

Institution: Birkbeck, University of London
Unit of Assessment: 28 Modern Languages and Linguistics
Title of case study: Andean textiles: creating cultural imagery in a digital age and recovering traditional crafts
<p>1. Summary of the impact</p> <p>Based at Birkbeck between July 2009 and June 2013 and undertaken in partnership with Instituto de Lengua y Cultura Aymara in Bolivia, the AHRC funded research project 'Weaving Communities of Practice' has made a substantial impact on cultural life by creating new systems of cataloguing and digitising collections of Andean textiles and developing a digital, online database to manage complex visual information. Two museums in the UK and 10 in Latin America (Bolivia, Chile and Peru) have directly benefited from the project both in the development of the database and in the training provided; rural communities in Bolivia have also benefited from the recognition and recovery of their traditional craft.</p>
<p>2. Underpinning research</p> <p>The AHRC funded project, 'Weaving Communities of Practice', was based at Birkbeck, University of London (July 2009-June 2013). The project involved an interdisciplinary team, working between the UK and South America, in archaeological, historical, geographic, linguistic, ethnographical and computer science research, under the direction of Dr Luciana Martins, Director of the Centre for Iberian and Latin American Visual Studies (CILAVS) in coordination with the Instituto de Lengua y Cultura Aymara (ILCA) in La Paz. Prof Denise Arnold was employed by Birkbeck as the project's main researcher, working at ILCA. This project built on expertise in digital outputs developed by the earlier AHRB project (1999-2001), which created the pioneering online resource on the visual cultures of Latin America and the Iberian peninsula, 'Iberoamerican Museum of Visual Culture on the Web'.</p> <p>'Weaving Communities of Practice' developed innovative methodologies, combining work in museum collections and fieldwork, digital documentation and information visualization, and an ontological modelling of these data, in order to develop a common yet simple technical language oriented towards understanding the structures and techniques of Andean textiles from a weaver's point of view (Ref 5). The project involved 12 museum collections and textile archives – in the British Museum and Victoria and Albert Museum in the UK, and in the Andean region of Latin America (Bolivia, Peru and Chile). It documented some 300 archaeological textiles (ca. 600-1532 CE), 50 historical textiles (1532-1900), and 200 ethnographic textiles (1901-present), in textile records especially designed by the project team.</p> <p>Research in the textiles archives and museum collections was conducted in consultation with contemporary weavers to develop a region-wide documentation and mapping of weaving traditions that have been practised from at least Tiwanaku times (600-1000 CE) up to the present. The textile experts wove 160 supporting models of specific techniques used in these museum examples to check how the techniques might have been woven in practice. Workshops and an international conference held during the project between the project team and curators of European and Latin American collections coordinated information collection, methods, and analysis (Ref 6). The project team also collaborated with the British Museum project on Andean textiles colourants to analyse colour usage.</p> <p>The project improved knowledge about Andean textiles in museum collections through</p>

Impact case study (REF3b)

- Systematisation of the practical procedures of recording and documenting textiles, by linking textile data to the productive chain of textile production.
- An ontological modelling of textile data, allowing a greater range of questions to be asked of the material.
- The identification and greater systematisation of textile structures and techniques according to the points of view and terminology of Andean weavers, rather than imposing criteria from other parts of the world (Ref 4).
- The production of textile data in publications, essays, manuals, guides (Refs 1, 2, 3 and 4).
- The production of textile data on a website, a large part of which pays attention to a visual reconstitution of Andean textile presently in diverse sites and contexts.
- The development of software programmes to aid the documentation of textile structures, techniques and iconography, giving preference to the 3D nature of cloth. InaSawu and Sawu-3D were created to record and virtually reconstitute samples of damaged textile structures in colour, 2D and 3D (Ref 5).

In summary the main project outcomes were:

- Improved accessibility of enriched data (texts, images, and videos) describing textiles' social, historical, and cultural context (Ref 5);
- Lost textile traditions rescued (Refs 2 and 3);
- Understanding of Andean textiles as part of world heritage enhanced by considering the value attributed to textiles from the weavers' viewpoint (Ref 1).

