

This document comprises the text submitted for the Scottish Archaeology Research Framework website, launched on 24 August 2016

<http://www.scottishheritagehub.com/content/future-thinking-carved-stones-scotland>

It should be read alongside the online [Appendices](#) and [Case Studies](#), which is where the figures will also be found



Future Thinking on Carved Stones in Scotland: A Research Framework

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Listen to the stones:

*We fondly dedicate this work to the memory of John Higgitt (1946–2006)
The most generous of scholars and friends
Enthusiastic explorer of carved stones and their audiences
Co-creator and first Chair of the National Committee on Carved Stones in Scotland
(1993–2003)*

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LIST OF ABBREVIATIONS

3D	Three-dimensional
ACCORD	Archaeology Community Co-production of Research Data
AMD	Ancient Monuments Division
BEFS	Built Environment Forum Scotland
BIM	Building Information Modelling
CI	Co-Investigator
CSAP	Carved Stone Adviser Project
CSDAP	Carved Stone Decay in Scotland Project
ECMS	<i>Early Christian Monuments of Scotland</i> (Allen and Anderson 1903)
EH	English Heritage (now also HE)
EMSSS	Early Medieval Stone Sculptures of Scotland
ERA	England's Rock Art
FCS	Forestry Commission Scotland
GIS	Geographic Information Systems
HE	Historic England
HEACS	Historic Environment Advisory Council Scotland
HEFCE	Higher Education Funding Council for England
HERALD	Historic Environment Research Archives, Links and Data
HERs	Historic Environment Records
HES	Historic Environment Scotland
HESPS	<i>Historic Environment Scotland Policy Statement</i> (Historic Environment Scotland 2016)
HLF	Heritage Lottery Fund
HS	Historic Scotland (now part of HES)
ICCROM	International Centre for the Study and Restoration of Cultural Property
ICOMOS	International Council on Monuments and Sites
ISCS	International Scientific Committee for Stone [of ICOMOS]
LiDAR	Light Detection and Ranging
MBGRG	Moray Burial Ground Research Group
NADRAP	Northumberland and Durham Rock Art Project
NAS	National Archives of Scotland
NCCSS	National Committee on Carved Stones in Scotland
NLS	National Library of Scotland
NOSAS	North of Scotland Archaeology Society
NMS	National Museums of Scotland
NTS	National Trust for Scotland
OASIS	Online AccesS to the Index of archaeological investigationS
OPIT	<i>Our Place in Time</i> (Scottish Government 2014)
PAS	Pictish Arts Society
PI	Principal Investigator
PKHT	Perthshire and Kinross Heritage Trust
PMSA	Public Monuments and Sculpture Association
RAPP	Rock Art Pilot Project [of English Heritage]
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland (now part of HES)
RAE	Research Assessment Exercise

REF	Research Excellence Framework
RMMC	Runes, Monument and Memorial Carvings network
RSE	Royal Society of Edinburgh
RTI	Reflectance Transformation Imaging
SAFHS	Scottish Association of Family History Societies
ScARF	Scottish Archaeological Research Framework
SERF	Strathearn Environs and Royal Forteviot
SG	Scottish Government
SHEA	Scottish Historic Environment Audit
SHED	Scottish Historic Environment Data
SHEP	<i>Scottish Historic Environment Policy</i> (Historic Environment Scotland 2016)
SRP	Scotland's Rural Past
SUAT	Scottish Urban Archaeological Trust
SWAPNET	Stone Weathering and Atmospheric Pollution Network
TCRE	Technical Conservation Research and Education
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WMF	World Monuments Fund
WWI/II	First World War/Second World War

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EXECUTIVE SUMMARY

Aim: Our appreciation of the past relies heavily on the survival of stone monuments, buildings and landscape features. They shape our sense of place and identity. If carved, this adds further dimensions and depth to that appreciation and can tell us much more about past peoples, their identities, beliefs, tastes, technologies and lives. And we are fortunate—carved stone monuments are all around us: prehistoric rock art, Roman, early medieval, later medieval and architectural sculpture, gravestones, and public monuments. This Framework aims to link, inspire, mobilize and direct the efforts of anyone with an interest in carved stone monuments in Scotland. It is driven by a desire for a more strategic approach to the opportunities and challenges carved stone monuments present. Despite including some of Scotland’s most iconic monuments and most significant contributions to European art and culture, the significance of this resource is often not fully recognized, nor is the seriousness of the threats to it.

Background: The Framework is part of the Scottish Archaeology Research Framework (ScARF) and its production was led by Dr Sally Foster (University of Stirling) and Dr Katherine Forsyth (University of Glasgow), with co-authors Dr Susan Buckham (University of Stirling) and Dr Stuart Jeffrey (Glasgow School of Art). Funding came from the RSE and from HES via the NCCSS. A key source for the Framework were three workshops, each summarized here, which took stock of existing and ongoing research activities to identify priorities for future research, with a particular focus on digital recording technology and carved stones associated with churches. In addition, many contributors have subsequently supplied invaluable ideas, advice and text, including case studies of their own work.

Structure: After an **Introduction**, the **Current State of Knowledge** is critically assessed for the categories of carved stones listed above, and also for heritage and conservation in relation to carved stone monuments. Thereafter the Framework is structured around heritage practices and strategies published by the government: **Creating Knowledge and Understanding**, **Understanding Value**, **Securing for the Future**, and **Engaging and Experiencing**. An extensive **Bibliography** of published work and resources is provided. Carved stones are in many ways a touchstone for wider attitudes to the historic environment and to heritage practices because they cross so many boundaries and therefore expose so many issues. They invite, indeed demand, interdisciplinary and cross-cutting approaches. The Framework’s structure is designed to draw out a holistic understanding of the value and significance of Scotland’s carved stone heritage in the 21st century, and reflect on what this knowledge then offers us. This emphasis on value provides the best hope of making a difference. To this end the Framework identifies research principles, problems, practices, and ideas for projects, some enhancing existing initiatives and others suggesting new directions. Materiality, cultural biography and landscape recur as particularly helpful lenses for exploring carved stones and their context.

The Future: With its wiki-format, users can continue to breathe life into this Framework so that it continues to reflect current practice and research priorities as they inevitably develop over time. This is just the beginning of a process of broadening engagement. Ongoing communication and capacity building is crucial. There is much existing data, research, knowledge, experience and enthusiasm across the many existing communities of interest that can be readily brought together and utilized. But new directions and more significant investments of effort in particular areas are also needed.

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The RSE grant provided travel bursaries for five research students (from Manchester to the Orkney Islands) to attend Workshop 3. It also enabled a keynote public lecture by Dr Katherine Forsyth as part of the Runes, Monuments and Memorial Carvings (RMMC: <http://monumentsnetwork.org/>) international network's meeting in Glasgow on 13 April 2015.

SMF and KF are grateful to Dr Susan Buckham (Kirkyard Consulting/University of Stirling) and Dr Stuart Jeffrey (Glasgow School of Art Digital Design Studio) for teaming up as such very committed and engaged co-authors. We are particularly grateful to Mark Hall (past Chair of NCCSS) and Professor Siân Jones for their behind-the-scenes input, and to partners and children for their considerable support. Our colleagues on the NCCSS, of which the PI and CI are current and past Chairs respectively, provided the source of inspiration for this event, guided and assisted with its activities. The Society of Antiquaries of Scotland steered us expertly and enthusiastically—Emma Jane O'Riordan of ScARF carried out the production of the website, and Dr Jeff Sanders promoted the project as part of Dig It! 2015. Helen Young provided administrative support for Workshop 3; Stephanie Garrison undertook the evaluation in 8.4. None of this would have been possible without the keen input of those who attended Workshops 1–3 (named in Sections 8.1–8.3) and those who generously acted as Critical Friends (named on title page) by commenting in writing on the developing Framework and providing case studies. Critical Friends do not necessarily share the approach of the lead authors or agree with all the content. We also thank those who kindly provided and allowed us to use their images (see credits in captions).

We will be pleased to correct any errors: please email carvedstones@stir.ac.uk.

‘The news you bring me has been news forever,
So that I understand what a stone would say
If only a stone could speak ...’

from 'True Ways of Knowing', 1965
Norman MacCaig

1. INTRODUCTION

1.1 Project background and aims

The aim of this Framework is to link, inspire, mobilize and help direct the efforts of anyone with an interest in or responsibility for carved stones in Scotland. It is a venture that involves not only the academic community and the fragmented heritage and stewardship sectors, but also individuals and communities across Scotland and beyond.

It is driven by a desire for a more strategic approach to the opportunities and challenges presented by Scotland’s carved stones: its prehistoric rock art, Roman, early medieval, later medieval and post-Reformation sculpture, architectural sculpture, architectural fragments and gravestones and memorials, and its public monuments. Despite including some of Scotland’s most characteristic monuments and some of its most significant contributions to European art and culture, the significance of this resource is often not fully recognized, as is the seriousness of the threats to it, such as weathering and vandalism. To address this, Sally Foster and Katherine Forsyth, with the support of the [NCCSS](#), set up the *Future Thinking on Carved Stones in Scotland* project (Figure 1).

Figure 1: The banner of the Future Thinking on Carved Stones in Scotland project. © Sally Foster

The [NCCSS](#) takes the view that addressing the underlying causes of these problems requires targeted research into what carved stones can tell us about both the past (their historical context) and the present (social value, national and community identity). Research is needed also into curatorial issues, including the identification of best practice: for example, auditing and monitoring the resource, techniques of conservation and management, display and interpretation, and the role of new technologies in all of these.

The heart of the Future Thinking on Carved Stones in Scotland project was a series of workshops to take stock of existing and ongoing research and to identify priorities for future research. Priority was given to two specific areas that seemed particularly pressing or potentially fruitful. First, digital recording technology, a field in which Scotland aspires to play a leading role but the emphasis to date has been on data capture rather than research. Second, carved stones associated with churches, where so many are inevitably found. This is because changes in the role of churches within local communities, specifically accelerating redundancy and changes of ownership, present particular threats to carved stones, while increasing use of heritage as a means of community regeneration offers welcome opportunities.

Workshop 1 *Digital recording of carved stones for research: where are we and where can we go?* (Glasgow School of Art Digital Design Studio, 12 February, invitees from England, Ireland, Scotland and Sweden). This focused on the corpus of carved stones produced in north-western Europe between AD 400 and 1200, but had implications for digital recording of carved stones of all periods. See Section 8.1

Workshop 2 *At the door of the church? Research and carved stones at ecclesiastical sites* (Govan Old Church, 1 May, invitees only, from Scotland). See Section 8.2

Workshop 3 *Future thinking on carved stones in Scotland* (Royal Society of Edinburgh, 26 August, open to all, attendees coming from England, the Isle of Man, Scotland and Wales). See Section 8.3

Workshop 4 *Future Thinking: ScARF for Carved Stones in Scotland* (University of Stirling, 28 October 2015, authors and ScARF team).

The Future of Carved Stones in Scotland project [website](#) reflects efforts made to communicate and involve people unable to attend the workshops. For feedback on these see Section 8.4.

1.2 Definition of terms

1.2.1 Carved stone

This Framework is concerned with ‘carved stone monuments’ which we interpret in a broad and inclusive manner, aware that the boundaries of this category are indistinct. The ‘stone’ element of this definition is straightforward, making due allowance for the fact that stone monuments may incorporate elements in other materials, e.g. metal or glass. While issues raised within the Framework may be relevant to cognate monuments made from other materials, such as ceramic, metal or wood, these are excluded from direct consideration. By ‘carving’ we understand the use of tools to remove part of the stone surface, using any of a range of techniques, including pecking, grinding, gouging, cutting, chiseling, scratching and polishing. The stones in question may thus be incised, carved in various degrees of relief, or in the round. The level of technical skill and artistic ambition exhibited ranges greatly. At one end of the spectrum are highly accomplished public artworks created by teams of professional sculptors, at the other extreme are informal carvings, scratch art, and graffiti created by ordinary people, including children, for perhaps little more than personal enjoyment.

We use the term ‘monument’ somewhat loosely to convey the principle that the item should be or have been earthfast or otherwise tied to a specific location. We therefore embrace what Baldwin Brown (1905, 22) referred to as ‘immovables by nature’ (things that cannot *normally* be moved) and ‘immovables by destination’ (things that can technically be moved but were not normally designed to be removed, such as gravestones). By ‘monuments’ we do not mean only free-standing stones, but include carvings in outcrops of living rock or on cave walls. It is this physical connection to a specific place which allows us to discriminate between ‘monuments’ and stone ‘artefacts’ which were never intended to stand in or on the ground (we use ‘artefacts’ here in the technical curatorial sense of a *portable* item; of course, all human-made or altered materials can otherwise be described as ‘artefacts’). While the materiality of stone artefacts means some of the issues raised in the Framework may also be of relevance to them,

nonetheless we view them as fundamentally different in nature. By this means we exclude from *direct* consideration small portable objects such as Neolithic carved stone balls or portable stone altars, although clearly much is to be learned from work on such objects (Imaging techniques: Case Study 7).

Note that mere portability is not grounds for excluding an item. On the contrary, many of the items considered within this Framework have been removed from their ancient location and/or have become fragmented such that they are now ‘portable’ and thus rendered uniquely vulnerable (see Section 5.3.3). Others are small enough that they have always been potentially portable. The difference is that *at one time* they were earthfast or otherwise tied to a specific location (‘immovables by destination’). We have chosen to exclude buildings *per se* but to include architectural carvings, whether *in* or *ex situ*, aware that these sit on a continuum of relevancy to the bulk of the material under consideration.

Although they do not fall strictly within the above definition, we are conscious that certain other categories of stones which stand at one remove nonetheless share characteristics with carved stone monuments proper, and in some circumstances are profitably considered alongside them. Examples would be unworked stones erected as monuments, e.g. prehistoric standing stones; ‘significant’ stones, whether worked or natural, which are endowed with special meanings by being named or memorialized through stories; and also uncarved stones to which colour has been applied (a separate issue from the painting of carved stones). While we would not include these under the label ‘carved stones’ they are nonetheless to be borne in mind as kindred monuments with bearing on many of the issues discussed in this document.

Our definition of carved stones in Scotland thus encompasses but is not limited to: prehistoric carvings in living rock and on monuments; Roman altars, dedication slabs and statuary; early Christian cross-marked stones, Pictish symbol-stones, cross-slabs and free-standing crosses; gravestones, tomb sculpture and burial monuments of all periods; medieval and modern architectural sculpture including sundials and fountains; public monuments such as war memorials and modern carved sculpture. For illustrated examples, see the NCCSS [website](#).

1.3 Why focus on carved stones?

Our appreciation of the past relies heavily on the survival of stone monuments, buildings and landscape features. They shape our sense of place and identity. If carved, this adds further dimensions and depth to that appreciation and can tell us much more about past peoples, their identities, beliefs, tastes, technologies and lives (Figure 2). And we are fortunate—carved stones of some description or other are all around us. It is telling of their overall significance that Scotland is the only country to have produced its own national policy for carved stones (Historic Scotland 1994; Scottish Executive 2005; Figure 3).

Figure 2: Carved stones formed a significant component of the first monuments to be protected under British ancient monuments legislation in the late 19th century, such as the so-called [Drosten Stone](#) from St Vigeans. © Society of Antiquaries of Scotland

Figure 3: Scotland published the first national government policy and associated guidance for carved stones in 2005. Crown Copyright: Historic Environment Scotland

So what does a research focus on carved stones in particular offer? Why not aim for closer integration and expansion within the context of existing period-based and other ScARF themes, not least given the risk that carved stones are considered out of context? Naturally we hope that the ideas expressed here will work their way back into these other ScARF reports, and be developed further. However, the near invisibility in the existing ScARF reports of carved stones and the lack of application of carved stone data within wider analysis suggests that there is a lack of awareness of the questions that can be asked of this material. Is this because of the lack of data sets, or access to them, or because of a failure to recognize research potential?

Regardless, there are considerable advantages to working across periods, across the traditional disciplinary, institutional, and other barriers to open and joined-up thinking that result in narrowly defined mentalities and practices. Indeed, carved stones are the means *par excellence* of doing so. In many ways they are a touchstone for wider attitudes to the historic environment and to heritage practices because they cross so many boundaries and therefore expose so many issues. They invite, indeed demand, interdisciplinary and cross-cutting approaches. There is a merit to looking outside of what we are familiar with to identify new methods and questions. Those working on gravestones can learn from those working on prehistoric rock carvings, and *vice versa*. The opportunities for cross-fertilization are not just theoretical but also technical and practical. Issues such as erosion and how to best conserve and present carved stones, or how to record them, are hardly period-specific. That is not to say that different types of carvings do not have some particular problems (see Section 5.3).

Some of our subjects have the capacity to become portable, hence move from being monuments, or parts of monuments, to artefacts. This means that carved stones often transgress traditional curatorial lines. They are also prone to ‘fall through the gaps’ between institutional responsibilities (Foster 2010a). This is one of the reasons that the [NCCSS](#) was founded in 1993 as an independent forum for exchange of information. This was the idea of David Breeze, Richard Fawcett arranged for John Higgitt to be the first Chair, and between them they set up the Committee. It aims to enable a better understanding of the issues affecting carved stones and to facilitate collective efforts by Scottish national bodies to address them.

Carved stones and their preservation fascinated early Scottish antiquarians (Figure 4; Henderson 1993a) and the concept of carved stones has a heritage pedigree. There is not the sort of public recognition that other categories of monuments attain, but there is public interest in its constituent elements, notably prehistoric art, early medieval sculpture and gravestones.

Figure 4: Antiquarians examine the inscription on the Catstane in 1849. Crown Copyright: Historic Environment Scotland

In comparison to existing ScARF, an *overarching* approach to carved stones offers the scope for a new way of thinking because there is no established frame of reference.

Case Study 1: Making a difference

1.4 Framework Strategy

1.4.1 Approach

While it would have been possible to produce a Framework that adopted a chronological outline, we have instead aligned our thinking with heritage practices and strategies published by the government. Our four themes are:

- Creating Knowledge and Understanding (see Section 3)
- Understanding Value (see Section 4)
- Securing for the Future (see Section 5)
- Engaging and Experiencing (see Section 6).

In addition to the four themes above, cross-cutting themes include ‘materiality’, ‘biography’, context/landscape and the application of digital and scientific technologies.

We had looked to *Our Place in Time: The Historic Environment Strategy for Scotland (OPIT)*, published by the Scottish Government (SG) in 2014, but found we needed to draw a critical distinction between *understanding value* (the ways in which something is meaningful and relevant to society) and *engaging and experiencing* (the mechanisms to create social benefits by promoting appreciation of values and of significance—the access, interpretation, learning and tourism that *OPIT* places in its Value section). Hence, our introduction of Understanding Value, a fourth aim/priority to the three it identifies. Our different use of the term value reflects longstanding international conservation heritage practice (de la Torre 2002; Australia ICOMOS *Burra Charter*, 2013). A clear application of this is English Heritage (EH)’s 2008 *Conservation Principles* for sustainable management of change in the historic environment. While recognizing that the aims and target audience of *OPIT* are broader than the historic environment and its managers, it helps more generally to distinguish between values and instrumental benefits (e.g. Clark 2010).

