Cultural Memory & Digital Mediation:
Three contrasting projects in Armenia, Australia
and South Africa

Digital Dialogues
Maryland Institute for Technology in the Humanities
29 March 2016

Harold Short
Visiting Professorial Fellow, Australian Catholic University
Emeritus Professor, King’s College London
Collaborative Engagement
Innovation
Conversation
Challenge
Russia
Collaborative Engagement
Innovation
Conversation
Challenge

Turkey
Iran
Nakhijevan
Jugha
The Ancient Cemetery at Julfa (Jugha)

- The most extensive and significant Christian cemetery established by the first nation to adopt Christianity (early 4th Century)

- Tombstones from 4th Century, but also pre-Christian pagan stones, and built on site of much earlier burial ground, 3C BC or earlier...

- Since 1920s in Azerbaijan, on banks of Arax River, border with Iran

- Especially important funerary monuments from 16th & 17th Centuries, but cemetery continued in use to end 19C / early 20C

- Over 10,000 tombstones at the height of its importance

- Neglected by Azerbaijan in 20C, but then destroyed, with final destruction in 2006 (filmed by an Armenian priest from Iran)
Armenian cemetery of Djulfa khatchkars in ruins.
Photo: Research on Armenian Architecture, 1998
Azerbaijani soldiers broke the remaining cemetery stones (*dabanakars*) with sledgehammers and axes.

Photo: Armenian Apostolic Church Diocesan Council, Tabriz, Iran – 12/2005

Destruction of the Armenian Cemetery in Djulfa, Nakhichevan (Azerbaijan)
The broken cemetery stones were rolled down into the Arax river.

Photo Credit: Armenian Apostolic Church Diocesan Council, Tabriz, Iran – 12/2005

Destruction of the Armenian Cemetery in Djulfa, Nakhichevan (Azerbaijan)
Destruction of the Armenian Cemetery in Djulfa, Nakhichevan (Azerbaijan)

Photo: Armenian Apostolic Church Diocesan Council, Tabriz, Iran – 12/2005
Collaborative Engagement
Innovation
Conversation
Challenge
Julfa represents cultural heritage of huge importance to Armenians

- in part because it linked them to their earliest Christian roots
- in part because its destruction is seen by Armenians as symbolic of international indifference to the Armenian Genocide of 1915 and to continuing Armenian cultural genocide

The Julfa project has strong support from many Armenian communities:

- the Armenian church and civil authorities in Armenia, and - it seems - all Armenians living there;
- the Armenian diaspora in Sydney (40,000)
- the Armenian diasporas around the world (largest in USA)

Community engagement is crucial to the project
Khachkars

- ‘Khachkars’ are intricately carved cross-stones - unique to Armenian culture
- Each was carved to commemorate an individual (or sometimes an event), as a prayer in stone interceding with the divine
- So each khachkar is unique, relating to a specific person or event, but the designs incorporate recurring motifs
- In Armenian theology a khachkar is a ‘gate’ between earth and heaven, so are found in contexts other than cemeteries, e.g. in towns and villages - useful if no church is nearby
- Created as funerary monuments only for ‘important’ people; ‘ordinary’ people had tombstones
- Khachkars face west with head of buried person towards the East; so s/he and mourners are facing towards the Second Coming of Christ
The comic depicts the last judgement. Christ, on a throne, is surrounded by angels, animals and the four evangelists (symbolised by the lion, ox, eagle and man)

**Sacred Third** - the triptych structure emphasises the role of the cross as an intermediary between God and human beings. The comic is reserved for images of sacred beings: Christ, angels and often the four evangelists.

The Armenian Apostolic cross rarely, if ever, depicts a human form on it. Rather, the cross is treated as a symbol of the all-seeing eye. Some khachkars show the cross laden with fruit (such as grapes or pomegranates). This fruit can be understood as a metaphor for Christ's blood, which ferments and becomes wine as it falls to the earth. The arms of the cross are bifurcated to symbolise its perpetual reproduction.

The Rosette, or solar disc, symbolises Earth and the cosmos. Here it also represents Golgotha. In Eastern Christianity it is said that Christ was crucified on the very site where Adam, the first man, was buried.

The inscription on the base of a khachkar speaks about the deceased and is intended as a "living prayer" to be read out on judgement day

**Prophane Third** - this part of the khachkar is reserved for images and inscriptions describing the deceased. It is the Human realm.

All khachkars face west so they are backlit in the morning and frontlit in the afternoon. Because Christ is supposed to return from the East, the deceased is buried with feet toward the khachkar. This way the buried person and the mourners, face toward the East to see the khachkar and also the coming of Christ.