All the digital outcomes of the project are accessible at <http://www.weavingcommunities.org>

3. References to the research

1. Denise Y. Arnold, *El textil y la documentación del tributo en los Andes: los sentidos del tejido en contextos tributarios* (Lima: Fondo Editorial de la Asociación Nacional de Rectores, 2012).
2. Denise Y. Arnold and Elvira Espejo, '[The intrusive K'isa](#): Bolivian struggles over colour use and patterns of composition in Andean textiles', *World Art* 2: 2 (2012), 251-278.
3. Denise Y. Arnold and Elvira Espejo, '[Andean weaving instruments for textile planning](#): the waraña coloured thread-wrapped rods and their pendant cords,' *Indiana* 29 (2012), 173-200.
4. Denise Y. Arnold, María-Juana Aguilar and Juan de Dios Yapita, '[Hacia una visualización semántica del Vocabulario de la lengua aymara, de Ludovico Bertonio](#)', *Ciencia y cultura: revista de la Universidad Católica Boliviana "San Pablo"* 28 (2012) 87-108.
5. Luciana Martins, Sven Helmer and Denise Y. Arnold, '[Exploring weaving structures in the Andes](#): reflections on the creation of a digital archive,' special issue on Digital Art Histories, *Visual Resources: An International Journal of Documentation* 29: 1-2 (2013), 59-71.
6. Luciana Martins, '[Textiles, techne and power in the Andes](#)', *History Workshop Journal* 74 (2012), pp. 289-292.

Research grants

- AHRC grant AH/G012180/1 (Weaving communities of practice. Textiles, culture and identity in the Andes: a semiotic and ontological approach; £840,298, 2009-2012), Luciana Martins (Principal Investigator), Sven Helmer (Co-Investigator) and Denise Y. Arnold (Named Researcher). The 'Weaving communities of practice' knowledge base can be accessed at [Weaving Communities website](#). The website [Comunidades de practica textil](#) collated and disseminated the research-in-progress in English and Spanish.
- AHRB grant (Relics and Selves: Iconographies of the National in Argentina, Chile and Brazil (1880-1890); £148,000, 1999-2001), William Rowe, Jens Andermann, Harold Short, and Patience A. Schell. Outputs available [here](#)

4. Details of the impact

The impacts on cultural life of this project – on museums in the UK and internationally, and on the lives of Andean weaving communities – are potentially far reaching and its immediate impacts are clear and significant. A testament to its importance within Bolivia is the involvement of the Cultural Foundation of the Bolivian Central Bank, the national agency overseeing Bolivia's most important cultural institutions, and the Fundación Xavier Albó, a Bolivian organisation set up by the Centre of Research and Development of the Peasantry to preserve and publish important national documents. An agreement with the Cultural Foundation of the Bolivian Central Bank to set up the guidelines of cooperation with Bolivian museums was established in 2009 (Source 1a). As part of its contribution, it funded the publication of one of the three substantial full colour books about the project, illustrating the materials and techniques uncovered by the research. All these books were published by Fundación Xavier Albó (Source 2):

1. Denise Y. Arnold and Elvira Espejo, *Ciencia de tejer en los Andes: estructuras y técnicas de faz de urdimbre* (La Paz: Fundación Cultural del Banco Central de Bolivia, Fundación Interamericana, Fundación Albó and ILCA, 2012).
2. Denise Y. Arnold and Elvira Espejo. *Ciencia de las mujeres. Experiencias en la cadena textil desde los ayllus de Challapata* (La Paz: Fundación Albó and ILCA, 2010).
3. Arnold, Denise Y. and Elvira Espejo. *El textil tridimensional: la naturaleza del tejido como objeto y sujeto* (La Paz: Fundación Albó e ILCA, 2013).

The Cultural Foundation invited Denise Y. Arnold and Elvira Espejo (the project's weaving consultant) to participate in the development of a two-year programme (2013-2015) to establish the basis for a 'National Plan of textile Heritage in Bolivia'.