The rationale for our approach is that we believe it offers the best hope of making a difference. This is because it will enable a more mainstream audience to be able to relate to and apply our observations, even if much of our detail is about academic research. This is also an approach that celebrates and embraces the cross-cutting nature of carved stones and avoids narrow and blinkered thinking in ‘silos’, but equally wants tempering by remembering the links to other media and visual culture (see e.g. Henderson and Henderson 2004; Insh 2014). The drawback of a specifically ‘carved stones’ focus is that carved stones risk being considered outside of other aspects of their contexts (although this is hardly our intention). Along the way we have identified a large number of systemic issues that are barriers to research on carved stones, although many are not unique to carved stones.

Since many of us do want and need to focus on a particular period or theme, and historically speaking this is a more familiar approach to carved stones, we have provided period-based and thematic historiographies (Section 2). In adopting our thematic approach we have needed to explain where we are coming from and there is some unavoidable overlap in content, particularly between these historiographies and the thematic approaches.

Our intention has been to provide a series of lenses through which to consider the carved stone resource. To improve its accessibility, we have organized the Framework into sections which readers can dip into as they please, although the best understanding of our approach and its application will derive from reading the sections sequentially. We have also assembled from a diverse range of authors a rich body of Case Studies which highlight recent and current work on carved stones and, we hope, demonstrate in greater depth the issues raised in the main text.

1.4.2 Understanding value

Figure 5 is a graphic representation of the differences between the conservation management cycle, its equivalence in interpretation, and the three stated aims of *OPIT*, to help explain the difference between our Framework structure and *OPIT*. The heritage conservation cycle at the heart of this diagram is something that heritage managers aim to deliver: understanding that leads to valuing, valuing that leads to caring for something, caring that leads to enjoyment, which in turn feeds back into a desire to know more (Thurley 2005). In practice and in a wider sense, the relationship between knowledge and values, in particular, is cyclical not linear: what we value informs what we seek to understand and how we aim to do this, while our understanding shapes some but not all of our values (at least in relation to historic and scientific values). This applies to everyone, not just the people with academic knowledge or those who work in heritage management.

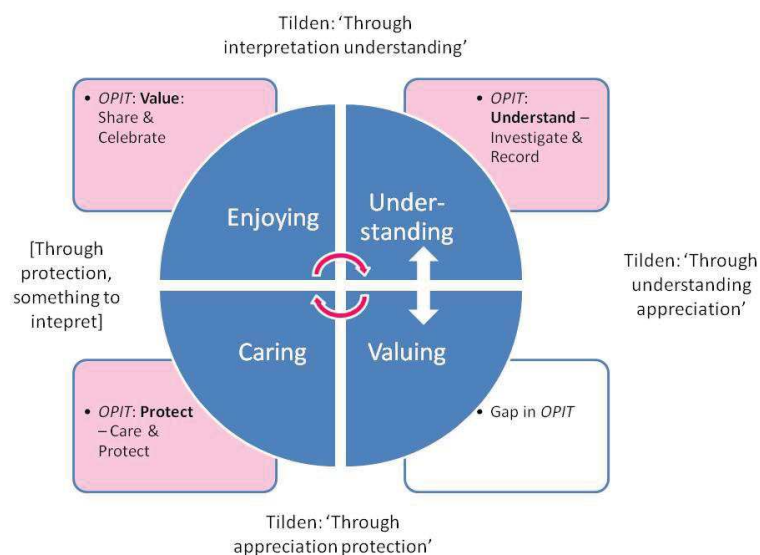


Figure 5: A visual comparison of the aims of the *OPIT* strategy (Scottish Government 2014) in relation to the heritage conservation cycle (Thurley 2005) and interpretation practices (Tilden 1957). The cyclical relationship between understanding and certain types of values must also be considered. © Sally Foster

In giving Understanding Value its due place in our Framework structure we will make it easier to achieve the overall ambitions of *OPIT*. Understanding value and significance (the sum of values) is what makes informed-decision making work. If we understand the different values that different communities of interest may have, we can see where they do or could intersect, and identify common purposes.

Overall, our vision is that research on our core themes of understanding, valuing, caring and engaging will function together to provide an ongoing and deepening cycle of making a difference (having an impact /bringing benefits), and as such will aid future researchers as well as those to whom they apply for funds. In Looking Forward (Section 7), we will consider what success might look like. This is only the beginning of a process. The wiki format of ScARF will permit our readers to add to what is suggested here, with further thought and time.

2. CURRENT STATE OF KNOWLEDGE

Our current understandings of carved stones are predominantly structured by chronological and curatorial-based perspectives, but there is no single or standardized way of categorizing them. The historiographies below and sources in Section 10 adopt the carved stone groupings used by the [NCCSS](#) and others to discuss and frame their work (e.g. Scottish Executive 2005). However, we found as we ‘tested’ these through reading, researching and writing that we needed to refine and qualify them for the purposes of this exercise, to provide greater clarity and minimize chronological overlap. Our headings are therefore prehistoric rock art, Roman, early medieval, later medieval, architectural sculpture, gravestones, public monuments, and heritage and conservation. It will be apparent that carved stones are so diverse that it is challenging to cover all types, and relevant research literature, particularly from later periods, is inevitably (and rightly) very diffuse. This makes it particularly challenging to draw together from the starting point of carved stones. However, we have begun here a process that we hope will invite future improvements and developments.

2.1 Prehistoric rock art

Rock art is a term used to describe motifs that were carved mostly onto earthfast rocks or boulders but also monuments, mainly in the later Neolithic and Early Bronze Age (about 4,900 to 4,000 years ago) (Figures 6–8). Around 2500 carved rocks are currently known in Scotland, although many new discoveries are made every year.

Figure 6: Prehistoric rock art at [Auchentorlie](#), West Dunbartonshire. In Scotland the rock-art tradition is particularly strong in Argyll and Bute, Dumfries and Galloway, Highland Perthshire and around the Moray Firth where abstract designs, usually shallow pecked circles or cups, sometimes surrounded by rings (‘cup-and-ring marks’) or connected by grooves are the norm. Similar designs are also found in England, Ireland, Wales, Brittany and north-west Spain, and in other parts of the world. *Crown Copyright: Historic Environment Scotland*

Figure 7: Elaborate so-called ‘passage-grave art’, distinctive designs found along the Atlantic seaboard, was carved onto stones at prominent places in burial monuments, particularly in Orkney. Very occasionally, as here at [Ri Cruin](#), Argyll and Bute, representations of copper flat axes were also made on burial monuments, sometimes superimposed over cup-marks. *Crown Copyright: Historic Environment Scotland*

Good histories of rock-art studies in Scotland exist (notably Bradley 1997a; Beckensall 1999; A Jones *et al.* 2011), and there is one short overview of Scottish research in relation to heritage and conservation (Foster 2010b, 6). ‘One of the enigmas of archaeology’ (Anderson 1883, 299), the earliest significant discovery of rock art in Scotland was only reported in 1830 (Currie 1830). The first serious antiquarian overviews appeared in the later 19th century (Simpson 1866; Allen 1882) but the path to evidence-based and theoretically informed understanding has been slow. From the 1960s to 1990s discovery, reporting and analysis was largely the preserve of avocational archaeologists. Local groups and individuals made an immense contribution to our knowledge of rock art but mainly focused on identifying and recording motif typology, a phenomenon not limited to Scotland (Nash and Chippindale 2002, 3). Fortunately, there is a worldwide literature on all aspects of rock-art research that invites reflection on Scottish understanding and approaches (e.g. Bradley 1997a; Nash and Chippindale 2002; Bertilsson and McDermott 2004; Bradley 2009; Barnett and Sharpe 2010; Darvill and Fernandes 2014a).

Recording improved with the RCAHMS' survey of the rock art in Argyll (RCAHMS 1988), although many new discoveries have since been made in the Kilmartin area. Important RCAHMS survey work in the Loch Tay area is as yet unpublished. Meanwhile, community-led initiatives, such as the Ross-shire Rock Art Project per [North of Scotland Archaeological Society](#) have recorded extensive rock art in areas where little was known previously. Recording methods have evolved in tandem with digital technologies, but digital applications are so far limited (exceptions including [Cochno](#) and [Ormaig](#)—see Condition monitoring at Ormaig: Case Study 37). So-called scratch art or graffiti is a relatively recently recognised form of engraving now generating research literature. In particular, this has been identified in prehistoric buildings in Orkney (Figure 8), where it was also sometimes painted (A Thomas 2015). That stones might be decorated just by application of colour rather than any form of carving is a consideration in this and later periods.

Figure 8: Some designs—possibly no more than scratches—were found recently during excavations of Neolithic houses at [Ness of Brodgar](#), Orkney Islands. © Antonia Thomas

Arguably prehistoric rock art does not play a role in defining present local identity and sense of place because it tends not to be associated with modern settlements, and it has low public awareness. Kilmartin Glen and its [museum](#) is the obvious exception. This is as yet little researched, although the recent ACCORD project (Jeffrey *et al.* 2015) demonstrates the potential contemporary social value of rock art. Another aspect of its social value that has not been researched is the way in which rock art has proved such a fertile ground for lots of fringe thinking about its meanings and origins. Past biographical dimensions of rock art have been recognised, and may prove to be a rewarding avenue for future research (Hingley *et al.* 1997; A Jones *et al.* 2011).

In line with practice elsewhere, archaeologists have begun to explore the immediate archaeological context of rock art (Bradley *et al.* 2012), finding dating evidence, associated structures and artefacts. *An Animate Landscape. Rock Art and the Prehistory of Kilmartin* (A Jones *et al.* 2011) is an example of what can be achieved through interdisciplinary research, modern archaeological perspectives and creative publication (although it offers a cautionary tale to involve soil scientists early in excavations: Foster 2013b).

The work of Andy Jones and Bradley, in particular, suggests that rock art was an important means by which prehistoric people made sense of their surroundings, so recording and understanding its landscape context is critical. Research into how to translate this into heritage practices, such as protection and interpretation of setting, is virtually non-existent, although the landscape has been opened up around some afforested sites ([Ormaig](#): Figure 6; Condition monitoring at Ormaig: Case Study 37; [Achnabreck](#)), and we anyway know little about what the earlier landscapes looked like.

Rock-art research in Britain has mainly focused on a few areas with high concentrations of engravings, while studies at an inter-regional scale have been limited (e.g. Van Hoek 1997). This has created a fragmented and distorted overview in which the carvings are presented as disparate 'clusters' within a single, unified tradition, obscuring more subtle regional patterns and potential connections between geographical areas and prehistoric communities. British rock art is not uniform, however. There is considerable diversity within and between regions, yet we

have no clear understanding of the common themes that bound all rock-art users, or how and why these varied regionally.

Research into the specific conservation needs of carved rocks (sometimes vertical faces) is negligible. Specialists are learning much through individual casework (such as the early medieval rock art at [Dunadd](#)), but research of this nature is rarely being drawn together into peer-reviewed publications where the outcomes can be shared. This contrasts, in particular, with experiences in Scandinavia (Hygen and Bengtsson 2000; Bjelland and Hellberg 2005; Hygen 2006; Gustafsson and Karlsson 2014) and England (ERA: [England's Rock Art](#)) where national initiatives assessed the conservation needs of the resource, identified priorities for action, and researched the appropriate conservation science and presentation methods. In England, involvement of local communities has raised awareness and encouraged sustainability (Rock-art recording: Case Study 29). This approach has proved successful on a smaller scale in Scotland (e.g. Kilmartin Museum activities; ACCORD project—Jeffrey *et al.* 2015; [Cochno](#)). Ethical issues have also been considered elsewhere (e.g. Walderhaug Saetersdal 2000).

For further reading, see Section 10.1.

2.2 Roman

Roman military intervention in Scotland has left behind a rich legacy of carved stone monuments dating from the late 1st to the early 3rd centuries AD (Keppie 1998a). The majority are formal, inscribed public monuments, made by and for non-local military personnel, or civilians operating within a military milieu. These include: stone altars (erected in fulfilment of a vow to native and non-native deities), tombstones, milestones, dedications to the Emperor, architectural pieces, and the distance slabs (of which 19 survive) carved to commemorate the completion of different sections of the Antonine Wall by various legions in AD 142–3 (Keppie 1998b; Breeze 2006). In form and decoration, most of these monuments are of a type familiar from elsewhere in the Empire, however, the Antonine Wall distance slabs are unique—nothing similar has been found on any other frontiers of the Roman Empire (Keppie 1979).

Inscriptions—in Latin and often highly abbreviated—dominate most of these monuments, and their testimony has been crucial to efforts to understand the military and religious history of the Romans in Scotland. Not all monuments are inscribed and, even those which are, frequently also feature a range of decorative motifs and classical imagery designed to convey statements about military might and religious piety. The finest are indeed splendid monuments, elaborately decorated and exhibiting very high levels of workmanship. The corpus also encompasses much humbler material, of cruder (presumably non-professional) quality. These include informal doodles and scratched inscriptions, for instance those recording work done or loads delivered on building blocks from [Easter Langlee](#), Roxburghshire.

Scholarly interest in Scotland's Roman period carved stones dates back at least to the late 17th century, when the University of Glasgow invited landowners (many of whom were alumni) to donate Roman stones in their possession. These gifts formed the nucleus of the significant collection of Roman sculpture, particularly from the Antonine Wall, housed in the University's Hunterian Museum (Keppie 1979; 2014a) (Figure 9). Although some Roman altars are still landscape features, and a few remain in private hands, the great majority of Roman carved

stones are in museums. In addition to the substantial collection in the NMS, there are a number of pieces in museums in Dumfries, Dundee, Perth, Melrose and Falkirk.

Sculpture, especially inscribed sculpture, is fully integrated into wider studies of the Romans in Scotland and has often played a crucial role (as the Antonine Wall slabs did in piecing together the making of the wall). Usually, however, Roman carved stones have been employed to answer questions arising in other fields rather than be a focus of research, generating new questions, in their own right. The predominant approaches are iconographical and epigraphical. Accounts of individual inscriptions have typically been published in specialist journals but an overview of the Scottish material is most easily gained from the standard corpora: the total of 125 inscriptions then known from Scotland were included in Collingwood and Wright's definitive corpus of *Roman Inscriptions of Britain* (1965), updated by Keppie (1983) to include a further 19 found between 1954 and 1983. Approximately half the total of inscribed stones are also sculptured, i.e. bear figural or abstract decoration, and these, together with a further 100 or so uninscribed sculptured stones (including architectural fragments) were published by Keppie and Arnold (1984) as fascicle 1.4 of the *Corpus Signorum Imperii Romani (Corpus of Sculpture of the Roman World): Great Britain*.

Figure 9: Antonine Wall distance slab from [Hutcheson Hill](#), Bearsden (RIB 2198), commemorates work on a 3000ft section by the Twentieth Legion in AD 142–3. Discovered in 1865 it was taken to North America in 1871 where it was destroyed by fire. It is known only from this plaster cast. H. 0.67m. Hunterian Museum. © Sally Foster

Since the publication of these corpora, new finds have continued to be made and are typically reported in the journal *Britannia*. Notable discoveries include the two highly accomplished altars discovered in 2011 during grave-digging in a cemetery that lies within the site of the Roman auxiliary fort at [Inveresk](#), near Musselburgh. Surely the most spectacular recent find is the so-called '[Cramond lioness](#)', a monolithic 'tomb guardian' found in silt at the mouth of the river Almond (Midlothian) in 1997 (Figure 10). It is a local variant of a typical Roman form but differs in depicting a bound male prisoner being devoured by a lioness. It dates to the late 2nd or early 3rd century AD and would have served as part of the tomb of a Roman military commander or dignitary, connected to the nearby [Cramond Roman fort](#).

Figure 10: Cramond lioness. Roman funerary monument in the form of a tomb guardian lioness. Local features include the savage jaws of the creature and the fact that its prey is a captive male barbarian. Found in the vicinity of the Roman fort of Cramond, it is presumed to have marked the grave of an important dignitary stationed there. Late 2nd/early 3rd century AD. Now in the NMS. L 1.51m. © Trustees of the National Museums of Scotland

Monuments such as these provide firm evidence for the occupying forces of an imperial power—there is no evidence that stone carving was adopted by the local population, even though many of these monuments would have been visible to them in the landscape. Not until the 5th century does stone carving become established in Scotland. The earliest post-Roman carved stone monument from Scotland—the 5th-century Christian inscribed pillar from [Whithorn](#), Galloway—is a product of a continuing Roman tradition lingering on in the zone around the Hadrian's Wall frontier (reflected in aspects of its lettering, spelling and layout: Forsyth 2009).

For further reading, see Section 10.2.

2.3 Early medieval

2.3.1 *The material*

Nearly 2000 carved stone monuments survive from early medieval Scotland (AD 500–1100). These range from unworked boulders incised with simple crosses to magnificent free-standing crosses and cross-slabs up to three metres or more in height, such as those from [Iona](#) (Figure 11), [Ruthwell](#) (Figure 12) and [Aberlemno](#) (Figure 13). The finest, such as the [Nigg](#) cross-slab, rank among Scotland's greatest artworks (see Figure 24; Metric Drawing: Case Study 31). These incised and sculptured stones are decorated in regional versions of the 'Insular' art style common to all the peoples of Britain and Ireland, both Anglo-Saxon and Celtic-speaking. Rich in Christian symbolism, this art combines intricate geometric ornament (interlace knotwork, spirals, key-patterns) with figurative scenes depicting Christian imagery and details of everyday life, including dress, transport and weaponry (Figure 14; musicians in Canmore upgrade example: Case Study 4).

Figure 11: The St Matthew's Cross, Iona, during RCAHMS recording in 1972/3. Crown Copyright: Historic Environment Scotland

Figure 12: 1832 drawing of the Ruthwell Cross by Rev Dr Duncan, engraved by W Penny. Crown Copyright: Historic Environment Scotland

Figure 13: The back face of the Aberlemno roadside cross-slab, including hunting scene. Crown Copyright: Historic Environment Scotland

Figure 14: The battle scene on the back of cross-slab in Aberlemno kirkyard, Angus. Crown Copyright: Historic Environment Scotland

The range of functions of these monuments is wide: some marked significant points in the landscape (boundaries, routeways, ancestral burial grounds), many stood outside at churches or monasteries as a powerful testament to Christian belief and patronage. Some, whether upright or recumbent, marked the graves of prominent people (Figure 15); a smaller number are architectural features, the sole remnants of exceptional churches (Figure 16). Although the great majority of stone monuments were not inscribed, a number bear short inscriptions: in Latin (the language of the Church) or in Gaelic, Pictish, Old English or Norse; using the Roman alphabet (Figure 17), ogham (Figure 18) or runes (Figure 19). Unique to Scotland is an enigmatic system of graphic motifs known as 'Pictish symbols' found on over 250 stones, both unworked pillar-stones and elaborate cross-slabs (e.g. Figures 13, 14, 18, 20). The set of Pictish symbols comprises about three dozen designs. A small proportion of these are recognizable objects and native creatures but most are abstract geometric motifs, the meaning of which remains a mystery.

