

<b>Institution: Manchester Metropolitan University</b>		
<b>Unit of Assessment: D28 History</b>		
<b>Title of case study: Transforming Heritage Engagement in Wales</b>		
<b>Period when the underpinning research was undertaken: 2013-2020</b>		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Ben Edwards	Reader in Archaeology and Heritage	2011-present
<b>Period when the claimed impact occurred: 2013-2020</b>		
<b>Is this case study continued from a case study submitted in 2014? N</b>		
<b>1. Summary of the impact</b>  <p>Dr Ben Edwards has transformed public understanding and appreciation of prehistoric Wales through an extensive range of AHRC-funded archaeology-centred impacts across arts, heritage and museums. The impact has been described as a 'model for collaboration between government, higher education, schools and art' by the Welsh Government Minister for Culture, Tourism and Sport. Impact pathways have included a concerted programme of citizen-science, community-research excavation, digital engagement and education resources. Edwards has made new archaeological discoveries, changed Cadw (the Welsh government statutory heritage body) policy and practice, improved schools' and museums' engagement with archaeology, developed the heritage skills of volunteers and students, and inspired new artistic practice. His research has engaged 59 members of the public directly on community excavation and thousands more through open days and showcases in remote rural areas whilst also receiving extensive UK and international media coverage.</p>		
<b>2. Underpinning research</b>  <p>Edwards' research has made a significant contribution to the understanding of the Neolithic period in North Wales and to the development of important new methodologies for engaging the public in archaeological research through both traditional and digital means.</p> <p><b>New insights into the prehistoric past</b></p> <p>Launched in 2013, the collaborative AHRC-funded <i>Heritage Together</i> project [G1] (Bangor, Aberystwyth and Manchester Metropolitan) pioneered new approaches for the co-production of heritage data alongside local communities in North Wales. The archaeological component of <i>Heritage Together</i> focused on Bryn Celli Ddu, one of Anglesey's most famous prehistoric landmarks, dating to approximately 3,000 BC. Bryn Celli Ddu incorporates a unique Neolithic passage tomb that once served as the burial site for the local community. The passage aligns to the midsummer solstice when shafts of light illuminate the chamber within. The site was originally excavated and reconstructed in the 1920s and 1930s but remained un-investigated until 2014 when Edwards co-led new excavations and a broader investigation into the surrounding landscape. These investigations revealed a landscape of Neolithic incised rock carving, two previously unknown burial monuments and a series of ceremonial pits. This quadrupled the number of known sites around Bryn Celli Ddu and placed it within its prehistoric ritual context, from which it had been divorced by modern changes to the landscape. Edwards' research has therefore contributed significantly to new understandings of prehistoric social practices, religious beliefs and burial customs [1].</p> <p><b>New methodologies in digital and traditional public archaeology</b></p> <p>Central to Edwards' research has been the development of a new and more engaged approach to collaborative public archaeology – as important a research aim as any other. In <i>Heritage Together</i>, he developed an innovative methodology by collecting crowd-sourced photographic data on prehistoric monuments from Anglesey and North West Wales that was subsequently combined into 3D models through photogrammetry, an exciting newly</p>		

emergent technology [2]. The project received over 13,000 digital images from the public, resulting in models of some 78 sites and creating valuable resources for research and condition surveys. The project demonstrated that digital public archaeology does not stop at the 'trowel's edge': collaborative post-excavation analysis and generation of research processes can be as important as time in the field. It also underlined the value of this methodology in co-produced public archaeology projects and shed new light on the methodological and ethical considerations of engaging people with their local heritage in a meaningful way [3]. An important finding from the research is that different individuals choose their own levels of engagement and this can range from full participation through to limited or passing engagement via the media, open days or websites. No level of engagement was 'better' or 'more successful' because, regardless of the degree of participation, the aim of fulfilling the desired level of knowledge and understanding was achieved [4]. The project also revealed that there was a significant lack of heritage information delivered in the Welsh language and addressing this issue became an important part of the impact-related activities.