Beyond the work of the Cultural Foundation and Fundación Albó, non-academic beneficiaries include museum curators, archaeologists and technical staff in the UK and South America:

Museum curators, archaeologists and technical staff in the UK and South America: training and service development

From 2009 to 2011, curators and other staff from two museums in the UK (British Museum and Victoria & Albert Museum) and ten museums in Latin America (two in Chile; one in Peru; and seven in Bolivia) participated in developing the requirements of the database so it supports their needs. The resulting groundbreaking software was given to every museum involved in the project, alongside training in its use and a DVD for ongoing training. In addition the project provided a basis for a new understanding of how to value and catalogue the textiles (Source 1c), on some occasions involved directly in cataloguing specific textiles collections, as in the National Archeology Museum (Source 1b).

Consequently, a national museum of Bolivia – Museo Nacional de Etnografía y Folklore (Musef) – created a new exhibition space including interactive computers using Sawu-3D (Source 1d). Other museums in Bolivia, Argentina and Peru have requested training to develop their local knowledge bases on Andean textiles. The new Anthropological and Archaeological Research Institute Textile Lab at the Universidad Mayor de San Andres in La Paz, Bolivia, expanded archaeologists' and anthropologists' training and established a public service for identifying Andean textiles in individual possession. One of the project participants, Claudia Rivera, then authenticated, through textile analysis, a decommissioned mummy bundle in INAR Museum, La Paz. Recognising the importance of this project to the understanding of the historical significance of textiles to Bolivian cultural heritage, Asociación Para La Promocion Y Desarrollo Del Arte Textil Andino-Appdata invited Elvira Espejo to speak at a UNESCO event on intangible cultural heritage in 2012.

Denise Y Arnold and Elvira Espejo were invited to join the Advisory Committee on the British

Impact case study (REF3b)

Museum project on Organic colourants, biological sources and dyeing technologies in Andean textiles (2011-12), where they contributed their knowledge of colour usage in early Andean textiles (Source 3). In 2011, the British Museum and CILAVS set up an exhibition grouping together for the first time the complex structures and techniques discovered during the project; an exhibition on textiles and contemporary art was mounted by CILAVS at the Peruvian Embassy, London (2012).

Rural textile producers in Bolivia: economic development and cultural capital

It is impossible to quantify the consequent impacts on economic prosperity and cultural life of the project, particularly within Bolivia, but weaving classes and visits undertaken by the project team from 2009 to 2012 have had considerable impact in local communities in Bolivia, involving about 500 women. Many reportedly felt as if they had experienced 'a weaving university', and 'recovered the "women's science" of their grandmothers'. The number of weavers in the region has increased from 80 to around 300. Several are now training a younger generation of women, and some 50 men, in what they learned. While not formal members of the established weaving associations, many of these new weavers have found markets for their products. (Source 4)

Furthermore, the research contributed to the enhancement of weaving activity in the region by improving the quality of the textiles and therefore their value. It achieved this because the research was able to recover and reintroduce the use of ancient weaving instruments that produced finer textiles; the techniques used for shearing alpacas and llamas and for spinning their wool into finer threads; the use of traditional natural dyes, and the meaning of words in Quechua and Aymara related to specific weaving techniques and structures.

5. Sources to corroborate the impact

- 1) Working paper on project impact (2012) can be supplied on request. It includes letters testifying to the significance of the project in Bolivia, from:
 - a) Fundación Cultural Banco Central de Bolivia (p76)
 - b) Unidad de Arqueología y Museos, Ministerios de Cultura (p78)
 - c) Detail of materials and training for improving textile registration, October 2011 (pp40; 46-8)
 - d) Museo Nacional de Etnografía y Folklore (Musef) (p77)
- 2) Books referenced can be supplied on request
- 3) [British Museum project](#) (Andean textiles: Organic colourants, biological sources and dyeing technologies) for which Denise Y. Arnold and Elvira Espejo became advisors
- 4) **Video:** 'Ciencia de mujeres' (2012) – identifies how rural weaving practices have been improved through a greater understanding of local traditions – can be supplied on request