT industries, socio-cultural entrepreneurs, civil society, transdisciplinary citizen science projects, and cultural policymakers in the context of digitisation in Europe (see chapter 4). These three strategies include:

1. *Making heritage accessible and available as open data*: This sustainability strategy involves aggregating and linking open data with various institutional online collections, as well as crowdsourcing efforts to collect and recover both new and lost heritage (see chapter 4.3);
2. *Reusing and appropriating open data*: These encompass sustainability initiatives in professional heritage work, the digital economy, and civil society, including hackathons and public-interest technology development, focused on the creative, economic, and civic reuse of open data (see chapter 4.4);
3. *Enabling users and transdisciplinary collaborations with people and groups*: These sustainability approaches aim to reconnect to everyday ways of remembering and knowing culture, with engagement facilitated through social media

and action-oriented collaborative and design-anthropological research (see chapter 4.5).

Moreover, I have analysed three emerging conflict lines within the pragmatic negotiations in the context of the three sustainability strategies that I identified during my fieldwork. Associated with a reuse gap and social impact, as well as distribution and authority conflicts, these raise critical questions about openness and participation in the context of open data. These ‘differences’ (R. Schmidt, 2011) in cultural practices highlight broader ethical and moral sustainability concerns relating to the concept of an ‘intact culture’. Particularly pertinent issues include the social relevance of authorised heritage and open data, the economic and social usability and productivity of open data as a resource, and considerations of equity in the allocation of returns on investment, as well as reciprocity concerning the interpretive sovereignty of national identities in the cultural sector (see chapter 4.6).

Second, in the synthesis, I have re-assembled my empirical findings into a typology of *living sustainabilities* (see chapter 5.1). In the dispositif analysis, I have iteratively related heritage as a global assemblage in the context of digitisation, guided by the heuristic framework. Through these dispositifs, I have characterised five interrelated yet divergent sustainability* regimes and moral economies that currently negotiate the idea of an ‘intact culture’ in terms of cultural vitality and openness: 1) Heritagisation and revitalisation through open data; 2) The remediation and circulation of heritage through global aesthetics shaped by digitisation and datafication; 3) The professionalisation of public interest in open data; 4) Memory and media practices in everyday lives; 5) Social engineering in line with New Materialism (R1-5).

Considering the power relations within the global assemblage and viewing living sustainabilities as a central contribution of this research (chapter 5.2), it is evident that current open data initiatives in professional heritage work seek to transfer established safeguarding approaches into the digital realm to enhance heritage representation and revitalisation (R1). However, while cultural representations and production are significantly reorganised in the context of digitisation (R2), the current safeguarding practices facilitate the affirmative preservation of heritage as open data, a practice that has been criticised in other heritage fields as an ‘authorised heritage discourse’ shaped by expert knowledge, an emphasis on the past, and national identity politics (Coombe, 2013; Harrison, 2013; L. Smith, 2006). In addition, the relational perspective on heritage as a global assemblage reveals emerging understandings of sustainability* – particularly within civil society and citizen science (R3-4) – that are reconfiguring notions of openness beyond protecting heritage status in the context of digitisation. As Ong and

Collier (2005, p. 15) describe with regard to global assemblages, subtle yet significant transformations – such as those new forms of cultural representation and production identified within the discourse and practices of open knowledge fostered by civil society, socio-cultural entrepreneurs, and citizen science – render the concept of an ‘intact culture’ problematic. These shifting regimes of living challenge the traditional boundaries and understanding of cultural vitality and openness in professional heritage work, and it remains to be seen whether an emphasis on heritage institutions and their authority will endure as a feature of the ‘European memory complex’ (Macdonald, 2013) in light of increasing remediation.

For cultural knowledge to remain relevant and vital amidst sociotechnical change, I argue that safeguarding approaches must adapt by integrating these emerging regimes and their associated notions of cultural vitality and openness. In terms of living sustainabilities as a potential for future developments, this requires reflecting the realities of civil society and the everyday memory practices in professional heritage work and public memory. This is closely linked to sustainability* concepts that promote the public domain through open source solutions, offering an alternative to the commercialisation of open data (R3), as well as stewardship approaches to social inclusion in citizen science and community archiving on social media (R4). At the same time, living sustainabilities requires the translation into and the appropriation of contemporary social engineering frameworks of evidence-based policy and New Materialism (R5) to better highlight the specifics of the cultural sector and the lived experiences of cultural citizens at a political level, potentially initiating structural and cultural policy developments. In order to navigate heritage work, cultural policy, and civic engagement towards living sustainabilities in the context of digitisation, it is crucial to address the ethical and moral issues associated with heritage as a global assemblage. An important way to develop strategies that establish connections between different sustainability* regimes is to identify the memory modalities (Koch, 2021a; Krueckeberg et al., 2025) – museological, technical, aesthetic, organisational, political, economic, non-monetary, and everyday – that hinder or facilitate translation between regimes. These modalities can inform the re-evaluating of existing sustainability strategies towards living sustainabilities, or the development of new ones that consider how culture is experienced and used within the assemblage of a digital, pluralistic Europe.

In concluding this thesis, I will reflect on the implications and significance of the findings, as well as the discourse ethnographic approach adopted throughout the study. In chapter 6.1, I will outline the main theoretical and methodological contributions that this thesis offers to the field and to the wider academic discourse. Finally, in chapter 6.2, I will address the limitations of the research and provide recommendations

for further exploration, particularly with regard to the three potential focus areas of living sustainabilities identified in the discussion (see chapter 5.2.3), thereby suggesting potential avenues for future research.

6.1. Main theoretical and methodological contributions

Overall, this thesis responds to the introduction of culture as the fourth pillar of sustainable development by highlighting the importance of a cultural analysis regarding the relationship between sustainability and culture in the field of heritage and digitisation. The growing importance of heritage and open data reinforces this need, especially as shifts in the meaning of openness are evident in the global assemblage, as outlined in the typology of living sustainabilities (see chapter 5.1). My dissertation offers two main contributions with the living sustainabilities framework: first, I contribute to the theoretical conceptions of sustainability and digitisation in the heritage sector and explore the broader implications of living sustainabilities in relation to cultural and social fields (see chapters 6.1.1-6.1.2). Second, my composition enriches the methodological debate on discourse ethnography and positions it as a research programme for developing relational perspectives situated in emerging research fields such as living sustainabilities in the cultural sector and digital environments (see chapter 6.1.3).

