

CHAPTER 9

Preserving the intangible: The challenges and responsibilities of documenting material knowledge practices and skills through digital media

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Abstract

The role of digital archiving in the preservation of intangible heritage is considered in this paper, using the case study of the British Museum's Endangered Material Knowledge Programme. Concerned with the documentation of the skills, understanding, experience and embodied knowledge required to make and shape material worlds, this case study sits at the junction between the material and immaterial and the tangible/intangible, as the influence of everything from the availability of raw materials to cosmology are implicated

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in material decisions. Working across the globe, but with a strong focus on documenting knowledge systems in the global south that are under extreme threat of change, EMKP supports projects, researchers, and communities to record the details of material practice before they disappear. Digital tools offer a fluid and flexible set of resources to capture and represent these complex systems of individual and overlapping knowledge and are especially relevant in situations where knowledge is not catechised by western tropes of learning and linear process. Digital technology is also increasingly accessible and offers a chance to destabilise traditional heritage hierarchies, as the ability to carry out the documentation is decentred away from researchers to include communities and practitioners themselves. Nevertheless, challenges remain, notably how to collect such alternative ontologies, and how to manage and disseminate the results appropriately, protecting the rights of the original knowledge holders. In this paper we explore how EMKP has been working during its development phase to create a digital environment that is responsive to the particularities of material knowledge, recognising its fragility and urgent need to be preserved, but also sensitive to, and respectful of, the environment in which this knowledge emerged and grew.

Resumen

El papel del archivado digital en la preservación del patrimonio intangible se analiza en este artículo, utilizando el caso de estudio del Programa de Conocimiento Material en Peligro del Museo Británico. Este programa se centra en la documentación de las habilidades, la comprensión, la experiencia y el conocimiento necesarios para crear y dar forma a los mundos materiales, y se sitúa en la confluencia entre lo material y lo inmaterial, lo tangible y lo intangible, ya que la influencia de todo, desde la disponibilidad de materias primas hasta la cosmología, tiene un papel en las decisiones sobre lo material. Trabajando en todo el mundo, pero con un fuerte enfoque en la documentación de los sistemas de conocimiento en el sur global que están bajo una amenaza extrema de cambio, EMKP apoya proyectos, investigadores y comunidades para registrar los detalles de la práctica material antes de que desaparezcan. Las herramientas digitales ofrecen un conjunto fluido y flexible de recursos para capturar y representar estos complejos sistemas de conocimientos individuales y superpuestos, y son especialmente relevantes en situaciones en las que el conocimiento no está catequizado por tropos occidentales de aprendizaje y proceso lineal. La tecnología digital también es cada vez más accesible y ofrece la oportunidad de desestabilizar las jerarquías tradicionales del patrimonio, ya que la capacidad de llevar a cabo la documentación se descentra de los investigadores para incluir a las comunidades y a los propios artesanos. Sin embargo, siguen existiendo retos, en particular cómo recopilar esas ontologías alternativas y cómo gestionar y difundir los resultados de

forma adecuada, protegiendo los derechos de las comunidades originarias del conocimiento. En este artículo exploramos cómo el programa EMKP ha trabajado durante su fase de desarrollo para crear un entorno digital que responda a las particularidades del conocimiento material, reconociendo su fragilidad y su urgente necesidad de ser preservado, pero también de forma sensible y respetuosa con el entorno en el que este conocimiento surge y se desarrolla.

1. Background

Intangible heritage is now rightly recognised as an integral part of the heritage spectrum, with its status enshrined in global structures of valorisation and protection within the 2003 UNESCO Convention for the Safeguarding of Intangible Heritage. Defining Intangible Heritage as:

“[T]he practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.”

(Article 2.1, UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage 2020 Edition)

The 2003 convention marks a shift in values from material preservationist approaches to ones where lived heritage experiences are celebrated. Within this definition, intangible heritage can include oral histories, performing arts, unique social practice(s), rituals and festivals, cosmologies and understanding of nature, as well as crafts and material practices (Article 2.2). The focus is therefore clearly on the richness of living knowledge and can be seen as a shift to a more inclusive form of heritage. In particular, this re-orientation has been welcomed as a redress that celebrates the values of indigenous communities and traditional knowledge, empowering non-western heritage voices and decolonising heritage practice (Alivizatou 2012; Smith & Akagawa 2006: 2).

The impetus for such safeguarding measures came from the recognition that while intangible heritage is integral to notions of identity and culture, threats to such heritage are severe and increasing. Intangible heritage is fragile and locked in the lifestyles, actions, and ways of being of individuals, groups and societies who can move, change or simply cease to exist. Threats to intangible heritage are multi-scalar, from the effects of globalisation and urbanisation that alter the fabric of social life, to localised trauma, be it environmental, societal, political, or economic. Threats can be slow and insidious like the urban drain of younger generations no longer interested in learning crafts, or the catastrophic effects of localised actions from war and conflict to the loss of homes through

environmental crisis such as flooding and deforestation.¹ The urgency of preserving intangible heritage is often then acute.

