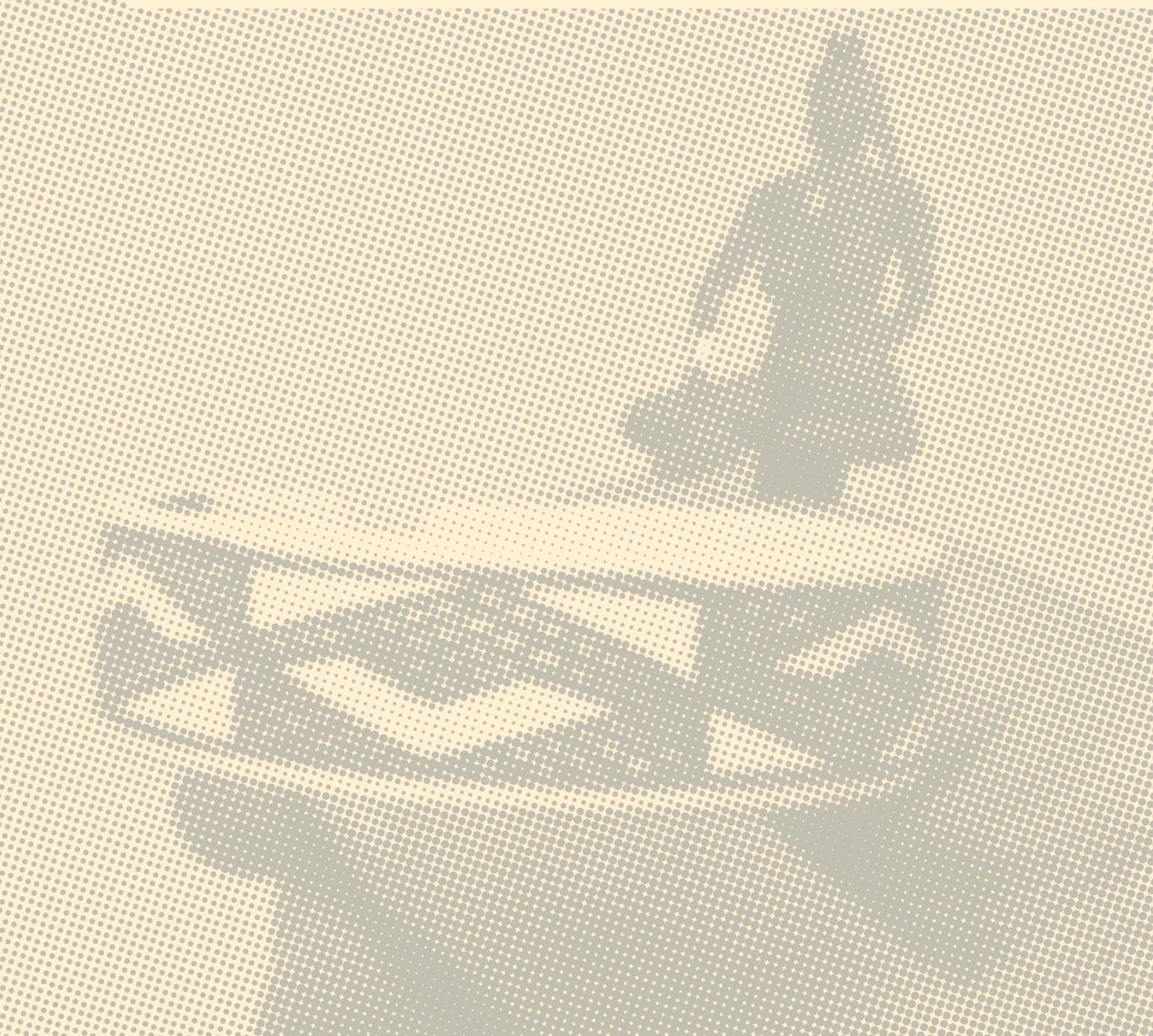


Why is she naked? An Iterative Refinement of the Digitisation of ICH with the OvaHimba Tribe in Namibia

Kasper Rodil
Heike Winschiers-Theophilus



Why is she naked? An Iterative Refinement of the Digitisation of ICH with the OvaHimba Tribe in Namibia

● **Kasper Rodil**

Department of Architecture and Media Technology, Aalborg University, Denmark

● **Heike Winschiers-Theophilus**

Department of Computer Science, Namibia University of Science and Technology, Namibia

ABSTRACT

The focal point for this article is to continue the discourse on the digitisation of Intangible Cultural Heritage (ICH). We begin by providing a short recapitulation and further conceptualisation of the Tripartite Digitisation Model (TDM) originally published in Volume 10 of this journal. This model is used to show and reflect on a concrete example of digitisation of ICH with an OvaHimba community in Namibia. The point of this is to highlight how community involvement has been facilitated in an on-going research project, and to show the necessity of this community involvement when ICH becomes digital.

