

Database Narratives: Conceptualising Digital Heritage Databases in Remote Aboriginal Communities.

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Abstract

*Interactive web-based resources are significant to the mediation of culture in that they act as an interface [10] between communities and information structures. The focus of this paper is on the use of digital media arts and user-centered technologies to develop a digital heritage resource to revitalise a community's cultural capital. The paper addresses the creation and use of an interactive database that forms the portal to a digital repository of archival media. The database supports and extends an Australian classic memoir, *Journey to Horseshoe Bend* by [15]. *Journey to Horseshoe Bend* is a vivid ethno-historiographic account of the Aboriginal (Arrernte/Arrarnta), settler and Lutheran communities of Central Australia in the 1920's. The *Journey to Horseshoe Bend* database <<http://jhsb.bugs.commarts.uws.edu.au/heurist/>> draws on a broad range of visual representations (including images, maps, concept diagrams, text and other media resources), and through hyperlinks connects these media to specific annotated points in an electronic version of the book. The paper focuses on the book's use as a digital heritage resource and explores the link between information architectures and knowledge practices in particular contexts to address the following question: How can a digital heritage resource be conceived as a sustainable emerging "thing-in-the-making" to reflect community, cultural and knowledge interests?*

Background Resources: bugs.commarts.uws.edu.au/cocoon/jhsb/item/69994/ and project website: <http://www.commarts.uws.edu.au/jthb/>

Introduction

This paper builds on earlier research that produced an online database of digitised archival sources connected to the anthropologist [15] biographical memoir *Journey to Horseshoe Bend* (*JTHB*, 1969). *JTHB* is a vivid ethno-historiographic account of the Aboriginal (Arrernte), settler and Lutheran communities of Central Australia in the 1920's. This work is variously described as autobiography, memoir, novel and creative non-fiction. The main story describes the journey taken by

the author's father, Pastor Carl Strehlow – Lutheran missionary at Hermannsburg (Ntaria) – down the Finke River in a vain effort to reach medical assistance. Beyond this main story, Strehlow invokes a myriad of scenes and narratives punctuated by evocations of the landscape and Aboriginal culture and history in Central Australia.

The database draws on a broad range of visual representations (including images, maps, concept diagrams, text and other media resources), and through hyperlinks connects these to specific annotated points in an electronic version of the book. The project is a partnership with the Strehlow Research Centre (SRC), Alice Springs, and members of the Aboriginal community in Hermannsburg (Ntaria) where the book's narrative is set and whose characters are related through kinship relationships. The project seeks to facilitate the Arrernte/Arrarnta community's access to these materials. To achieve this *JTHB* is transposed into a **networked media context**, with the added information sources that expand the intelligibility of the explicit and implicit contextual fields of the original work. Earlier work was undertaken in 2004, in concert with similar initiatives in Australia that self-identified as online Australian Indigenous heritage projects, e.g., Ara Irititja on Anangu Pitjantjatjara/Yankunytjatjara lands, Paradisec (Pacific And Regional Archive for Digital Sources in Endangered Cultures), and the IKMS (Indigenous Knowledge Management System). This work is also associated with the Text Encoding Initiative (TEI), a consortium that collectively develops and maintains a standard for the representation of texts in digital form and is, therefore, aligned with the great migration of textual materials of all kinds towards digitisation on the Internet.

At the core of this collaborative research is whether a digital heritage resource can be conceived as a sustainable emerging "thing-in-the-making" to reflect community, cultural and knowledge interests? The answer to this question is dependant upon community consultation. This project is intended as part of the ongoing strategy to develop and refine the newer methods of databased virtual engagements with heritage. Thus this paper is a work-in-progress account of a project that has been subject to the complex, evolving

worlds of convergent media, digital heritage preservation and intercultural communications.

The JTHB database

The intention to develop the existing *JTHB* database towards a public access version with both Arrernte/Arrarnta and broader public input will disclose the wider educational and cultural value of the database, particularly for residents of the Hermannsburg (Ntaria) community. The *JTHB* database and website both have the potential to encourage indigenous and non-indigenous involvement with Australian historical and cultural knowledge (both Aboriginal and White), using the connecting facility of the computer and the Internet, as a means of interacting with cultural experiences. In supporting the movement to digital cultural heritage, the project aims to build capacity for users to engage with the narratives of the text and to contribute to digital story telling, online learning, and the preservation and management of archival materials to further cultural sustainability and community awareness. The project seeks to interrogate the character and quality of knowledge practices and knowledge transfer through the further development of the database.

