

Editorial

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The importance of accreditation by Jon Avent

Construction professionals working in the conservation sector will often meet additional challenges beyond those for which their core skills are adequate, requiring an ability to understand and work with historical materials and construction methods. They will also require an appreciation of disciplines and interests extending well beyond their professional training and will be required to be conversant with conservation philosophy and methods applied to heritage projects.

Social history has shaped our built heritage as has the discovery, evolution and development of new materials, and an understanding of this will form an integral part of the conservation professionals' work. A frequent challenge is the need to recognise the sometimes conflicting objectives of conservation and commercial development. In addition, building standards for design and construction have evolved over many centuries, yet conservation professionals need to avoid unnecessary intrusion into historic structures, while balancing current needs and expectations. This creates further demands on creativity and problem-solving skills of the conservation professional.

The function of conservation professionals working on existing structures is not simply that of 'protector of heritage assets'. There are often the challenges of integrating new with old and of developing robust, reasoned arguments for proposed works. The sensitive alteration of historic buildings and structures also forms part of their role, and requires a thorough understanding of the heritage issues surrounding such works.

In response to the need for particular professional skills when working on existing structures, especially those with significant heritage interest, the principal construction professions in the UK have all formed schemes for accrediting those professionals in architecture, building surveying, and civil and structural engineering who have the necessary skills. These formally assess and approve an individual's experience and competency in working within the field of building conservation. While each accreditation scheme assesses the core professional skills in conservation, it also extends and overlaps into the wider range of skills, disciplines and philosophies encountered.

The aim of accreditation schemes is to provide a register of individuals with experience and knowledge in the field of

conservation of historic buildings or sites. They are administered by architects, engineers and building surveyors for professionally qualified individuals working in the heritage sector.

Each of the following schemes is recognised by the UK's principal conservation organisations – English Heritage, Historic Scotland, Cadw (for Wales) and the Northern Ireland Environment Agency (NIEA). In 2012, these organisations created the Home Countries Protocol on Accreditation, which provides a formalised approach to the accreditation of construction professionals engaged in heritage work, and a basis for their recognition. The Conservation Accreditation Register for Engineers (CARE) is administered by the UK's Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), and Engineers of Ireland (EI). It was formed in 2003 (ICE, 2014). The Royal Institute of British Architects (RIBA) launched its Conservation Register in 2010 (RIBA, 2014). The Register of Architects Accredited in Building Conservation (AABC) is an independent accreditation body established in 1999 with the active support of English Heritage (AABC, 2014). The Royal Institution of Chartered Surveyors (RICS) established its Building Conservation Accreditation Scheme in 1992 to provide a register of surveyors knowledgeable in the field of conservation of historic buildings or sites (RICS, 2014). The Institute of Historic Building Conservation (IHBC) addresses conservation accreditation across the wide spectrum of construction concentrating on competence through conservation advice and processes. IHBC accreditation demands competent standards across the key stages of conservation: valuing and managing heritage, and where appropriate changing it for the better through appropriate intervention (www.ihbc.org.uk). The website also provides links to other accreditation organisations, including those mentioned above (IHBC, 2014).

Despite a widespread welcome to the accreditation of construction professionals engaged in heritage and conservation work, a small minority still argue that requiring the use of accredited professionals is unnecessary. Typical reasons include

- 'I have worked with ... for many years and they are perfectly competent dealing with historic buildings. They are not accredited. Why should I be forced to use someone else?'
- 'I met an accredited architect/survey/engineer, and I did not find them particularly good'

- 'Accreditation is a scheme for restricting non-accredited professionals from working in conservation'
- 'Accreditation is only for those who have the time and money to apply to become members'

Such statements are based largely on misinformation and misconceptions about the aims and objectives of accreditation, and the benefits it brings to our finite and irreplaceable heritage. In many instances accreditation has now become a specific requirement for working on heritage projects and, contrary to suggestions that accreditation is a 'closed shop', this requirement has been driven by client demands, not by the accreditation schemes themselves.

In the UK, the most appropriate accreditation scheme for civil and structural engineers is the CARE. This is a joint register between the ICE and the IStructE, with a bilateral registration agreement with EI. It was introduced primarily as an acknowledgement of the specific attributes and experience that engineers need to understand the obligations and challenges of working on the conservation of historical structures and sites, including buildings, bridges, harbours, riverbanks, canals, industrial sites or natural landscapes. The engineers may be working as lead consultants on projects where engineering is dominant or as subconsultants where there is a significant structural engineering content.

CARE also promotes a number of wider aims, including

- Assisting clients in selecting an appropriate engineer with proven conservation experience
- Encouraging education and training in conservation engineering
- Promoting sympathetic and best practice conservation
- Raising the awareness of conservation in the engineering profession
- Encouraging engineers to raise their awareness and competency by pursuing continuing professional development in the specialist field of conservation.