Keywords

digitisation, OvaHimba, Namibia, Tripartite Digitisation Model, body ornaments

Introduction

There is no doubt that the Intangible Cultural Heritage (hereafter ICH) of indigenous communities across the globe is threatened by a multitude of factors. One of these factors relates to a widespread rural-urban migration disabling contemporary indigenous communities from transferring and sustaining their ways of living. This is unlikely to change much, and young people (and adults) from these communities are often situated far away (for instance by working in the city) from traditional indigenous practices. Meanwhile, young people are busy learning from a more western-inspired knowledge system through formalised schooling; they are also (like most other young people) fascinated and frequent users of digital

technologies such as computer games, mobile phones and television. Again, we do not expect this to change much in the near future. In an attempt to bridge the age, technology and distance gap, we see the digitisation of ICH as a plausible approach to revitalising ICH for future indigenous curators. This entry point means that while being busy co-designing technological systems, we also see a strong reason to evaluate the processes, impacts and outcomes of turning ICH digital.

In 2015 we provided an extensive review of the first decade of publications within this journal (Rodil and Rehm: 2015). We investigated the categorical spread of reported

research projects in terms of the five domains classifying the nature of intangible heritage formulated by UNESCO (UNESCO: 2003). We established that coverage of the five domains was reasonably distributed across the articles. One of the motivations for presenting this baseline view, besides providing an overview for future readers about projects anchored in the five domains, was to initiate a discourse on the role of digital technologies (hereafter 'ICT' (information communication technologies) in the conservation of ICH. We realised that few projects leverage ICT and/or go beyond traditional means of dissemination (for instance through web pages). Besides providing future readers and ourselves with inspiration from reported projects and approaches to preservation with ICTs, the main point was to investigate the relationship between ICTs and community engagement in conserving ICH. It is our intention with this article to continue from this point.

The following quote from the *Convention for the Safeguarding of the Intangible Cultural Heritage* (UNESCO: 2003) is central to our work:

Recognising that communities, in particular indigenous communities, groups and, in some cases, individuals, play an important role in the production, safeguarding, maintenance and re-creation of the intangible cultural heritage, thus helping to enrich cultural diversity and human creativity...

As researchers, we have a long history of working closely together with present practitioners and curators (the *de facto* owners) of ICH; primarily rural, indigenous communities across Namibia. We have deployed a community-based, co-design methodology, which is deeply rooted in the philosophy of Participatory Design (see for example Spinuzzi: 2005; Schuler and Namioka: 1993) and Action Research (see for example Brydon-Miller, Greenwood and Maguire: 2003) laying the epistemological foundation and providing the methodological execution for the construction of ICT aimed at safeguarding ICH (Winschiers-Theophilus et al.: 2010).

Because of our particular orientation to ICT and ICH, we, in the review in 2015, deliberately looked at the involvement of indigenous communities in safeguarding measures. It was a surprise to us to see how few articles mentioned the involvement of communities in safeguarding (Rodil and Rehm: 2015). It is important to re-emphasise from the previous publication that we do not attempt to criticise

classic approaches to ICH conservation. Still, we are adamant about community inclusion being vital for a more truthful and respectful process (Winschiers-Theophilus, Zaman and Stanley: 2017).

Our ambition remains fixed on continuing to nuance the discourse and expand the vocabulary for more classically-based researchers who might be looking at 'prospective' digital avenues, and, in the meantime, to encourage researchers already familiar with ICT to reflect on the great complexity of ICH. We will argue that the beginning point for understanding this inherent complexity requires one to acknowledge and seek the involvement of those communities who know best their own life-worlds. The nature of the lens through which we view this complicated interplay is still primarily of a critical technological-inclusive kind. Our objective with this article is to further the practical use of the Tripartite Digitisation Model (TDM) from Rodil and Rehm (2015) by zooming in on how we have approached, in light of the TDM, capturing, representing and disseminating the ICH surrounding OvaHimba body decorations in Northern Namibia.