6.1.1. Living sustainabilities and cultural heritage

A key contribution of living sustainabilities to CHS is its conceptualisation of heritage as a global assemblage in the context of digitisation. This approach goes beyond the analysis of national heritage regimes and their implementation of transnational conventions (e.g. UNESCO) and the harmonisation with EU regulations (cf. Bendix et al., 2013; Welz, 2015). Unlike the perspective of the memory complex, which primarily focuses on professional heritage work and national identities (cf. Macdonald, 2013), this research highlights how digitisation, as a global phenomenon, redefines notions of openness in the cultural sector in relation to the open knowledge discourse. Furthermore, this research shifts the perspective towards the role of civil society rather than heritage institutions and professionals per se in spelling out open knowledge in the cultural sector. Adopting a relational approach, the research demonstrates that questions of sustainability in the context of heritage and digitisation are inextricably linked to divergent ideas of the ‘good life’ in terms of cultural vitality and openness. These

ideas are shaped by the dynamics of social life, civil society, technology, cultural policy, cultural economies, and the global aesthetics of popular culture and everyday memory practices. Heritage thus emerges as a global assemblage that is actively negotiated, reflecting the inherent complexity and ambiguity of cultural knowledge production and transmission in the digital age.

Second, this thesis contributes to the discourse on heritage making and cultural property. Although CHS has extensively explored various forms of heritagisation – such as the classification and listing of traditions within patrimonial and monumental regimes (Coombe, 2013; Hafstein, 2007), the representation and display of cultural knowledge as heritage in GlaM institutions and heritage sites (Kirshenblatt-Gimblett, 1995; Macdonald, 2008), and community-based forms of symbolic valorisation in intangible heritage discourse (Bendix et al., 2007; Kirshenblatt-Gimblett, 2004) – the role of digitisation and datafication remains under-explored in the literature (Jörissen & Klepacki, 2025; Koch & Smith, 2025a; Stuedahl, 2009). The digitisation and availability of heritage as open data can be understood as a new form of symbolic valorisation, extending the accessibility and availability of cultural knowledge beyond GlaMs and their audiences to ‘users’ and cultural practices in the wider public. While not a new heritage regime, this shift drives a new spiral of symbolic valorisation, as discussed earlier (cf. Lutz, 2017a; Lutz & Koch, 2017), and highlights the complex, multi-layered dynamics of contemporary heritagisation in the context of digitisation.

Third, the living sustainabilities typology makes a contribution to research into heritage unmaking by moving beyond the neoliberalisation and commodification of traditions (Welz, 2015). Taking epistemologies into account reveals how contemporary heritagisation in the context of open data tends to reinforce Western-oriented (if not Eurocentric) perspectives on traditions within discourse and cultural practices. Despite their well-intentioned goals, the open data practices of GlaMs often narrow culture down affirmatively to authorised heritage materials with an emphasis on the past. These digital resources are then remediated and disseminated uncritically through creative, economic, and civic reuse practices, despite the need for critical reflection in relation to current issues of socio-cultural change (see chapter 5.1). Such dynamics of undoing openness have been widely critiqued in living heritage and postcolonial discourses within CHS (Coombe, 2013) and must be considered in sustainability initiatives in the context of digitisation. National heritage regimes have a significant influence on (national) identities and a sense of belonging, particularly during times of uncertainty and crisis such as the war in Ukraine. However, rising nationalism and growing populism

in Europe, and globally, pose a threat to democratic values such as openness and participation, thereby challenging the European way of life and pluralistic societies more broadly in their efforts to uphold and defend democratic values on a global scale.

Addressing these issues of open pluralistic societies in the context of digitisation requires a more strategic approach towards living sustainabilities in the heritage sector. Although initiatives such as the re-evaluation of the national research funding line ‘Digital Heritage’ (Bundesministerium für Bildung und Forschung, 2016), which promotes epistemological reflection and strategic digitisation projects for heritage, are important for advancing discourse and practice in this area, this research highlights the importance of heuristics. CHS, for example, offers valuable insights into contemporary conceptions of ‘intact culture’ in the context of ongoing socio-cultural change (see chapter 2.3). As with the typology of living sustainabilities, this body of work can serve as a heuristic resource for policies, research agendas, and institutional and civic digital strategies related to open data in cultural practices.

Fourth, the living sustainabilities framework, by adding the perspective of remediation, highlights digital media as both driver and subject of cultural change, especially when it comes to how we produce and transmit cultural knowledge to ensure that heritage remains vital for future generations. This research raises questions of sustainability in the cultural sector, particularly regarding the social organisation of open societies amid digitisation – an issue that CHS should address more fully (Jörissen & Klepacki, 2025; Koch & Smith, 2025a; Stuedahl, 2009). The research demonstrates that digitisation constitutes a distinct regime of living (R2), with sustainability* conflicts related to social relevance, equity, reciprocity, and authority illustrating that the impacts of technologies often diverge from initial expectations and manifest in more complex ways than anticipated (see chapter 4.6). In this context, sustaining traditions necessitates an understanding of key technical logics and principles, referred to as memory modalities (Krueckeberg et al., 2025) such as datafication, metrification, and global digital aesthetics. Emerging challenges such as data literacy and social impact measurement highlight the need for critical translation into this regime in order to navigate the technical modalities of remediation and circulation, thereby ensuring that heritage remains relevant and vital within contemporary digital pluralistic societies in Europe.

In this way, the concept of heritage itself is increasingly being negotiated within the broader framework of living sustainabilities in the context of digitisation. This framework emphasises the importance of everyday lived culture over normative ideas about how culture ‘should be’. This is reflected in research perspectives that advocate a shift towards practice-based conceptions of heritage in related fields such as living

heritage (Loulanski & Loulanski, 2011b), past presencing (Macdonald, 2012), and participatory memory practices (Koch & Smith, 2025b). In addition, a focus on future-oriented perspectives, as seen in stewardship approaches to open knowledges or the cultural hackathons (see chapter 5.1), challenges traditional heritage discourses and grand national narratives. This promotes a broader understanding of cultural expression in the digital age, a matter of increasing public concern. While initiatives such as the 2020 Futures conference organised by the Association of Critical Heritage Studies, and the establishment of study programmes and a UNESCO Chair on Heritage Futures at Linnaeus University in Sweden exemplify this trend, critical reflection on the epistemologies and ontologies underlying heritage in digital and future-oriented contexts is essential to ensure that research and cultural work remain inclusive and grounded in lived realities, while being attentive to the complexities of sociotechnical change. This sets the stage for a reflection on the relationship between sustainability and culture in the following chapter.