Figure 15: Meigle Museum in 1953, with a series of Pictish recumbent monuments in front of the cross-slabs. Crown Copyright: Historic Environment Scotland

Figure 16: Slab from Papil, Shetland, interpreted as part of a composite, box-like shrine or other architectural feature. Crown Copyright: Historic Environment Scotland

Figure 17: Face b of the stone from Lochgoilhead, Argyll and Bute, that bears an inscribed alphabet in roman script and, on another face, a short ogham inscription. *Crown Copyright: Historic Environment Scotland*

Figure 18: Reconstructed fragments of the stone from Brandsbutt, Aberdeenshire, with Pictish symbols and ogham script. *Crown Copyright: Historic Environment Scotland*

Figure 19: Norse, rune-bearing cross-slab from Cille-Bharra, Barra, in the Western Isles. *Crown Copyright: Historic Environment Scotland*

2.3.2 Scholarship before the 1990s

The scholarly recording of Scotland's sculpture was put on a firm footing in the mid-19th century (Stuart 1856) but reached its early apogee with Allen and Anderson's *Early Christian Monuments of Scotland* (ECMS: Allen and Anderson 1903), the 'bible' of early medieval sculpture studies in Scotland throughout the 20th century (see J N G Ritchie 1997; 1998; Henderson 1993a). Subsequently, early medieval carved stones were included in the various county Inventories produced by the RCAHMS throughout the 20th century, culminating in the volumes on Iona (RCAHMS 1982) and South-East Perth (RCAHMS 1994a). Individual new finds were published in a various articles in the *Proceedings of the Society of Antiquaries of Scotland*, which also carried occasional studies of aspects of early medieval sculpture studies (e.g. Curle 1940; 1962; Gordon 1956; Lang 1972). Scholarly analysis of early medieval sculpture in Scotland was dominated by a small number of scholars, including Curle (née Mowbray) (Curle 1940; 1962; Mowbray 1936), Stevenson (1955; 1959; 1971; 1981b), Thomas (1961; 1963; 1967; 1971; 1973; 1992) and Henderson (1958; 1967; 1971; 1978; 1982; 1983; 1986; 1987b) (see Nicoll 1995 for detailed bibliographies covering the period up till the mid 1990s).

In 1985, the 1300th anniversary of the Battle of Nechtanesmere galvanized both scholarly and popular interest in the Picts (and focused attention on the [Aberlemno](#) kirkyard stone—Figure 14— which was thought, probably erroneously, to depict the battle). Renewed scholarly interest was reflected in the first interdisciplinary conference on the Picts since the 1953 gathering, 'The Problem of the Picts' (Wainwright 1955), the proceedings of which included important papers about Pictish sculpture (Small 1987). Increasing popular interest led to the foundation in 1988 of the [Pictish Arts Society](#) (PAS). PAS membership includes professional scholars and the general public, and through its lecture series, annual conference and occasional publications (including Nicoll 1995) has done much to stimulate interest in and care for the sculpture of the Picts, and early medieval Scotland more generally. Wider recognition of the work done in the 1970s, 80s and 90s in the recording and study of Scotland's early medieval carved stones, was expressed in the following decades through the award of a number of honours. These reflected not only the personal endeavor and achievements of the individuals concerned, but also the worth attached to the resource itself (Anna Ritchie, OBE 1997; Isabel Henderson, OBE 2002; Ian G Scott, MBE 2014; Tom Gray, Honorary Master of the University of Aberdeen 2015).

2.3.3 A new corpus?

Almost a century after it had been first published, the monumental *Early Christian Monuments of Scotland* was reprinted in affordable paperback format by Pinkfoot Press, with an introductory essay by Isabel Henderson (1993a). This initiative provided an important fillip to the study of Scotland's early medieval carved stones by making the great reference work newly accessible. However, the reprint, valuable though it still was, exposed the extent to which ECMS

was out of date, both in coverage and in approach. Allen's efforts to record all of Scotland's early medieval carved stones were indeed heroic, but *ECMS* did not include everything known in 1903 (for instance, simple cross-marked stones—e.g. Figure 21— are under-represented). There have also been a substantial number of new discoveries in the intervening century, meaning that *ECMS* includes only a little over half of all stones currently known. The three-part classification system adopted by Allen and Anderson was no longer considered useful and indeed, had become a hindrance, focusing overly on the Pictish symbols and insufficiently differentiating the wide range of non-symbol inscribed stones (see Section 3.2.1). The publication in 1984 of the first volume of the British Academy's *Corpus of Anglo-Saxon Sculpture*, presented a new model for sculpture catalogues that scholars in Scotland were keen to emulate. The NCCSS commissioned a working party of scholars to consult on what a 'new *ECMS*' recording all of Scotland's early medieval carved stones to modern standards should look like and their recommendations were set out in a [report](#) submitted in 2005 (EMSSS Working Group 2005). In the following years several collaborative attempts were made to obtain funding for a nationwide recording programme along the recommended lines and incorporating the then newly emerging technique of digital scanning, but these were thwarted by the large scale of the undertaking (Higgitt 2005). More recently, a new benchmark in the recording, presentation and analysis of early medieval sculpture has been set by the three volumes of *A Corpus of Early Inscribed Stones and Stone Sculpture in Wales* (Redknap and Lewis 2007; Edwards 2007; 2013) which have placed greater emphasis on archaeological aspects such as landscape contexts, and monument biography. Both the Anglo-Saxon and the Welsh series have provided a wealth of comparative material for the Scottish stones.

2.3.4 Other recording efforts

A single, unified corpus which covers all early medieval sculpture of Scotland to a consistent standard at least as ambitious as that of the Welsh corpus remains a pressing desiderata. However, opportunistic, uncoordinated efforts to adequately record Scotland's early medieval carved stones have continued apace. Although the programme of RCAHMS county inventories was abandoned, subsequent diverse publications by RCAHMS have prominently featured early medieval stones, e.g. North-East Scotland (RCAHMS 2007a), Canna (RCAHMS 2008a), Angus (RCAHMS 2008b) and Brechin (RCAHMS 2007b). The RCAHMS's recording of early medieval sculpture in the Western Isles and West Highlands was presented as a substantial stand-alone volume (Fisher 2001) which, unlike the others, included sustained analytical discussion of the material. The Canmore database is a major resource (see Section 3.5.4) and there are ongoing efforts to improve its utility to researchers working on early medieval carved stones (Canmore upgrade: Case Study 30; Canmore upgrade example: Case Study 4).

There have been excellent catalogues of regional groupings by independent scholars and academics (Shetland—Scott and Ritchie 2009; Orkney—Scott and Ritchie 2014; Caithness—Blackie and Macaulay 1998; Dumfries and Galloway—Craig, unpublished PhD 1993; [Rosemarkie](#)—Henderson 1990; [Elgin](#)—Byatt 2008; [Fortingall](#)—Robertson 1997). Many of these have featured the interpretative drawings of Ian G Scott (Metric drawing: Case Study 31), or his successor as chief illustrator at RCAHMS, John Borland (Figure 20). Scotland is very fortunate indeed to have such a comprehensive and high-quality set of interpretative drawings of early medieval sculpture. They are a major asset for future research (see Scott 1997 for reflections on drawing this material). Similarly, an extensive and high-quality photographic archive exists thanks to the efforts of RCAHMS photographers (at work in Figure 11) and independent photographer Tom Gray who pioneered techniques of oblique-flash photography for the

purpose (Gray and Ferguson 1997). As befitted the research focus of the time, these photographs are typically only of the carved faces of stones. More recent interest in materiality, carving techniques, and monument biography requires greater attention to the less glamorous backs, sides, undersides and broken surfaces which have their own forms of information to yield.

**Figure 20: The Pictish cross-slab at Fordoun, being drawn by John Borland of the RCAHMS.
Crown Copyright: Historic Environment Scotland**

Publication of local groupings has followed archaeological excavation at monastic sites, incorporating both new finds and re-examinations of existing material ([Inchmarnock](#)—Lowe 2008; [Hoddam](#)—Lowe 2006; [Tarbat](#)—Carver 2005; Carver *et al.* forthcoming; [Forteviot](#)—Hall 2011). A detailed corpus of the large and important collection of sculpture from [St Vigean's](#) (Geddes forthcoming) was associated with a major redisplay of the material in the care of Historic Scotland. Academic research was commissioned by Historic Scotland in association with other redisplay projects at [Whithorn](#) (Figure 21: Yeoman 2005; Forsyth 2003), [Kirkmadrine](#) (Forsyth and Maldonado 2013) and [Iona](#) (Forsyth and Maldonado 2012). While some of the research findings have been presented at academic conferences none has yet been published (though see Forsyth and Maldonado in prep), a situation which reflects systemic challenges inherent in this way of working (see Section 3.5.1).

**Figure 21: The redisplay of early medieval carved stones at Whithorn, Dumfries and Galloway.
© M A Hall**

The piecemeal approach to the recording has succeeded in providing coverage (often at a high level) for the great bulk of early medieval carved stones in Scotland, though there remain gaps. The scattered nature of these publications is a major drawback, as is the ephemeral nature of some of them (e.g. Blackie and Macaulay 1998; Byatt 2008; RCAHMS 2007b; 2008a; 2008b). It is unfortunate that the very important catalogue of south-west sculpture remains unpublished (Craig 1993). In addition to these regional catalogues, there have been handlists and catalogues of sub-categories of sculpture, most notably Pictish symbol-bearing stones (RCAHMS handlists 1985; 1994b; 1999; Fraser 2008; Mack 1997) and simple cross-incised stones (Henderson 1987a; Figure 22).

Figure 22: Example of cross-incised stone, in the graveyard at Calgary, Mull. © Sally Foster

2.3.5 Analysis

In terms of analysis, the field has been dominated by Isabel Henderson who has published a series of important art-historical analyses of Pictish sculpture (see Section 10.3), culminating in the jointly authored *Art of the Picts* (Henderson and Henderson 2004). Her retiral was marked by the publication of a *festschrift* which brought together numerous studies of diverse aspects of Pictish and related sculpture (Henry 1997). Other important art-historical contributions have been made by Fisher 2005, Hawkes (1997; 2005; 2008), G Henderson (2013), MacLean (1985; 1993; 1997), Trench-Jellicoe (1997; 2005) and others (including L Alcock 1993a; Hall 2011; 2012b; Kilpatrick 2011; Kruse 2013; Meyer 2005; 2011) (see Geddes 2011 for a detailed overview of art-historical research).

Since the late 1980s archaeological approaches have been increasingly brought to bear on Scotland's early medieval carved stones (see, for example, Driscoll 1988; Hall 2005a; 2011;

Gondek 2006b) and the field is ever more active and diverse. In addition to works mentioned either above or below, topics addressed in the past 30 years include: Pictish symbol-stones (Inglis 1987; Elizabeth Alcock 1988; Driscoll 1988; Mack 1998; Samson 1992; Forsyth 1997; Gondek 2015), archaeological context (James 2005; Mack 1998); dating (Laing 2000); architectural sculpture (Foster 2015b; Gondek 2015); the importance of fragments (Henderson 2005); stones as expressions of power and lordship (Driscoll 1988; 2000; Forsyth and Driscoll 2009; Gondek 2006) the major collections at [Meikle](#) (Hall 2014; Ritchie 1995); and [Iona](#) (Kelly 1993; Hawkes 2005, 2008; MacLean 1993) and the [Ruthwell](#) Cross (Orton *et al.* 2007; Ó Carragáin 2005).

To mark the 100th anniversary of the publication of *ECMS* an interdisciplinary conference ‘Able Minds and Practised Hands’ was organised by Historic Scotland, the Society for Medieval Archaeology and the National Committee on Carved Stones in Scotland (Foster and Cross 2005). It was the largest conference ever devoted to early medieval sculpture in Scotland, and certainly the most interdisciplinary (Disciplinary collaboration: Case Study 18). A local initiative to raise awareness of the important collection at [Govan](#) gave rise to a conference (Ritchie 1994a), a programme of archaeological excavation, and a series of annual lectures, some of which have touched on carved stones (Crawford 2005; Ritchie 2004; Making a Difference: Case Study 1). Further academic research (Craig 1994; Driscoll *et al.* 2005) has informed ongoing efforts to preserve and present the sculpture, which have in turn prompted further research. Published annual lectures at [Whithorn](#) and at the [Groam House Museum](#), Rosemarkie, have similarly presented research on the wider context of major sculpture collections, as well as directly on aspects of the stones themselves.

2.3.6 *Inscriptions*

Overviews of inscriptions in the roman alphabet were provided by Okasha (Pictland—1985), and Forsyth (southern Scotland—2005; 2009; Figure 17, 23); and there have been studies of individual inscriptions by various authors (e.g. Higgitt 1982; Forsyth 1995a; Will *et al.* 2003; Charles-Edwards 2004). Ogham inscriptions were examined by Forsyth (1995b; 2011; Figure 18). Scandinavian runic inscriptions in Scotland (Figure 19) are included in Barnes and Page’s British corpus (2006) with the exception of the graffiti inside the chambered tomb of [Maeshowe](#), Orkney, which had been covered in a previous publication (Barnes 1994). The inscriptions on the Ruthwell Cross (Figure 12), in the roman alphabet and Anglo-Saxon runes have been the subject of numerous studies (see Orton *et al.* 2007).

Figure 23: Inscribed stone at Kirkmadrine, Dumfries and Galloway (no. 3). Crown Copyright: Historic Environment Scotland

2.3.7 *Research on protecting and recording early medieval carved stones*

Since the days of Romilly Allen, there has been an acute awareness of the vulnerability of Scotland’s early medieval carved stones and repeated appeals have been made to ensure these are safeguarded and preserved, not least by Allen himself (1888; 1895; 1901; Allen and Anderson 1903). Although steps have been taken to address such concerns since the 19th century, it is only comparatively recently that the heritage management of this material has been a subject of research in and of itself. Foster has done much to provoke consideration of these issues (2001; 2005b). The Scottish situation has been considered in comparison with the Welsh (Edwards and Hall 2005) and there have been specific studies on protective coverings (Muir 2005), and approaches to museum display (Yeoman 2005; Hall 2005a). New fields have

been pioneered in a Scottish context by Foster (casts and other reproductions—Foster 2013a; Foster *et al.* 2014; Foster 2015a; Foster and Curtis 2016; see also McCormick 2010) and Jones (meaning and social value—Jones 2004; 2005; 2010; 2011). There have been a number of studies of recording methods (J N G Ritchie 1998; Scott 1997) including traditional photography (Gray and Ferguson 1997) and 3D recording (Carty 2005; Jeffrey 2003; 2005; Lerma and Muir 2014), also of reproductions and casts (see above; Figure 24).

Figure 24: Plaster cast of the front face of the Nigg cross-slab, made in 1894 by Leopoldo Arrighi for the Edinburgh Museum of Science and Art (now destroyed). Crown Copyright: Historic Environment Scotland

2.3.8 Current developments in analyzing early medieval carved stones

As the record improves, and the body of scholarship increases, the need for multi- and interdisciplinary working becomes increasingly apparent. Several major multi-disciplinary collaborative studies have been published on important individual monuments (e.g. [St Andrews Sarcophagus](#)—Foster 1998a; Henderson 1994; [Ruthwell Cross](#)—Cassidy 1992; Ó Carragáin 2005; Orton *et al.* 2007; [Hilton of Cadboll cross-slab](#)—James *et al.* 2008; Stone of Destiny—Welander *et al.* 2003; Rodwell 2013). See also the smaller collaborative studies by Hall *et al.* 2000; 2005; 2011. In addition to art-historical and archaeological approaches, these studies have drawn, for instance, on history, including oral history, ethnography, and social history, as well as various scientific disciplines (Figure 25) (Disciplinary collaboration: Case Study 18). New theoretical and transdisciplinary approaches are increasingly applied (see Section 3.7.2), for instance: ‘biography’ (Clarke 2007; Foster and Jones 2008; Hall 2012a; 2015a); landscape (Inglis 1987; Forsyth and Driscoll 2009; Fraser and Halliday 2011; Gondek and Noble 2011); experiential (Pulliam 2013; Gefreh 2015). The tremendous potential of this material is becoming increasingly evident and there is great scope for future research of all kinds—pursuing existing approaches and developing new ones, and picking up on older questions which have been neglected, for example the question of carving technique which has not been addressed directly since Gordon’s 1956 study of ‘Class I’ Pictish symbol stones. There is also a renewed interest in geometric ornament (Garrett 2009; Hull 2003; Stevick 2011; Thickpenny in prep). Hints at the future direction of the field are provided by a number of PhDs in progress or recently completed: Comparative approach Scotland, Ireland and Sweden (Busset 2016); Southern Scotland and northern England in the Viking Age (Barnes in prep); 3D scanning (Kasten in prep); Key-pattern (Thickpenny in prep); Iona high crosses in the natural and liturgical landscape (Gefreh 2015); Reproductions (McCormick 2010).

Figure 25: Detail of the St Andrew’s Sarcophagus. Scientific analysis identified the white/blue layer as lead-white, likely applied when plaster casts were created from the sculpture in 1839. © Sally Foster

2.3.9 Scotland’s wider context

Art historians working on Scotland’s early medieval carved stones have typically been at pains to elucidate artistic connections with neighbouring parts of Britain and Ireland and, where relevant, further afield (e.g. Fisher 2001; Hawkes 2005; Henderson 1967; 1983; 1986; 1994; 1999a; Henderson and Henderson 2004; Higgitt 1997; Kelly 1993; Lang 1972; Mowbray 1936; Stevenson 1956; Thomas 2013). The most comprehensive attempt to put a Scottish monument in its international context is the various contributions to Foster 1998 ([St Andrews Sarcophagus](#)). Each of the seven International Insular Art Conferences held since 1985 have featured papers on

Scottish material, including sculpture, and this had been an important means of bringing developments in Scottish research to a wider audience art-historical audience (e.g. Alcock 1993; Dransart 2001; Forsyth 1995a; Foster 2013a; G Henderson 2013; Henderson 1987b; Kelly 1993; Pulliam 2013). Archaeologists whose main focus lies outside Scotland are taking increasing account of Scottish material, and scholars working on the Scottish material are increasingly looking furth of Scotland for comparisons (Gotland—Foster 2012a; 2013; Ireland—Forsyth and Driscoll 2009; Ulster and Sweden—Busset 2016).

For further reading, see Section 10.3.

2.4 Later medieval

For the purposes of this exercise, this section focuses on later medieval funeral monuments (1100–1560). See Section 2.5 for architectural sculpture and Section 2.7 for market crosses (since most of the surviving examples are post-Reformation).