The Tripartite Digitisation Model (TDM)

When we first presented the Tripartite Digitisation Model (TDM) in 2015 in this journal, the model was, and still is, intended as a way to structure and to conceptualise processes embedded in the digitisation of ICH. As time has progressed, we have discussed this model in publications, with students and with peers, and find it necessary to stress the fact that the model is still very much in development. Yet we have also found the TDM to be a valuable lens for self-reflection. Our main aim for this model is to encourage researchers and safeguarding bodies to look at digitisation holistically, and acknowledge inside actors (curators and current performers of ICH) as being vital for respectful, consensual and critical digitisation.

There is, from our own technological perspective, a critical view on technology as being socially constructed (see for example Floyd et al.: 1992), axiomatic and highly subjective. See for instance Rodil (2017) in Volume 12 of this journal for a fuller conceptualisation of the interplay between socially constructed technology and challenges 'when going digital' in safeguarding ICH. In this group of technologically-minded people, not everyone shares this particular technological view. It would be fair to ask the following question. *If you cannot fully understand and perfectly represent ICH*

with digitisation, why do you try? The answer and claim to this would be: *because no outside actors can perfectly understand and represent ICH to begin with. We use our understanding and technical constructions to engage with people who do know, for the benefit of mutual learning and for co-exploring the potential opportunities that digitisation might provide for safeguarding.*

It is always our ambition to expose the 'culture' underlying technology by enabling inside actors to better assess how their ICH is handled when turned to bits and bytes. It is in the meantime equally important that we also learn about the content and axioms we carry with us in our digitisation endeavours. Our main proponent for digitisation is to explore ways of archiving and disseminating ICH, and methods surrounding co-curation. Co-curation here entails our imposed perspective that digitisation can never be neutral – it will in one form or another carry the beliefs of its makers. Similarly, we do not see ICH as static material performed in isolation from the rest of the world, but as adaptive and dynamic (for a fuller explanation please read Manetsi, 2011, in Volume 6).

Burstall (1985) warned about the role of computing as a framing of thought and how computers are 'small worlds' where programmers assume control.

The recognition of this influence does not itself free us; but it may provide a starting point for us to look for ways of working with computers without being entrapped by a limited perspective based on desire for control and exclusive reliance on conceptual thought. (Burstall: 1985, pp.4)

From this perspective (shaped by several influential thinkers), we see in its barest form technology use (and technology design) and ICH as constructions, which unavoidably affect each other throughout the digitisation process. For this very reason, we will keep arguing that the most important point underlying digitisation is co-construction – of knowledge and technology alike.

Thus, engaging in joint meaning-making requires active participants. Murphy (2014, p.8) explained this duality between passive/active participants well.

The members of a community, in other words, serve to guide the process of locating and using appropriate

knowledge. They are active rather than passive participants in undertaking a research or other community project.

It will become clearer in the following sections, but instead of assuming that we can conserve ICH as outsiders, we seek to engage with as many perspectives as possible to become more sensitive to the construction of technology and the conservation of ICH. We refer to this as a space for cultural hybridity (see for example Merritt and Stolterman: 2012). Within this hybrid space of multiple perspectives our design approach can be understood as a transcultural design approach where:

...we suggest a radical paradigm shift in research and development work, which embraces a blending of epistemologies, recognising contributions from all participants, including the designers, within a collective context. (Winschiers-Theophilus, Zaman and Stanley: 2017, pp.15).

The following case study will show the iterative dialogue between objects of Capture and objects of Representation, facilitated by on-the-ground dialogue with an OvaHimba community in Namibia. It will show how the act of digitisation is in fact a transcultural process of co-construction, where constructs of culture are made obvious and evaluated, and where ICH becomes intertwined with new digital artefacts for dissemination.

Digitisation of OvaHimba ICH

In the following study we expose processes and thoughts underlying how capturing, representing and disseminating ICH with an OvaHimba community in Namibia can be seen by applying the TDM as a lens. This is conducted by illustrating how we have worked together with an OvaHimba community on the digitisation of traditions surrounding female body decoration (Figure 1). When introducing the TDM in 2015 (Rodil and Rehm: 2015, p.11) we wrote in the conclusion:

...we developed a tripartite model that was focused on the practical questions of what kind of data can be collected for capturing aspects of intangible cultural heritage, how this data can be represented, and in what way it can inform and enable the dissemination of intangible cultural heritage.