While the future of traditional knowledge systems and practice is uncertain, the world of digital heritage superficially may seem to offer easy and accessible solutions. In particular, the advancement and democratisation of digital technologies in recent decades has triggered a number of digital documentation systems that enable users without a digital background to generate and manage born-digital content with a minimum of additional training (see Zuanni 2020 for the difference between digitised and born-digital objects). Increasingly accessible, egalitarian and dynamic, digital heritage is also not reliant on the large and costly infrastructures of traditional heritage institutions. Digital heritage is also accessible in ways that traditional object or site-based heritage is not; it is mobile. Digital heritage can be widely shared and consumed, even if it is still hosted in a traditional memory institution. It is also amenable to living memory projects because of the means by which knowledge can be captured usurps traditional material or literature-based preservation, and directly supports the collection of visual, spoken, performed, and practiced knowledge that may better reflect non-western ontologies. Digital curation and preservation therefore seem initially to provide a ready solution to tackle some of the challenges facing intangible heritage documentation.

However, despite these promising shifts, digitally preserving intangible heritage is not without its challenges. First and foremost, for heritage embedded in the experiences and memories of living communities, is the responsibility to protect and safeguard the rights of the knowledge holders themselves. Knowledge and practice held in communal or individual memory might be linked to economic value and skill (creation of specialist objects or designs) or related to protected or restricted knowledge that should not be indiscriminately shared, as for example in the case of ritual knowledge, or access to knowledge related to gender, social status or age. The issue of access and sharing of knowledge, which may seem simple and axiomatic in a world that lauds 'open access,' is fraught with ethical tensions when dealing with intangible heritage and living memories. Moreover, notwithstanding the advantages of digital initiatives in recording intangible heritage, it is no simple panacea either; digital collections can be as vulnerable and complex as analogue ones and are similarly weighed down by power struggles played out in ownership, hosting and curation narratives.

In this chapter we discuss the complexities of preserving a particular set of intangible heritage—related to material knowledge—in a digital format, and making it available under open access licenses, while still safeguarding the source community conventions, rights, and ownership. Drawing on the

¹ On threats to intangible heritage, see UNESCO's Living Heritage and threats platform available at <https://ich.unesco.org/dive/threat/?language=en>.

experiences of the Endangered Material Knowledge Programme at the British Museum, we will focus on the concept of material knowledge, its preservation and the varied challenges that emerge when attempting to digitally store and preserve the intangible.

2. Material Knowledge: what and why?

EMKP defines material knowledge as ‘the understanding of the resources, skills, technologies and social values necessary to create and maintain the material world’ encompassing the ‘knowledge systems associated with the making, use, repair and re-purposing of material objects, spaces, architecture, performances and environments’ (www.emkp.org). Material knowledge then is the layers of interconnected systems of practice, skills, and value that shape how individuals and communities make and structure their worlds—from how food is prepared and presented to the making of costumes for festivals of celebration and occasion. Material knowledge is embedded in, and draws from, a plethora of shared social, economic, ecological, and technical spheres of knowledge, and is thus vitally important to cultural identity and heritage, but also straddles the tangible/intangible worlds. This porous tangible/intangible relationship is well exemplified by the recognition that knowledge of the material world is not restricted to externalised systems of specialist knowledge—be it technical, mechanical, symbolic, or ecological—but is also embodied, that is, it lies within the actions, impulses, and movement of the maker to manipulate, respond to, and interact with the material in hand. This emphasis on experiential and tacit knowledge further erodes any notion of a divide between intangible and tangible, but also challenges researchers in how to document a knowledge system that resides within an individual. It also offers a compelling reminder that traditional ontologies of knowledge need to be re-thought in a world where knowledge is expressed through fluid movement, gesture, and action, not verbalised instruction. The potential for visual media to represent embodied knowledge is well demonstrated by a video from Sam Lunn-Rockcliffe’s EMKP project ‘Histories of Honey: Material Practices of Beekeeping in the Cherangani Hills, Kenya’, which shows practitioners, experienced and inexperienced, preparing a log for use as a beehive in the Kenyan Rift Valley. Through the course of the video the easy expertise and effectiveness of the first axeman is highlighted through contrast to the missed cuts and imbalanced swings of the apprentices; what initially appears easy becomes a masterclass in refined and practiced action and movement (Lunn-Rockcliffe, Sam; Cheptorus, Joseph Kimutai (2022): Stripping bark. The British Museum. Media. <https://doi.org/10.25420/britishmuseum.19935878.v1>). See below (Figure 9.1 to 9.4) of the process documented in the video.