Designing the Interface

Following [10] an interface design can move from a “taken-for-granted” interaction to one that “prompts, through intervention, the user to think again about what it is they are doing, and how it relates to other considerations.” The difference is theorized as a provocation to the user to be more conscious of the diverse and unfolding dynamic of meanings embedded in the interface design [14]. The second potential as noted by [10] invokes the notion of **visual disclosure** [7]. This is a developing notion that describes an approach to interface design where the value lies in the **actual** design process over some fixed, final product. The *JTHB* digitisation and encoded text is used to construct an interface through which visual and audio-visual materials can be utilised in relation to the extensive historical and cultural archives in a form appropriate for a range of publics, but principally the Hermannsburg (Ntaria) community. The process is based in the various iterations and models that will issue from community consultation and user-based scenarios and what [3] calls the evaluation of story complexities and what [13] terms a full-scale transmedial narrative theory through an awareness of multiple viewpoints and perspectives. In this objective we follow [12] view that innovating software for enhancing data **already** existent in databases is a key strategy to providing meaningful access for both researchers and the public.

The cultural history of the Hermannsburg (Ntaria) community

Hermannsburg (Ntaria) is a key node in Australian culture especially in relation to Twentieth Century and contemporary Indigenous art movements. But as the notion of place itself in Arrernte/Arrarnta suggests, place (*pmere* — camp or country) is not so much a geographical entity as being about spatial relations, of historical and cultural relations to particular land, and to people, ‘real’ and Dreaming (Wilkins 2002). In relation to Hermannsburg (Ntaria), the first key Indigenous person, under the tutelage of the painter Rex Battarbee (French 2002), to express this relation to country in accessible terms was Albert Namatjira (1902-1959). His distinctive watercolours of the country around Hermannsburg (Ntaria) are not only iconic of the ‘Red Centre’, but gave rise to the Hermannsburg School of landscape painting (Taylor 2005).

Today, women who paint their unique form of pottery, link their work to Namatjira and in one instance, scenes from *JTHB* were recorded in this medium as well.¹ The Hermannsburg artists are part of the inherited knowledge transfer that occurs in Central Australia in relation to the sense of place and belonging. It is part of what makes Hermannsburg (Ntaria) and environs a profoundly important location for cultural and social development. This has recently been recognised as important in the Northern Territory (NT) and Federal Government’s priorities by being identified as one of the NT’s Twenty Towns, and reinforces the longer-term case for Hermannsburg (Ntaria) being developed as a place for establishing a major **Community Knowledge and Heritage Centre** and a key location for culturally specific educational resources.

JTHB as Collective Biography

The fragmentary life histories illuminated in *JTHB* continue to hold significance in contemporary culture, particularly for the descendants of the indigenous personalities that feature in the work, many of who continue to live in Hermannsburg (Ntaria). The development of the existing database will build on the historical biographical accounts inherent in *JTHB* through an interlinking of past and present lives and will provide immediate visual and textual points of contact for database users in the Hermannsburg (Ntaria) community. Users will be encouraged to contribute to the evolving and organic narratives of *JTHB*, and the evolution of the database, by connecting to the familial links evidenced in the Strehlows’ genealogical charts. These remain one of the most comprehensive genealogical mappings of Australian Aboriginal people

¹ A work of Irene Mbitjana Entata depicts the departure of Pastor Carl Strehlow for the last time (see below) as the community sings the Lutheran hymn, *Wachet Auf*. This is a key scene in the narrative of the Journey to Horseshoe Bend and the inspiration for a cantata by the same title (Gordon Williams, Librettist and Andrew Schultz, composer.)

on record. The inclusion of the unique genealogies collected by the Strehlows (Carl and TGH) make a key contribution to the cultural capital of a digital heritage database. As a text, *JTHB* can be said to take the form of a *fragmentary collective biography*, one that reflects what Craig Howes [6] has called a ‘community’s sense of itself’. The database connects these communities to historical and contemporary times using the genealogical maps as portals into the numerous biographical narratives of the main text.

Cultural heritage and knowledge practices

These aims – (linking data to design, enhancing collective cultural identities and analysing and assessing the suitability of new knowledge resources) – converge three lines of inquiry that are germane to defining the idea of preserving cultural heritage through digitisation. We are working with and on concepts of **knowledge** – both as a feature of the learning process and as a means of inquiring into the design of new forms/representations of knowledge. In this regard we will investigate whether visual representations in their forms as interfaces composed of animations and dynamic diagrams can function not only as representations *of* knowledge, but can also gravitate towards representations *as* knowledge. If so, we will have demonstrated the emerging potential of visualization as a process of knowledge disclosure. In testing the suitability of these heritage materials for the learning contexts of a specific remote community, educators at the Hermannsburg (Ntaria) School will engage with the issue of identifying which resources best enhance knowledge transfer in this context.