2.4.1 *The material*

The most ambitious of the funeral monuments are large-scale canopied tombs, generally with an effigy set on a chest tomb and framed by an elaborated arch (e.g. tomb of Princess Margaret, countess of Douglas, [Lincluden Collegiate Church](#), Dumfries and Galloway: Figure 26; see also Figures 34–5). These tombs were often conceived of as an integral element of their architectural setting, and intended to emphasise the importance of the commemorated individual in life, and to attract the prayers of the passing faithful in death. At the opposite end of the scale are gravestones set into the floors of churches (e.g. Figures 27, 32). There are around 1300 examples of later medieval gravestones recorded from just over 400 sites (Fraser 2013). The most ubiquitous type bearing ‘Calvary cross’ designs (Figure 27). Detailed studies of cross-slabs have been carried out by Peter Ryder in the northern English counties (e.g. Ryder 2001), and he has plans to extend his survey to Scotland (pers comm. Richard Fawcett).

Figure 26: Tomb of Princess Margaret, countess of Douglas, [Lincluden Collegiate Church](#), Dumfries and Galloway, Dumfries and Galloway. *Crown Copyright: Historic Environment Scotland*

Figure 27: Calvary cross graveslab, [Corstorphine Parish Church](#), Edinburgh. *Crown Copyright: Historic Environment Scotland*

Significant loss of material has occurred through post-Reformation iconoclasm, as well as destruction through conflicts and the re-use as building stone (Brydall 1895; Fraser 2013). Today, the majority of stones are no longer *in situ*, except for some rare exceptions that form part of an ecclesiastical structure (Fawcett 2002: Figures 26, 34–5). Distribution is uneven, with larger collections focussed on the ecclesiastical centres of [St Andrews](#), [Jedburgh](#) and [Melrose](#). However, the largest group of surviving later medieval gravestones is in the West Highlands, where they date from the 14th century until beyond the Reformation. There are over 870 pieces at 86 locations, including 108 associated with [Iona](#) alone, and it is arguably the densest concentration of its type anywhere in the medieval European world (Caldwell *et al.* 2010).

2.4.2 *Overview of previous studies*

Funeral monuments have tended to be studied separately, although several studies of ecclesiastical architecture have also considered them (e.g. Muir 1861; MacGibbon and Ross 1896–7), especially where they comprise part of a structure (e.g. Fawcett 2002). Fraser (2013) offers an overview of current knowledge emphasising that, by comparison with early medieval sculpture (see Section 2.3), later medieval gravestones have been a neglected area of research. In the absence of an adequate survey of grave monuments across Scotland we lack a detailed understanding of dating, stylistic variation and design evolution, particularly for graveslabs (Figure 27, 32). While no corpus exists, a database of material is being compiled by Dr Iain Fraser, HES (Fraser 2013, 12). Known stones may also be reassessed through individual projects (e.g. [Adding a New Dimension to Dundee’s Medieval Carved Stones](#)) or by the efforts of individual researchers, such as Iain Fraser’s forthcoming research on Mariota de Moray of Aldie’s incised slab in [Dunfermline Abbey](#). Although gravestones offer strong evidence for regional variations and for masons working in particular areas, only the West Highland sculpture, comprising slabs, effigies and commemorative crosses, has been comprehensively studied and recorded (Figures 28–9). Detailed surveys, first published in the RCAHMS Argyll series of Inventories, were synthesised and interpreted by Steer and Bannerman (1977). Their classification of West Highland sculpture identified five mason schools and documented 109 surviving inscriptions, providing a detailed historical background to the names recorded. Their work built on the longstanding antiquarian interest in this material (e.g. Muir 1861; Drummond 1881).

2.4.3. *Reassessment of West Highland sculpture*

Recent reassessment of Steer and Bannerman (1977) by Caldwell *et al.* (2010) combines archaeological, historical and geological analysis, including petrological examination and magnetic susceptibility measurements (Magnetic susceptibility: Case Study 9). Their focus on identifying quarry sources and transport routes highlighted weaknesses in Steer and Bannerman’s hypothesis of mason schools, dating and stylistic groupings. The 2010 study found issues with the 1977 groupings, which the authors felt did not consistently demonstrate clear stylistic unity or progression across all the works ascribed to the various schools (with exception of the Loch Awe category). Caldwell *et al.* found little evidence to support Steer and Bannerman’s assumptions that the carvers worked in schools or that a strong, and meaningful link necessarily existed between the carvers and major churches. Instead, Caldwell *et al.* make the case that stones are more likely to be quarried locally and once carved could accompany or follow to the deceased’s place of interment. Second, they proposed circumstances where it might be desirable to be buried away from home, for example at sites connected with saints or where a body of clergy was particularly well equipped to offer prayers for their salvation. Finally, Caldwell *et al.* argue that the reputation of a particular carver might mean that artisans travelled considerable distances to undertake commissions. They offer initial thoughts on precedents for West Highland sculpture designs (Figure 28) but their major hypothesis deals with the particular distribution of sculpture which they conclude cannot be understood as mere fashions subject to the laws of supply and demand. Instead, they argue the restricted general distribution of stones reflects the political relations of a society that nurtured a professional caste of warriors. Caldwell *et al.* propose that depictions of swords (Figure 29) are symbolic of this caste and consciously distinctive, rather than depicting mere ‘tools of the trade’ (since documentary evidence suggests medieval warriors fought with axes and bows, which Caldwell points out are poorly represented on West Highland sculpture).

Figure 28: West Highland graveslabs, [Kilmartin Churchyard](#), Argyll and Bute. © Susan Buckham

Figure 29: West Highland graveslab with sword, [Nereabolls Chapel, Islay](#). Crown Copyright: Historic Environment Scotland

2.4.4 Research on other classes of later medieval gravestones

Fraser (2013) outlines the principal classes of later medieval gravestones and their main attributes. With the exception of West Highland sculpture (Figures 28 and 29) and effigies (which exist as both incised slabs Figure 30 and three-dimensional monuments Figure 31), current knowledge remains limited. Accordingly, other categories of stones can typically be briefly summarised. For example, the 90 known coped stones (Figure 32) occur in a wide variety of forms but with few examples found north of Angus. Similarly, Thomson's 2013a study of discoid markers (Figure 33) identified only 12 later medieval stones, which are categorised by a typology that spans the early medieval period to the 19th century. In contrast, there have been several surveys of effigies (Figures 30–31) either as incised slabs or three-dimensional forms (Brydall 1895; Greenhill 1944; 1946; 1976; Lankester and Scott 1981). This research often includes details of tombs that no longer survive outside documentary records and provides information about the identity of the deceased where this is known. Many of those commemorated by effigies were church founders and patrons, including royalty, members of the clergy (Figure 30), knights and, occasionally, their wives. Particular attention has been paid to depictions of arms and armour (Figure 31). This focus when combined with information on heraldry, architectural detailing and inscriptions can help with dating and identifying the deceased but also contributes to an understanding of both commemoration and the history of warfare (Capwell 2005; Melville 2000; Norman 1963). In contrast to England, where the fashion for stone-carved monuments gave way to engraved brass plates, incised effigy slabs continued in production in Scotland beyond the medieval period. Research shows both effigy slabs and three-dimensional forms were often embellished with polychromy and were influenced by continental fashions. In some cases foreign materials and masons were used, most notably for Robert I's elaborate tomb [Dunfermline Abbey](#), of which only fragments now survive (Fraser 2015, Robert the Bruce: Case Study 5). Fawcett (2002, 304–21) provides a detailed discussion of monumental tomb design, including details on location, forms of associated burials, dating and types of designs in churches.

Figure 30: Incised effigy, [Dunkeld Cathedral](#), Perth and Kinross. Crown Copyright: Historic Environment Scotland

Figure 31: Carved effigy tomb to the Wolf of Badenoch, [Dunkeld Cathedral](#), Perth and Kinross. Crown Copyright: Historic Environment Scotland

Figure 32: Coped tombstones, [St Serfs Churchyard](#), Dunning, Perth and Kinross. Crown Copyright: Historic Environment Scotland

Figure 33: Cross-head discoid marker, [Collace Kirkyard](#), Perth and Kinross. © Iain Fraser

2.4.5 Research presented at the Monuments and Monumentality Conference at Stirling in 2011

Fawcett (2013) examined design influences for canopied tombs in more detail as part of a 2010 multi-disciplinary conference on later medieval funerary monuments (Penman 2013a). The conference proceedings contain five papers that include evidence for later medieval practices in

Scotland, including Fraser's chapter discussed in Section 2.4.4. Fawcett notes that although Scottish nobles were clearly influenced by continental tomb designs after 1400, this did not manifest itself as the wholesale adoption of French fashions. He points to several canopied tombs where individual creativity is evident. Interestingly, Fawcett is also able to highlight a group of monuments in north-east Scotland where designs were copied for later monuments over an extended period (for example the tomb of Bishop Gavin Dunbar at [Aberdeen Cathedral](#)—Figure 34—appears to have inspired the one to William Forbes of Tolquhon at [Tarves Church](#), Aberdeenshire—Figure 35). In the same paper he also proposes that some of these tombs were used as Easter sepulchres. The relationship between liturgy and monuments is expanded upon by Holmes (2013) who uses a 13th-century liturgical commentary to interpret how clergy were taught to think about burial during the later medieval and post-Reformation period. Holmes argues the primary purpose of the monument was to provoke passers-by to pray for the deceased above any function of marking social status and that evidence for this can be seen in the tomb's placement within the geography of sacred church spaces. Holmes' paper emphasises how church monuments were at the centre of a lost complex of rituals and remembrance that related to the salvation of the soul. Viewed in this context, Holmes shows how the imagery and metaphor conveyed by commemoration, for example the depiction of vestments, could bear a more particular reading.

Figure 34: Tomb of Bishop Gavin Dunbar at [Aberdeen Cathedral](#), Aberdeen City. Crown Copyright: Historic Environment Scotland

Figure 35: Tomb of William Forbes of Tolquhon, [Tarves Church](#), Aberdeenshire. Crown Copyright: Historic Environment Scotland

In common with Fawcett, Oram's 2013 consideration of bishop's tombs (Figure 34) also reveals evidence for localised responses to widespread changes in European mortuary practices. There are very few written references surviving for Bishop's tombs that document places of burial. A preliminary audit of surviving monuments identified how the placement of bishop's tombs was structured within three categories of cathedrals (Oram 2009). Much practice appeared to follow widespread European trends that supported increasingly individualised responses to burial and commemoration (for example, through interment in private transeptal or aisle chapels). However, Oram found tomb placement at [St Andrews](#) did not follow this pattern, possibly indicating a clear division between pre-plague collectivism and post-plague individualism. Oram argues that the influence of specific cults and local traditions held greater sway at [St Andrews](#). Accordingly he suggests future research should seek more nuanced readings to take into account localised responses to widespread changes in mortuary practices. In contrast to Oram's paper, given the absence of material remains, Penman (2013b) relies on documentary sources to investigate the case for Scottish royal burials adopting 'programmatic' tomb designs. Penman demonstrates how English and continental practices were designed to create a programme of tomb building, embodying ideologies of 'kinship', influenced Robert Bruce and his successors. Stewarts followed suit and placed dynastic relationships as the fundamental element of their tomb design, albeit at different burial sites. Penman sees this long-standing tradition ending with the tomb of James V, when the burial of post-Reformation Scottish monarchs in Westminster Abbey became more closely subject to the influences of English politics and aesthetics.

2.4.6 Priorities for future research

Carrying out comprehensive regional surveys is an essential first step for developing a research strategy for later medieval carved stones. Such surveys need to involve geologists to identify rock types and their sources, enabling a more fruitful consideration of gravestone production and transportation to help identify different masons and trading patterns (Caldwell *et al.* 2010; Fraser 2013).

For further reading, see Section 10.4.

2.5 Architectural sculpture

This section focuses on carved stones that are details of buildings rather than being public monuments in their own right. As a category these have some integrity from a curatorial perspective. Conservation of carved stone elements *in situ* as part of historic fabric, or *ex-situ* fragments that may or not be associated with the place they were created for, can pose specific issues. It also embraces carved stones sometimes found in the grounds of buildings, such as sundials and foundations.

2.5.1 *In-situ architectural sculpture*

The later medieval period (AD 1100–1560) saw large numbers of building campaigns that resulted in ecclesiastical and secular structures of greatly varying scales. In Scotland, with rare exceptions such as the doorway of the round tower at [Breichin](#), *in-situ* later medieval architectural carving generally dates from no earlier than the early 12th century. From this time many of the ecclesiastical buildings, in particular, were embellished with figurative or vegetal carving, as well as with enriched mouldings (Figure 36). At the most ambitious end of the spectrum is figurative carving, sometimes planned as part of complex iconographic schemes (Figure 37), though the majority of such carvings were destroyed at the Reformation, and now tend to survive only as isolated features or as *ex-situ* fragments. In addition to losses at the Reformation and under the Commonwealth, subsequent programmes of church remodelling have also destroyed or masked later medieval carved stones, although new discoveries of surviving material continue to be made, notably through the [Corpus of Scottish Medieval Parish Churches](#). Much of the surviving carved masonry was conceived as decoration to essentially structural features, such as foliate capitals to the arches of doorways and windows, the finials at the apex of pinnacles, and blind arcading or tracery intended to enrich otherwise plain surfaces. Significant worked stonework that fulfils an architectural or structural function, such as window tracery, vault ribs, and arcade piers must also be taken into account (Figure 38). Later medieval carved stones are also an important early primary resource for heraldic information (see for example Richardson 1964).

Figure 36: The Romanesque west doorway of [Kirkwall Cathedral](#), Orkney Islands. Crown Copyright: Historic Environment Scotland

Figure 37: Detail of the south-east angle of [Stirling Palace](#) in 1900 (left), and decorated shaft corbel (right). Crown Copyright: Historic Environment Scotland

Figure 38: Engraving of the interior of [Rosslyn Chapel](#) in around 1900. Crown Copyright: Historic Environment Scotland

Significant academic overviews of later medieval carved stones in their own right are rare, although the work of the medieval stone carver was the subject of the Rhind Lectures for 1949 (Richardson 1964). As in Richardson's case, expertise in later medieval Scottish carved stones was often something that developed through the course of working in a sustained way with the monuments in state care (see also the extensive and more recent outputs of Professor Richard Fawcett, examples of which are listed in Section 10.5). One major source of information is the eight volumes of MacGibbon and Ross which cover both ecclesiastical and secular architecture and include a wealth of detail on carved stones. The castellated volumes were published 1887–92 and the church volumes in 1896–7 (see also Billings 1845–52). Their surveys provide details of historical context, descriptions, sketches and measured plans of buildings throughout Scotland, which the authors visited in person. More recently, Fawcett (2002; 2011) has provided an up-to-date synthesis for the specific development of the medieval church. His work includes discussion of the chronologies and the typological analysis possible for carved stones as church fixtures and fittings including sections, for example, on mouldings and tracery. In addition, there are several examples of thematic studies of particular forms of ecclesiastical carved stones such as sacrament houses (Figure 39; MacPherson 1890; McRoberts 1965), altar retables (Richardson 1928) and fonts (Walker 1887). Holmes (2015) considers how liturgy was reflected in ecclesiastical furnishings, many of which included carved elements. Dunbar's 1999 survey of royal residences in the late medieval and early Renaissance period gives, in passing, a sense of the ways in which carved stones might be employed to highly symbolic effect in more secular contexts.

Figure 39: Detail of sacrament house at [Old Parish Church Cortachy](#), Angus. Crown Copyright: Historic Environment Scotland

Given that the Scottish kirk did not favour sculpture and the royal court had moved to London, the native sculpture tradition of the 16th to 18th centuries has generally been considered not strong: largely ornamental (e.g. Grant 1881) and heraldic carvings progressing into the occasional very sophisticated and elaborate tomb (Clifford 1991; Howarth 1991; see Sections 2.4 and 2.6). But even if not always aesthetically strong, recent research has shown how the ideology supporting the placement of carved stones and figurative sculpture both inside and outside buildings of nobles, academics and merchants, and in their associated gardens and designed landscapes, could be intellectually complex and can offer important social insights (Insh 2014, 54–89; Fraser 2015) (Figures 40–41). Attention has also been drawn recently to how architectural sculpture had confessional uses and, again, needs to be read as part of a larger symbolic landscape (Bryce and Roberts 1993; Dransart and Bogdan 2004).

Figure 40. Examples of 16th- and 17th-century decorated stone lintels at the [Stag Inn](#), Falkland, Fife (left) and [Provost Skene's House](#), Aberdeen (right). Such carved stones could embody messages of welcome, ownership, gratitude and allegiance to God, as well as loyalty to the king (Insh 2014, 82). Crown Copyright: Historic Environment Scotland

Figure 41. Ornamental panels adorn the walls of the garden at [Edzell Castle](#), Angus. Crown Copyright: Historic Environment Scotland

There are of course excellent architectural surveys that embrace carved stones in passing in a range of architectural contexts, e.g. Glendinning *et al.* (1996), McKean (2001), Gow (2006) and the Yale University Press *The Buildings of Scotland* series. This might be something as 'simple' as a carved street name or Ordnance Survey benchmark added to a building.

2.5.2 *Ex-situ architectural fragments*

Currently, no overarching survey has been undertaken to quantify and assess the entire resource of *in-situ* architectural elements and *ex-situ* fragments in Scotland. Up to now, inventories have mainly focused on specific sites, geographical areas, periods and object types. Significant examples include the RCAHMS inventories of Argyll (notably Iona; RCAHMS 1982), incorporating architectural stones together with other classes of carved stones, and [The Corpus of Romanesque Sculpture in Britain and Ireland](#) concentrating on material from the late 11th century to the late 12th century. The latter initiative intends to publish a complete online record of all the surviving Romanesque sculpture. As of March 2016, nearly 2000 entries have been published online for the 5000-plus estimated sites, but only two records relate to Scotland.

Since 1995, a systematic programme of cataloguing, photographing and profiling *ex-situ* carved stones has been undertaken by Historic Scotland (now Historic Environment Scotland) to catalogue material associated with the Properties in Care that it manages on behalf of Scottish Ministers (Márkus 2003) (Figure 42). As of March 2016, this inventory has recorded over 7500 carved stones from over 58 medieval ecclesiastical and secular sites across Scotland. A further 24 properties, with relatively small-sized collections, remain to be fully catalogued in this way. This recording and analysis has improved our understanding of the earlier date, form and development of buildings, and their architectural significance ([HES Explore the Collections](#); Figure 43). It has led to the better protection and storage of the fragments, as well as enabling new research that has informed improvements to site-based interpretation for visitors. Architectural carved collections have been redisplayed at 19 properties following this work, most notably at Dunkeld Cathedral, Dryburgh Abbey, Bothwell Castle and Elgin Cathedral (Owen and Fleming 2016; Elgin Cathedral: Case Study 21).