A focus on material knowledge also has the virtue of democratising heritage values through its emphasis on, and celebration of, everyday material heritage as well as the exceptional. This range is well demonstrated by a review of grants



Figs. 9.1– 9.4: Lunn-Rockcliffe, Sam; Cheptorus, Joseph Kimutai (2022): Stripping bark. The British Museum. Figure. Shared under a CC BY-NC-SA 4.0 license. <https://doi.org/10.25420/britishmuseum.19948205.v1>; <https://doi.org/10.25420/britishmuseum.19948196.v1>; <https://doi.org/10.25420/britishmuseum.19948193.v1>; <https://doi.org/10.25420/britishmuseum.19948202.v1>.

awarded over the last five years, which range from the everyday, mundane worlds of garden fencing, shoe making and pottery, to the exceptional, events charged with spiritual, ceremonial or celebratory significance. In the first year of EMKP, grants were awarded to support two projects—one in Ghana, documenting the making of gold ornaments for Asante royalty,² the other in Malaysia,

² For further reference, see the project's page on the EMKP website (<https://www.emkp.org/research-and-digitization-of-indigenous-gold-forging-in-ghana/>).

recording Batek hunter-gatherer material culture, including sleeping mats, spears, digging sticks and hair ornamentation, most of which are organic and never intended to be preserved.³ Heritage values here are not restricted by the ‘authorised’ notions of significance, or criteria of universal global merit; material heritage’s importance is refracted through a local lens of meaning and value. As Alice Rudge, PI of the project with the Batek, recounts “Making these items, and the sonic, visual, and olfactory experiences of doing so, are imbued with cosmological, personal, and ecological significance” (<https://www.emkp.org/material-culture-of-batek-hunter-gatherers-in-pahang-state-malaysia/>). It is also arguable that the commensality of many material practices places them at extreme and higher risk than the more celebrated and special event activities (although as the case-study from Ghana demonstrates, even a practice as well known and globally celebrated as Asante goldwork is not immune). The everyday worlds are what anchor many societies and help structure and express worldview and social organisation.

Material knowledge then can be a vehicle to explore larger social life and more, and is also a facet of lived heritage with real potential to diversify and democratise what is celebrated as meaningful. For this reason, the Endangered Material Knowledge Programme (EMKP) was launched at the British Museum in 2018. EMKP is a 10-year programme to provide grants globally to scholars, practitioners and communities to digitally document material practices that are in danger of disappearing as a result of changing lifestyles and worlds (www.emkp.org). Anthropologists have long recognised the precarity of social and material worlds, and the speed at which these could change. From the mid-nineteenth century, there was an increasing sense of urgency, driven by the impact of global European expansion and industrialisation among other, which prompted early attempts to salvage the practices and knowledge of in-danger communities through recording, documentation and collection (Gruber 1970; see also Redman 2021). This impetus continued, and included museums, who increasingly engaged in collecting the ethnographic present as well. As Sir Charles Hercules Read, Keeper of British and Mediaeval Antiquities and Ethnography⁴ at the British Museum, wrote in his 1910 *Handbook to the Ethnographic Collections*,

Meanwhile civilization is spreading over the earth, and the beliefs, customs, and products of practically all aboriginal peoples are becoming obsolete under new conditions ... In proportion as the value of

³ For further reference, see the project’s page on the EMKP website (<https://www.emkp.org/material-culture-of-batek-hunter-gatherers-in-pahang-state-malaysia/>).

⁴ EMKP is based in the current Department of Africa, Oceania and the Americas, and which has developed from earlier iterations, including the Department of British and Mediaeval Antiquities and Ethnography.

Anthropology is appreciated at its true worth, the material for anthropological study diminishes; in many cases native beliefs and institutions described in the book have already become obsolete ... Such facts alone enforce the necessity for energetic action before it is too late.

(Read 1935:vi, cited in Gruber 1970:1296)

Approaches and methods have changed significantly since 1910, but there remains a linking thread that urges action, in 1910 towards collecting artefacts, in the contemporary context, to document the knowledge systems behind these objects.