Julia khachkars are often over 2 meters in height and are generally narrower than other khachkars. They are often characterised by the red colour of their stone and the multi-lobed pointed arch above the cross. This arch, which reveals the influence of Islamic art and monuments in the region, is almost unique to Julia’s khachkars.

**Neutral Third** - here the cross is a quiet focus point. Fine lines create an impression of upward growth. This reinforces the idea of the cross as an intermediary, a symbol connecting human beings with God.

In this khachkar we see the skull of Adam under the cross. He reaches up out of the earth to grasp the arms of Christ - or, in this khachkar, to raise his own crosses. Through this metaphor, Christ becomes the new Adam, a perpetual circle of life, death and transformation. Sometimes the face of the deceased is shown here instead of Adam's skull. In this case the face and arms are fleshed out rather than consisting of bare bones (as in the case of Adam).

The lowest third of the khachkar normally depicts the deceased and his or her positive attributes. The horse often symbolises bravery.

In this khachkar we see the skull of Adam under the cross. He reaches up out of the earth to grasp the arms of Christ - or, in this khachkar, to raise his own crosses. Through this metaphor, Christ becomes the new Adam, a perpetual circle of life, death and transformation. Sometimes the face of the deceased is shown here instead of Adam's skull. In this case the face and arms are fleshed out rather than consisting of bare bones (as in the case of Adam).

The lowest third of the khachkar normally depicts the deceased and his or her positive attributes. The horse often symbolises bravery.
Collaborative Engagement
Innovation
Conversation
Challenge
The Julfa Cemetery Digital Repatriation Project

- Purpose: to recreate virtually as faithfully as possible the lost heritage

- Resources:
  - Lantern slide photographs by Aram Vruyr and Jurgis Baltrušaitis
  - **Argam Ayvazyan Archive: 2,000 photographs over 25 years**
  - Other old photographs; new digital photographs; documents
  - Satellite images from AAAS project 2013-14

- Outcomes:
  - Two permanent 3D installations in Yerevan & Sydney; touring version
  - Virtual reality model available online
  - Substantial digital & physical archive in Sydney
  - Publications, conferences, workshops
Collaborative Engagement
Innovation
Conversation
Challenge
Project progress

- *Field trip 1: initial information gathering; assess significance to Armenian communities; assess availability of data; identify collaborators*

- *Field trip 2: report on progress; identify new resources & collaborators*

- Field trip 3: follow up on outstanding resources

- Pilot 3D model of an extant khachkar (exhibited at DH2015)

- Contact with relevant & interested cultural heritage projects

- Research on stones & symbolism is under way
Collaborative Engagement
Innovation
Conversation
Challenge

Field Trip 3 to make laser scans and architectural drawings of all existing Julfa monuments in Enchmiadzin, Georgia, Iran, St Petersburg and Geneva, complete photographs of all existing Julfa monuments, photograph the Azerbaijani Julfa cemetery site from the other side of the Arax river in Iran, audio/video field recordings of the Julfa cemetery site (including river, birds etc) and recordings of local liturgies, kinetic elements on location (birds, clouds, grasses, trees, river etc)

Map created from composite satellite & topographical photographs, gridlines added, monument footprints to be numbered. All photographs of stones to be referenced according to identity numbers of monuments. Each monument's identity number to be accurately cross-referenced with the footprint identity number on the reference map. Any footprints unaccounted for to be designated missing and marked with a generic stone or sketch. Each monument cross-referenced with written research including translations of all inscriptions

Field Trip 4 to create scans of all existing lantern slides and glass negatives: Baltrusaitis lantern slides in Paris, misc. glass negatives in the Yerevan History Museum, Ermakov glass negatives in Tbilisi, Alishan drawings, Matanederan manuscripts

Apply algorithms to govern kinetic elements - bird flocking, river video/audio, Doppler effect for moving past chapels with music, depth of field changes for eyeliner or movement

Drop each khachkar, rameshaped stone, tombstone and dragonstone into the footprint corresponding with its identity number. Using photogrammetric data, resize and reposition the stone to its correct height, width, depth and orientation. Represent the weight of the stone. Attach written data (in Armenia and English) to each stone - explanation of symbols, translations of inscriptions, historical data, archaeological and cultural data etc.