Eligibility for accreditation with CARE is assessed primarily on the basis of experience. An applicant must be professionally qualified as a member of ICE or IStructE at an IEng or CEng level of membership, and must have followed the systematic maintenance, improvement and broadening of knowledge, skills and competence known as Continuing Professional Development (CPD). In addition, an applicant must provide evidence of appropriate experience of conservation projects with an appropriate employer or working environment, which is rigorously evaluated by CARE assessors.

Accredited engineers have practical, work-based experience of conservation projects, eventually proving themselves capable of running conservation projects appropriate to their core skills.

They have an appreciation of disciplines and interests well beyond their professional qualification as engineers. They are fully conversant with conservation philosophy and methods applied to conservation of historic work and heritage projects.

In summary, the aims, objectives and benefits of accreditation are these

- Accreditation provides benefits to both our built heritage and clients.
- Accreditation establishes and maintains standards amongst professionals working in the heritage sector.
- In the UK, there are a significant number of accredited professionals providing a choice for clients and organisations seeking appropriately qualified and experienced individuals.
- Accreditation is a peer-reviewed demonstration of an individual's skills and competency in working on actual conservation projects. It is also a demonstration of their wider experience and awareness of conservation issues within the built heritage environment.
- Schemes have a re-accreditation process to ensure that members maintain and develop their skills, and demonstrate that they continue to practise competently within the built heritage environment.
- Approved accreditation schemes are recognized by the four home countries (UK) and adhere to a common protocol defined by English Heritage, Historic Scotland Cadw and NIEA.
- Each accreditation scheme is required to have a formal disciplinary procedure in place to deal with any formal complaints on conduct of a member.
- The process for an individual to become accredited is robust, as it needs to ensure applicants have demonstrated competency and experience. However, all construction professionals are required to undertake CPD, and much of this process and necessary record keeping can usefully be included as part of the application for accreditation provided the applicant can demonstrate that they are working on appropriate projects.
- Within the field of conservation engineering a CARE engineer has formally demonstrated their skills and experience and can be engaged with confidence by clients seeking to ensure their valuable heritage assets are dealt with appropriately.

As a nation, we in the UK value our heritage. We have a range of protection measures available to local authorities and national heritage bodies that ultimately enable enforcement action and prosecutions to be taken when necessary. A growing range of training schemes and apprenticeships is becoming available to ensure that practical heritage skills are maintained and that appropriate materials and construction techniques are adopted on conservation works. To complete the circle, it is

essential that those persons advising, specifying and supervising works on heritage structures have a universally recognized and consistently high standard of conservation knowledge across the professions. Accreditation provides this standard.

Papers in this issue by William Addis

The papers in this issue present a remarkable snapshot of the range and depth of the engineers' contribution to creating and preserving our built environment. However, I should first declare a belief that might render our comments a little distant from academic impartiality. I profoundly believe it was the introduction of iron into modern (post-1740) construction, that was predominant among the influences that led to the birth of the modern approach to engineering design and construction – the melding of practical experience with mathematical models of real-world behaviour, and the rigorous testing of the behaviour of materials and models and full-scale structures such as arches, beams and columns.

What better place to begin than with William Hazledine, the iron founder who helped Thomas Telford and William Bage, among many others in the late eighteenth century, to realise their dreams for exploiting cast iron – the first new material available to the civil engineering and construction industry. Andrew Pattison's paper on William Hazledine (1763–1840) is the first biography of this extraordinary man who, almost alone, revolutionised the construction industry (Pattison, 2014).

James Miller recounts the story of the restoration and preservation of a typical, but none-the-less remarkable example of the type of structure that had become almost commonplace by the mid-nineteenth century, but which still owed its existence to the pioneering work of Hazledine 80 or so years earlier (Miller, 2014). Tynemouth Railway Station has been lovingly refurbished and given a new life unimaginable to its original engineers. Once a 'mere' station canopy, it is now the epicentre of a remarkable community amenity. This was made possible by a passionate will to conserve the original engineering while ensuring a refurbishment that fully respects its heritage and significantly prolongs its life.

Older structures, such as those made of masonry, have often been subject to many centuries of repair, much of which have been urgent and done in an emergency. The challenge of most refurbishments of ancient masonry structures is to determine what was there first, and the sequence of events that eventually resulted in the structure we find today. An excellent example is the restoration of the mediaeval bridge in Oundle in Northamptonshire, UK (Price *et al.*, 2014). The story began, curiously, with the bridge developing a water leak that led to a fascinating investigation of its origin and eventually its whole history. The resulting refurbishment of the bridge led to minimum intervention in the original structure while delivering a useful asset for the future.

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