Figure 42: Cataloguing the *ex-situ* fragments of architecture at properties in the care of Historic Scotland. Crown Copyright: Historic Environment Scotland

Figure 43: The HES Collections website for architectural carved stones, screen dump 26 March 2016. Crown Copyright: Historic Environment Scotland

2.5.3 *Masons' marks*

Interest in masons' marks in Scotland lags behind elsewhere, with no academic overviews and masons' marks just something that tends to be noted in passing, but interest is growing with projects set up that are involving members of the public in locating sites and capturing information. [The Mason's Mark project](#) initiated by Aberdeenshire Council in 2006 and still run by Moira Greig but with an extended geographical remit, is building up an online database of where marks are to be found, but has yet to publish any academic articles. A complementary project has also been initiated by [Iain Ross Wallace](#), a research student at the University of Glasgow, who is focussing on masons' marks in buildings from 1100 to 1300, beginning with buildings in the west of Scotland. The challenge is to use this information to answer questions about the organisation of building and stone-supply industries, including the movement of masons around Europe (cf. Alexander 2007 on Romanesque buildings in England). Greig's work has started to identify some known masons, as well as to challenge phasing of buildings (M Greig pers comm.)

2.5.4 *Fountains, sundials and other ornamental sculpture*

In the early modern period (from the Reformation of 1560 to the Enlightenment, i.e. about 1750), art historians have tended to draw a distinction between architectural sculpture and 'sculpture'. The latter was considered to be a neglected art form when it was surveyed for the 1991 *Virtue and Vision: Scotland and Sculpture 1540–1990* exhibition at Royal Scottish Academy, and its accompanying publication (Pearson 1991a). This project was described as 'pioneering attempt' to explore Scotland's native sculptural tradition, charting when native Scottish sculpture 'came of age', which was considered to be from the second quarter of the 19th century (Clifford 1991). While this 1991 survey filled a gap, it was exclusively art-historical with a focus on sculpture 'of consequence' (*ibid*, 14), largely of the royal court and elite who had the means to patronize sculptors in any sustained way. Architectural carvings in places such as [Rosslyn Chapel](#) (Figure 38) and [Stirling Castle](#) were acknowledged to demonstrate the masons' tradition (*ibid*, 10) and some 'sculptures' were designed for architectural settings, increasingly so in the 18th century (Baker 1991). Recent research has explored the iconographic programme of the sculptural decoration on the exterior of Stirling Palace (Figure 37; Harrison 2011).

Carvings in this period were produced in many media (a reminder of the need to take care in erecting boundaries between carved stones and other material artefacts in any period). They could also be produced by foreign masons, or under foreign influence (masons made good use of printed media), and some sculptures were also imported into Scotland.

Although it is generally perceived that carved stone featured little in the visual culture of early modern Scotland, the national adoption of Protestantism combined with rising wealth among the nobility and merchant class led to an increased desire for elaborate garden monuments. The rise in popularity of carved stone garden features stemmed specifically from the Protestant belief that decoration should have purpose. This hypothesis led to the commissioning of many fountains and, more frequently, sundials (Figure 44).

Marilyn Brown's recent monograph on the lost gardens of Scotland references freestanding stone sculptures appearing at various locations throughout the early modern period (Brown 2012). The most comprehensive catalogue of 17th- and 18th-century Scottish sundials was, however, produced by Andrew Somerville (Somerville 1987; 1990). Somerville's list is particularly useful because it records both surviving and lost sundials. By including the latter, Somerville builds upon Thomas Ross' original 19th-century account of Scottish sundials still standing (Ross 1890). Somerville splits the sundials into three categories: lectern, obelisk and facet-head. Due to their comparatively smaller number, there is no equivalent to Somerville's catalogue for early modern Scottish fountains. The popularity and co-existence of fountains and sundials during this era in Scotland serves as a reminder of the early modern Scottish elite's increased interest in science.

Figure 44: Late 17th-century sundial at [Asknish House](#), Argyll and Bute. Crown Copyright: Historic Environment Scotland

Not to be overlooked is the assemblages of architectural fragments and sculptural elements collected together and built into residences, particularly country houses and their gardens, in the 19th and 20th centuries. These 'spolia' might be brought to Scotland after the Grand Tour, imported, or sourced locally. William Burrell is probably the most famous exponent of this brief fad, which can also have a strong American connection. At [Fyvie Castle](#), among a wide range of carved stone artefacts imported from the Continent, the NTS has a large collection of Venetian

carved stone, probably 13th to 19th centuries, both built into the exterior of the early 20th-century racquets court and freestanding in the grounds. At [Leith Hall](#), Charles Leith-Hay built various 16th-/17th-century architectural fragments of likely Scottish provenance into the exteriors of his late 19th-/early 20th-century additions to the building (pers comm. Shannon Fraser). The Hilton of Cadboll Pictish cross-slab was moved to the American Gardens of [Invergordon Castle](#) in about the 1860s (other carved stones were collected in the Castle), while Sir Walter Scott had earlier in the 19th century acquired the [Woodrae cross-slab](#) and built historic sculptures from Scotland and beyond into [Abbotsford House](#) and gardens (see Figure 88). This is important material in its own right, but also represents a fascinating development of elite taste in Scotland, in a tightly-defined period that merits further research.

For further reading, see Section 10.5.

2.6 Gravestones

This historiography considers gravestones from the start of the early modern period (1560) to the 20th century (see Sections 2.2 to 2.4 for earlier periods). ‘Gravestone’ and ‘graveyard’ serve as umbrella terms. Historic graveyards have been defined as places set aside for the disposal of human remains, which may or may not be associated with commemoration, and date from the later medieval period to sites in current use (Buckham 2006, 31). Gravestones are monuments or structures located within a graveyard that mark, or comprise, the place of disposal of human remains and/or commemorate the dead. The vast majority of gravestones are carved stones, although other materials can be used in their construction and design, and in some cases gravestones may be composed entirely of other materials (for example iron, terracotta, wood etc.). Internationally, gravestone studies are an established research area (see Tarlow 1999, 14–18; Mytum 2004), however this historiography will focus on research employing Scottish material or investigating aspects of Scottish culture.

2.6.1 *The material and accessibility of existing information*

After the Reformation in the late 16th century, a range of new gravestone forms began to appear in churchyards and subsequently within other types of graveyards. Forms included mausoleums (see Figure 53), mural monuments (see Figure 48), table-tombs (Figure 45), flat stones (Figure 46) and headstones (Figure 47). Their numbers remained relatively small until the later 18th and 19th centuries when there was a boom in erecting gravestones, particularly headstones (Tarlow 1999, 112; Mytum 2006, 101). Different monument types enjoyed defined periods of popularity and some could even be revived. For example, some later medieval forms, such as altar-tombs and coped stones (Figure 32), came back into fashion in the mid-19th century. Many 17th- and 18th-century gravestones bear highly detailed ‘vernacular’ carvings that often employ symbols of mortality (Figures 45, 47) and immortality, trade emblems (Figures 46–7), portraiture and religious scenes (Figure 52). Other monuments may bear heraldic arms (Figure 48). Carvings may reflect local or regional styles, and until the 19th century were usually cut from local stone. Gravestone inscriptions offer a resource for social history, place-name studies, local history and genealogy. With the development of the printing press, 19th-century lettering styles began to move away from script-influenced forms (Thomson 2001, 351). At about this time the number of mass-produced machine-cut marble and granite gravestones in more sculptural forms (Figure 51) and marketed through printed pattern books increased. In the

20th century foreign, rather than local, stone became increasingly popular and with the introduction of lawn cemeteries gravestones became less elaborately designed.

Figure 45: Table-stone with mortality carvings, surrounded by headstones, [St Ninian's Old Churchyard, Stonehouse](#), South Lanarkshire. © Susan Buckham

Figure 46: Flat (or ledger) stone dated 1822, with mortality symbols and gamekeeper trade carvings, created from locally quarried slate, [Keil Chapel](#), Lismore and Appin, Argyll. © Susan Buckham

Figure 47: Headstone with carvings denoting the trade of the deceased, portraits and mortality symbols, Calton Old Burial Ground, Edinburgh. © Susan Buckham

It is hard to gain a comprehensive oversight of the number and variability of gravestones at a national level. Currently, it is difficult to put an exact or even ballpark figure on the number of gravestones that survive. The SAFHS [online list of burial sites](#) offers a comprehensive dataset of over 3,500 graveyards but it does not include the number of gravestones within each location. In 2001, the cemetery manager for the City of Edinburgh Council noted that the Council was responsible for 39 graveyards containing approximately 115,000 memorials (Bell 2002, 30). Research suggests a significant number of stones may also be buried below the ground in graveyards (see Buried Tombstones: Case Study 35). At [Govan Old Churchyard](#) just over 25% of stones recorded in a 1931 survey are no longer visible on the ground today (Buckham 2015b, 97), however grass marks indicate a number lie below the turf.

Our understanding of Scottish gravestones is fragmentary, with existing research on Scottish gravestones often inaccessible being unpublished, out of print or held locally. The extensive literature on gravestones, including local guide books produced by community groups (e.g. Watters 1998; SUAT 1991; Carluke Parish Historical Society 2005), has not been drawn together, for example in bibliographies (Wells and Bishop 2005 being a notable exception). Published academic studies span a range of disciplines, for example, local history, archaeology, art, architecture, family history, social history, theology and geology, but there is an absence of joined-up and interdisciplinary studies to knit existing research together. When work is undertaken as part of a wider research interest (for example for a particular geographic area, family, building or historical period) it can be difficult to quickly establish whether graveyards form part of the study or not. Gravestones are closely connected to their graveyard setting, yet many studies of graveyards fail to include a summary of the gravestones they contain. Conversely, many gravestone surveys (often incorrectly described as graveyard surveys) include insufficient information about the graveyard landscape as a whole (Buckham 2002, 64).

2.6.2 Recording graveyards: the work of antiquarians, local societies and individuals

Tarlow's description of British graveyard studies as 'overwhelmingly an amateur and provincial pursuit' holds true for much Scottish material (Tarlow 1999, 16). The recording carried out over the last 200 years, mainly by local volunteers, has rightly been celebrated for raising awareness of the artistic, historic and genealogical appeal of gravestones (Ferguson 1999; 2002; Farrell 2001). Recent research on early modern gravestones indicates that a while large proportion of this material has been lost many of monuments can be reconstructed wholly or partially from antiquarian sources (for example Monteith 1704; Jervise 1875–79; Cruikshank 1941; pers comm. Kelsey Jackson Williams). Without these records we would not be in a position to study and, to some extent, understand a part of this corpus that no longer exists. At the same time, existing

gravestone surveys, whilst prolific in number and offering (as yet undetermined) potential for future studies, have also been shown to hold limited scope to be collated and analysed to gain an overview of cultural significance and condition (SUAT 1999; Buckham 2002). Difficulties in drawing this information together largely stems from incompatible recording methods and terminology (see Section 3.4.1). Inconsistent classification limits comparative analysis which can establish chronologies, identify regional trends and refine dating using stylistic evidence.

Notwithstanding the above, several studies, distinguished by their intention to provide a full and well-documented survey, do possess a strong research potential and make valuable contributions to wider knowledge. For example, Betty Willsher's unpublished field notes summarise the regional characteristics and differences in carvings on 18th-century gravestones. Her analysis draws on extensive fieldwork and is documented by a photographic archive (the field notes and photographs are held in the National Record of the Historic Environment collections, formerly the National Monuments Record of Scotland). Similarly, Flora Davidson (1977) surveyed all surviving 17th-century gravestones in Angus and the Mearns (her inventory has recently been updated but is not yet in publication). Several graveyard studies set out site-specific practice in a way that enables comparative analysis. Their specific strengths are clarity about which stones are excluded or included in the survey, and the nature of documentation, including where stones are located as well as the quality of recording. For example, Beveridge's 1893 [Crail Churchyard](#) survey (Figure 48) combines photographs with written records (Histories in Wood and Stone: Case Study 22; see also MacDonald 1936 with its highly detailed descriptions of stones at St Andrews). Beveridge and MacDonald also carried out documentary research into the main people commemorated on each stone but without any synthesised prosopographical analysis. In more recent years there has been a trend towards providing more systematic records. For example, initially family history societies tended to record only pre-1855 stones, however in 2002 the Scottish Association of Family History Societies, which represents all family history societies in Scotland, suggested that its members standardised their protocols and include all stones at a site.

There are relatively few examples of analysis applying gravestone data, beyond initial quantification to illustrate primary commemorative trends (e.g. Willsher 1985, 27–38; Proudfoot 1998). More recent studies have integrated gravestone evidence with wider documentary analysis to develop comprehensive local social histories (e.g. Cutmore 1996; Young 2002; Gullane and Dirleton History Society 2009). Graham 1958 is notable as one of the very few early studies that sought to answer a defined research question, in this case the design precedents and influences for the introduction of headstones as a particular class of monument. The direction of research has developed little from its early focus on descriptions of gravestone form and design, with brief discussions of symbology, heraldry, historical context and biographies of those commemorated (as can be seen in the *Proceedings of the Society of Antiquaries of Scotland*). Often gravestones were selected as 'interesting', usually on the grounds of aesthetics or age, but without any deeper reflection on what specific values they embody or how representative they may be of wider practices. Without any contextual or comparative analysis, information remains 'ahistorical' and questions concerning the ability of gravestones to hold social meanings and to communicate particular cultural values remain unasked.

Figure 48: Mural monument of James Lumsden, with a central heraldic caving on the pediment, St Mary's Parish Church, Marketgate, Crail, Fife. This tomb commemorates James Lumsden of

Airdrie who died in 1598. Photograph taken c.1890 by Erskine Beveridge as part of his survey of [Crail Churchyard](#). Crown Copyright: Historic Environment Scotland

2.6.3 Recording and researching graveyards: the work of heritage bodies

Significant progress in Scottish gravestone research has been made over the last 15 years. Prior to this, the main surveys were carried out in the RCAHMS regional inventories. These surveys included individual gravestones, initially only those pre-1707 in date, on the basis of their aesthetic merits. Graveyard surveys to evaluate conservation priorities carried out by local authorities and heritage organisations have developed various recording systems to allow sites to be compared on a consistent basis (e.g. [Aberdeenshire Historic Kirkyards Project](#); PKHT [Historic Churchyards project](#); conservation strategy for graveyards within the Clyde and Avon Valley Landscape Partnership Area, Buckham and Fisher 2013, Figure 49). In 2005, Historic Scotland and the Council for Scottish Archaeology's Carved Stones Adviser held a workshop attended by 30 individuals with a professional or amateur interest compiling, maintaining or using graveyard records. The workshop aimed to gain wider feedback on the usability and effectiveness of the CSAP graveyard recording methodology, including the criteria to create a summary record of a site's gravestone assemblage, and to create a working definition for 'historic graveyards' (Buckham 2006). More recently, initiatives fostering engagement between local communities and professionals leading to co-production and co-curation of resources have included gravestone recording (e.g. Archaeology Scotland's [Adopt-a-Monument project](#); [ACCORD](#)). Forthcoming guidance on graveyard interpretation produced by Archaeology Scotland's Adopt-a-Monument project and Kirkyard Consulting offers useful guidance to help improve public engagement.

Figure 49: Delamination on sandstone headstone, Glassford Churchyard, South Lanarkshire. This burial site was surveyed to assess its cultural and natural values as part of the Clyde and Avon Valley Landscape Partnership's graveyard conservation strategy. © Susan Buckham

Research commissioned by Historic Scotland has established guiding principles and best practices techniques for graveyard conservation, including gravestone repairs and dealing with unstable stones (Maxwell *et al.* 2001; Historic Scotland 2003). The scoping report for the Edinburgh Graveyards Project identifies the main conservation management issues for urban graveyards and considers the potential for addressing these through improved local authority management and increased community stewardship (Buckham 2013a). However, there are some notable gaps in heritage-led research. For example, the potential use of gravestones for a controlled study of stone decay has been recognised and while Scottish data has been assembled, it has not been analysed although such studies have taken elsewhere (Inkpen 1999). Of greater concern is the lack of study given to gravestones' cultural significance in order to reflect upon their full range of potential values and to find holistic ways to assess their importance. This includes the qualitative investigation of current social values to build on existing quantitative surveys (for example Buckham 2013a; Buckham and Fisher 2013; Buckham and Dakin 2007). In addition, research is needed to help interpret gravestones at an assemblage and landscape level (Buckham 2015; 2016), rather than simply identifying individual gravestones of aesthetic and historic merit. Regional studies are beginning to frame research questions to advance our understanding of graveyards (Farrell 2001; Buckham 2015a). Priorities include characterising regional variation in gravestone design and use, and exploring how this may be influenced by local graveyard management or by the capacity of gravestones to express social identities, as well as reassessing historical sources to better understand data bias, shifting

perceptions of the social value of gravestones and how commemoration operated within wider funerary behaviour.

2.6.4 *Academic studies and theoretical approaches*

The major study of Scottish gravestones is Sarah Tarlow's 1999 research, which is comprehensively framed by theories underpinning a 'historical archaeology of death'. This work, which uses survey data from Orkney, sets out to explore the evolution of attitudes towards western burial and commemoration. Tarlow's research is one of a small number of studies to quantify baseline trends over time for gravestone numbers, their various design elements, inscription content and identities of those commemorated, which has enabled comparative analysis with international datasets (for example Mytum 2006, 96). In particular, her study considers how mortuary behaviour may be shaped by emotional responses to death. Tarlow's work provided a welcome counter balance to previous analysis that has concentrated on use of gravestones for competitive social display. Her engagement with emotion as a fundamental element of social and cultural meaning and experience has proved highly influential upon gravestone analysis and archaeological research more generally. Tarlow identified no other Scottish studies grounded within an 'archaeology of death' framework. Similarly in 2004, McFarland observed that Scotland, unlike England, had been left out of the 'thanatological revolution' that had taken place in death studies over the last two decades. More recently, multi-disciplinary interest in Scottish death, including gravestone studies, has increased through a series of conferences held at New College, Edinburgh. Although this momentum is yet to be reflected in published work, research priorities have been identified to advance an appreciation of modern Scottish death, something which future gravestone research is well placed to contribute towards (Buckham *et al.* 2016).

Several studies have explored some of the priorities outlined in Section 2.6.3, notably the role of gravestones in mediating social identity. Questions of whether a distinctive 'Scottishness' in commemoration practices can be observed within migrant communities following the diaspora have been explored by several scholars but this remains an important priority for future research (MacLean 2014; Mytum 2009). For example, George Thomson's 2006 study examines how gravestone lettering might be used as an indicator of cultural diversity. This paper first addresses the methodological issues posed by differentiating between creativity, naivety and low skill in carving (Figure 50), which builds on Thomson's earlier methodological studies of inscriptions (e.g. Thomson 2002). Thomson concludes that, unlike in other areas, the Scottish masons who emigrated to New England abandoned the stylistic traditions of their homeland to develop new gravestone designs that reflected their new cultural identity. Notions of 'Scottish' identity, particularly with a Gaelic dimension, have also been investigated through the use of Celtic revival iconography (Celtic Revival: Case Study 15). The role of gravestones as indicators of social class has formed the basis for several studies. These include Cutmore's 1996 investigation of the reuse of the early medieval carved stones at Govan by local landowners (see also Buckham 2015b) and R Scott's 2005 overview of monuments commissioned by the middle classes at Glasgow's Necropolis (Figure 51).

