

Institution: University of Nottingham, Archaeology

Unit of Assessment: Sub-panel 17, Geography, Environmental studies and Archaeology

a. Context

Since 2008, the unit comprising the Department of Archaeology has worked to embed measures of impact within its research and within its on-going and new public engagement activities. These have drawn on the unit's expertise in prehistoric, historical and underwater archaeology, bioarchaeology and archaeological materials, with a cross-theme in Mediterranean archaeology. Firstly, it has transformed awareness of the past at local, regional, national and international scales, through community participation *during* research as volunteers ('citizen science') and direct engagement with the discoveries, and via broadcast media and popular printed literature (magazines). For example, through the survey and excavation projects at Caistor and Southwell (UK), Pavlopetri (Greece) and Stavnsager (Denmark). Secondly, it has changed attitudes to the past in public sector institutions, such as regional governments: for example, in regard to the prehistoric mining heritage of Liguria (Italy). Thirdly, it has provided direct input and leadership in the development of public policy and management practices for national heritage agencies, such as English Heritage, and regional and local governments, especially in relation to maritime archaeology and conservation in England, and regional priorities in the East Midlands. Fourthly, it has transformed the practice of specific user communities: for example, in the way that the National Trust and deer park owners manage their livestock and promote the consumption of venison. And finally, it has provided economic benefit, through an increase in employment and earnings for commercial companies through knowledge exchange, notably with the AOC Archaeology group.

b. Approach to impact

The unit has been fully engaged in the development of knowledge exchange, dissemination and outreach strategies in the Faculty of Arts since 2008; however, the approaches developed by the unit to deliver impact from its research have evolved in recent years as impact has become more clearly defined and understood.

Through **Bowden's** membership of the Arts Faculty Knowledge Transfer strategy group best practice has been disseminated throughout the Department of Archaeology, resulting in the creation and further development of knowledge transfer partnerships (KTPs) early in the REF 2014 cycle, notably the KTP 'Architectural monuments' with the commercial company, AOC Archaeology (**Jon Henderson**), funded by the Department for Trade and Industry (DTI) in 2006-9. This project was also short-listed for a 'Knowledge Transfer Partnership Scotland' award in 2010, resulting in increased turnover and employees for the company (see below).

Since 2010, the Centre for Advanced Studies in Arts and Social Sciences (CAS) has been the primary vehicle for facilitating partnerships to deliver impact of research in the Faculty of Arts and School of Humanities: for example, through University of Nottingham grant-aided partnerships with industry/user groups (HERMES grants: **Sykes**, links with National Trust and Deer Society). Since 2011, the School of Humanities, in which the Department of Archaeology is housed, has taken the lead in the delivery of all aspects of engagement, knowledge exchange and impact. School impact and engagement officers from all Departments (**Loveluck** from Archaeology) produced an 'Engagement and Impact Strategy' in June 2011 and continue to work to ensure the delivery of an 'engaged humanities' strategy as part of the mentoring process in the design of research projects and preparation of grant applications. Archaeology has been particularly successful in delivering the strategic goals for knowledge exchange partnerships with the public and private sectors, community engagement and educational outreach, and impact through broadcast, digital and printed media and exhibitions (see below).

The unit has sought to **transform community awareness of the past** at local and regional scales. This has been approached through 'citizen science' during research at the Roman town at Caistor, Norfolk, UK (**Bowden**), and at the Roman to medieval settlement at Southwell, Nottinghamshire, UK (**King**). At Caistor and Southwell, volunteers from the locality participated in the creation of research data, following research design and pilot work by Bowden and King respectively. The citizen science at Southwell has been enhanced by an AHRC 'connected communities' award, and by the work of the Nottingham University Samworth Academy (NUSA) with local schools (**Sykes**). At Pavlopetri, Laconia (Greece), community awareness and

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participation in the underwater research on the Bronze-Age harbour settlement (**Jon Henderson/Gallou**) has been transformed by artefact handling sessions for local schools and their families, and for municipal officers. Transformation of awareness at national and international scales has been achieved by a range of projects through engagement with broadcast media, and printed and web-based publishers outside the discipline of archaeology: notably for Pavlopetri - BBC 2 and Discovery Channel documentaries 2011, New Scientist magazine, 2011; Caistor - Time Team, Channel 4, 2011, 'Live Science' magazine, 2011; Dama International Fallow deer research (**Sykes**) - Time Team, Channel 4, 2012; Great British Food Revival, BBC 2, 2012; Stavnsager Viking-Age harbour settlement, Denmark (**Loveluck**) – DK2 National TV news, 2008, following DK 4 documentary, 2005, and 'The Engineer'/'Ingeniøren' magazine, 2009.

The unit's emphasis on **contributing to changes in public understanding of the importance and value of the past** have been achieved through engagement with regional governments and the production of museum displays. For example, museum services in Liguria (Italy) used **Pearce's** discovery of Copper-Age mining sites to create the prehistoric mining heritage of the region, and obtain 2.3 million Euros in grants (including 760,000 Euros from European structural funds) towards the building of two new museums on this theme, which have recently opened to the public. The results of **Bowden's** research at Caistor have also inspired new displays on the Roman town at Norwich Castle Museum.

The unit has **influenced public policy on national and regional scales** by helping to establish research agendas for the wider archaeological profession, feeding into strategies for conservation and managing the impact of economic development for government agencies. **Loveluck's** research on early medieval coastal and maritime-oriented societies led to his appointment as co-chair of the early medieval working group contributing to the Maritime and Marine Historic Environment Research and Conservation Agenda for England (English Heritage 2010 and 2013). This will impact on planning, economic development and sustainable exploitation policies for coastal regions and offshore activities, such as dredging for gravel, over the next ten years. **Pearce's** research on the Trent valley in the prehistoric period was behind his contribution to the East Midlands Archaeological research and conservation agenda (English Heritage), which will guide economic planning and conservation policy for the region. Constant interaction and communication with municipal authorities at Pavlopetri by **Henderson** and **Gallou** have resulted in changed local and regional policies within Laconia, Greece, on the conservation of the settlement and its promotion by the tourist industry.