### New methodologies in site interpretation

Building on these findings, Edwards led a programme of interpretation of Bryn Celli Ddu in collaboration with Dr Seren Griffiths of UCLan (Manchester Metropolitan from May 2020), developing innovative digital media to open up public engagement and understanding of the site. This approach was extended by the award of an AHRC / ESRC-funded Immersive Experiences project *Experiencing the Lost and Invisible* [G2], which brought the site to life through an augmented-reality smartphone app that charts the site's development over time, displays major finds and presents survey results to the user via GPS technology. In partnership with computer scientists at Aberystwyth University, Edwards carried out ground-breaking research into image-registration in outdoor environments, which introduced augmented reality into the landscape, a technique previously thought too difficult to develop because of seasonal changes in outdoor locations. This innovation in British archaeological practice led directly to the development of new educational resources and a Heritage app. Edwards' new approach also instigated a review of traditional methodologies and ethical considerations, brought together in the first-ever book on 'open' data and methods in archaeology [5], and prompted a review of best-practice public archaeology in Wales [6].

### 3. References to the research

1. **Edwards, B.** & Pope, R. 2013. 'Gender in British Prehistory' in D. Bolger (ed) *Companion to Gender Prehistory*. Blackwell, London 458-479.
2. Miles, H., Wilson, A., Labrosse, F., Tiddeman, B., Griffiths, S., **Edwards, B.**, Karl, R. & Roberts, J. 2016. 'Alternative Representations of 3D-Reconstructed Heritage Data'. *Journal on Computing and Cultural Heritage* 9, 1, 4:1–4:18. DOI: 10.1145/2795233  
*Scopus Citations: 11*
3. Griffiths, S., **Edwards, B.**, Wilson, A., Karl, R., Labrosse, F., LaTrobe-Bateman, E., Miles, H., Moeller, K., Roberts, J. & Tiddeman, B. 2015a. 'Small Works, Big Stories. Methodological approaches to photogrammetry through crowd-sourcing experiences'. *Internet Archaeology* 40. DOI: 10.11141/ia.40.7.2
4. Griffiths, S., **Edwards, B.**, Wilson, A., Karl, R., Labrosse, F., LaTrobe-Bateman, E., Miles, H., Moeller, K., Roberts, J. & Tiddeman, B. 2015b. Crowd-sourcing archaeological research: Heritage Together digital public archaeology in practice. *Internet Archaeology* 40. DOI: 10.11141/ia.40.7.3
5. **Edwards, B.** & Wilson, A. 2015. 'Open Archaeology: Definitions, Challenges and Context' in A. Wilson & B. Edwards (eds) *Open Source Archaeology: Ethics and Practice*. De Gruyter Open, 1-5.
6. Griffiths, S., **Edwards B.** and Reynolds, Ff. 2020. 'Public Archaeology: sharing best practice. Case studies from Wales'. *Internet Archaeology* 55. DOI: 10.11141/ia.55.1

**Funding:**

- G1. AHRC *Heritage Together* (Co-production of alternative views of lost heritage)  
AH/L007916/1 GBP459,000 (GBP128,001 to Manchester Metropolitan, Ref:C001432)  
(2013) PI: Jonathan C. Roberts (Bangor); Co-I: **Ben Edwards**
- G2. AHRC / EPSRC *Experiencing the Lost and Invisible* AH/R009198/1 GBP57,641 (2018)  
PI: **Ben Edwards**

**4. Details of the impact**

Collaboration, co-production, and the empowerment of the public is embedded in archaeological activities and interventions that have transformed public heritage in Wales.

**Widening participation in archaeology: the benefits of inclusivity**

The AHRC-funded *Heritage Together* project developed new approaches to engaging the public in archaeological research. From summer 2014, the project team called on the public to submit photographs of Neolithic monuments. 13,000 images were submitted and these 'crowd sourced' images were then used to create a unique accessible archive of 3D models which is preserved digitally and freely available online [A]. Since 2015, a strategic partnership with Cadw, the *Bryn Celli Ddu Landscape Project*, has focused on continued community engagement through archaeological excavation at the site. Residents of all ages from Anglesey (a 'communities first' area of rural deprivation) were involved in excavating burial monuments, conducting a geophysical survey and the 3D recording of newly discovered rock-art panels. The value of volunteering on the excavation was not limited to gaining new skills as a result of training and active participation. The volunteers were also empowered by their involvement in the project, which brought a sense of pride at generating new cultural assets for the local museum. One individual, who was experiencing personal difficulties, noted that participation was 'just what I needed to keep going. Thank you for the experience and joy' [B]. Members of the Anglesey Druid Order [C], often marginalised by archaeologists, were invited to participate in the excavation, alongside an annual cohort of 15 children from the Young Archaeologists Club. This was particularly valued due to the rarity of 'real life' archaeology opportunities for children. Public open days in 2016-2019 registered 4,676 visitors in addition to 614 during the four-week excavation in 2017, including 25 vulnerable learners [D].