A primary reason for adding practical development of a technical application and on-the-ground fieldwork with a community to the discussion of the model, is to show how digitisation becomes a way of inquiry. Because of the iterative and inclusive nature embedded in our Participatory Design agenda, we expose how much small things matter when it comes to understanding ICH – and its digitisation. It is at the heart of our research to remain critical, and one argument for us is to be open about our own conceptualisations of the ICH material. This maxim is very much inspired by Mutema (2003, p.5), who says:

Understanding is made possible through dialogue, conversation and communication between the researcher and the actors. The intersubjective nature of the research process allows for the researcher's interpretations to be checked, reinterpreted and evaluated by the actors. In this way, the researched are 'active' participants in the practice and activity of the interpretation.

We will now turn our attention towards how our technological interpretations have been 'checked' (to stay with Mutema's words) by our collaborating community. (Figure 1)

Domain

The OvaHimba are one of the minority ethnicities in Namibia, with less than 20,000 members out of a national population of 2.2 million. Most of the OvaHimba live in the Kunene region, which is in the north western part of

Namibia, bordering Angola (for a history of Namibia see Wallace: 2011). They speak an OtjiHerero dialect, one of the Bantu languages.

Many OvaHimba still live a semi-nomadic lifestyle and breed cattle and goats (see Bollig and Gewald: 2000). They have maintained many indigenous traditions throughout the centuries, such as ritual dances, natural medicine and food preparation, animal breeding and management. However, without doubt the 'image' of the OvaHimba has been dominated by visual representations of their body ornaments and cosmetics. The female OvaHimba distinguish themselves from all other women through a full body application of an ochre coloured balm called *otjize*. This home-made ointment consists of fragmented milk fat, red ochre powder and fragrant resin, which provides a unique scent and appearance. In addition, both male and female, adults and children, wear distinctive hair styles and ornaments which, as we will elaborate on in later sections, carry profound meanings. With tourism being a significant national and local source of income, plenty of visually appealing material has been created. Thus mass media, on-line or printed, mostly produced within the tourism sector, has over time framed the representation of the OvaHimba, directly affecting their perceived identity.

However, the myths and traditions of nationhood promoted by the tourism industry may have little to do with the real lives of the people or how they personally understand their own national identity (Niskala: 2015, p. 261).

Niskala (2015) re-emphasises the importance of acknowledging how images are constructed, fostering socio-political and ethically questionable representations of 'the other'. Thus an important way of producing an unbiased representation of an indigenous community and their ICH is the involvement of the communities themselves in the digital collection, curation, and evaluation of their culture to assure a representation from within.

Inside and outside actors

In 2013, as part of the Indigenous Knowledge research cluster in the Faculty of Computing and Informatics of the Namibia University of Science and Technology (NUST), a long term collaboration was established with one OvaHimba community, led by Uriaieke, a wise elder (Stanley