Figure 50: An example of an inscription with vernacular style lettering on a headstone at New Lanark Burial Ground, South Lanarkshire. © Susan Buckham

Figure 51: View of [Glasgow Necropolis](#) taken in around 1875 by Thomas Annan, note the gravestone with a sculptural form at the left hand side. *Crown Copyright: Historic Environment Scotland*

Scholarship on 17th-century Scottish gravestones, including a recent PhD (Insh 2014), has considered the social impact of design and reception (see also Bath and Willsher 1996). Bath and Willsher show the influence of printed material, in particular the works of Francis Quarles, on vernacular headstone designs featuring religious scenes (Figure 52). Insh 2014 demonstrates that tombs of this era were part of a wider post-Reformation visual culture in which spatial arrangement was the key to interpreting images. Characterizing particular designs as ‘frontispiece’ tombs, she argues that these designs were based on monumental arches depicted in European prints, with their form intended to convey the experience of passing. Insh contends the monument’s symbols were laid out in a logical order that revealed much about the life story of the deceased and, furthermore, their future story in death. The commissioning of monuments and their design influences also forms the basis for several architectural histories (Donaldson 1987; Howard 1996). However, Ian Gordon Brown’s 1991 research on David Hume’s tomb is notable for tracing influences upon its design at the time of commission but also for identifying shifts in how the monument was perceived over time (Figure 53). He interprets subsequent literary depictions of the monument as reflecting changing social attitudes to Hume and his religious beliefs. Spicer and Raeburn have both investigated the impact of the Reformation upon commemoration and burial practices. While Spicer (2000) considers the emergence of burial aisles, Raeburn (2012) assesses the influence of the Protestant work ethic upon memorialisation and its links to changes in church doctrine, and wider funerary practices and social structures more generally.

Figure 52: Detail of headstone to John Service (died 1637), [Holy Rude Church](#), Stirling. The carving is based on illustrations from Francis Quarles *Emblems* published in 1635. *Crown Copyright: Historic Environment Scotland*

Figure 53: Circular mausoleum of David Hume and distinctive row of walled burial enclosures, Calton Old Burial Ground, Edinburgh. © Susan Buckham

The innovative research themes and approaches, such as biographies, materiality and landscape, currently being applied to early medieval carved stones are well suited to gravestones. However, limited research has yet been completed although there are isolated instances of gravestone biographies and long-life graveyard histories. One such example is Thomas Ashley’s 2011 study of how Edinburgh graveyards were popularly perceived over the long 19th century using the evidence of city guidebooks (Ashley 2011; for other examples of a biographical approach see Boyes 1999; Buckham 2015b). Research to distinguish and define different types of graveyards on the basis of their historical development and the cultural values they embody has been considered in detail for England (Rugg 2000; Ray *et al.* 2014). This approach is proving influential upon Scottish research particularly in terms of the how gravestones contribute to the landscape character of graveyards (e.g. Buckham 2015b; 2016).

For further reading, see Section 10.6.

2.7 Public monuments

This historiography covers the early modern period (AD 1500–1815) to the later modern period (AD 1815 to end of WW2). Carved stones within the category of public monuments include market crosses (Section 2.7.4), boundary markers and milestones (Section 2.7.3), as well as stones with a more symbolic and commemorative function such as war memorials (Section 2.7.1) and statues and architectural monuments (Section 2.7.2; see also Withers 2001 and Clifford 1999 for general overviews of this category from history and art-history perspectives).

2.7.1 War memorials

We lack a precise figure for the number of Scottish war memorials that are entirely, or predominantly, carved stones (Figure 54) since the available datasets also include monuments composed of other materials. Between 2006 and 2013, the Scottish War Memorials Project, which was carried out by volunteers and co-ordinated by Scottish Military Research Group, recorded over 5,000 Scottish war memorials. This figure includes 1,480 civic memorials, 1,131 church memorials, 190 School memorials, 840 memorials to individuals, and 344 regimental and unit memorials (www.scottishmilitaryresearch.co.uk last accessed 1 April 2016). This dataset contrasts with 2792 Canmore entries (identified using the search term 'war memorial') and 1801 entries (located using the search term 'Scotland') on the [War Memorials Online](#) database. Other recording programmes include The University of Stirling's '[Lest Scotland Forgets: Recording the Nation's Great War Memorials](#)' project. This initiative seeks to identify and record all forms of physical memorial or act of memorialisation of the Great War, from 1918 through to the present day.

Figure 54: War Memorial, [Galashiels Road, Stow](#), Scottish Borders. Crown Copyright: Historic Environment Scotland

Scottish war memorials date from the early 19th century. Their introduction was influenced by a resurgence of interest in Scottish history and a popular interest in Celtic traditions arising from a Victorian fascination with Highland culture (Historic Scotland 2013, 6; Celtic Revival: Case Study 15; Figure 54). Early examples include the monument to 309 fatalities among Napoleonic Prisoners of War at the [Valleyfield Paper Mill in Penicuik](#) and the monument at [Balmaclellan Church](#) in Dumfries and Galloway recording the names of five soldiers who lost their lives in the Crimean War. Sandstone and granite are the most commonly used stone types but imported marbles might also be employed for sculpture, while slate may be adopted for inscription panels (Historic Scotland 2013, 11).

A great deal of work has focussed on war memorials. This historiography is concerned with research on Scottish examples, rather than studies of British or wider commemoration. The centenary of WWI prompted work on several fronts. In January 2013, the First Minister launched the Centenary Memorials Restoration Fund and in the same year Historic Scotland produced guidance on the maintenance and repair of war memorials (Historic Scotland 2013). Numerous national bodies and local authorities have produced interpretation and educational materials (for example www.scotlandsfirstworldwar.org ; www.scran.ac.uk/database/record.php?usi=005-000-006-018-C ; www.aberdeencity.gov.uk/planning_environment/planning/conservation/pla_war_memorials.asp).

Hay's 1931 account of the [Scottish National War Memorial](#) in Edinburgh (Figure 55) was published four years after it opened. This was primarily intended as a description of the

structure and an account of its establishment for those unable to visit the memorial in person (Hay 1931, v; for a more recent account see Macmillan 2014). The aesthetic importance of this building is demonstrated by its inclusion in the main overviews of Scottish art and architecture (e.g. Macmillan 1995; Glendinning *et al.* 1996, MacDonald 2000). More recently, MacLeod (2010a) explored how the memorial functioned as a figurative representation of national identity, evoked by the building's reflections of history, empire and religion, as well as through the actual process of its construction and opening. MacLeod also explores resistance to this collective memory by comparing the construction of the national monument to the war memorials established by local communities (MacLeod 2010b).

Figure 55: [Scottish National War Memorial](#), Edinburgh Castle, Edinburgh. Crown Copyright: Historic Environment Scotland

Academic interest in British and European war memorials largely took off during the 1990s (for example King 1993; Winter 1998). There are relatively few early studies of Scottish war memorials. A notable exception is an unpublished PhD thesis (Bell 1993) that examines the symbolic meanings and values held by WWI war memorials in terms of the changing attitudes they conveyed towards life and death. Bell's 1993 work, which focussed on Glasgow, appraised the artistic and architectural merits of monuments by grouping them into three categories: those designed and executed by memorial masons, examples by created by sculptors or memorials by architects. More recently, Elaine McFarland (2010) examined monuments to the South African War, a hitherto overlooked area of research on 20th-century war memorials (Figure 56). McFarland proposes that the dichotomy of previous studies that either adopt the 'grief school's' emphasis on personal mourning or more 'functionalist' interpretations of war memorials as conduits of political ideas negates the plurality of memory and the multi-layering of the commemorative experiences. Her analysis of both the process and results of commemoration practices linked to the South African War highlights a diversity of responses that resists a joined-up or monolithic ideology of imperialism. McFarland contends that while the process involved a close interrelationship between Scottish civil society and the military establishment, ultimately the messages conveyed by commemoration voiced each party's distinct set of needs and aspirations rather than expressing a shared vision.

Figure 56: Postcard of the [South African War Memorial, Ludgate, Alloa](#). Crown Copyright: Historic Environment Scotland

Future research priorities include studies to better understand the current social values placed on war memorials particularly in light of the engagement created by the recent centenary of WWI. Rich case study biographies would help to explore how memorials evolve over time to suit new social and political needs. The question of how conservation measures intersect with ideas of authenticity, aesthetics and social values is of particular interest for war memorials as examples of historic carved stones in light of the Commonwealth War Graves Commission's approach to management and maintenance.

2.7.2 Statues and other public commemorative monuments

This section primarily deals with civic statues (Figure 59) and symbolic architectural monuments enriched by carvings and statues (Figure 58) erected during 19th century. The resurgence of interest in direct carving (without the assistance of maquettes or pointing machine) during the 20th century is noted but not expanded upon since the existing literature predominantly deals

with individual artists rather than carved stones as a body of material (however see Pearson 1991a for a more thematic discussion of Scottish sculpture). Scottish examples of 20th-century carvings include Peter Randall-Page's *Body and Soul* (1994–6) on Edinburgh's Royal Mile. Purely abstract free-standing sculptures exemplified by the aforementioned work are common from the mid-20th century onwards. A more conceptual approach is illustrated by Ian Hamilton Finlay's garden at [Little Sparta](#), which contains many poetic sculptures created in collaboration with various stone carvers. The contemporary idea of sculpture as installation lends itself to have multiple forms regarded as a single site-specific work, as well as offering opportunities to recycle older carvings (Figure 57).

Figure 57: Sidney Birnie Stewart's three 1950s carved relief panels from the façade of Gracemount High School, Edinburgh, (demolished 2003) were modified with poems by Liz Niven and installed as standing stones, *Landwards*, in the new school's garden. © Dianne King

The total number of carved stones within this general category is unknown. In April 2016, [Records](#) of the [Public Monuments and Sculpture Association](#) (PMSA) suggest there are 406 examples of public, or outdoor, sculptures and monuments within Glasgow alone (see also McKenzie 2002). However, this figure also includes monuments composed of materials other than stone. Thematic recording projects include a database of commemoration linked to Robert Burns produced by the University of Dundee and University of Glasgow's [Centre for Robert Burns Studies](#).

It is said that Scotland, in common with elsewhere in Britain, went 'statue mad' in the second half of the 19th century (Whatley 2000). Rodger uses a case study of [McCaig's Tower, Oban](#), to suggest it was a uniquely Scottish aspect of this trend to employ architecturally influenced monuments as public or civic commemoration (Rodger 2014). Research on public commemorative monuments has tended to focus on its symbolic use to reflect collective ideas of national identity and on its contribution to the built form of cities that convey the particular 'the spirit of the age'. Whatley (2000), for example, considers statues to Burns in Scotland and worldwide with the Scottish diaspora erected after the centenary of his birth in 1859. He places this practice within the wider European trend of commemorating literary figures and heroes linked to tourism, which created a demand for 'destinations of interest'. In contrast, Carter Mckee views the creation of large urban monuments to Burns (Figure 58) as symbolic of the creation of a Scottish cultural identity during the emerging British Empire (Carter Mckee 2013). Similarly, Coleman (2014) focuses on how memorialization of prominent historical figures (in the case of Scotland William Wallace (Figure 59), Robert Bruce and Covenanting martyrs) enabled European, even transatlantic nations to define their own collective character and distinctiveness.

Figure 58: [Robert Burns' monument Regent Road, Edinburgh](#). Crown Copyright: Historic Environment Scotland

Figure 59: [William Wallace's statue and ornamental urn, Dryburgh](#). Crown Copyright: Historic Environment Scotland

Historians have tended to adopt one of two positions with regards to Scottish national identity. Some scholars suggest that in this period, Scotland's contentment within the Union saw many Scots glorifying English national history above their own (for example Ash 1980; Kidd 1993).

Others, including Coleman 2014, argue instead that it is possible to hold a historically-based sense of self identity that embraced Union but that at the same time was assertively Scottish. Coleman makes his case by arguing that the historical characters selected for public commemoration can all be read as figures symbolizing struggles for independence and against various tyrannical forces. Accordingly, these provided shared 'British' values at the same time as inducing a sense of national confidence and Scottish pride.

Another example used to investigate how Scottish national identity is mediated through public commemoration is the [Wallace Monument](#). Despite commemorating a figure famous for opposing English rule, this monument is interpreted as memorializing the qualities that Scotland brought to the Union of 1707 (Withers 2001). This project's first design was rejected after a public uproar over its visual unsuitability to its setting but also because of its 'ambiguous symbolism', which appeared to reference nationalist agitation (Smailes 2014, 85). The [National Monument on Calton Hill](#) in Edinburgh provides a further perspective on how particular groups may reject rather than identify with the proposed collective remembrance of historic events. Gifford's 2014 study reveals how various proposals for the National Monument failed to engender a collective national feeling due to contested local politics (see MacLeod 2010b for a similar discussion of tensions between local and national issues with regard to the [Scottish National War Memorial](#)).

Future research offers an opportunity to identify all public commemorative monuments that are carved stones and to assess whether these possess any particularly significant characteristics. This might include, for example, exploring how their materiality may be used symbolically to convey specific values and meanings. Such a project would be well suited to a multi-disciplinary and inter-disciplinary approach. As most modern monuments in Scotland were erected well after the events they commemorate this raises questions about the processes by which a national public memory is created and how people's relationships with the past can shift over time. What are the social and public values of these monuments to current communities (for example the attempts in 1994–5 to remove the statue to the first duke of Sutherland atop Ben Bhraggie in Sutherland: Withers 2001)?

2.7.3 Boundary stones, milestones and wayside markers

Boundary or 'march' stones (Figure 60) mark the extent of authority over an area of land, whether an administrative unit (such as the extent of town's land or other type of area, such as the [sanctuary associated with Holyrood Abbey, Canongate, Edinburgh](#)) or private property (estate markers). Canmore holds records for over 1003 examples of boundary stones. So far, this category of carved stone has not been the direct focus of academic studies. Public interest in boundary markers is underlined by community-based recording projects (for example Munro and O'Grady 2015) and local authority tourist trails (for example City of Aberdeen Council [Aberdeen's March Stones Trail](#)). Research carried out for the Aberdeen March Stone Trail reveals boundary markers can have complex biographies and may comprise not only of carved stones. Initially the boundary markers around the periphery of the Aberdeen evolved from natural features and simple cairns into a systematic network of inscribed carved stones. A 1525 account of the city's boundary refers to several stones including features described as 'saucers' and others with various holes. Potentially these depressions were filled with lead stamped with either the town's mark or seal. Research notes how by 1790, this system was replaced with the series of lettered and numbered stones that survive today ([Aberdeen's March Stones Trail](#)).

Figure 60: [Boundary Stone 22, Westfield Farm, Aberdeen](#). Crown Copyright: Historic Environment Scotland

Canmore contains 648 entries for milestones (Figure 61), while [The Milestone Society](#) database contains over 900 records. Many more examples are likely to have been removed or destroyed during the early part of WW2 as part of efforts to counter an anticipated invasion. The recording of milestones has not been systematic, nevertheless several local interest groups or individual amateurs have progressed regional ‘gazetteer-style’ recording projects (for example for Fife see Darwood and Martin 2005; www.wildflowersplanted.co.uk/milestones/index.shtml and for Ayrshire see www.ayrshirehistory.org.uk/milestones/index.htm). A fragment of a Roman milestone, discovered near [Ingliston](#) in the late 17th century, represents Scotland’s earliest surviving example (see Section 2.2) however, the majority of milestones date to the 18th to 20th centuries. These stones are typically associated with the 18th-century military roads and the emergent network of canals and turnpike roads in the 19th century.

Figure 61: [Milestone with benchmark, Lower Largo, Fife](#). Crown Copyright: Historic Environment Scotland

Milestones occur in a variety of forms and can differ in the complexity of information presented (Wallace 1911). By the 19th century, road milestones may be made from stone or cast iron or a combination of these materials. Milestones may also bear incised Ordnance Survey benchmark symbols (Figure 61), a form of carved stones in their own right. Research into milestones as a group of monuments is limited, although 18th-century military examples have been studied as part of wider analyses of the military roads network (for example Wallace 1911). Equally a handful of regional-level analyses exist, with Fife particularly well documented (for example Stephen 1967; Darwood and Martin 2005). A good number of stones survive in East Fife as when all wayside markers and the cast iron caps from the milestones were removed at the outset of WW2 the local authority catalogued and arranged for their safe storage and replacement after the war (Fife Council, 2006). In 2006, Fife Council undertook a programme of preservation and restoration its collection of milestones and wayside markers.

2.7.4 Market crosses

From the foundation of Scotland’s burghs in the 12th century, market (mercat) crosses were erected or reconstructed as iconic expressions of the social and economic status of a town and its inhabitants (Figure 62). Found across Europe, the Scottish ones are distinctive in their architectural composition, style and iconography, which normally included religious and heraldic emblems. Not only were these symbols of a burgh’s right to trade, and where they did this, they became places used for a variety of community events, ranging from making public announcements, festivities and dispensing of law.

Until the recent PhD (and associated popular account) of L Thomson (2000; 2004), there has been little serious academic study of market crosses, or the related crosses found in graveyards, some of which became market crosses or fulfilled some similar functions (e.g. McCulloch 1857; Drummond 1861a; 1861b; Small 1900; Black 1928; Mair 1988). According to Thomson, only about 20 Scottish later medieval examples survive, with the majority dating to the 16th to 18th centuries, and some 19th-century reconstructions. Many were destroyed or are now fragmented. Most of the survivors, some of which have moved, are vulnerable to weathering

and a host of human activities that possess the potential to damage the crosses or their setting. Their archaeological context has scarcely been considered (this parallels the tendency to list rather than schedule them in terms of designation). Thomsons' research, which is available online, begins with a valuable literature review that addresses the historical context, architectural characteristics and survival of Scottish market crosses, in the context of such monuments elsewhere in Europe. It also reviews the effects and mechanisms of stone weathering and soiling, stone conservation practice and policy, techniques for recording and mapping stone condition and risk assessment methods. The focus of her original research, however, is on the development of a risk assessment model, i.e. addressing conservation needs.

Figure 62: The restored late-medieval market cross at [Culross](#), Fife. Crown Copyright: Historic Environment Scotland

For further reading, see Section 10.7.

2.8 Heritage and conservation

This historiography aims to highlight some of the trends and pulses of activity in relation to heritage research as it relates directly to carved stones in Scotland. Other, broader heritage and conservation literature will feature in Sections 3–6, which in their thematic approach embrace all aspects of heritage management and conservation (see Section 1.4).