6.1.2. Living sustainabilities and culture

My research shows that sustainability* in the social and cultural sectors cannot be easily defined as a fixed or measurable concept. Unlike previous perspectives on the relationship between culture and sustainability, this approach prioritises the principles by which culture itself can be sustainable in terms of vitality and openness. Unlike ecological resilience, which can be qualified and assessed against specific benchmarks, sustainability* in digital, pluralistic societies is characterised by continuous change rather than mere stability or an equilibrium in response to natural or anthropogenic disturbances (see chapters 1-2). This tension between continuity and change in the culture-nature relation, as exemplified by UNESCO's framework for sustainable development, reveals a paradox: while recognising culture as an independent pillar and valuing the diversity of social spaces and fields, the Brundtland-based understanding of sustainability* remains ambiguous in this context. Framing 'sustainability' solely as an environmental or economic goal oversimplifies the resilient and dynamic nature of cultural and social contexts, which often resist instrumentalisation or social engineering (see chapter 5.2.2). Consequently, socio-economic and socio-environmental indicators offer limited insight into the socio-cultural dynamics driven by digitalisation and social change. This underlines the importance of a nuanced perspective, as suggested by the living sustainabilities framework. Building on the detailed discussion in chapter 5.2,

my research identifies three key issues concerning the relationship between living sustainabilities and culture.

First, within the framework of living sustainabilities, this research argues that the ethical issues raised in cultural debates about ‘sustainability’ need to be integrated into conceptual frameworks. Questions of what is valued as heritage, how these values are determined and by whom, and how access to cultural knowledge is organised and disseminated are deeply intertwined with moral considerations of an ‘intact culture’. Moreover, the pursuit of sustainability goals such as the Sustainable Development Goals (SDGs) across sectors – political, economic, social, and cultural spheres – often competes with short-term, desirable values and priorities driven by evidence-based policymaking and rapid technological innovation cycles. In the cultural field, negotiations over technological paradigms and sociotechnical change take place within a broader context of normative differences and value orientations, as exemplified by the ‘regimes of living’ framework (Collier & Lakoff, 2005). This approach demonstrates that ‘sustainability’ as an analytical concept needs to engage with moral debates rooted in situated contexts, particularly in relation to different notions of the ‘good life’ or the maintenance of an ‘intact culture’, which can differ significantly in meaning and relevance based on individual worldviews and standpoints. Therefore, the framework offers a valuable perspective for examining living sustainabilities in the context of sociotechnical dynamics, highlighting the intersections, disparities, and tensions between different sustainability* regimes and the sustainability practices enacted by sociotechnical actors within social and cultural fields.

Second, the living sustainabilities framework highlights that heritage and remembrance, and thus the fourth pillar of culture, are closely linked to diverse ways of life and different ways of knowing the world. However, these dimensions are often overlooked in digitalisation processes and defined too narrowly. My research shows that sustainability* is less about ecological aspects and more about how open societies can be organised amidst digital transformation. Expanding on the work of the ‘Futures of Sustainability’ network (Adloff & Neckel, 2021), the research reveals that more nuanced and evolving sustainability* regimes exist at different societal levels: macro (structural, institutional), meso, and micro. These regimes are less institutionalised than the control, transformation, and innovation paradigms traditionally associated with sustainable development (see chapter 2.2). Consequently, sustainability* remains deeply embedded in the socio-cultural aspects of lifestyles, social positions. Conceptions of societies such as the regimes of living have proven fruitful to account for the emergence and open-endedness of sustainability* in social and cultural fields in the context of

technological change. The research also highlights that social inclusion remains a significant challenge in contemporary European societies, particularly in light of the unequal distribution of power and technology within the global assemblage at hand. Sustainability in terms of cultural vitality and openness is thus fundamentally linked to participation in public memory and the translation of expert discourses such as heritage, which are crucial for the vitality of culture and identity formation in Europe. This research broadens perspectives on sustainability in social and cultural spheres by moving beyond viewing social inclusion as a subject of transnational developmental discourses (Hickey & Mohan, 2008), as well as emerging transnational postcolonial debates on restitution in the cultural sector (Wolff, 2021).

Finally, the living sustainabilities framework emphasises the crucial and transformative, yet frequently overlooked, role of civil society in sustainability debates, including volunteer efforts of (recursive) publics, socio-cultural entrepreneurs, cultural citizens, and transdisciplinary citizen science initiatives (see chapters 5.1.3-5.1.4) – in sustaining cultural vitality and fostering pluralistic societies amidst sociotechnical change. The contributions of people and groups are often undervalued by decision makers in the cultural sector, particularly in digitalisation processes that tend to define sustainability too narrowly in light of New Materialism as a symbolic universe and technology as solution for societal problems (see chapter 5.1.5). My research highlights the situated nature of knowledge production and transmission (Haraway, 1988; Krieg & Toivanen, 2021b), which needs to extend beyond institutional perspectives and the authority of experts within social and cultural fields. The living sustainabilities framework shows that the capacity to shape sustainable futures is influenced by socio-cultural contexts, including social positions, lifestyles, and different moral and ethical visions of the ‘good life’. As a relational approach that considers overarching political, economic, technological, and societal relations – including European ways of life, their inherent moral maxims, and related discourses such as open knowledge – it is deeply intertwined with the digital age. These dynamics operate across multiple levels and scales – ranging from micro, meso, to macro, and from local, national, supranational – where sustainability in culture is currently negotiated in the context of digitisation. The title of the thesis, ‘Towards living sustainabilities’, therefore advocates for shifting the focus from prescriptive notions of what culture should be to how it is lived. It calls for heuristic, strategic, and situated approaches to guide translation into diverse regimes of living that are more firmly grounded in everyday practices and civil society as crucial parts of a broader global assemblage. Ultimately, sustainability emerges as a discursive

construct shaped by varying visions of the ‘good life’ within the cultural field, characterised by tensions and differing interpretations in cultural practices – which brings me to my next point concerning the contribution of a discourse ethnographic approach.

6.1.3. Dis/assembling and re-assembling relations in cultural practices: Discourse ethnography as research programme

The discourse ethnography employed in this study is an empirical research programme that has significantly contributed to an emic and relational understanding of living sustainabilities in the social and cultural fields. This approach is especially useful for understanding emerging notions of sustainability*, the relationships, and power dynamics that constitute heritage as a global assemblage. Although discourse ethnography typically draws on sociological frameworks, this study’s praxeographic approach (R. Schmidt, 2011) offers an important anthropological contribution to a Sociology of Knowledge Approach to Discourse (SKAD) (Keller, 2013; Keller et al., 2018), as well as to cultural analysis (e.g. Niewöhner et al., 2012).

Given that sustainability* in the cultural sector is a subject of debate, and that many approaches to sustainability* are spelled out in cultural practices and often lack sufficient academic reflection and discourse, integrating an ethnographic edge to discourse analysis was essential. By emphasising practice(s) as the primary unit of analysis within a ‘flat ontology’ (Schatzki, 2016), dominant narratives that portray heritage, open data, and technological progress – such as those promoted by Open GlaMs’ discursive practices in the context of reuse – as inherently democratic and creative are challenged. Such narratives often overlook the complex realities of everyday life and the subtle ways in which digitisation plays out in cultural practices (see chapter 4).