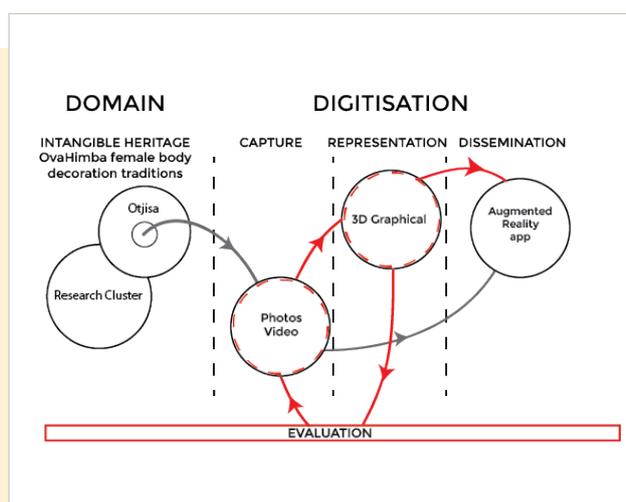


Figure 1.
A case example seen through The Tripartite Digitisation Model

et al.: 2015). His main concern has been the preservation of his traditions and ICH within a fast-moving world, and the rural-urban migration of young people, including his own children. He acknowledges that technology and the digitisation of the ICH is a means to bridge the gap with the next generation and the rest of the world. Thus, he has committed to a long-term engagement with researchers from NUST aiming at co-creating indigenous knowledge holder tools to support an independent cultural heritage preservation process as part of a national initiative (Maasz et al.: 2018). The core research team consists of two OtjiHerero speakers, a Namibian-based professor and the first author of this paper, a Danish assistant professor. In addition to the core team, a large number of students with various backgrounds and ethnicities have been part of the many projects situated in the hybrid space between technology and indigenous knowledge. The research team has worked jointly on the co-design and implementation of technologies, visiting Otjisa, the village led by Uriaieke, every 3-4 months. Thus a strong relationship of trust has been established with Uriaieke and his extended family through many joint activities undertaken since then. Thanks to our OtjiHerero speaking colleagues, we have limited communication barriers and are culturally sensitised to expected interactions and behaviours. Thus we are aware of the many customs - such as not walking between the holy fire and the main house, etc.. Our visits are similar to staying with family, whereby we bring things from town that are not available in the rural areas, we sometimes stay overnight in the village upon invitation by Uriaieke, and participate in everyday activities as well as the co-design endeavours initiated by us.

Throughout the collaboration, Uriaieke has been very particular in regard to the collection and curation of the ICH. In a recent conversation he expressed major concern with the random taking of pictures of his fellow community members by tourists who do not take into account that the person is 'not fully dressed', according to the OvaHimba tradition. Many of the ornaments mistakenly perceived as just decorations are essential elements of the OvaHimba cultural heritage, expressing the physical and social status of the person. Thus it is considered improper to take pictures of people not 'wearing' all their ornaments. Uriaieke has a deep desire to tell the world how 'it should be' and what is appropriate in his culture. Thus he knows that correction and validation from his side is essential in the process of digitising his cultural heritage (Maasz et al.: 2018).

Process

Background

The research team has been co-designing indigenous knowledge holder tools since 2008 with OvaHerero communities in eastern Namibia. One of the functioning and appropriate systems created was the so-called HomeSteadCreator, an android-based 3D graphics app to represent the OvaHerero communities' rural context (Rodil et al.: 2012). The tablet-based application with its features and functionalities was refined over a number of co- and re-design cycles and evaluated throughout a number of OvaHerero communities. In order to validate the app across tribes, we decided to engage representatives of the OvaHimba communities considering they had linguistic, and a number of cultural similarities with the OvaHerero tribe, yet were sufficiently distinct to uncover new requirements for the system. The two tribes are particularly divergent in their appearance and constructions, e.g. their dress codes, their houses and architecture, as well as their immediate environment. These aspects directly affect the 3D graphic designs which in many instances required drastic changes. For example, the OvaHerero houses are square while the OvaHimba houses are circular; the OvaHerero dress in an excessive amount of material (up to 8 metres) in the old Victorian style, while the OvaHimba dress in a rather minimalistic traditional leather garment (see Plates 1 and 2 left side) just to name a few obvious differences. Thus, when we



Plate 1
Uriaieke taking a photo of an OmuHimba woman in front of a traditional dwelling.
Photo: Heike Winschiers-Theophilus, 2013

introduced the OvaHimba community to our OvaHerero HomeSteadCreator version they immediately identified which 3D objects needed to be re-designed. In order to allow the 3D graphic designers to model these new 3D objects back home, a photo session was held.

Capture 1.

Uriaieke and his community understood the concept of collecting photos of living beings, objects and the natural environment to construct 3D graphic representations of their living context for the purpose of cultural heritage. Given the tablet to capture elements to be modelled, they immediately went to capture specific objects and scenarios (Stanley et al.: 2015). Uriaieke was very particular about the scenes to be represented, thus he spent much time positioning people and objects in 'correct' places. For example, (Plate 1), he positioned one woman in front of their main house with a set of essential, traditional, every-day objects, such as the calabash to store the milk. He took numerous similar pictures of every scene or object he wanted to be modelled. While taking the pictures, he explained the significance and meaning of the scenes and objects. Later, back in the shade, he went through the series of photos and selected the 'best' ones which he then communicated to us. The selection was not based on technical details of photography such as quality of the photo in terms of lighting, sharpness, etc., but rather on his own understanding of what he considered to be an appropriate 2D representation of the scene/object.



Plate 2
Left: photo of an OmuHimba woman. Right: 3D model of the OmuHimba woman.
Photo: Uriaieke Mbinge, 2013.

Representation 1.