With a strong emphasis on facilitating rather than directing research, within EMKP the aim is to support the global community of practitioners to carry out their work in the most appropriate and relevant ways for the local situation. Successful EMKP project grantees, who can be based globally, carry out documentation work over one or two years, producing a detailed corpus of records which can be in almost all possible digital formats (e.g. video recording, audio, text, photos, maps, 3D models, VR etc.). These records are hosted in an open access repository by the British Museum using a CC BY-NC-SA license.⁵ EMKP currently supports research in Africa, Oceania, Caribbean and Latin America, Asia and Europe (<https://www.emkp.org/supported-projects/>), working to document knowledge held across national boundaries, within specific communities and even held solely by a handful of individuals. The programme offers training and advice, but never delineates how projects should happen or methods to be used. Much of the focus for the early years of programme establishment was on creating a digital platform that would support such diverse projects and dynamic records. The challenge therefore has been to mould a resource that is practical, accessible, and suitably robust to ensure long-term preservation of these important records but is also sufficiently flexible and resilient enough to accommodate the diversity of records, formats, ontologies, needs and rights of specific projects and communities. In the following discussion, we reflect on the development of the EMKP repository and the process of envisioning and implementing a robust but reflexive platform.

⁵ This license specifies that download and reuse of EMKP's assets must be under the following requirements: a) give appropriate credit to the researcher; b) the material cannot be used for commercial purposes; and c) any copies, remixes, or material that uses the researcher's contributions will have to be shared under the same license.

3. Documentation and access

At the heart of EMKP's endeavour is the recognition that living material knowledge is endangered, and it is the responsibility of the programme to support its documentation and dissemination via digital means.⁶ EMKP and the British Museum host the final records and documentation in a digital repository currently provided by Figshare (<https://drs.britishmuseum.org/EMKP>). Within the repository, users can navigate, download, and play the different images, videos, and audios available. The search interface enables users to search the collection by different concepts and themes such as type of content (e.g. project, collection, or asset), type of item (e.g., dataset, media, figure etc) or category (e.g., musicology and ethnomusicology, anthropology etc) (see Figure 9.5).

High emphasis is placed on records that are visual and try to capture the actions and interactions of the individuals involved, as well as the materials and processes. In contrast to 'how-to' style manuals, it is not just the hands of the maker who are documented; body position, movement, emotion as well as the background and context in which the actions are taking place are equally important. See for example Fig 9.6. from a project led by Tracy Peter Samat to document Sarawak native blades. In the image, two participants are collecting *Artocarpus integer* wood from a farmland at Kampung Sorak Dayak, for making hilts and sheaths. As well as capturing how the raw material is collected, the image shows the two participants' position, movement, and expression as they stand in front of a clump of tall, lush trees in a heavy and wet environment.

In the second example below, Figure 9.7, Catherine Grant and team document the making of the Cambodian mouth harp 'Angkuoch'. In the wide shot, the camera captures practitioner Bin SONG crafting the angkuoch daek, as his wife, other project participants and villagers sit around him to watch the process. We can also see the project team and the recording equipment on the right. The context here is also about self-reflection on the research process, and awareness of its impact.

Sound is also a valuable tool in capturing a sense of environment and place; off screen noises from cockerels crowing, children playing and rain falling all help build a textured picture of the context. Also from Catherine Grant's

⁶ EMKP operates within the parameters of 'endangerment' as set by the programme funder, but we acknowledge that the conception of heritage 'under threat' is not without its complexities, and has, in some contexts, been contested or thought to not adequately convey the multifaceted challenges that heritage faces. Recognising the complexity of cultural legacy in all its manifestations, and the intricate relationships that exist between heritage, communities and the environment is at the core of the EMKP.

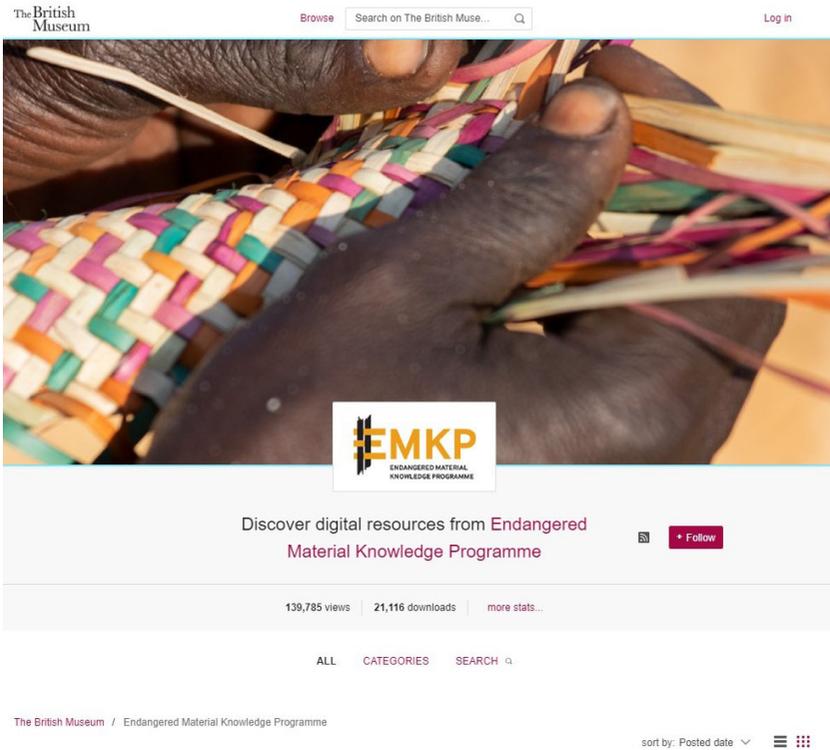


Figure 9.5: Screenshot of EMKP repository homepage and statistics.