The discourse ethnographic approach brings the transformative role of civil society to the fore by capturing discursive and non-discursive practices at different societal levels, including the negotiations of an ‘intact culture’ within meso-level publics and the micro level of cultural citizens. In the context of the relational research programme’s theoretical sampling (see chapter 3.2), these regimes serve as important contrasting examples that have significantly informed the development of a perspective on living sustainabilities. The practice-oriented focus shows that the capacity of actors to adopt and integrate open data and digital technologies varies, which affects their visibility and their ability to position themselves within the discourse of open knowledge. Their ability to appropriate new technologies and translate across different regimes by navigating specific memory modalities is crucial for establishing or maintaining a

‘speaker position’ (Keller, 2013) within the assemblage, thereby influencing what may become ‘common sense’ or eventually part of public memory. By focusing on practices, the framework of living sustainabilities offers potential for applications beyond academia, with findings that may benefit the practical realms of GlaM institutions, cultural policy, public management, and civil society.

6.2. Possible futures of living sustainabilities: Limitations and recommendations for future research avenues

This research provides a fresh perspective for thinking differently about sustainability in the social and cultural spheres, emphasising the emic and relational perspectives on living sustainabilities that have emerged from my fieldwork. While this research uncovers new insights (see chapter 6.1), it also reveals limitations and potential avenues for future research. As I have outlined in chapter 3, relating different sustainability practices and actors in order to (dis-)assemble and re-assemble heritage as a global assemblage has inevitably generated a partial, open-ended account. The fluid and evolving nature of the typology of living sustainabilities, informed by the ‘regimes of living’ framework (Collier & Lakoff, 2005), provides only a snapshot in time of how these practices and complexities emerged and manifested in my field encounters. In addition, it touches on numerous areas of cultural anthropology and related disciplines that fall outside the scope of my theoretical sampling. In conclusion, I identify three key research gaps and further current issues that I consider particularly important for future research, building on the focus areas of living sustainabilities and the transformative role of civil society outlined in the discussion (see chapter 5.2.3).

1. Role of civil society and citizen science: Care for young heritage and the future

This work highlights civil society’s transformative role and examines enabling and stewardship strategies that are grounded in everyday memory and media practices. However, it does not directly examine the memory practices of people and groups themselves. To deepen our understanding of the regimes of everyday life (R4), future research should adopt transdisciplinary, collaborative approaches, such as design anthropology and action-oriented research, to investigate memory practices at the individual and community levels. There is a notable gap in the integration of young people’s experiences into public memory. This issue was evident in my fieldwork during the 2018 European Year of Cultural Heritage (see chapter 3.2), and is increasingly being echoed by scholars who have started to explore young people’s media practices, as

well as their engagement with traditions and public memory, in settings such as schools and civic youth programmes (Kambunga et al., 2020; Krueckeberg, 2022).

Moreover, the care perspective provides a fruitful avenue for future research. My research highlights significant non-monetary forms of valorisation that emerge outside the GlaM sector, often provided by volunteers like civic hackers, which complement care efforts by GlaM institutions (Morse, 2021). By reframing symbolic valorisation as an act of ‘care for the future’ rather than merely focusing on the protection of heritage materials from the past, we can promote and strengthen the appreciation of non-monetary resourcing (Koch et al., 2025, pp. 480–481), including responsible civic engagement and citizen science initiatives, which are vital to sustaining cultural knowledge in the face of sociotechnical change.

2. Cultural economies and resourcing in the context of emerging technologies

Taking these resourcing considerations into account highlights the significant part played by cultural and moral economies in understanding the relationship between regimes of symbolic valuation – what Boltanski and Esquerre (2020) term an ‘enrichment economy’ in Europe – and the regulatory influence of the digital economy within the global assemblage at hand. While the digital economy is implicitly embedded within various regimes in the typology – such as remediation and circulation (R2), social engineering through New Materialialism (R5), and public-interest technology as an alternative to commercialisation (R3) – it could also be conceptualised as a regime of living in its own right. As Murillo and Kelty (2017) emphasise, large corporations in the digital economy can exert a distinct regulatory influence through their control of distributed networks and technology, in addition to state regulation. In the context of the cultural sector, scholars have noted that the influx of expertise from the digital economy (e.g. PPPs) into the management of the public domain risks monopolising cultural knowledge within the private sector (Tzouganatou, 2023; see also chapter 5.1.5).

However, recent societal developments that emerged during the final stages of writing this work further highlight the urgency of this issue, considering the digital economy’s role in rendering the idea of the ‘good life’ problematic. The increasing disruptive politics of large multinational corporations, such as their retreat from corporate diversity programmes and their support for far-right parties in Europe, further complicate the dynamics within this assemblage. This research gap must be addressed, particularly given the risks of instrumentalising heritage and tradition for social engineering (Hobsbawm & Ranger, 1983) and of undermining the core values and norms of open, democratic societies. Within the framework of living sustainabilities, this highlights the need for resilience perspectives within civil society and for GlaM institutions

to consider the social and cultural dimensions. Moreover, in this context, research into more human-centred approaches to technology development and infrastructuring, as explored in the fields of participatory design and STS (Kambunga et al., 2023; Kensing & Greenbaum, 2012; Marttila & Botero, 2017), or scaling perspectives (Hickey & Mohan, 2008; R. C. Smith et al., 2025), becomes even more relevant in shaping more socially inclusive digital futures.

3. Composition and comparisons

As practice cannot be fully understood solely on the basis of what is experienced in the specific situation, a relational perspective is essential (Niewöhner et al., 2012, p. 42). This study uses theoretical sampling (Strauss & Corbin, 1996) to contrast three sustainability strategies in the cultural sector: open data strategies in the GlaM sector, reuse, and enabling strategies of users (see chapter 4). Furthermore, the scope of comparison could be broadened by 1.) examining the role of born-digital cultures as contemporary forms of cultural expression, or 2.) considering a non-European transnational composition could enrich further analysis.

First, while this research focuses on digitised heritage materials as open data, highlighting their importance in professional heritage work and cultural policy, it is limited by its primary focus on digitised heritage. A broader exploration of living sustainabilities should look beyond the digitised heritage materials, given that contemporary transnational developments in cultural policies increasingly recognise the importance and social productivity of digital cultures as an emerging area of heritagisation. Examples include the listing of born-digital traditions in (national) UNESCO registers (e.g. in Finland and Germany) in the field of intangible heritage and community-based heritagisation, and the establishment of social media archives (e.g. at the Library of Congress and the DRI). These developments highlight the social relevance of (born-)digital cultures as modern expressions of tradition.