A graphic designer was given the task of modelling 3D objects from the photos captured. There were a couple of requirements informing that particular work of representation based on photos. The 3D objects had to have a low amount of polygons as the tablet was already rendering a huge amount of 3D objects. This essentially limits the amount of detail that can be made on the 3D object, while maintaining that the prototype can run. Another factor determining the work was the lack of information readable from the photos, which forced the graphic designer to guess, for instance, what was on the back of the OmuHimba woman (OmuHimba is the singular form of OvaHimba). Furthermore, the 3D object representing the OmuHimba woman was supposed to be placed a bit in the distance (when looking at a 3D representation of the village), which made the graphic designer prioritise showing more red skin to emphasise it visually. The 3D object became a compromise between all of these factors. Plate 2 shows a photo of the woman captured by Uriaieke (left) and the corresponding 3D object (right). Plate 3 shows a photo of a hut (left) and the corresponding 3D object (right). [See Rodil et al.: 2014 for an explanation of the prototype].

Evaluation 1.

Once a set of models was created, we undertook a second trip to Uriaieke's community to validate the 3D graphic representations. For each 3D object a different discussion unfolded. The modelled hut was considered 'too perfect' as the roof did not show any irregular patterns and wear as one would find in real





Plate 3
Left: photo of a traditional OvaHimba dwelling. Right: 3D model of the dwelling.
Photo: Heike Winschiers-Theophilus, 2013.

life. However, after lengthy discussions the community agreed that it was desirable to have a representation of how a 'perfect' hut would look. Much more complex was the validation of the 3D graphic representation of an OmuHimba woman. Uriaieke asked *but why is she naked?* meaning why are essential ornaments missing in the representation. Semi-joking and semi-concerned with the inadequate representation, he decided to undertake a second capturing session with the hope that it would better inform the graphic designer. The 3D model of the OmuHimba woman was, for obvious reasons, also evaluated by the women in Otjisa (Plate 4). Our main point was not only to show and receive feedback on 3D representations, but also to show how these 3D models are made. This session yielded many moments of laughter and the conversations went in several interesting directions from this one 3D graphic representation. For example, the women started asking about the haircut of the first author and its meaning to them (sitting to the left in Plate 4), which arose from talking about the different ornaments the women wear in their hair. While the de facto 3D model was deemed inaccurate, the amount of extra information supplied from the conversations around it not only added to our understanding of the captured data, it also created some very social and joyful interactions.

Capturing 2.

Among other points, the main criticism was on the simplicity of the representation of the 'skirt' which did not contain the folds created through days of hard work on preparing the skins. Realising that a single photo showing the front of the woman will not show the 3 dimensional structure, Uriaieke took a series of photos of his wife from different angles. (Plate 5)

However, after this trip, the research team shifted the focus to further development of the knowledge-holder tools, such as how to manage community crowd-sourced funding, allowing the community to place requests for 3D graphics (Stanley et al.: 2015). Thus further trips to the community were concerned with the tools and allowing for feedback between the community and the graphic designers, rather than the 3D models themselves.

Dissemination 1.

With a number of students engaged in the project, multiple other parallel projects explored different aspects of the digitisation of the OvaHimba ICH. Among others, we developed an augmented reality application with the community's commercialised OvaHimba bracelets, which contain diverse patterns (Winschiers-Theophilus and Peters: 2017; Sieck: 2017). For prototyping purposes, the



Plate 4
This shows the 3D model being evaluated by some of the women from the community.
Photo: Heike Winschiers-Theophilus, 2014



Plate 5
Uriaieke taking photos of his wife while being provided with shade by one of the researchers.
Photo: Heike Winschiers-Theophilus, 2014

students re-used previously made 3D graphic models, among others one of our 'naked' woman (Plate 6). The intention was solely to produce a running application which could demonstrate a possible mechanism of dissemination of cultural heritage.

Evaluation 2.

Once we took the application to the OvaHimba community for validation and further design refinements, they once more criticised the lack of progress in the modelling of the OmuHimba woman. During previous trips the conversation about the representation of the OmuHimba woman kept on surfacing, often in a joking manner but with a serious undertone. Uriaieke said that the day we provide him with an accurate model of an OmuHimba woman he will respect our skills. He also said that if he could, he would make sure all those tourists who take random photos of OvaHimba women 'half-dressed' - meaning not wearing all the prescribed ornaments - knew how it should be. Thus we realised how important a valid representation of cultural heritage is to indigenous communities.

Capturing 3.