**Changing public understanding of prehistory**

The *Bryn Celli Ddu Landscape Project* also had a transformative impact on site interpretation and educational programmes. Through inaugurating an annual 'Archaeology Festival' (2017–present) in partnership with local museum and gallery Oriel Ynys Mon, the project has brought Bryn Celli Ddu to new audiences, including individuals previously unable to access the excavations due to mobility issues. The museum hosted an exhibition on the results of the excavations [E] and provided space for three public lectures (total 2019 attendance: 133). Surveys of visitors across the sites revealed the benefits in enhancing understanding of, and access to, the area's prehistory with one noting, 'I never thought about how Bryn Celli Ddu connected to the surrounding landscape and knowing that has transformed how I think about the place' [B].

Building on these approaches, Edwards collaborated with education partners to design a community education element of the *Bryn Celli Ddu Landscape Project*. This placed great emphasis on diversity of social group, age, language and desired level of engagement. Recognising the under-provision of Welsh-language heritage education for schoolchildren, *Heritage Together* engaged Rhys Mwyn (Welsh archaeologist and broadcaster) to deliver school open days and tours in Welsh. The cultural impact of this was highlighted by Cadw, which noted the project at Bryn Celli Ddu provided a 'unique opportunity to deliver Welsh-language prehistory to schoolchildren – it makes a huge difference to the breadth of the curriculum and provides a new way of learning outside the classroom' [F]. For younger

groups the project delivered Welsh-language guidance on site to between 150 and 200 children every year [D]. Feedback has identified the positive impact this has had on children by introducing them to new local historical knowledge and archaeology through getting 'the children out discovering a place on their doorstep they knew nothing about' [B]. Edwards contributed to the design of a new treasure trail around the area's prehistoric sites that resulted in further community engagement. 1,000 trail leaflets were distributed by the local museum in under a month, along with 500 pin badges for completing the trail. This collaboration created significant benefits for the local museum, increasing visitor numbers and attracting first-time visitors, with the museum manager noting a 20% increase in monthly footfall during the events [E]. These transformative initiatives were developed further through Edwards' subsequent AHRC-EPSRC-funded project *Experiencing the Lost and Invisible*, which has led to the development of a new free, bilingual augmented-reality app, allowing users to experience the 'Lost and Invisible Bryn Celli Ddu' [G].

### Shaping government policy

*Heritage Together*, the *Bryn Celli Ddu Landscape Project* and *Lost and Invisible* have had an extensive impact on heritage policy and practice across Wales. In collaboration with Cadw and the Welsh Archaeological Trusts the project team undertook a best-practice survey of community archaeology nationally, the results of which form the basis of new national policy on community heritage engagement, to be published by Cadw in 2021 [H, F, J]. The work at Bryn Celli Ddu has been referenced three times by the Senedd (Welsh Assembly) as best practice in community heritage. It was hailed as a model for 'deeper understanding' of public heritage and as 'a model for collaboration between government, higher education, schools and art' by the Welsh Minister for Culture, Tourism and Sport [I, J]. The Head of Cadw has also referenced its 'significant impact...on heritage engagement by bringing together local schools, museums, and artists' [J]. In response to heritage engagement lockdown, Cadw adopted the digital approach championed by the *Lost and Invisible* as the model to develop their own immersive 3D experiences of heritage sites [F].