Knowledge management/Content Management

The problems of making tacit knowledge explicit within a database are embedded in this project. This duality of knowledge production may not capture a specific quality of knowledge that is, its “embodied context”. This takes knowledge management beyond content management and suggests that cultural heritage is always context dependant. The interest in the heritage qualities of *JTHB* re-connects the linkages that bind this community to an important story. The *JTHB* database is rich in the objects and events that give both traditional owners and community member’s opportunities to engage within their expertise and most significantly enhance the sense of place that is a core cultural value.

Innovation

The innovation of the database developed on the basis of this project’s ongoing iterations lies in the networking of text and image within emergent electronic environments. The online digital version of *JTHB* ‘explodes’ the multilayered textuality of the book, weaving into the narrative a ‘thickened’ textual complot of relevant digitised historical records, links to recent oral histories, and other external (web-based)

biographical and museological resources. The new electronic version of *JTHB*, developed out of the database, demonstrates the potential for further reconstructing an expanded and mutable iteration of the book’s ‘snapshot’ of the actual world within which it was set. In so doing, it performs a new formal information complex that enables the user to experience various digital ‘journeys’ through a meta-textual framework of curated digital pathways. As Roland Barthes [1, pg61] suggests, ‘[t]he metaphor of the Text is that of the network’. Understanding how these networks and their possible meanings operate within the digital meta-textual environment opens out the time-space relations of the book. This has been described as its ‘thickening of time, and charging of space’, as [9] put it, in order to sketch the ‘field of historical, biographical, social relations’ as digitised visual data knowledge sets. In terms of innovation the project focuses on what occurs when print texts are imported into electronic environments, especially the online digital interactive formats, and then applied to an educational environment in a remote community. It enables us to ‘see print with new eyes’, as [4] suggests, to see the form and content of a work in a new material and experiential sense through the re-engagement with the materiality of the new medium.

Digital heritage hubs

The quality and form of digitized learning resources and activities the cultural heritage in remote communities, particularly in Hermannsburg (Ntaria) links up with a recent initiative in the Northern Territory that has sought to increase indigenous access to culture and knowledge through the development of the Territory’s Libraries and Knowledge Centres (LKC). These have produced over a dozen knowledge and cultural centres, mostly in the Top End (Northern Territory) with two located in Central Australia - one in the Anmatjere community of Ti-Tree, the other in the Arrernte/Arrarnta community of Ltyentye Apurte (Santa Teresa). The impetus for these initiatives, according to the World Summit on the Information Society is as follows: ‘Equitable access [to information services] has to be **contextualised** and as far as possible based on local linguistic/cultural, economic and technological imperatives of communities so as to bolster their local knowledge content and its ownership and management,’ (quoted in Gibson, J., 2008).

Significantly there is no such facility at Hermannsburg (Ntaria) that responds to these needs. As Darrell Jupurrula Fowler, principal of Hermannsburg (Ntaria) School, states: “*At the moment Hermannsburg residents have very limited access to historical records, photos and films. The project will work towards fulfilling that gap,*” (Letter to Cohen, January 09). The *JTHB* database will open access to archived cultural knowledge and ‘equitable access [to information services]’ through the development and implementation of a culturally appropriate database interface. It also actively brings past and present communities into dialogue (contact) with

each other by creating a database interface for indigenous access, digital storytelling engagement and the recording of inherited knowledge. This is enabled by the development of web-based educational tools that touch on and enhance historical and cultural knowledge – the cultural heritage relevant to the community such as language revitalization and maintenance. Recognising the importance of integrating local linguistic/cultural, economic and technological imperatives of communities, the project explores the potential of visualised data-design sets as educational resources. This makes the database site and culture-specific and will link individuals living in Hermannsburg (Ntaria) today with the lives and cultural histories documented in *JTHB*.

This is a critical opportunity to make a much-valued and unique resource more accessible and usable to the communities to which they pertain and, importantly, to repatriate key cultural and heritage texts to those communities.

The database of digitalized cultural heritage will make a significant **cultural** contribution by addressing access to information and “cultural rights” [11, 12]. Cultural rights are a variant of human rights but with an emphasis on access to cultural information, cultural knowledge and the forms and structures (e.g., genealogies) through which these are made available. Cultural rights include a group’s ability to preserve its way of life, such as child rearing, continuation of language, and security of its economic base in the nation in which it is located. (Cultural rights are enshrined in the Fribourg Declaration of Cultural Rights May 7, 2007.) We see our project as contributing to the protection of cultural rights in opening up access to *JTHB* to its cultural community of interest. Community engagement is key to the project and includes criteria of respect for cultural sensitivity, ethical research practice, and community participation in the processes through all stages of the project’s development and realisation.