The unit's research has also **engendered changes in practices by specific user groups with concomitant economic benefits**, achieved through partnerships with industry, promoted initially through knowledge exchange projects and HERMES awards. The latter scheme enabled the preliminary results of the Dama International – Fallow deer project (**Sykes**) to be taken up and developed by the National Trust and deer park managers in the UK, who have now made films and displays on the historic and cultural impact of Fallow deer on their properties, and are using them to promote increased consumption of venison. The knowledge exchange project, 'Architectural Monuments' (**Jon Henderson**) changed the practices of the commercial company, AOC Archaeology, by transferring new laser-scanning methods for studying historic buildings. It also resulted in an increased turnover of £150,000 for the company, whose profits increased by £50,000, and who employed three extra staff between January 2008 and 31st December 2009. The grants worth 2.3 million Euros procured by the regional government of Liguria to build the new museums, as a consequence of **Pearce's** research, have also resulted in local economic benefits to the construction industry and will generate tourist income, which will be quantifiable in future years.

c. Strategy and plans

The unit has developed new strategic aims for the period 2013-2019 specific to its own identity, which also deliver institutional policies for knowledge exchange and impact. They are described here along with the mechanisms for delivery:-

The unit will build on its current strengths to **help transform public awareness of the past** at the levels of public interest, education, protection and promotion of archaeological and built heritage, and economic development through ensuring that all new projects will routinely embed engagement with local and regional communities within their research. This engagement will comprise work with schools, voluntary and special interest groups, public sector museums and local, regional and national governments and heritage agencies. Support will be provided by the

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unit's Impact Officer.

The unit will **extend the reach of its impact on public awareness** through routinely exploring broadcast, digital and printed media dissemination routes for its research (building on successful experience from the Pavlopetri, Caistor, Dama International, Stavnsager and Southwell projects).

The unit will **continue its strong tradition of facilitating 'citizen science' and outreach activities**, providing support for Caistor (**Bowden**) and Southwell (**King**) and for all staff within the unit whose engagement activity involves work with volunteers and local societies, including local schools and the Nottingham University Samworth Academy (NUSA).

Staff in the unit will be supported within their workload allocation to **add value to Museums Services** through research-informed curatorial and policy advice, and contributions to public programmes, such as the Stavnsager (**Loveluck**) partnership with East Jutland regional museum.

Staff in the unit will continue to **influence heritage management practices on regional and national scales** through allocation of time to provide policy advice to organisations, such as English Heritage (such as **O'Regan** writing guidelines for the commercial archaeological profession on the excavation of cave sites in the United Kingdom).

The unit, and the University through its new KE manager, will actively support staff whose research might **generate new knowledge and income** by actively seeking further partnerships with commercial companies and public sector organisations, both from within and outside the discipline of archaeology. **Jon Henderson** will continue to develop his partnership with the engineering company, Nautilus Marine Group/Kongsberg Mesotech; and **Sykes** will enhance the impact of her Dama International research on deer with her industry and public sector partners.

The unit will **disseminate results of research to local and regional audiences at public outreach events** through a closer relationship with the University of Nottingham Archaeology Museum and Lakeside Art Gallery and Theatre Hub. This has already been achieved and will continue through public lectures in the 'Archaeology Now' series, presented by **Gallou** (2012), **Julian Henderson** (2013) and **Loveluck** (2014); and by PGRs showcasing their research and Departmental projects at outreach events, such as the National Archaeology Day. The unit will **accurately monitor, evaluate and record the impact of its research** through routine and consistent collection of demonstrable quantitative and qualitative measures of impact, arising from its research and engagement activities.

d. Relationship to case studies

The two impact case studies submitted by the unit relate to the Pavlopetri underwater archaeology project (**Jon Henderson**) and the Caistor Roman town project (**Bowden**). The two case studies embody a diverse range of the types of research, impact and beneficiaries identified in Section a, and have benefited from the support mechanisms at unit and institutional levels, described in section b.

The Caistor project, in Norfolk (UK) delivers impact through 'citizen science' – actively engaging local and regional voluntary special interest groups and public sector heritage organisations in research. This has been combined with comprehensive dissemination of the results of the research through national, international and local broadcast, digital, and printed media, to transform public opinion of the importance of the Roman town at Caistor and to increase knowledge about and generate interest in wider archaeological and specifically Roman research.

The Pavlopetri project on the underwater remains of a Bronze-Age town in Laconia (Greece) also reflects the evolution of the Departmental and institutional approach to engagement and the delivery of impact, via a knowledge exchange partnership with industry (Nautilus Marine Group/Kongsberg Mesotech engineering) and, hence, a 'step-change' in the presentation of underwater archaeological data through development of the use of a new sector scan sonar, with new robotic techniques for collecting geo-referenced digital imagery (in collaboration with the University of Sydney). The research at Pavlopetri then led to the adoption of the techniques by the Italian authorities. Public awareness of underwater archaeology was also transformed by broadcast, digital and printed media on national and international scales, in news programmes in the UK, North America and mainland Europe; documentaries for the BBC; on-line content in Nature and Scientific American, and printed media in Europe, Asia and North America. At the local and regional level, the research has also transformed attitudes to the importance of the past; and promoted new curatorial strategies for Pavlopetri and increased visitors through tourism.