### Impacting artistic and commercial practice

Edwards worked alongside local artists on *Lost and Invisible* to open up new opportunities for engagement with the prehistoric landscape of North Wales. This has directly influenced and benefited the artistic practice of three Welsh-language artists via a residency scheme on excavations, with one artist, John Abell, adopting new themes in linocut in response to his experiences [B]. The resultant work was exhibited at the National Eisteddfod between 7th and 31st August 2018. Abell's engagement with the project is used as an example of best practice in the new Cadw 'Heritage and Arts Framework' which also includes specific provision for the delivery of ongoing heritage and arts-related events at Bryn Celli Ddu as part of the government's strategic action plan [H]. The development of the smartphone app has enhanced musical engagement with the work of Jon Hughes, a composer and sound-artist, whose experience of Bryn Celli Ddu inspired a 50-minute piece and profoundly changed his artistic practice [K]. The project has also generated commercial benefits through a collaboration with a local brewery to share knowledge of prehistoric brewing techniques, including the use of appropriate vessels and outdoor space. As a result, the Brewery claimed R&D tax relief from HMRC at GBP8,000 per annum [L].

### Public engagement during coronavirus

The effect of the coronavirus lockdown on the *Bryn Celli Ddu Landscape Project* was profound. All on-site, museum and 'live' schools' engagement had to be cancelled in 2020. In response, Edwards, together with his young daughter, developed a version of the Bryn Celli Ddu landscape in the popular world-building game 'Minecraft'. Using the Education Edition of the programme, this digital version of the landscape was aimed at primary school children and is now available bilingually through the Welsh Government's 'Hwb' education resources platform as well as internationally through the Manchester Centre for Public



Heritage and History website. This resource received significant international media attention and attracted over 1,000 online visitors (up to Sept 2020). It received very positive feedback from Welsh schoolchildren, including 'I really like the Minecraft World. I hadn't heard of Bryn Celli Ddu but now I'm looking forward to seeing it' [M].

### Media coverage

The research and public engagement have featured in numerous national and international news articles and features, including coverage by the BBC, Fox News, *The Guardian* and *Current Archaeology*; it has also informed 'Expedition Unknown', a US TV programme promoting tourist visits to featured locations. Over the life of the project, Cadw has recorded media coverage amounting to 6,960,000 'opportunities to view' [D]. The Minecraft world also received substantial international media attention, including from Smithsonian Channel and the BBC, with total opportunities to view of 3,570,000 [M].

### 5. Sources to corroborate the impact

- A. *Heritage Together* project web pages ([www.heritagetgether.org](http://www.heritagetgether.org)) corroborating details of online heritage resources.
- B. Bryn Celli Ddu Report 2018. *Public Engagement Results* (Cadw Internal Report) corroborates public engagement impacts on individuals, artists and partners in 2018.
- C. Feedback from Head of Anglesey Druid Order corroborating inclusive approach of *Bryn Celli Ddu Landscape Project*
- D. Bryn Celli Ddu Report 2019. *Public Engagement Results* (Cadw Internal Report) corroborates public engagement impacts on individuals, artists and partners in 2019.
- E. Testimonial from Curator at Oriel Ynys Mon (Anglesey Museum and Art Gallery) corroborates impacts of museum engagement activities and increased footfall.
- F. Testimonial from Arts and Heritage Manager, Cadw corroborating impacts on Welsh Government heritage education, policy and practice.
- G. Bryn Celli Ddu AR App Capture (iOS), December 2020: <https://apps.apple.com/us/app/bryn-celli-ddu-ar/id1495315114>
- H. Cadw 2019. *Framework for Arts and Heritage* (Cadw, Cardiff). References to Bryn Celli Ddu included on pages 08 and 10 corroborating the centrality of the project as part of ongoing plans for national arts and heritage policy in Wales.
- I. References to the project in the Senedd (Welsh Assembly), 10th July 2018; 25th September 2018; 5th December 2018; and quote from Minister: <https://cadw.gov.wales/about-us/news/hidden-soil>
- J. Testimonial from Head of Cadw corroborating impacts on Welsh Government heritage education, policy and practice.
- K. Testimonial from Composer and Sound Artist corroborating impact on changes to artistic practice.
- L. Testimonial from Head Brewer, Pied Bull corroborating commercial impacts of projects.
- M. Compiled media reach and quotes relating to Bryn Celli Ddu Minecraft World; Minecraft Testimonial, Schools.