Large 3D environment to include horizon, sky, ground, Arax river, three chapels in the cemetery, one chapel across the river in Iran, trees and other landmarks
Project research

• Symbols used in khachkars - some areas of contested opinions plus some gaps in knowledge arising from the 1915 genocide

• Each stone - to identify & honour the individual it commemorates

• Position of each stone in the cemetery - using all the different resources available

• Technology research to enable creation of permanent 3D installations that are sufficiently ‘real’ they can be used not only for information and education, but also for ritual

• Researchers from: archaeology; architecture; stone carving; history; cultural history; theology & Armenian church history; photography & photogrammetry; sound; digital humanities
Digital Repatriation…

- Making available lost or fragile cultural heritage by digital means
- Needs to be community-based
- Technology must be appropriate to the community and purpose
- Opportunities for collaboration at project and technical levels
- Wide range of national and international contexts & projects
Digital Repatriation: to counter cultural genocide

- Making available lost or fragile cultural heritage by digital means
- Needs to be community-based
- Wide range of national and international contexts & projects
- Technology must be appropriate to the community and purpose
- Opportunities for collaboration at project and technical levels
- Of growing importance in a context of rapid escalation internationally of cultural genocide
Journey to Horseshoe Bend

- TGH Strehlow archive of films, sound recordings, photographs, documents, objects - housed in Museum of Central Australia, Alice Springs
- Ceremonial life of Arunda* people is a particular focus; many sacred ceremonies & objects
- Much of archive digitised as part of JHB project (Hart Cohen)
- One of many Australian projects concerned with digital repatriation
- Community engagement - e.g. 'digital story telling'
- Alternative spellings: Arrernte; Arrente; Arrarnta; Arranta
Introduction to the Media Gallery

Welcome to the Media Gallery for the Journey to Horseshoe Bend project.

Images, audio and film have been collected from various sources across Australia. The collection displayed represents only a small selection of the material collated for the ‘Journey to Horseshoe Bend’ project. The materials have been sourced from archives, museums, universities, libraries and private collections.

Important note and Indigenous warning

This site contains Indigenous content. To many communities, it is distressful and offensive to depict persons who have died. Indigenous communities that may be affected are warned that this website, including film clips, may contain such scenes. Please also be aware that many of the photographs and films in the collection are records of their time, with language use and attitudes that reflect that period in history.

For information relating to Sources and Copyright please see link in the menu.
Mission Station, Hermannsburg

Source: Strehlow Research Centre  Photo by: Otto Tschirn
Journey to Horseshoe Bend

Lubras washing in the Finke

Source: Strehlow Research Centre  Photo by: Otto Tschirn
Objectives

Key objectives of the project:

• Education
• Preservation of language, culture and traditional knowledge
• Knowledge sharing, creation and transfer
• Encouraging the use of new media and technology in remote Australia
• Story telling and engagement with Digital Humanities to enhance social cohesion
<table>
<thead>
<tr>
<th>Title, Author, Edition</th>
<th>Date</th>
<th>Language</th>
<th>Format</th>
<th>Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr Strehlow's films</td>
<td>2001</td>
<td>Eng</td>
<td>Video</td>
<td>1 &amp; Online</td>
</tr>
<tr>
<td>Mr Strehlow's films [videorecording].</td>
<td>2001</td>
<td>English</td>
<td>Video</td>
<td>27</td>
</tr>
<tr>
<td>Mr. Strehlow's films / a film by Hart Cohen. [videorecording] /</td>
<td>2001</td>
<td>English</td>
<td>Video</td>
<td>15</td>
</tr>
<tr>
<td>Mr. Strehlow's films / written and directed by Hart Cohen, producer, Adrian Herring.</td>
<td>2003</td>
<td>English</td>
<td>Video; Captioned</td>
<td>2</td>
</tr>
<tr>
<td>Mr. Strehlow's films / a film by Hart Cohen. [videorecording] /</td>
<td>2001</td>
<td>English</td>
<td>Video</td>
<td>2</td>
</tr>
<tr>
<td>Mr. Strehlow's films / written and directed by Hart Cohen, producer, Adrian Herring.</td>
<td>2006</td>
<td>English</td>
<td>Video;Captioned</td>
<td>1</td>
</tr>
</tbody>
</table>
Digital Repatriation…some questions

• Who ‘owns’ cultural memory - e.g. artefacts / archival materials?
• Should anyone have a power of ‘veto’ (or other form of absolute control)?
• How to deal with competing ‘claims’?
• How to bridge the gap between ‘then’ and ‘now’?
• How to deal with materials or descriptions now considered inappropriate or even offensive?
'Generations of Knowledge' Virtual World

Generations of Knowledge - exploring a virtual world pre contact 1770

Presentation Trailer

Presentation trailer for the Virtual Exploration - Pre Contact project, picturing life of a Darug clan around year 1788.
PARADISEC