Figure 9.6: Peter Samat, Tracy (2023): Collecting wood—MIA and PAN. The British Museum. Figure. Shared under a CC BY-NC-SA 4.0 license. <https://doi.org/10.25420/britishmuseum.21770567.v1>.



Figure 9.7: GRANT, Catherine (2021): Making angkuoch—Bin Song makes angkuoch daek while the team records it. The British Museum. Figure. Shared under a CC BY-NC-SA 4.0 license. <https://doi.org/10.25420/britishmuseum.14958627.v1>.

project, this video documentary beautifully captures the environment and sounds in which the Angkuoch is produced (<https://doi.org/10.25420/britishmuseum.14981148.v1>). In the first 40 seconds of the film, the characteristic sound of crowing cockerels gives way to the sound of leaves moving in the wind in the background, contrasting with the metallic resonance of the mouth harp played by its maker.

As these examples demonstrate, the ability to support diverse knowledge systems, often including non-verbal and/or embodied knowledge, is central to the conceptualisation of EMKP and the repository. Although still a new programme, it is evident that projects are actively using the range of digital media to create experiences of material knowledge, practice and space that go beyond a traditional descriptive experience.

4. Supporting Material Knowledge Ontologies

Central to the repository is therefore the desire to foster and support diverse archiving practices and knowledge preservation. However, there is a danger in unconditionally supporting diversity and unique expression, as the repository would soon lose coherence, manageability, and resilience. Therefore, underpinning

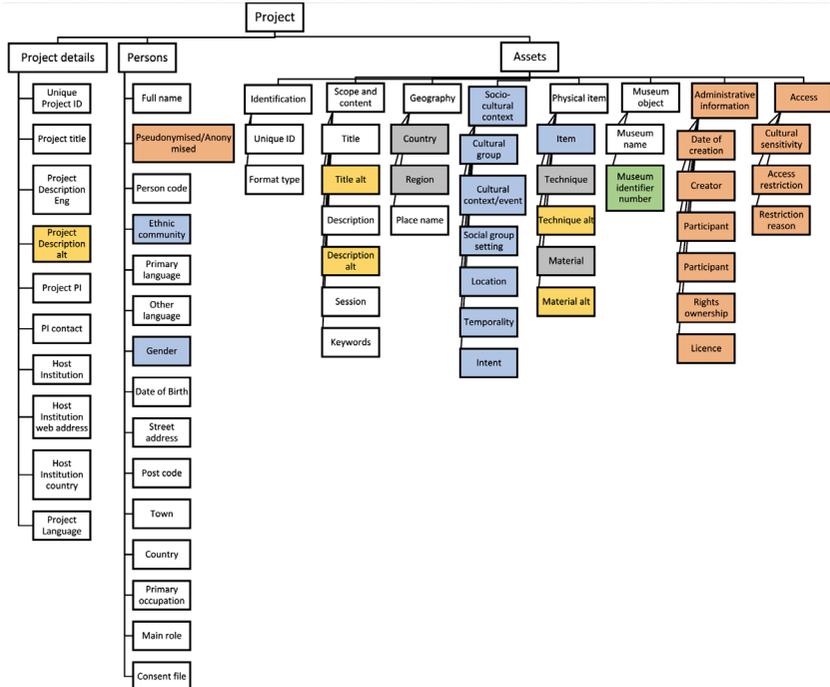


Figure 9.8: MCEMS metadata schema elements overview, based on Nik-Petek Sargeant (2020) with colour coding (yellow: multilingual fields; red: rights and access; blue: un-restricted vocabulary; grey: restricted vocabulary—British Museum thesauri- and green: links to other museum objects in collections online).

with the museum collection, to be set beside autochthonous names and conventions that more appropriately represent locally used terminology and ontology.

5. Rights protection

The emphasis on capturing alternative and representative ontologies in the metadata and repository architecture is about fostering new ways of thinking about, and representing, intangible heritage in the form of material practice. However, these initiatives are also about knowledge holders' rights and the responsibilities of the EMKP to support and valorise these voices through appropriate taxonomic representation. This is just one very small part of rights protection efforts that must be at the heart of any responsible repository, and particularly one with such a direct and close relationship with living contributors and communities of knowledge.