In addition, adopting a transnational perspective that extends beyond Europe would also provide a more nuanced understanding of the translocal variations and commonalities within global heritage assemblages. Although this research critically addresses the Western-centred epistemologies in the context of digitisation in the heritage sector, it is focused on Europe and the Global North. Incorporating research from non-Western regions or employing transnational and decolonial research compositions (cf. Kambunga et al., 2021) would enrich the study's perspective on living sustainabilities within cultural contexts. As the living heritage discourse emphasises, the ways in which traditions are practised and transmitted in light of socio-cultural change are deeply cul-

turally specific (cf. Coombe, 2013; Koch, 2013). Furthermore, the uneven global distribution of digital technologies highlights the necessity of transnational perspectives on heritage as part of broader global assemblages beyond Europe (van Dijk, 2005; Wahlberg, 2022). The theoretical and methodological composition of living sustainabilities developed here has potential for application in other cultural settings, particularly with regard to conceptualising traditions and heritage as forms of knowledge and media (Koch, 2013, p. 173).

4. Current issues: Emerging ecological concerns and technologies

Finally, I would like to highlight current issues that have emerged during the development and writing of this body of work. The framework of living sustainabilities is becoming increasingly linked to ecological issues within the context of digitisation in the cultural sector, making it a vital yet under-explored topic within CHS (cf. Krieg et al., 2021). Digital technologies influence our imaginations of desirable futures, and the amount of data in online collections and in daily life continues to grow. However, this expansion demands ever-increasing storage capacities and substantial resources, including recent advances in artificial intelligence (AI). While AI is not a new technology, recent developments – such as more sophisticated machine learning algorithms and autonomous data management systems – have significantly amplified its capabilities and applications. Incidents such as significant server failures and recent energy blackouts in Spain, Portugal, and parts of France expose the vulnerabilities of preserving heritage materials in digital media environments, and raise concerns about the fragility of digital memory and the risk of ‘forgetting’ in digital environments (Schüller-Zwierlein, 2014; Warnke, 2025). At the same time, rising energy consumption and reliance on finite natural resources threaten global ecosystems and climate stability. These realities pose profound challenges to heritage making and preserving traditions for future generations, prompting ethical negotiations about the idea of an ‘intact culture’ in context of broader planetary futures and ecological crises. These developments highlight the importance of engaging with conceptions of ‘naturecultures’ (Krieg et al., 2021) and more-than-human perspectives (Bruun et al., 2022; Klausner, 2022), encouraging critical reflection on the intricate relationships between nature, culture, and technology.

These areas of focus represent fruitful avenues for research into and towards living sustainabilities in the cultural sector, encouraging the integration of cultural heritage studies and digital humanities perspectives, and inviting future explorations of heritage as global assemblages in a digital, pluralistic Europe and beyond.

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8. Appendices

8.1. Appendix A

8.1.1. Summary of research results

This study uses the empirical perspective of *living sustainabilities* to analyse how the understanding of cultural heritage and its preservation for future generations is evolving as a result of changes in media technology. The central question is how new sustainability concepts in the cultural sector are negotiated and implemented in practice in the digital age. The focus lies on researching the social and cultural dimensions of sustainable development as independent fields, which are viewed as global guiding principles of social change in the 21st century, separate of the ecologically-oriented concept of sustainability. Alongside this, the transformative power of civil society is emphasised. The work is positioned at the intersection between digital anthropology and international Critical Heritage Studies.

The concept of openness is a central guiding principle for future-oriented and sustainable heritage work. Although not new to the cultural sector, openness is becoming increasingly important as a boundary object (Star & Griesemer, 1989) in the context of digitisation – especially in the context of the emerging *open knowledge* discourse and the growing demand to improve the accessibility and availability of cultural heritage. Against this backdrop, this study identifies three central sustainability strategies in cultural practice: First, memory institutions, such as archives, libraries and museums – known as *OpenGLAMs* – invest in the complete digitisation of their collections, making them accessible and available via open access. Secondly, the creative and economic reuse of open cultural data is becoming increasingly relevant. Thirdly, enabling strategies are being developed that empower users to actively integrate everyday representations into remembrance work with the help of digital media.

In the context of pragmatic negotiations about openness during the digitisation of memory institutions and the digital re-use of cultural heritage, overarching questions of vitality and sustainability are being negotiated. These highlight ethical and moral considerations: although memory work has expanded beyond GLAM institutions, activities such as collecting, preserving, and communicating are rarely integrated into collection strategies or systematic considerations of specific heritage policies and understandings of sustainability. As a result, there is a risk that digital applications will be little used or that so-called ‘data silos’ will emerge (Koch, 2015). Previous preservation practices of collecting, preserving, and communicating do not appear to be easily translated into the digital realm, as illustrated in challenges such as dealing with copyright issues regarding orphaned works or questions on digital maturity. At the same

time, heritage institutions are increasingly confronted with questions of social impact and the pressure to justify themselves to funding bodies that demand measurable results from their remembrance work in the context of digitisation and open data.

The phenomenon of reuse shows twofold that cultural heritage does not automatically become productive for the social organisation of civil society through digitisation and for the free availability of open data on the internet. Rather, it requires a translation through popularisation and aestheticisation. In addition, the creative reuse and commercialisation of open data gives rise to distribution conflicts that also raise questions on the authority to interpret and use heritage (reciprocity). Finally, the enabling strategies for users raise questions of how participatory and reciprocal current digitisation strategies, and thus knowledge production in the cultural sector, are undertaken.

Building on these observations, the typology of *living sustainabilities* views cultural heritage relationally as a global assemblage (Collier & Ong, 2005) and comprises five different understandings of sustainability – so-called ‘sustainability* regimes’ – that are practiced in everyday life. These understandings are negotiated with each other, alongside one another, or even in isolation, around the ideas of vitality and openness (Collier & Lakoff, 2005). The typology enables consideration of emerging notions of sustainability that challenge traditional boundaries and understandings of cultural vitality and openness in professional heritage work. It sheds light on the transformative dynamics within civil society at the meso and micro levels, which have thus far received little attention in theoretical perspectives on sustainability (Adloff & Neckel, 2019; Dessein et al., 2015; Krieg & Toivanen, 2021b). These ideas on civil society are characterised on the one hand by a broader use and communication of open data and by increased cooperation between heritage institutions, IT experts, and civil society organisations (e.g. Open Knowledge Foundation, Wikimedia, Körber-Stiftung).

On the other hand, social entrepreneurs and citizen science projects take a critical look at the knowledge production of public memory, which is closely linked to principles of participation and social inclusion in the sense of cultural citizenship (Beaman, 2016; Koch & Smith, 2025b). These new forms of cultural representation and production in digital media environments challenge existing metacultural productions and epistemologies of heritage regimes (Bendix et al., 2013; Kirshenblatt-Gimblett, 2004). In light of these developments and the ongoing digitisation efforts in GLAM institutions, questions arise regarding how the past should be remembered in the future.