The Pacific and Regional Archive for Digital Sources in Endangered Cultures offers a facility for digital conservation and access to endangered materials from all over the world. Our research group has developed models to ensure that the archive can provide access to interested communities and conforms to emerging international standards for digital archiving. A primary motivation for this project is making field recordings available to those recorded and their descendants. While initially conceived of as an archiving project focusing on the Asia-Pacific region, PARADISEC has developed into a centre for activities including:

- **Training** in data management (lexicographic software and transcription and interlinearising of texts), recording techniques and data linkage
- **Provision of a catalogue** in which users can create descriptions of their collections
- **Standardized Metadata** - creating the descriptions in forms that conform to relevant standards and are harvested by the Open Archives Initiative search engines, enabling access for a wider community
- **Building models** that show how to make reusable data (e.g. ExSite9) and using current tools such as Elan and Toolbox
- **Building models** that show how to reuse data (e.g. EOPAS, online dictionaries, iTunes repositories)
- **Cultural preservation** – backup and data provision for cultural agencies in the region (e.g. Institute for PNG Studies, Vanuatu Cultural Centre)
- **Global Focus** – meeting the demand to house files with a research focus from all over the world (including USA, Chile, Mexico)
Vaal Triangle
North-West University
Botswana
Mozambique
South Africa: Official languages

- Afrikaans
- English
- Ndebele
- Northern Sotho
- Sotho
- Swazi
- Tsonga
- Setswana
- Venda
- Xhosa
- Zulu
Mozambique
Zimbabwe
Moçambique

Xhosa
Zulu
Sotho
Setswana
Northern Sotho
Swazi
Ndebele
Tsonga
Venda
Tsonga
Venda
Ndebele
Northern Sotho
Swazi
Afrikaans
Xhosa

English - everywhere
CTexT® makes a major contribution to multilingualism with Autshumato

The Centre for Text Technology (CTexT®) at the North-West University (NWU), Potchefstroom Campus, is facilitating translation and communication in South Africa through the Autshumato machine translation project.

Autshumato is a collection of open-source translation software and tools that are developed and managed by CTexT®. It is already being used by the National Language Service, translators in parliament, the NWU Institutional Language Services, the University of Johannesburg as well as the University of the Free State and has been downloaded internationally by users in China, Spain, Denmark and Norway, among others. Read more
At CText

Products
- Proofing Tools
- Autshumato
- MarkWrite
- Vowel chart

Development
- Data
  - Core technologies
- Research
  - Focus and expertise
  - Research outputs

- Corpora from gov.za for 10 languages
- Custom dictionaries for 10 languages
- isiZulu corpus from gov.za
- List of Tshivenda words containing diacritics ( DbSet, ḏ, ḏ, ṭ, ḏ, ṭ, ṭ, ḏ, ḏ, ḏ)
- NWU Bible corpus
- Training data for Lia 1.0.0.
- Tswana Learner English Corpus
- WebCrawler
Centre for Text Technology (CTeXT)  
Language Resource Management Agency

South Africa boasts its very own Language Resource Management Agency (RMA) for the management and distribution of reusable digital text and speech resources for all of the country’s official languages. These resources are crucial for research and development in the domain of human language technologies (HLT) for application to local languages.

Examples of HLT applications are:

- automated telephone information systems,
- GPS systems,
- spelling and grammar checkers,
- machine translation systems that function in various South African languages, etc.

These types of applications are increasingly being used on mobile devices, giving South Africans unprecedented access to information and services in local languages.

The Department of Arts and Culture’s National Centre for Human Language Technologies is funding this exciting initiative, which is in line with similar global initiatives. CTeXT has been appointed to establish the RMA, and to distribute reusable text and speech resources from this one central point.

Broad categories of data relevant to the RMA include text, speech, language-related video, multimodal resources (such as sign language), as well as pathological and forensic language data. Visit www.rma.nwu.ac.za for more information.
Creating as well as recording cultural memory...some questions

• Who ‘owns’ cultural memory - e.g. artefacts / archival materials?

• What ‘rights’ do groups or individuals have:
  - for access to digital tools & resources?
  - for preserving ‘their’ cultural expression?

• How to deal with competing ‘claims’?

• How to bridge the gap between ‘now’ and ‘the future’?
Referenced websites

• Julfa Cemetery Digital Repatriation project:
  https://julfaproject.wordpress.com

• Journey to Horseshoe Bend project

• North-West University: Centre for Text Technology (CTexT®)
  http://www.nwu.ac.za/ctext

• Language Resource Management Agency
  http://www.nwu.ac.za/ctext/rma
Professor Harold Short

harold.short@kcl.ac.uk