The screenshot displays the search interface of the Endangered Material Knowledge Program (EMKP) repository. At the top, the British Museum logo is visible on the left, and a search bar with the text 'Search on The British Muse...' is in the center. On the right, there is a 'Log in' link. Below the search bar, the search results are displayed in Khmer: 'ការផ្តល់ជូនដំណឹងអង្គការ-ប.ស'.

The interface includes a sidebar on the left with the following filters:

- Select date** (dropdown)
- Group (1/2 selected)**
 - Endangered Material Knowledge Prog... (75)
 - The British Museum (75)
- Item Type**
 - figure (45)
 - dataset (22)
 - media (8)

At the bottom of the sidebar, there are buttons for 'Apply filters' and 'Reset'.

The main search results area shows 75 results found. The results are sorted by 'Relevance'. Each result card includes a thumbnail image or document preview, the title 'Making angkuoch - BS', and the posting date and author:

- Dataset posted on 2021-08-23 by SAY Tola
- Dataset posted on 2021-08-18 by Catherine GRANT
- Figure posted on 2021-08-18 by Catherine GRANT
- Dataset posted on 2021-08-18 by SAY Tola

Figure 9.9: Screenshot of EMKP repository, search interface (with free text search in Khmer).

In this regard, it is encouraging to see other digital heritage initiatives globally that are actively working to put community rights at the centre of repository work. In Australia, from 1994, the Ara Irititja project⁷ was developed as a response to the need from Anangu communities in Australia to preserve and provide access to their cultural heritage. The initiative adopts a community-based approach to compile and disseminate materials of cultural and historical significance through the interactive multimedia software known as Keeping Culture KMS. The aim was to build a computer archive constructed specifically to hold these materials and where indigenous protocols are embedded into the platform's architecture to replace legacy schemes. In this case, the project provides a glossary of the terms used by the community and makes a differentiation between different types of material available: “open” for publicly available items, “restricted” for materials accessible only by specific groups (e.g., by

⁷ <https://irititja.com/archive/the-ara-irititja-approach/>.

gender, age, initiation etc), “sensitive” for material considered embarrassing, offensive, or disturbing by the community, and “sorrow” referring to material depicting recently deceased community members.

Other projects in North America, such as the Mukurtu⁸ knowledge management system, have been designed in collaboration with indigenous communities to ensure culturally appropriate dissemination by the insertion of indigenous protocols and “labels” into the platform architecture to help communities manage and share their heritage in culturally relevant and ethically minded ways. The Traditional Knowledge (TK) Labels applied have evolved into a different initiative named Local Contexts founded by Jane Anderson and Kim Christen in 2010.⁹ Local Contexts generates and encourages the use of TK Labels for sensitive use, sharing and circulation of information. The labels are classified into provenance (e.g., TK Attribution), protocol (e.g., TK Verified) and permission (e.g., Tk Non-commercial) and have been translated into Spanish, French and Māori. The idea is to provide a tool to increase indigenous involvement in data governance through the integration of indigenous values into data systems.

The release of data originating from indigenous communities under open access licenses remains a challenge and should always be framed in relation to questions of ownership, intellectual property rights, and control over the information and its material expressions. Countries approach the issue of data protection in different ways and in most cases the challenge starts from the lack of legal definitions for concepts like “traditional” and “indigenous” knowledge (Bell & Shier 2011). EMKP acknowledges that Open Access is a Western concept that can be challenging for indigenous communities that seek to maintain control over their knowledge or the ways in which it will be accessed in the future. Indigenous groups often experience the tension between protecting indigenous rights and ethics over the data and supporting the principles of FAIR data sharing (Carroll et al. 2020). In this context, various international initiatives have emerged in recent years to approach the issue of Intellectual Property in Cultural Heritage from the outset, and help communities and bodies understand their rights and responsibilities. Some good examples for this are the now finished IPinCH (Intellectual Property Issues in Cultural Heritage) project¹⁰ and the most recent CARE principles initiative developed by

⁸ <http://mukurtu.org>.

⁹ <https://localcontexts.org/>.

¹⁰ This was a seven-year project based at Simon Fraser University in British Columbia and funded by Canada’s Social Sciences and Humanities Research Council. The project co-developed by Prof. George Nicholas, Julie Hollowell (Indiana University) and Kelly Bannister (University of Victoria) to explore the rights, values and responsibilities of material culture, cultural knowledge and heritage research (<https://www.sfu.ca/ipinch/about/project-description/>, last accessed March 2023).

the Global Indigenous data alliance in 2019 and discussed below as one of the frameworks adopted in the development of the EMKP schema.