Concerned by our inability to progress in providing an accurate 3D representation of OvaHimba women, Uriaieke organised a full dressing up session of several women from his homestead. Lined up, he explained in detail every single ornament the women were wearing. This explanation was video recorded and detailed photographs were taken. The explanation was partially translated then and there by our

OtjiHerero speaking colleague, and was fully translated later. In his explanation, Uriaieke emphasised the material of each adornment, be it the leather skirt, the iron bead anklets or the seashell pendants. For each he explained the whereabouts and the manufacturing process. Interestingly, materials are not all from the immediate surroundings and some need to be purchased. However, all the ornaments are locally manufactured by tedious and lengthy processes. The different ornaments carry meanings in regard to the woman's status, for example, the way the hair is dressed expresses her marital status, and the belt shows how many children she has given birth



Plate 6
An OvaHimba bracelet with an augmented reality application.
Photo: Heike Winschiers-Theophilus, 2018

to. Further cultural practices, such as the fact that part of the anklets are cut in the case of a death in the family, were explained to us. Thus not having understood all these meanings associated with the women's ornaments, we had made them look like jewellery which did not need to be represented in great detail. However, after this private lesson, we looked at the ornaments in a different manner.

Reflections

Validity of representations

As previously stated, the OvaHimba is one of the indigenous tribes that has been excessively documented visually for their exotic and authentic appearance. Numerous anthropological accounts describe their ICH from an outsider's perspective, not doubting the accuracy of the data collected in field notes and photographs. However, as technology designers, supporting indigenous knowledge holders' self-directed digitisation of their ICH, we are concerned with the 'validity' of the representation from an inside perspective. We acknowledge that there cannot be a universally accurate representation of ICH, but that any representation is a new creation and interpretation of reality by the participants (Winschiers-Theophilus, Jensen and Rodil: 2012). Thus the curator and people engaged in the digitisation process are responsible for the interpretation of an observed reality, as well as for the shaping of its representation. Moreover, technology itself carries its own biases and technical limitations, framing the capturing of ICH and consequent representation. Comparing technologies to capture an OvaHerero wedding as video footage, as the recording of an oral narrative, and as visually enhanced narratives has shown the different focus of accounts (Rodil et al.: 2014). Acknowledging the various biases created through the technologies and the people involved in the digitisation process, we postulate that the strength of a valid representation lies in a dialogical approach of joint meaning-making between insiders and outsiders in the process of the digitisation of ICH. 🇳🇮

REFERENCES

- Bollig, Michael Gewald, Jan-Bart, 2000. 'People, Cattle and Land Transformations of Pastoral Society', in *History, cultural traditions, and innovations in Southern Africa*, vol. 13. Köppe, Köln: pp.3-52.
- Brydon-Miller, M., Greenwood, D., and Maguire, P., 2003. 'Why action research?' in *Action research*, 1(1): pp.9-28.
- Burstall, Rodney M., 1992. 'Computing: Yet Another Reality Construction' in Floyd, Christiane, Züllighoven, Heinz, Budde, Reinhard Keil-Slawik, Reinhard (eds.) in *Software Development and Reality Construction*. Springer, Berlin. Heidelberg: pp. 45-51
- Floyd, Christiane, Züllighoven, Heinz, Budde, Reinhard Keil-Slawik, Reinhard (eds.), 1992. *Software Development and Reality Construction*. Springer, Berlin, Heidelberg.
- Kapuire G.K., Winschiers-Theophilus, H., Stanley, C., Maasz, D., Chamunorwa, M., Heide Møller, R., Rodil, K., Gonzalez-Cabrero., 2016. 'Technologies to promote the inclusion of Indigenous knowledge holders in digital cultural heritage preservation' in *International Conference on Culture & Computer Science*, Windhoek, Namibia
- Maasz, D., Winschiers-Theophilus, H., Stanley, C., Rodil, K., Mbinge, U., 2018. *A Digital Indigenous Knowledge Preservation Framework: the 7C Model - Repositioning IK holders in the Digitisation of IK*, in *Digitisation of Culture: Namibian And International Perspectives*, Jat, Dharm Singh, Sieck, Jürgen, Muyingi, Hipollyte, Winschiers-Theophilus, Heike, Peters, Anicia, Nggada, (eds.). Springer, Singapore, ISBN 978-981-10-7696-1.
- Manetsi, Thabo, 2011. 'Safeguarding intangible heritage in South Africa: a critique of the Draft National Policy on Living Heritage' in *International Journal of Intangible Heritage*, vol. 6: pp.57-69.
- Merritt, Samantha Stolterman, Erik, 2012. 'Cultural hybridity in participatory design' in *Proceedings of the 12th Participatory Design Conference: Exploratory Papers, Workshop Descriptions, Industry Cases - Volume 2*, PDC '12, New York, NY, USA: ACM: pp. 73-76.
- Murphy, J. W., 2014. 'Research in a community' in *Community-Based Interventions, International Perspectives on Social Policy, Administration, and Practice*. Springer New York: pp.77-92+.
- Mutema, G., 2003. 'Phenomenology, hermeneutics and the study of indigenous knowledge systems' in *Dilinga: African journal of indigenous knowledge systems*, vol. 2, no. 1.
- Niskala, M., 2015. 'Encountering the Other: The OvaHimba Culture and People in Namibian Tourism Promotion' in *Nordic Journal of African Studies* 24 (3&4): pp. 259–278.
- Rodil, K., Winschiers-Theophilus, H., Kapuire, G. K., Stanley, C., and Kuria, S. C., 2014. 'Participatory exploration of digitalizing cultural content: Getting married. are we ready?' in *Proceedings of the 13th Participatory Design Conference: Short Papers, Industry Cases, Workshop Descriptions, Doctoral Consortium Papers, and Keynote Abstracts - Volume 2*, PDC '14, New York, NY, USA. ACM: pp. 93-97.
- Rodil, Kasper, 2017. 'A perspective on systems design in the digitisation of Intangible Cultural Heritage' in *International Journal of Intangible Heritage*, vol. 12, National Folk Museum of Korea: pp.190-197.
- Rodil, Kasper, and Rehm, Matthias, 2015. 'A Decade Later: Looking at the Past while Sketching the Future of ICH through the Tripartite Digitisation Model' in *International Journal of Intangible Heritage*, vol. 10, National Folk Museum of Korea: pp. 48-60.
- Rodil, K., Winschiers-Theophilus, H. W., Stanley, C., Kapuire, G. K., and Rehm, M., 2014. 'An approach to user interface design with two indigenous groups in Namibia' in *Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures: The Future of Design, OzCHI '14*, New York, NY, USA. ACM: pp. 460-469.