The Text Encoding Initiative

Given the historical and largely factual nature of *JTHB*, and its cultural, geographic and post-colonial specificities, we see our work as a unique and innovative contribution to the Text Encoding Initiative ([5] asserts that TEI represents the most significant intellectual advance in humanities computing activity) and well-suited to benchmarking on an international stage. The development of the project will take advantage of the theoretical parameters and the awareness of the emerging creative and technical possibilities of the Web 2.0 environment. This makes the audience testing and exploration of specific community reactions and relations to the text crucial to its development. As another register of innovation, we see the purpose of education as a means to transmit knowledge, but we also seek to question the **nature** of knowledge – to see it not as a ready-made thing but as a “thing-in-the-making”

that can be analysed and studied in the contexts of its cultural, intellectual and cerebral properties. Nor do we assume that new communication technologies are simply a magical answer to the education challenges faced by remote communities. There is significant literature on the limitations of introducing new technologies in education without an adequate support context in the form of human resources - teachers whose role is as significant in sustaining the learning imperative as the technology itself [2, 16]. The remote community is one that is suited to “learning that can grasp subjects within their context, their complex, their totality” [8]. We are mindful that “remote communities” are **remote** relative to those who do not live in those communities, but who may live in densely populated urban centres. To the people of Hermannsburg (Ntaria), in the context of their immediate environment – they are locals.

Linking data to design

The interest in data visualisation takes from [12], the noted Swedish researcher in global development, the idea that we must create a highly contextualised analysis of the needs and wants of indigenous communities in Central Australia. Because of the differences within countries these dictate that solutions will not be adequate if they are imposed externally from models developed for fundamentally different living conditions [12]. We therefore adopt [12] recommendation to develop software solutions to data visualisation and representation. [12] has emphasised the usefulness of innovating software for enhancing data already existent in databases, to “link design to data”, thereby transforming data sets into animations, dynamic diagrams and searchable functions that locate relevant data for re-organisation and disclosure. Data transformed into graphic formats allows for publicly available data to be accessed by many more people than would normally be the case [12]. A second point [12] makes concerns the double investment in technology and schools/education required to help lift people out of poverty.

Developing cultural heritage resources is a key partner to any other material developments enhanced by technology, e.g., agronomy. Significantly [12] ranked human rights, and especially cultural rights, as the highest ranked outcomes as a consequence of the means of development. These ideas are consonant with our focus on education and knowledge as a means of change. The key outcome is community participation in the creation of cultural heritage. Our view is that we will substantially advance the discipline’s understanding of what is possible in the field of knowledge transfer and digital heritage resources using new communications technology and guiding the use of these resources via intensive consultation with its community of learners. We see this work as a bridge to “an increasingly complex and tumultuous world [that] requires individuals and communities to have the capacity to continually develop and utilise different kinds of knowledge frameworks, value systems, intelligence structures and skills in order

to make sense of, adapt to and contribute to change in their social and physical environment in constructive and non-violent ways” [8]. In supporting both “lifelong and lifewide learning” we agree with [8] that learning moves beyond the School into the community and beyond the boundaries of age and vocation.

The *JTHB* project is focused on intergenerational knowledge transfer in both content and process – the manner through which content will be accessed and used in the community/school learning context. It will foster the right of individuals to choose and to actively construct the learning communities to which they belong. This involves opening opportunities for individuals and communities wishing to engage in different learning opportunities. More fundamentally, it involves “...a systematic rethinking of the basic assumptions, processes, roles, relationships, approaches and discourses underlying conventional education systems and in creatively constructing new learning communities, and environments in which such communities can flourish, that are more responsive to diversity of learning needs, (meta-) cognitive styles and cultures around the world” [17].

Conclusion: Datadiversity: Creating Digital Heritage Databases

One of the longest lasting indigenous database projects, *Ara Irititja*, as a result of a new collaborative partnership with the Northern Territory Library Services, have developed a new program called “Our Story database”. One of the most successful aspects of this project is the ability to offer a vehicle for Aboriginal people in remote communities to develop a digital cultural heritage resource that is robust and stable and to which they could contribute at their leisure. It is described as:

Our Story enables community members to connect with their history in a simple and direct manner. It provides a measure of ownership over local historical and cultural records. It inspires a sense of pride and self worth in individuals. Young people particularly are learning how to use the database and developing the skills needed to manage it. It is bringing more people into the local library, where they can access a range of library services, designed to promote literacy and lifelong learning.²

These are key aspects of the value of a digital heritage and knowledge resource and the *JTHB* site while based on a text shares the same intent to provide access, skills and resources. The *Our Story* database has gone through evaluations and iterations to improve its effectiveness in remote Indigenous Australia. This suggests that the development of virtual heritage facilities through on-line databases has a way to go before the ease of access and usefulness to end-users is fully exploited. Irregardless, the need for the application

² http://www.nt.nt.gov.au/our_story_version_2_project

of the concept of “fluid ontologies”³ and a respect for cultural diversity and community consultation needs to inform any further development of database knowledge resources in Central Australia.



Figure 1 ‘Journey to Horseshoe Bend’ by Irene Mbitjana Entata

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