Unlike many of the programmes and initiatives outlined above which are region or community specific and developed in response to needs, EMKP supports a world-wide network of partners working across the globe with different communities, knowledge systems and ways of being. Hence, it was essential to develop a uniform standard framework with a strong data protection policy that was also adaptable enough to accommodate different requirements in terms of data access and protection coming from the different communities and groups that the programme showcases. At a very basic level, issues around rights are considered from the outset, and begin with the programme and grantees appropriately recognising and attributing the knowledge holders as owners, and ensuring they are acknowledged within the records and metadata. For this purpose, MCEMS enables the recording of rights ownership, licensing and attribution data. This is all collected in the red-coded fields within the model diagram in Figure 9.8. These fields enable the collection of administrative information about the assets, (i.e., the creator, the rights owner, the licenses for distribution) to protect and safeguard the rights of the knowledge holders themselves. In this sense, it is worth emphasising that the rights ownership over the assets produced by EMKP projects does not reside with the British Museum but is rather designated by the research team and the community and specified via the red-coded fields.

Another crucial area in which rights are concerned is with the publishing of assets to an open access repository. Following Arcadia's open access and digital preservation policy¹¹ all outputs published in the EMKP repository must be open access, therefore freely available online for copying, re-use and distribution with as few restrictions as possible. In the case of EMKP the decision was made to use the CC-BY-NC-SA 4.0 license to try and reconcile the need for accessibility with the need to duly acknowledge and recognise the knowledge holders. This license ensures that the assets are properly attributed to the community and the team in charge of the documentation project and that they cannot be used for commercial purposes. In addition, all data uploaded must be in accordance with FAIR and CARE principles. The FAIR principles (Findable, Accessible, Interoperable, Reusable)¹² ensure the accessibility and reutilisation of data to increase its interoperability across databases and projects. These principles establish a framework to enable the access of computer systems to academic research data and therefore ensure its reuse and sustainability in the long term. EMKP complies

¹¹ For more information about the policy see <https://www.arcadiafund.org.uk/open-access-digital-preservation-policy>.

¹² The FAIR principles (<https://www.go-fair.org/fair-principles/>) emerge from the Open access movement and were published in 2016 to provide guidelines on data sharing and accessibility. They have grown in recent years among academic outputs in Europe and North America and their emphasis is on increasing the access of computer systems to data.

with FAIR principles by making the data and materials generated by the projects available under an open access license with unique permanent identifiers that can be linked and de-referenced. The assets are enriched by publicly available metadata produced following a public vocabulary and domain ontology and deposited in a public digital repository that is computationally accessible via an Application Programming Interface (API) provided by Figshare.¹³ Finally, the assets are also enriched with additional documentation and protocols describing the process of acquisition licensing and provenance which is publicly available on the programme website and repository.

Despite the FAIR principles aim to ensure the shareability and interoperability of the information, they were conceived for scientific research and computer accessibility and therefore in some cases neglect the “human” element of EMKP projects and teams. For this purpose, the programme also complies to the greatest extent possible with the CARE principles for Indigenous Data Governance (Collective Benefit, Authority to Control, Responsibility and Ethics).¹⁴ These principles complement the existing FAIR values and encourage open access data movements to consider both people and purpose, and to engage with indigenous people’s rights and interests. CARE principles encourage indigenous groups to re-assert their ownership and control over their knowledge and data and ensure their right to engage in decision making processes responding to collective interests and values. EMKP follows CARE principles by recognising indigenous/traditional authorship of the information, as well as implementing responsive archiving practices that enable their participation in its stewarding. The programme encourages the generation of data in local languages to represent community epistemologies and worldviews and enabling searchability and accessibility in said languages. EMKP also provides digital and documentation training, to ensure ethical research by minimising harm, ensuring respect to indigenous rights and responsible representation. The digital training also builds digital literacy in the research teams, encouraging responsible use of the information as well as local stewarding, fostering reciprocal relationships between the programme, the research teams, and the communities.

As part of the FAIR and CARE protocol, the digital workflow of the programme controls the ingest, auditing, processing, and upload of the assets to the repository. Although it can be seen as supplementary, it is actually the key element that keeps all the gears together (see Figure 9.10). Among its different parts, the data auditing process is perhaps the most fundamental, since it is what allows the team to ensure that all the requirements that make the data FAIR and CARE have been properly followed from the point of creation to

¹³ <https://docs.figshare.com/>.

¹⁴ The CARE principles (<https://www.gida-global.org/care>) stem as a reaction to FAIR principles to address power inequalities that FAIR cannot regard the source communities’ access and control over their data and knowledge and emphasising their right to engage in the decision-making process in accordance with indigenous values and interests.