It remains to be seen whether the focus on the interpretative sovereignty of heritage institutions as part of the European memory complex (Macdonald, 2013) will persist in the face of increasing remediation. The *living sustainabilities* typology also

directs attention to possible further developments so that culture itself can be ‘sustainable’ – in the sense of vitality and creativity – and remain available as a rich resource for action. Against this backdrop, a key challenge for the cultural sector in the wake of digitalisation is to align heritage work more closely with how culture is lived at different levels of civil society (meso and micro). Conversely, less focus should be placed on institutional and expert-based views of how culture ‘ideally’ should be in terms of national identity politics, or how it can be placed in the service of New Materialism and technological development for the political control of social transformation.

At the same time, the future-oriented focus of culture as a resource in current governance approaches to evidence-based policy and New Materialism also has the potential to enhance cultural vitality and sustainability. Ultimately, this is also about how the integration of IT and creative industries into the cultural sector can be organised in a socially acceptable way. Along with (digital) art (Welzer, 2018), these sectors often represent important areas of application and channels for translating specialised discourses, such as cultural heritage, into society.

To keep cultural knowledge relevant and vital for cultural and everyday practices in the face of sociotechnical change, institutional preservation and political frameworks in the cultural sector must take a more systematic account of newly emerging sustainability concepts of cultural vitality and openness within civil society. This requires in-depth negotiations with and within civil society, as is currently being developed and tested in the context of citizen science; an example of which is found in design-anthropological, action research-oriented, and heuristic-led stewardship approaches (e.g. POEM project). This highlights the role of memory modalities (Koch, 2021a; Krueckeberg et al., 2025) that can serve as starting points for sustainability approaches. These modalities include museological, legal, technical, aesthetic, organisational, economic, non-monetary, political, and ethical aspects. Hence, it is important to mediate between different notions of the ‘good life’ as given realities within the global assemblage and to (re)organise these in the sense of *living sustainabilities*.

In order to navigate the ethical negotiations around the ‘good life’ in connection with the digitalisation of cultural heritage in a global assemblage, the perspective of *living sustainabilities* offers important practical guidance for the development of sustainability approaches in the areas of cultural heritage, cultural policy, cultural economies, and civic engagement. Moreover, the typology is relevant for further research on cultural sustainability and encourages situated application and further development in other knowledge domains.

8.1.2. Kurzfassung der Ergebnisse

In der vorliegenden Arbeit wird anhand der empirischen Perspektive der *Living Sustainabilities* untersucht, wie sich das Verständnis von Kulturerbe und dessen Erhaltung für zukünftige Generationen durch den medientechnologischen Wandel verändert. Zentrale Fragestellung ist dabei, wie im digitalen Zeitalter neue Nachhaltigkeitskonzepte im Kulturbereich ausgehandelt und in der Praxis umgesetzt werden. Im Mittelpunkt steht die Erforschung sozialer und kultureller Dimensionen als eigenständige Felder nachhaltiger Entwicklung, die unabhängig von einem ökologisch geprägten Nachhaltigkeitsbegriff als globales Leitprinzip gesellschaftlichen Wandels im 21. Jahrhundert betrachtet werden. Damit einhergehend wird die transformative Kraft zivilgesellschaftlicher Teilhabe herausgestellt. Die Arbeit positioniert sich an der Schnittstelle zwischen kulturanalytischer Digitalisierungsforschung und den internationalen Critical Heritage Studies.

Das Konzept der Offenheit stellt ein zentrales Leitprinzip für eine zukunftsorientierte und nachhaltige Kulturpraxis dar. Obwohl es im Kulturbereich nicht neu ist, gewinnt Offenheit als wichtiges Grenzobjekt (Star & Griesemer, 1989) im Zuge der Digitalisierung an Bedeutung – insbesondere im Kontext des aufkommenden *Open Knowledge*-Diskurses und des wachsenden Anspruchs, die Zugänglichkeit und Verfügbarkeit von Kulturerbe zu verbessern. In diesem Zusammenhang identifiziert die vorliegende Arbeit in der Kulturpraxis drei zentrale Nachhaltigkeitsstrategien: Erstens investieren Erinnerungsinstitutionen wie Archive, Bibliotheken und Museen, so genannte *Open GLAMs*, in die vollständige Digitalisierung ihrer Bestände und machen diese über Open Access zugänglich und verfügbar. Zweitens gewinnt die kreative und ökonomische Nachnutzung offener Kulturdaten an Bedeutung. Drittens werden gezielt Enabling-Strategien entwickelt, die Nutzer:innen befähigen, Alltagsrepräsentationen mit Hilfe digitaler Medien aktiv in die Erinnerungsarbeit zu integrieren.

Im Kontext der pragmatischen Aushandlungen um Offenheit im Zuge der Digitalisierung von Erinnerungsinstitutionen und der digitalen Nachnutzung von Kulturerbe werden übergeordnete Fragen der Lebendigkeit und Nachhaltigkeit verhandelt. Diese machen die ethischen und moralischen Dimensionen dieser Aushandlungen besonders deutlich: Die Erinnerungsarbeit hat sich zwar über die Erinnerungsinstitutionen hinaus erweitert, die Aktivitäten des Sammelns, Bewahrens und Vermittelns sind jedoch selten in sammlungsstrategische und systematische Überlegungen zu spezifischen Erinnerungspolitikern und Nachhaltigkeitsverständnissen eingebunden. So besteht das Risiko, dass digitale Anwendungen wenig genutzt werden oder sogenannte

„Datensilos“ entstehen (Koch, 2015). Bisherige Erhaltungspraxen des Sammelns, Bewahrens und Vermittelns scheinen sich nicht ohne Weiteres ins Digitale übersetzen zu lassen, wie z. B. Schwierigkeiten mit Urheberrechten im Umgang mit verwaisten Werken oder Fragen der digitalen Mündigkeit verdeutlichen. Zugleich sehen sich Erinnerungsinstitutionen zunehmend mit Fragen der sozialen Wirksamkeit und einem Rechtfertigungsdruck gegenüber Fördergeldgebern ausgesetzt, die messbare Ergebnisse ihrer Erinnerungsarbeit im Kontext der Digitalisierung und offener Kulturdaten verlangen.

Das Phänomen der Nachnutzung verdeutlicht in doppelter Hinsicht, dass Kulturerbe durch die Digitalisierung und freie Verfügbarkeit als offene Daten im Internet nicht automatisch für die soziale Organisation von Zivilgesellschaft produktiv wird, sondern dass es eine Übersetzungsleistung mittels Popularisierung und Ästhetisierung benötigt. Zudem treten im Zuge der kreativen Nachnutzung und Kommerzialisierung von Kulturdaten Verteilungskonflikte in Erscheinung, die auch Fragen der Deutungshoheit und Verwendbarkeit von Kulturerbe mit sich bringen (Reziprozität). Schließlich werfen die Enabling-Strategien von Nutzer:innen die Fragen auf, wie partizipativ und reziprok gegenwärtige Digitalisierungsstrategien und damit die Wissensproduktion im Kulturbereich ausgestaltet sind.