2.8.1 Historical perspective

From the late 18th century, an interest emerged in the protection of early medieval carved stones, culminating in the 1890s with the Society of Antiquaries of Scotland's creation of a national corpus, published in 1903 (Allen and Anderson 1903; see Section 2.3). Early efforts to record gravestones were also stimulated by the desire to encourage better protection (e.g. Jervise 1875–9). To secure the future of carved stones, many 19th-century owners patriotically gave them to the National Museum of Antiquities in Edinburgh, at a time when this was only significant archaeological museum in Scotland. There were also local initiatives to secure the preservation of monuments, as at Meigle and Govan (Buckham 2015b). As more monuments came into care, the state and others heritage bodies acquired monuments that comprised of or contained carved stones. No sooner was the Ancient Monuments Protection Act passed in 1882 than some of the earliest (and controversial) casework for the first Inspector of Ancient Monuments involved finding ways to protect carved stones on the sites they had been found on, rather than pass them to museums (Foster 2001). With this Act the collecting practices of those looking after monuments and those managing museums collided since there was now an active drive to preserve stones locally. How to house and display collections of carved stones was also an early concern at monuments in state care (e.g. St Andrews: Foster 1998b). Such heritage activity related to carved stones is not much documented in published sources until the end of the 20th century, although government files in the National Archives of Scotland have potential as a largely untapped source. Although archives and other sources, such as Kirk Session records, can contain some useful information (Boyes 1999), the research value of this information is presently largely untested.

The last decade of the 20th century and first decade of the 21st saw Historic Scotland, the lead government agency for the historic environment, give carved stones a prominence. In 1999 a joint meeting of the Ancient Monuments Board and Historic Buildings Council convened to

discuss post-Reformation gravestones, while in 2000 the Ancient Monuments Board took the preservation and presentation of Christian monuments as its theme (as did the Ancient Monuments Board for Wales in 2001). The various HS initiatives reflected the combined efforts of the Technical Conservation Research and Education (TCRE) Division under Ingal Maxwell and Ancient Monuments Division (AMD) under Professor David Breeze. For the latter ‘carved stones’ was an identified thematic strand with staff who took an overview of it. It is no co-incidence that this is the time when the NCCSS was founded. Inspectors in the AMD led on the production of government policy and guidance for carved stones (Figure 3; Scottish Executive 2005; a development of the 1992 policy only published as an Appendix in Maxwell 1994) and an interpretation plan for carved stones across HS’s estate, an attempt to raise the profile of the resource and engender more joined up thinking and working across the Agency (described in Foster 2002b; 2005a). The AMD also produced a succession of short but attractive guidance leaflets for owners and others to inform them about the significance of the monuments on their land and to advise them on how to look after them (Figure 63). However, it is notable that HS never produced anything in a similar vein to English Heritage’s 2011 *Designating Listing Selection Guide: Commemorative Structures* guidance to help assess the significance of individual stones. Around the same time, the group in the AMD dealing with the collections at monuments in state care, under Richard Welander, began research to evaluate the extensive *ex-situ* architectural fragments surviving at the monuments, a long-term strategic initiative that is now starting to bear impressive fruit (see Section 2.5; Elgin Cathedral: Case Study 21). As part of the national WWI commemorations, Scottish Government launched a [Centenary Memorials Restoration Fund](#) to support the conservation of war memorials of all types and dates in Scotland.

Figure 63: Historic Scotland information leaflet from 2001 offering guidance on carved stones. Crown Copyright: Historic Environment Scotland

TCRE, the universities and others it worked with were strong proponents of stone conservation research (not specifically carved stones). Part of a wider international research community of interest (see e.g. Ashurst and Dimes 1990; the SWAPNET network; International Congress(es) on the Deterioration of Stone, meeting for the 13th time since its inception in the 1970s in [Glasgow in September 2016](#); ICOMOS [International Scientific Committee for Stone](#)), they also initiated a lot of complementary research on related materials, important for composite monuments. This is not the place to produce a review of wider stone conservation literature (see Henry 2006; Doehne and Price 2010) but it is notable that the focus of HS scientific research in relation to carved stones was gravestones. The literature that TCRE produced is now dated (see Section 2.7 for an assessment of this work and the identification of gaps). The present research growth area is consolidants (for earlier research see Young *et al.* 1999).

TCRE commissioned Research Reports, Technical Papers and Technical Advice Notes in relation to understanding stone decay (weathering, the impact of biological growths, in particular), preventative and remedial treatments (such as removal of graffiti, use of biocides) and the effectiveness of treatments (stone cleaning and its consequences). The development of techniques for monitoring the condition of carved stones, assessing risks and identifying priorities for action was and remains an issue (e.g. Thomson and Urquhart 1999; Thomson 2000; Condition monitoring at Ormaig: Case Study 37). There is a useful history of TCRE’s interest in gravestones and graveyards in Buckham 2002, including the establishment of the Carved Stones Adviser Project (CSAP) in 2001, a joint initiative with AMD, and TCRE’s commissioning of a

national assessment of gravestones and graveyards (SUAT 1999). One role of the CSAP was to evaluate the Historic Scotland *Practitioners Guide* (Maxwell *et al.* 1997). This led to the identification of new areas for guidance, such as Health and Safety, the HS electronic graveyard leaflets, and the establishment of the Graveyard and Cemetery Liaison Group (which ended in 2006, with the Carved Stone Adviser post), which acted as a cross-sector advisory group for Health and Safety and other policy development. HS organised a conference on graveyards (Dakin 2002) and CSAP devised literature on recording (including condition adapted from the Carved Stones Decay in Scotland Project: Yates *et al.* 1999), funding and research. Historic Environment Scotland has more recently produced shorter INFORM Guides and Short Guides to provide practical advice for a wider readership about some of these issues. See Section 10.8 for details.

In recent years HES developed, in the form of the architect Dr Michael Burgoyne, and has retained to a degree, a significant amount of expertise in the conservation of rock art sites. Pooling and sharing this knowledge, along with that of independent researchers working on rock art projects, including those involving volunteers (notably Tertia Barnett), is highly desirable.

2.8.2 Some key themes

As identified in Section 1.3, from a heritage perspective, carved stones stand out as being things that can move from being portable to fixed and that means they are treated in different contexts as ‘artefacts’ and ‘monuments’, things to which different values and heritage practices are associated. Since most carved stones can technically be moved (even bedrock), much of the heritage discourse surrounding the protection of carved stones has focused on the pros and cons of whether they are best preserved *in situ* (which in this context does not just mean their original context, but where they are presently found, since value attaches to their later biographies too: Jones 2004, 66). While recent research has highlighted this issue, its history in Scotland and its legacy (Foster 2001; 2010a; Jones 2004), the current implications of this ‘schizophrenic’ identity need addressing further, not least for legal protection and ‘ownership’ (Section 5.2).

Social value now has to be factored in too (see Section 4). Jones’ research on Hilton of Cadboll produced recommendations for Hilton of Cadboll, early medieval carved stones and for heritage management in general. Among these it reinforced the desirability of keeping (early medieval) carved stones as close as possible to their historic locality but made the point that, even where the stated heritage practices might align with this approach (Breeze 2000), the rationale was largely based on historic and aesthetic value rather than social value (Jones 2004, 66); her work revealed the role of carved stones in the relationship between community and place, how the threat of removal of carved stones can exaggerate this relationship, and how failure to research and act on social values in such contexts inevitably leads to tensions between different communities of interest (Contemporary social value: Case Study 14).

If stones are not moved then the conservation strategies to preserve them *in situ* usually involve material interventions, possibly to the fabric of the stone but most likely to its immediate surroundings. By the 1970s and 1980s, Scotland was notable for the number of early medieval monuments around which shelters were erected, to preserve them *in situ*, most notably [Sueno’s Stone](#). This approach inevitably begs questions about its short- and long-term efficacy (Muir 2005; Sheltering monuments: Case Study 17), aside from issues with impact on aesthetics, other

values and physical access, all of which are scarcely researched (Jones 2004, 66). The impact of such events—the intersection between material transformation of a carved stone, scientific interventions and cultural value—has not yet been explored, although qualitative research in relation to Scottish buildings has found that decay is integral to an appreciation of value and hence significance, so heritage science needs to be sensitive to this (Douglas-Jones *et al.* in press; Science, value and material decay: Case Study 8). Understanding of the impact of conservation measures and display in museums contexts is also a gap.

A related heritage issue that is beginning to be explored is the substitution of replicas for relocated stones, old and new, digital and analogue (Figure 64; Jeffrey 2015; Foster and Curtis 2016). Aspects of their production have been researched, but processes in the late 20th century are not well documented (Bryce and Caldwell 1981). Replicas remain an important tool in the heritage managers' tool box, and with new digital technologies they can be produced in many new ways (Section 3.3.2), but many questions remain to be addressed, not least their impact on values and the heritage implications of this (see Section 4.3.5). Authenticity and carved stones, including replicas, is discussed in Section 5.3.4.

Figure 64: The carved outcrop on the top of Dunadd fort in Argyll and Bute is covered for its protection from weathering with an accurate copy. Crown Copyright: Historic Environment Scotland

An issue explored with different success rates by HS and others working on rock-art projects in Britain, such as NADRAP, ERA and RAPP, was the extent to which volunteers can provide information that will usefully help with the monitoring of carved stones (e.g. Barnett and Sharpe 2010; CARE project: University of Newcastle 2014; Rock art recording: Case Study 29; see Section 6.2.9). This boils down to the question of whether volunteers can provide reliable information at the micro- as opposed to micro- or mega- level of detail (see Section 5.2.4). By way of comparison, the evaluation of the Scotland's Rural Past project showed that even after good training of community archaeologists in surveying sites, professional skills were still needed (Scottish Cultural Enterprise 2011, 43).

A particular challenge in producing this overview has been that many of the advances in heritage conservation practices and associated research is undertaken by heritage bodies working on monuments in their care and they tend not to publish their work in peer-reviewed publications, although it may be well documented on internal files. This contrasts to policy and guidance literature that is aimed at external as well as internal audiences. For hints of the perhaps routine but cumulatively significant work we are often dependent on the grey literature of popular or technical magazines, such as *Historic Scotland* (Figure 65), *Focus*, *History Scotland*, *Archaeology Scotland* and *Discovery and Excavation in Scotland*. A further body of very significant grey literature is the conservation management plans and other similar monument and site-specific documents that are written for the benefit of monument owners and other bodies and that are not normally published, online or otherwise. There is a lot that could be done to review that body of research, put it into context and build on its outcomes (see Doehne and Price 2010, 66–74 on how to do this effectively). A related factor is that there has been relatively little by way of major strategic research projects in relation to Scotland's carved stones.

Figure 65: Whether explicitly or otherwise, short articles on carved stones have often been a feature of the Historic Scotland magazine for its Friends. Crown Copyright: Historic Environment Scotland

Further, as Sections 2.1–7 have shown, much of the past research has been driven by a desire to acquire knowledge about carved stones in the past (their historical significance—see Section 4.3.1). Heritage requirements have led to some of that research, with the recognition of the benefits of new research to inform visitor interpretation schemes (The Iona stones redisplay: Case Study 26). However, so far very little research on carved stones in Scotland has been driven by the need to understand their values (but see Jones 2004), strategic research to inform protection has been patchy, and there has also been very little research on the practices and consequences of carved stone conservation, interpretation, display, and presentation. The 2003 Able Minds and Practised Hands conference and its associated publication (Foster and Cross 2005; Disciplinary collaboration: Case Study 18) is probably the only occasion in which a large group of heritage professionals drew on their diverse and extensive institutional back histories and reflected on the implications of this, at a single moment in time, for all aspects of the heritage conservation cycle in relation to a select body of carved stones in Scotland (but note Barnet and Sharpe 2010 for rock art in Britain; Figure 66).

Figure 66: Barnet and Sharpe (2010) offers a very useful overview of many issues relating to heritage management and conservation of prehistoric rock art in Britain. © Oxbow Books

Carved stones possess an innate value as vehicles to study the history of conservation techniques, particularly since WW2 (Boyes 1999), and the evolution of heritage practices more widely. This is of value in its own right, and because it informs what future directions for carved stone research need to be more generally as well as informing the specifics of a particular conservation case. For instance, several studies suggest the potential for gravestones to act as a laboratory to study decay processes (Inkpen 1999) but analysis has not taken place that has fed back into strategies for graveyard management (see Section 5.3.4).

Overall, this means that there was a concerted but now thoroughly outdated strategic effort to address the conservation needs of Scotland's early medieval carved stones at the turn of the 19th and 20th centuries and there was some useful, but in practice only starter, initiatives in relation to gravestones and graveyards at the beginning of the 21st. Work on collections of *ex-situ* carved stones is impressive but is limited to monuments in state care. That still leaves a significant gap in research in relation to (rockfast) rock art (see Section 5.3.5). This is a developing field of international enquiry but one that already includes some long-term and significant programmes of research (Doenhe and Price 2010, 58–63; Darvill and Fernandes 2014a; see Section 2.1). Heritage activities in Scotland in relation to rock art have largely been driven by the desire to make sites more accessible to the public and to improve their setting (Foster 2010b).

The effectiveness and impact of all the recent heritage initiatives have not, to the best of our knowledge, been critically researched, although visitor satisfaction at new carved stone facilities has presumably been evaluated by the providers in some instances. This applies to initiatives such as Archaeology Scotland's Adopt-a-Monument Scheme, local kirkyard projects (see examples in Section 2.7), and HLF-funded landscape partnership that includes projects relating to carved stones. These are welcome initiatives that have generated bodies of guidance and best practice but which may not be easy to access, such as conservation management plans.

Meanwhile, Scotland is presently in the vanguard of digital recording for conservation science and reconstruction purposes, as seen in CyArk's work at [Rosslyn Chapel](#), but this is not without considerable issues (see Section 3.3.2). HES continues to review its technical conservation research priorities, and these include gravestones (Ewan Hyslop pers comm.)

For further reading, see Section 10.8 (heritage and conservation) and Section 10.9 (digital recording).

3. CREATING KNOWLEDGE AND UNDERSTANDING

3.1 Introduction

Knowing what we have is the starting point of the heritage conservation cycle. The ways in which we capture, classify and collate information about carved stones reflects, however, not just our current understanding of them but the academic and scientific values we associate with them. Thus there is a cyclical relationship between the creation of knowledge and our values (Section 1.4). New understandings may alter or refresh how we value certain stones, which in turn, may prompt new questions, both about the stones themselves and the formation of values attached to them. The key to effective recording, therefore, is that it be research driven and that it recognise this relationship between knowledge and value (which in turn needs researching in its own right: see Section 4).

Surveys should capture the gamut of what is currently thought to be significant about specific types of carved stones. This may go far beyond recording the physical attributes of the stone itself and may include its immediate context, wider landscape setting and social practices (past and current) linked to it. We should be ambitious and seek, not only to address our current questions, but to enable the continued development of new perspectives. Section 2 provides a sense of the diverse range of agendas that have driven past recording programmes, the diversity of recording practices, and where the imbalances lie. For example, interest in recording gravestones has been propelled more by local, rather than academic, interest in inscriptions or 18th-century carving whereas the creation of typologies for gravestones (e.g. Tarlow 1999), as for the majority of carved stones types, has arisen largely from academic analysis. This is just one example of the lack of awareness of collaborative opportunities between researchers using the same datasets and researching similar themes. The same might be said for aligning conservation- and heritage-led research on carved stones (which may be very case-specific) with more strategic, research agendas.

The emerging interest in carved stones using the research themes of materiality, biography and landscape (see examples cited in Section 2) illustrates how our understanding can be developed through analytical frameworks but also highlights the many gaps in knowledge that prevent this analysis being carried out for stones of different periods.

By creating records of carved stones we capture data that, when disseminated, enables us to acquire further knowledge about the resource. Within this process we need systems to classify data and schemes to organize it on the basis of similarities and difference. By placing records into different types of datasets we can make them available, with the format depending on the intended application of information. Increasingly we are drawing on digital technologies and scientific techniques to capture evidence from carved stones.

The creation of records requires the development of agreed taxonomies and the organisation of information into datasets. The main datasets for carved stones are Canmore, corpora, handlists, thematic datasets and audits.

See also Section 8.1 Table 1, Section 8.2 Table 1 and Section 8.3 Tables 3, 5 and 9.

3.2 Theoretical perspectives

3.2.1 *Legacy of existing scholarship*

The nature and scope of past research on carved stones varies greatly between periods and types: in some areas there is a substantial legacy of past study, in others much less work has been done (see [Section 2](#)). Since 2012 the [NCCSS](#) has maintained on its website an [annual bibliography](#) of published research and online resources on carved stones in Scotland. [Section 10](#) of this ScARF provides extensive bibliographies of existing research in each sub-field of Scottish carved stone research.

Even when researchers are aware of existing studies, there are problems of access. The interdisciplinary interest of carved stones means that relevant material is widely scattered in disparate, sometimes obscure, sources. The accelerating drive towards Open Access publishing via the web means that in future academic research is more likely to be readily accessible, but there remain difficulties in accessing existing scholarship. While progress has been made in digitizing complete runs of many relevant journals, less attention has been given to digitizing out-of-print books or other hard-to-access material (e.g. short-run publications by local museums or special interest societies). Another difficulty concerns access to relevant research hidden in ‘grey literature’ (i.e. materials and research produced by organisations for internal use but not published via commercial or academic channels). While much could be done to disseminate such material via the web, there remain hurdles, e.g. issues of copyright, intellectual property, commercial sensitivity, and privacy, not to mention the sustainability of platforms when material has been produced by commercial outfits, rather than institutional bodies with an obligation to maintain archives.

Further problems of access arise from the often highly specialist nature of many publications which are aimed at a specific discipline and therefore assume certain background and/or technical knowledge. There is a need for authoritative yet accessible overviews (capable of reaching researchers in other disciplines and also a non-academic audience), yet researchers may find it hard to prioritize the production of these over primary research, especially, given current pressures on UK academics to prioritize publications eligible for periodic assessments of research quality (Research Assessment Exercise/Research Excellent Framework). The number of researchers with the necessary skills and knowledge is few in comparison with the scale and significance of the carved stone resource and there is an ongoing need to build capacity in the relevant specialist skills.

There is much basic research to be done and many fundamental questions remain unresolved. While adequately recording bodies of material to a modern standard is a *sine qua non*, it is wrong to view recording and analysis as separate and sequential steps ([Section 3.4.1](#)). Rather there is a close cyclical relationship between the two: decisions regarding what to record and how to record and present it are based on understanding of the material and how it is valued; while the nature of the record shapes which questions can be asked of it. Even where bodies of material have been well recorded there is danger in viewing this as an end in itself and it is essential to continue to apply new perspectives to well-known material, returning to existing data and existing scholarship.

Current research builds on the foundation of past work not only in terms of knowledge but also in terms of the cultures of thought which have evolved in each sub-field, implicitly or explicitly influencing what is studied and how. In order to discriminate between the helpful and the unhelpful aspects of this legacy it is necessary to understand the biases and agendas of past scholars (and to acknowledge that current work is also subject to biases and agendas of which we may not be fully conscious). The most rigid divisions have tended to be chronological, with few studies looking at themes/issues across period boundaries, though there are signs that approaches developed in relation to one period are being applied in others (e.g. Gondek 2015).