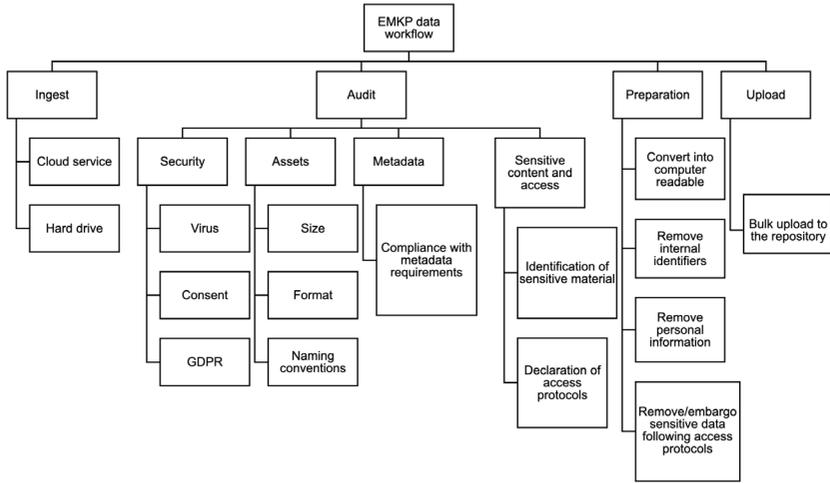


Figure 9.10: EMKP data upload workflow diagram.

the point of publication and that all the data complies with regulations such as GDPR and issues related to access and cultural sensitivity.

The method can be compared to a peer review process in traditional academic contexts in which all assets are properly audited and processed to ensure their compliance with the programme's standards, that they are of sufficient quality, that the research is ethically grounded, and to spot any sensitive materials that have not been previously marked. After the assets have been deposited, the auditing process is carried out by the EMKP team, and it involves four main steps. Firstly, the assets are checked for consent and security issues including the checking of consent release forms (it is required that all participants in the project have provided consent prior to any documentation taking place) and issues of personal information processing (for example participants or groups that have decided to be anonymised or pseudorandomised). This examination is followed by the assets check to make sure that all assets have been recorded in the approved formats, including size, quality, and file naming conventions. Simultaneously the metadata checking takes place to make sure all the assets have been properly recorded and documented in the metadata schema and that no compulsory fields have been left empty. Finally, in the last stage of the process the assets are checked to identify any potential sensitive material that should be considered before publication as well as any materials marked as restricted knowledge to ensure that relevant protocols will be applied at the time of publication.

Even with these safeguards in place, sometimes knowledge remains too sensitive to be published. This sensitivity can be varied and is often guided by cultural norms and requirements that may be at odds with the underlying

ethos of open access. As with the examples noted above from Australia and North America, knowledge may be culturally restricted and not suitable for wide consumption. Material practices are often gendered for example, meaning knowledge should be restricted to the participating gender. Other factors might include ritual or spiritual knowledge, as well as secret knowledge associated with specialist material practices that is only shared within tightly defined knowledge transmission situations. While EMKP asks grantees to try and avoid projects that have extensive knowledge restrictions, we acknowledge and recognise that sometimes some material must be embargoed and not made publicly available. The programme can therefore put partial or definite embargoes on the materials, so that they can still be preserved but not necessarily publicly displayed. EMKP also recognises that knowledge rights and restrictions are dynamic; situations change, which might demand new embargoes or changing restrictions on access.

6. Discussion and conclusions

Global initiatives for the valorisation, research, and protection of Intangible Cultural Heritage have increased dramatically since the 2003 UNESCO Convention for the Safeguarding of Intangible Heritage. Especially in recent decades, the focus has shifted from individualising tangible and intangible heritage to emphasising the fluidity of this relationship and the inseparability of both in the deeply intertwined hybrid, complex, and evolving components of living culture. In this sense, material knowledge offers an excellent example of the deep interconnection between the material and immaterial worlds. In this paper we have offered an insight into how EMKP has been developed to try and capture and represent this complex richness via digital media and made accessible in its open access digital repository. However, we have also demonstrated how despite the potential of digital to provide new ways to present and preserve intangible heritage, it comes with as many issues and challenges as traditional analogue archives.

Here we reflect on how EMKP has tried to build a robust system that will be resilient into the future, ensuring the long-term preservation of this fragile heritage, while maintaining a flexibility of use that allows contributors to define and demarcate their narratives according to the specifics of the particular cultural context and ontology. In this, EMKP has tried to foreground the ethics of rights, access, and ways of representing knowledge in the design of our digital workflows, from a custom-built metadata schema to a structure to protect and embargo knowledge in the public domain. EMKP is a new programme, and these conversations will continue as new ethical challenges and needs arise in the digital record.

7. References

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