Die Typologie zu *Living Sustainabilities* schließt an diese Beobachtungen an und betrachtet Kulturerbe relational als globale Assemblage (Collier & Ong, 2005), die sich aus fünf unterschiedlichen, in der Praxis gelebten Nachhaltigkeitsverständnissen – den so genannte „Nachhaltigkeits-Regimen“ – zusammensetzt. Diese stehen in Auseinandersetzung miteinander, nebeneinander oder gar unvermittelt um die Ideen von Lebendigkeit und Offenheit (Collier & Lakoff, 2005). Die Typologie ermöglicht die Betrachtung neu aufkommender Nachhaltigkeitsvorstellungen, die traditionelle Grenzen sowie das Verständnis von kultureller Vitalität und Offenheit in der professionellen Erinnerungsarbeit infrage stellen. Sie beleuchtet die transformative Dynamik innerhalb der Zivilgesellschaft auf der Meso- und Mikroebene, die in den theoretischen Perspektivierungen von Nachhaltigkeit bisher wenig Berücksichtigung findet (Adloff & Neckel, 2019; Dessen et al., 2015; Krieg & Toivanen, 2021b). Diese zivilgesellschaftlichen Vorstellungen zeichnen sich einerseits durch eine breitere Verwendung und Vermittlung offener Daten sowie durch eine verstärkte Zusammenarbeit zwischen Erinnerungsinstitutionen, IT-Experten und zivilgesellschaftlichen Organisationen (z.B. Open Knowledge Foundation, Wikimedia, Körber-Stiftung) aus.

Andererseits nehmen Sozialunternehmer:innen und Citizen Science-Projekte die Wissensproduktion des öffentlichen Erinnerns kritisch in den Blick, was eng mit Prinzipien von Partizipation und sozialer Inklusion im Sinne einer Kulturbürgerschaft (Beaman, 2016; Koch & Smith, 2025b) verbunden ist. Diese neuen Formen kultureller

Repräsentation und Produktion im Digitalen stellen bestehende metakulturelle Produktionen und Epistemologien von (nationalen) Heritage-Regimen (Bendix et al., 2013; Kirshenblatt-Gimblett, 2004) infrage. Angesichts dieser Entwicklungen und der fortschreitenden Digitalisierungsbestrebungen in GLAM-Institutionen stellt sich die Frage, wie die Vergangenheit in Zukunft erinnert werden soll.

Es bleibt abzuwarten, ob der Fokus auf die Deutungshoheit von Erinnerungsinstitutionen als Teil des europäischen Erinnerungskomplexes (Macdonald, 2013) angesichts zunehmender Remediation bestehen bleibt. Im Hinblick auf die Perspektive der *Living Sustainabilities* bietet die Typologie auch Aufmerksamkeitsrichtungen für mögliche Weiterentwicklungen, sodass Kultur selbst ‚nachhaltig‘ – im Sinne von Lebendigkeit und Kreativität – sein und als reichhaltige Ressource für Handeln verfügbar bleiben kann. Vor diesem Hintergrund besteht für den Kulturbereich im Zuge der Digitalisierung eine zentrale Herausforderung darin, die Kulturarbeit stärker an Vorstellungen und Praktiken auszurichten, wie Kultur auf unterschiedlichen zivilgesellschaftlichen Ebenen (Meso- und Mikroebene) gelebt wird. Weniger im Fokus sollten hingegen institutionelle und Experten gestützte Sichtweisen stehen, wie Kultur im Sinne von nationalen Identitätspolitik ‚idealerweise‘ sein sollte oder wie sie in den Dienst des New Materialism und der Technologieentwicklung für die politische Steuerung gesellschaftlicher Transformation gestellt werden kann.

Zugleich birgt die zukunftsorientierte Ausrichtung von Kultur als Ressource in gegenwärtigen Governance-Ansätzen evidenzbasierter Politik und New Materialism auch Potenzial im Sinne kultureller Lebendigkeit und Nachhaltigkeit. Dabei geht es letztlich auch darum, wie sich die Einbindung der Kreativwirtschaft und der IT-Industrie in den Kulturbereich sozialverträglich gestalten lässt. Neben (digitaler) Kunst (Welzer, 2018) stellen sie vielfach einen wichtigen Nutzungsbereich und Kanal zur Übersetzung von Spezialdiskursen, wie beispielsweise Kulturerbe in der Gesellschaft dar.

Um kulturelles Wissen angesichts des gesellschaftlich-technologischen Wandels für die Kultur- und Alltagspraxis relevant und lebendig zu (er-)halten, müssen institutionelle Erhaltungs- und politische Rahmenwerke im Kulturbereich neu aufkommende Nachhaltigkeitsvorstellungen von kultureller Vitalität und Offenheit innerhalb der Zivilgesellschaft stärker und systematischer berücksichtigen. Dies erfordert eine intensive Aushandlung mit und in der Zivilgesellschaft, wie sie beispielsweise im Rahmen von Citizen Science, etwa in den design-anthropologischen, aktionsforschungsorientierten und heuristisch geleiteten Stewardship-Ansätzen (z. B. POEM-Projekt), gegenwärtig entwickelt und erprobt wird. Dies verdeutlicht die Rolle von Erinnerungsmodalitäten (Koch, 2021a; Krueckeberg et al., 2025), die als Anknüpfungspunkte für Nachhaltigkeitsansätze dienen können. Zu diesen Modalitäten zählen museologische,

rechtliche, technische, ästhetische, organisatorische, ökonomische, politische sowie ethische Aspekte. Auf diese Weise gilt es zwischen unterschiedlichen Vorstellungen eines ‚guten Lebens‘ als gegebene Realitäten innerhalb der globalen Assemblage zu vermitteln und im Sinne von *Living Sustainabilities* (neu) zu gestalten.

Um die ethischen Aushandlungen um das ‚gute Leben‘ im Zusammenhang mit der Digitalisierung von Kulturerbe in einem globalen Gefüge zu navigieren, bietet die Perspektivierung der Living-Sustainabilities wichtige praktische Orientierungshilfen für die Entwicklung und Weiterentwicklung von Nachhaltigkeitsansätzen in den Bereichen Kulturerbe, Kulturpolitik, kulturelle Ökonomien sowie bürgerschaftliches Engagement. Darüber hinaus ist sie für die weitere Forschung zu kultureller Nachhaltigkeit relevant und regt zur situierten Anwendung und Weiterentwicklung in anderen Wissensbereichen an.