- Rodil, Kasper, Winschiers-Theophilus, Heike, Jensen, Kasper L., and Rehm, Matthias, 2012. 'Homestead Creator: A Tool for Indigenous Designers' in *Proceedings of the 7th Nordic Conference on Human-Computer Interaction: Making Sense Through Design, NordiCHI '12*, New York, NY, USA: ACM: pp. 627-630.
- Schuler, D. and Namioka, A., 1993. *Participatory design: Principles and practices*. L. Erlbaum Associates Inc.
- Sieck, J., 2017. 'Augmented Reality in cultural context from a living book and himba bracelets to playing virtual musical instruments' in *Proceedings of the International Conference on Electronic Imaging and Visual Arts*, St Petersburg, June 22nd -23rd: pp.11-19. ISSN 2587-8565, ISBN 978-5-7577-0561-3
- Spinuzzi, C., 2005. 'The methodology of participatory design' in *Technical Communication*, 52(2): pp.163-174.
- Stanley, C., Winschiers-Theophilus, H., Blake, E., Rodil, K., and Kapuire, G., 2015. 'OvaHimba community in Namibia ventures into crowdsourcing design' in Proc. *IFIP WG*, volume 9: pp. 277-287.
- UNESCO, 2003. *The UNESCO convention for the safeguarding of the intangible cultural heritage*. <http://www.unesco.org/culture/ich/en/convention/> (accessed December 29 2017).
- Wallace, M., 2011. *A History of Namibia: From the Beginning to 1990*. Oxford University Press, USA.
- Winschiers-Theophilus, H., Chivuno-Kuria, S., Kapuire, G. K., Bidwell, N. J., and Blake, E., 2010. 'Being participated: a community approach' in *Proceedings of the 11th Biennial Participatory Design Conference, PDC '10*. New York, NY, USA. ACM: pp.1-10.
- Winschiers-Theophilus, Heike. Jensen, Kasper, and Rodil, Kasper, 2012. 'Locally Situated Digital Representation of Indigenous Knowledge. Co-constructing a new digital reality in rural Africa' in Strano, Michele, Hrachovec, Herbert, Sudweeks, Fay, Ess, Charles (eds.), *Cultural attitudes towards technology and communication*. Murdoch University: pp. 454-468.
- Winschiers-Theophilus, Heike, Zaman, Tariq, and Stanley, Colin, 2017. 'A classification of cultural engagements in community technology design: introducing a transcultural approach' in *AI & SOCIETY*.
- Winschiers-Theophilus, H. & Peters, A., 2017. 'Community Lab, Namibia University of Science and Technology' in *Interactions*, Nov-Dec 2017: pp. 16-19, DOI:10.1145/3143563