8.2. Appendix B

8.2.1. Explanation of the use of generative AI systems⁵⁷

In this thesis, I have used GAI systems as follows:

- [] not at all
- [] for generating ideas
- [] for creating the outline
- [] for creating individual passages, which total ...% of the entire text
- [] for developing software source texts
- [] for optimizing or restructuring software source texts
- [x] for proofreading or optimising; for which I used the following prompt ‘Improve the red line and flow in British academic writing to the point’.
- [] for other things—namely, ...

I declare that I have provided full details of all uses. I am aware that missing or incorrect information may be considered an attempt to deceive.

Source: <https://www.uni-goettingen.de/en/674738.html> (retrieved April 27, 2025).

⁵⁷ In accordance with the *Orientation Framework for Using Generative Artificial Intelligence Systems (GAI) in Studies and Teaching* at the University Hamburg (version: January 26, 2024), this list was compiled. For further information see: <https://www.uni-hamburg.de/lehre-navi/lehrende/orientierungsrahmen-gki.html> (retrieved April 27, 2025).

8.2.2. List of earlier publications resulting from this dissertation

1. Lutz, S. (2025). »If it's not online and available, it doesn't exist!« Über diachrone Unzugänglichkeit und digitale Nachhaltigkeit im Kulturbereich. In L. Crasemann, S. Lutz, & T. Müller (Eds.), *Schriftenreihe der Isa Lohmann-Siems Stiftung: Vol. 18. Paradoxien des Schützens: Schutzkonzepte und ihre Widersprüche* (1st ed., pp. 89–112). Berlin: Reimer. Retrieved from: <https://www.reimer-mann-verlag.de/controller.php?cmd=detail&titelnummer=101713&verlag=4>

Ideas presented in chapter 4 were further developed in this publication with regard to digital long-term preservation and maintenance in professional heritage work.

2. Lutz, S., Geib, N., Schubert, P., & Koch, G. (2025). Towards a relational approach to social impact measurement of Participatory Memory Work: New concepts for future memory work. In G. Koch & R. C. Smith (Eds.), *Participatory Memory Practices: Digital Media, Design, Futures: Vol. 1. Future memory practices: Across institutions, communities, and modalities* (pp. 159–179). Abingdon, Oxon, New York: Routledge (Open Access). Retrieved from: <https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781003459163-13/towards-relational-approach-social-impact-measurement-participatory-memory-practices-samantha-lutz-nils-geib-peter-schubert-gertraud-koch?context=ubx&refId=3cea8b25-3045-4200-b91d-22c61c87c083>

Ideas presented in chapters 4 and 5 on social impact measurement were further conceptualised in this publication based on the POEM EU project.

3. Lutz, S. (2021). Living Heritage: Nachhaltigkeit im Kontext des UNESCO-Übereinkommens zur Erhaltung des Immateriellen Kulturerbes und der Digitalisierung von Kulturerbe. In G. Koch, J. Moser, L. Hansen, & S. Mallon (Eds.), *Welt. Wissen. Gestalten.: 42. Kongress der Deutschen Gesellschaft für Volkskunde (dgv) 2019* (pp. 371–381). Hamburg. Retrieved from <https://journals.sub.uni-hamburg.de/hjk/article/view/1760>.

This contribution uses a comparative approach to explore the living heritage discourse. My thesis extends these insights through theoretical sampling and develops the 'living sustainabilities' framework.

4. Franken, L., Hansen, L., Lutz, S., Stumpf, T., Tijerina García, A., & Koch, G. (2019). Inquiries into epistemologies and ethics. In S. Mallon (Ed.), *Hamburger Journal für Kulturanthropologie (HJK): Vol. 10. Jubiläum | 1919-2019* (pp. 79–97). Retrieved from <https://journals.sub.uni-hamburg.de/hjk/article/view/1438/1270>.
5. Lutz, S. (2019). Open Knowledge als Gegenstrategie zur Ökonomisierung von Kulturerbe? Heritage-Politiken in der EU. In Braun, Karl, Dieterich, Claus-Marco, Moser, Johannes, Schönholz, Christian (Ed.), *Online-Schriften aus der Marburger kulturwissenschaftlichen Forschung und Europäischen Ethnologie: Sonderband (Band 1). Wirtschaften. Kulturwissenschaftliche Perspektiven* (pp. 435–441). Marburg. Retrieved from <http://archiv.ub.uni-marburg.de/es/2019/0032/pdf/makufee-s-01.pdf>.

Ideas on cultural economies in chapters 4 and 5 expand upon this contribution by moving beyond a focus on neoliberalisation in heritage work.

6. Lutz, S. (2017). [{DIGITAL HERITAGE}: From cultural heritage to digital heritage](#). *Hamburger Journal für Kulturanthropologie* (7), 3–23.

Ideas in chapters 3 and 4 expand on this publication by critically engaging with methodological developments and integrating additional insights obtained through further theoretical sampling and analysis.

7. Koch, G., Schmidt, A., & Lutz, S. (2017). Sharing is Caring - Hamburg Extension Closing Statement. Retrieved from <https://www.slideshare.net/Digilab/sharing-is-caring-hamburg-extension-closing-statement>.
8. Lutz, S., & Koch, G. (2017). Sustainability, sustainable development, and culture. Diverging concepts and practices in European heritage work. In M.-T. Albert, F. Bandarin, & A. Pereira Roders (Eds.), *Heritage Studies: Vol. 5. Going Beyond – Perceptions of Sustainability in Heritage Studies No. 2* (pp. 71–84). Wiesbaden: Springer International Publishing. Retrieved from: <https://link.springer.com/book/10.1007/978-3-319-57165-2>.

Ideas presented in chapters 1 and 2 were built on this publication and are expanded to include recent issues and theoretical developments.

9. Lutz, S. (2017, October 20). Gelebte Traditionen – Immaterielles Kulturerbe in Schleswig-Holstein. *Schleswig-Holstein. Die Kulturzeitschrift Für den Norden*. Retrieved from <https://schleswig-holstein.sh/blog/2017/10/20/gelebte-traditionen-immaterielles-kulturerbe/>

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Ich versichere an Eides statt durch meine eigene Unterschrift, dass ich die vorliegende Dissertation selbstständig und ohne fremde Hilfe angefertigt und alle Inhalte (Text, Bild, Ton, Video und Daten anderer Art), die identisch oder annähernd identisch aus bestehenden Quellen übernommen wurden, als solche kenntlich gemacht und dass ich mich auch keiner anderen als der angegebenen Quellen und Hilfsmittel bedient habe.

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Hamburg, 02.06.2025

Ort, Datum

Samantha Jennifer Lutz

Unterschrift