While the central message of this ScARF is that there are advantages to be gained from a cross-cutting ‘carved stones perspective’, these gains must be balanced against the risks in separating carved stones from other aspects of their contemporary context (Histories in wood and stone: Case Study 22). Due attention is required to the implication of these and other methodological decisions, such as, for instance, categorical distinctions of ecclesiastical versus secular, urban versus rural, architectural versus non-. While these can be meaningful and helpful divisions, problems arise if categories harden to ‘silos’, inhibiting fresh perspectives which can bring new insights. Similarly, the ethnic labels (e.g. ‘Pictish’, ‘Viking’) which have been invoked in the study of early medieval sculpture in Scotland are a two-edged sword. On the one hand they serve to focus scholarly attention and attract popular interest, while on the other, their use risks oversimplifying a more complex, nuanced and fluid reality.

Case Study 22: Histories in wood and stone

The focus on Scotland in this ScARF is a pragmatic one shaped by institutional remits and funding mechanisms but we acknowledge that modern national boundaries are irrelevant to much of the material under consideration. For example, it is a matter of regret that the British Academy’s Corpus of Anglo-Saxon sculpture takes the modern boundaries of England as its limit, thereby omitting from the catalogue the significant body of Anglo-Saxon sculpture from southern Scotland (including the [Ruthwell Cross](#)) which is included only as ‘comparative material’. It is encouraging that, by contrast, two current studies take an explicitly cross-border perspective (Whitworth 2016 in press; Barnes in prep). Questions of ‘what is Scottish?’ also bear on material furth of Scotland, e.g. the [Scottish cemetery in Kolkata](#), India, founded in 1820 and containing over 1600 headstones and monuments, almost all made in Scotland ([The Scottish Cemetery in Bengal: Digitising the Untold Empire](#): Figure 67).

Figure 67: A Scottish team compiles condition reports on burial monuments in the Scottish Cemetery, Kolkata, Bengal, on behalf of the Kolkata Scottish Heritage Trust, 2008. *Crown Copyright: Historic Environment Scotland*

Since the 1980s there has been a growing desire within archaeology to explore the utility of intellectual frameworks originating in other humanities and social sciences (including philosophy, psychology, anthropology, literary studies, etc.) for the interpretation of archaeological data, including carved stones. An important consequence of this been the demonstration that even apparently ‘common sense’/empirical approaches are shaped by implicit theoretical standpoints: there really is no escape from theory. The application of ‘theory’ to archaeology has opened up radically new ways of thinking about the material. These are centred on an exploration of the relationship between people and things. In relation to carved stones, the relevant approaches can be subsumed under three broad headings:

materiality (Section 3.2.2), biography (Section 3.2.3) and landscape (Section 3.2.4) (see Williams *et al.* 2015a). These three have much in common, indeed, there is considerable overlap between them, and they are to be viewed as complementary not exclusive. Neither are they to be viewed as negating or superseding established disciplinary approaches to carved stones (e.g. ‘traditional’ art history) for these are far from exhausted: a holistic view should encompass them all.

3.2.2 Materiality

Archaeological thinking about ‘materiality’ provides a framework to explore how carved stones are made and experienced rather than simply focusing on their meaning (although analysis may help to reveal this). This theoretical approach originated in philosophical interest in structures of embodied human experience and consciousness (phenomenology) which spread to other social studies, including archaeology in the 1980s. Theories of materiality emphasise that people encounter and engage with carved stone in a multi-sensory way that includes not just vision but also touch, smell, and hearing. People’s engagement with monuments is not only or indeed primarily intellectual, but also physical and emotional, and takes place within a wider social, cultural and physical context (Tarlow 1999). The on-going dynamic of these human-artefact relationships may be complex and hard to recover but it is through these interactions that meaning is created (Figure 68). Carved stones are viewed as being imbued with ‘agency’ in the sense that they are understood to act on people (though, of course, it is understood that in reality the agency is that of humans acting on other humans *via* carved stones).

The physical nature of the material itself is the starting point, but from the viewpoint of human engagement. Materiality is thus a fundamentally humanistic perspective. In looking for the human stories behind monuments, materiality is a useful angle for presenting monuments to the public because the narratives it yields can resonate more readily with contemporary audiences who, in a post-Christian world, may lack the knowledge or interest to make sense of iconography. A materiality approach is likely to give heightened attention to the processes of a monument’s creation, not just its reception by an audience. These may include practicalities of quarrying and transporting stones, the way in which the physical nature of the stone itself enables or constrains carving, the conception and design of carvings, the technical processes of carving itself, the status of carvers and their relationship to designers, patrons and audiences.

Archaeological approaches to materiality are inherently interdisciplinary, but they could benefit still further from a wider range of dialogue. Materiality is an area in which cutting-edge archaeological-science and social theory may work hand-in-hand. There are a variety of destructive and non-destructive methods of analysing the material from which objects are made and the traces of natural and human action on stone surfaces (Section 3.6). Materiality’s focus on the experiences of artists/artisans can benefit from ethnographic comparisons and engagement with contemporary craft practitioners. To date this is an under-exploited seam, but Edinburgh College of Art’s Stone Project—which drew on the testimonies and experiences of contemporary fine-art sculptors in stone together with those of traditional stone-carvers in other parts of the world—constitutes a valuable resource for future work in this area (Stone Project: Case Study 10).

Figure 68: Detail of early medieval cross-slab (Iona no.75) made from mica-rich hornblende schist which sparkles in sunlight, recalling a metalwork cross. © Katherine Forsyth

Case Study 10: Stone Project

3.2.3 Biography

Older studies have tended to privilege the moment of initial creation/construction of an object (its 'birth'), with less interest directed at the later stages of its 'life' (or indeed, multiple 'lives'). A more holistic view would see it as impossible to fully understand a given object through a focus on any one aspect of its existence. The notion that things could be thought of as leading social lives derives from social/cultural anthropological theory (Appadurai 1986), but the metaphor has been readily adopted by archaeology (e.g. Gosden and Marshall 1999) where it has encouraged a focus on an object's modifications, movements, changes in meaning, neglect, re-purposings, decay, destruction, etc. It is a people-focussed approach which emphasizes human investment in objects and encourages consideration of social aspects of artefact production and consumption alongside the purely functional. By focussing on the values attached to stones in the past, the biographical approach blends seamlessly into a consideration of the contemporary values of stones (see Section 4.3.3). The biography of an object extends to replicas and representations of it, and citations of its form in other monuments (Figure 69). These can be taken to constitute its 'composite biography' (Foster and Curtis 2016).

Figure 69: Grave of Lieut. the Hon. Alfred Walter Charteris, d. 1873, [Aberlady](#) kirkyard, East Lothian, closely modelled on early medieval cross from [Soroby](#), Tiree. © Copyright [kim traynor](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

The biographical approach is particularly appropriate for the investigation of carved stones, whether as individual objects or classes of object. The durability of the raw material is one reason why carved stones can be seen frequently to have lived multiple lives (Clarke 2007): they accrue meaning and significance through their longevity. Examples include: prehistoric cup-marked stones re-used in the early middle ages as Pictish symbol-stones; Roman sculpture reused as spolia in later structures; early medieval sculpture cut down into building blocks and reused (sometimes multiple times) in medieval and modern buildings; early medieval cross-slabs re-used as gravestones in the early modern period, as at [Govan](#), or, famously, [Hilton of Cadboll](#) (Foster and Jones 2008); stones of all periods incorporated in the gardens and designed landscapes of the gentry. Value can take a negative form: neglect is an aspect of biography, as is casual or directed damage (e.g. as with the iconoclastic destruction of monuments following the Reformation). Changes in meaning may arise independently of any changes of form or location: e.g. a prehistoric cup-marked stone, or Pictish symbol-stone may be pressed into service where it stands as a parish boundary marker (Fraser and Halliday 2011) (Figure 70).

Figure 70: Successive phases of significance: pair of prehistoric standing stones at [Nether Corskie](#), Dunecht, Aberdeenshire. The one on the right bears a prehistoric cup-mark and has been incised in the early medieval period with a pair of Pictish symbols. The stones stand near a three-way parish boundary (post-12th century). Crown Copyright: Historic Environment Scotland

Figure 71: Pictish cross-slab from Fowlis Wester, Perthshire, fitted with iron 'jougs' for the restraint and public humiliation of petty offenders (post-Reformation). Crown Copyright: Historic Environment Scotland

The biographical approach has been used extensively in the study of Scotland's early medieval carved stones, less so for other periods. The leading exponent is Hall who has conducted biographical studies of several stones, alone (Hall 2005a; 2011; 2012a; 2014; 2015a) and in collaboration with others (Hall *et al.* 2000; Hall *et al.* 2005). Other important biographical studies include Clarke's work on Pictish symbol-stones (Clarke 2007), and Foster and Jones's work on the Hilton of Cadboll cross-slab (Foster and Jones 2008) (Monument biography: Case Study 16).

There is considerable overlap between biographical and materiality approaches (Section 3.2.2). Each investigates the on-going story of human interaction with monuments and the traces these may leave on the stone itself, e.g. in the wear patterns that may result when stones are repeatedly touched, rubbed, kissed as part of religious devotion, knelt on, smeared with substances, or chipped to remove relics/mementos. Similarly, the biographical approach is sympathetic with a landscape approach: there is a close affinity in studying the landscape palimpsest and the life histories of objects, indeed the two should be linked.

Biography has an important role to play in understanding reverse taphonomy. In archaeology, taphonomy (from the Greek *taphos*, meaning 'burial') is the study of what happens to material from the moment of burial (by any means, not necessarily funerary or even deliberate) until its discovery by archaeologists. By investigating the biological or cultural processes which affect the preservation and recovery of material from the archaeological record, taphonomy yields insight into the pre-deposition state of material and how representative a recovered sample might be. Reverse taphonomy is, as the name suggests, a method of working backwards from recovered material, using an understanding of the forces which will have affected its preservation, to an improved understanding of its original condition and significance. The taphonomy of prehistoric rock art would have to take into account, for instance, patterns of destruction associated with agricultural improvement, preservation due to agricultural marginality, and recovery connected with forestry. The taphonomy of early medieval sculpture would require attention to its frequent re-use as building material in different periods.

Case Study 16: Monument biography

3.2.4 Landscape

Older studies have been justly criticised for focusing too narrowly on the stone itself with insufficient attention given to its physical setting in the landscape. Carved stones were often taken out of context and rarely recognised as being, to use modern parlance, 'site-specific installations' (Figure 72). Since the 1990s, however, the development of landscape archaeology and the growth in interest in materiality and biography has fostered a heightened awareness of the importance of the physical context of stone monuments—at a variety of scales from the immediate setting to the wider landscape, whether on a local or regional level. It should be noted that landscape archaeology refers here, not simply to the biophysical environment but to a cultural landscape theorized as a space composed of three aspects: the material, social and cognitive. In keeping with other humanistic social theories, landscape approaches model places and spaces as dynamic participants in past behaviour, viewing them not simply as a setting for, or artefact of, human action.

The landscape approach is inherently multi-disciplinary (Donside: Case Study 11). There are obvious intersections with archaeological science, which can assist in the recreation of the

palaeo-environment through above-ground and below-ground archaeological investigations. Recent advances in, e.g. survey technology, digital scanning, data visualization, and Geographic Information Systems (GIS), have provided a number of tools to carved stone researchers. One such is viewshed analysis which is used to reconstruct the line of sight to and from a monument, and thus helps situate it within a defined landscape. Advances in recreating past routeways facilitate a better understanding of movement through a landscape and thus how monuments are viewed or otherwise interacted with.

Theories of materiality are of particular assistance in exploring how stones were experienced in combination with other elements in their environment, whether these are cultural or natural, physical or conceptual (e.g. other monuments, buildings, water-courses, boundaries). It also directs attention to the dynamic nature of environmental interaction, e.g. how the play of light across a carved surface highlights different aspects of carving at different times of the day or year (Figure 73; Gefreh 2015); or the influence of changing weather conditions (Pulliam 2013). Biographical approaches have fostered interest in secondary locations, and encouraged due attention to original sites in the many cases where stones have been moved. Attention to landscape and biography directs attention to how monuments may be conceived of as being in dialogue with existing and subsequently erected monuments around them. It thus encourages the study of assemblages, whether on the level of a single site, or a wider landscape. Emphasis on landscape enables the identification and understanding of factors, both environmental and social, which underlie movement, loss and other changes to carved stones—this data can be applied to identify potential threats before they happen and to strengthen legislation. It also encourages modern visitors to carved stones to experience them not in isolation but as part of a landscape (Faith in Cowal: Case Study 12).

Approaches such as these are effective at various scales and can be applied as usefully to a single site as to a slice of countryside. A graveyard, for instance, can be considered, as it is experienced, as not just a collection of individual burial monuments, but as a complex and integrated multi-element burial landscape in microcosm. Such a holistic approach seeks to understand the interconnected relationships of all physical features present within a graveyard (including carved stones individually and as an assemblage), and linked social behaviour, and their spatial, chronological and historical relationships to each other and to the site's setting.

Figure 72: Carved rock face on citadel of early medieval fort at Dunadd, Argyll, (carvings include a Pictish-style boar, an ogham inscription, a hollowed footprint and a rock-cut basin), showing spectacular views of surrounding landscape. Crown Copyright: Historic Environment Scotland

Figure 73: Replica of *Crois Eoin* ([St John's Cross](#)), Iona, in the monument's original setting, as its cruciform shadow passes over the tomb-shrine of St Columba. Crown Copyright: Historic Environment Scotland

In addition to, and intersecting with, materiality, biography and landscape, various other theoretical frameworks used in archaeology are available to carved stones researchers. Williams *et al.* 2015b and others have discussed carved stones as a 'mnemonic technology' through which societies 'do memory work' by remembering and forgetting past meanings. Other theoretical frameworks, e.g. agency theory, performance, and gender have been drawn on to a lesser extent (for gender and the [Ruthwell Cross](#) see Farr 1991). The contribution of all is to open out new ways of thinking about carved stones, and to prompt new questions.

Case Study 11: Donside

3.3 Recording

3.3.1 Traditional recording methods

'Traditional' methods of recording carved stones, including textual description, sketches, metric drawing and photography, have been in place since the end of the 19th century and remain of tremendous value today. (For discussion of drawing of early medieval see Ritchie 1997; 1998; Scott 1997; for comments on Romilly Allen's pioneering use of photography, see Henderson 1993a). The advent of digital recording technologies has augmented but not replaced these established methods which retain value, as demonstrated by a comparative study of metric drawing and digital scanning to record prehistoric rock carving at [Ballochmyle](#), which vindicated the analytic value of metric drawing (see Metric drawing: Case Study 31; Ballochmyle: Case Study 24).

Case Study 31: Metric drawing

Technological and economic constraints on the reproduction of images—which limited the number of images taken and presented, and the use of colour—have to a large extent been overcome by advances in digital printing and dissemination via the web. Black and white photography retains value due to the legibility of monochrome images of carved stone, and should not be set aside despite the ease and affordability of colour photography. Techniques of oblique-flash photography were developed in the 1970s and 1980s by RCAHMS photographers (Figure 11) and by Tom Gray (Gray and Ferguson 1997) and produced striking images and highly legible images of often worn carving (Figure 74). These are relatively low-tech and accessible to non-specialists and for this reason retain value, despite the superior facility of digital visualization methods to vary the position and nature of light sources 'virtually' after capture.

Figure 74: Image of the Craw Stane, Rhynie, by Tom Gray, specially lit to highlight the incised carving of two Pictish Symbols. © RCAHMS (Tom and Sybil Gray Collection)

Archival photographs may have been shaped by artistic/aesthetic considerations (e.g. composition, lack of indication of scale, focus on carved surfaces), commercial potential (e.g. postcards and other material directed at the tourist market), or been driven by the desire to test new technology rather than simply record. Nonetheless they are of considerable value in reconstructing the biographies of stones, of gauging weathering and other damage, and of documenting the changing context of stones, especially their movement around and between sites. To a large extent this is also true of sketches, painting and etchings, if due allowance is made for 'artistic licence'. Maps and plans of diverse types and various scales are an important source of information about the location (and movement) of stones within sites and landscapes, both directly and indirectly via stone-related place-names.

In addition to these non-contact methods, various contact methods of recording were developed or exploited in the 19th century. Conservation practice today would be to avoid potentially damaging contact methods, especially given the availability of non-contact digital techniques. However, these are expensive and require special equipment and technical

knowledge. The low-tech alternative of a rubbing made with pencil or wax on paper may have a place in recording when carved surfaces are robust (Figure 75). Paper squeezes were popular in classical epigraphy, especially before the advent of cheap photography, and have occasionally been used in Scotland, despite less conducive weather conditions. Properly stored, paper squeezes are a durable 3D record of stone which would be suitable for digital scanning. Historic (i.e. 19th-century) squeezes might be of use for determining rates of weathering where recent scans are also available. The same applies to plaster casts and other replicas made by creating moulds from the stones, which in Scotland became popular from the second half of the 19th century. The value of these early replications technologies is now being recognised (Foster 2013a; Foster and Curtis 2016). Squeezes and replicas may be the only record we have of the nature, form and materiality of a lost stone. While any contact recording method has conservation implications which mean it is not to be undertaken unnecessarily or without professional guidance, the low-tech/low-cost nature of rubbings and photographs provides opportunities for community engagement and crowd-sourcing of data which are harder to achieve with more specialist recording technologies.

Figure 75: Selection of rubbings of Pictish sculpture made by John Romilly Allen in preparation for ECMS, 1890s. Crown Copyright: Historic Environment Scotland

3.3.2 Digital recording

Digital recording, particularly 3D recording, of carved stones in Scotland has become firmly entrenched in the canon of techniques applied by heritage and archaeology professionals over the last 20 years. This form of record can be seen as sitting on the same continuum as traditional forms of recording, text, sketches, metric drawing and photography, while also raising its own unique opportunities and challenges. Importantly, a key aspect of these technologies are that they are non-contact and allow the creation of accurate three-dimensional records that replace historic contact techniques, such as the generation of plaster cast replicas. The techniques most usually thought of falling under the umbrella of digital recording are technologies that record surfaces in three dimensions and produce records that allow the visualisation and/or analysis of an object in apparent 3D. The techniques most commonly used are laser scanning (see Bryan 2015), photogrammetry (see Lerma *et al.* 2010), structured and white light scanning, laser line scanning and Reflectance Transformation Imaging (RTI, which while it does not give a true 3D record shares many features with the other techniques: Mudge *et al.* 2006; 2008) (Figures 76–78). There is extensive experience in Scotland in the governmental, commercial and higher-education domains of applying these techniques and consequently there is a solid body of knowledge regarding their practical application as well as the selection of the most appropriate ‘tool’ for the job.

Figure 76: Heritage visualisation students being trained in the use of a Leica C10 laser scanner at Provan Hall, Easterhouse, Glasgow 2016. © GSA, Stuart Jeffrey

Figure 77: Preparing to control the ambient light. This is necessary to undertake photography for Reflectance Transformation Imaging. Lephinkil cup-marked stone near Glendaruel, Argyll and Bute. © CC-NC-BY the ACCORD project

Figure 78: Using a ‘magic pole’ telescopic rod to photograph hard-to-reach sections of a WWI memorial. Ensuring complete and overlapping coverage of sites or objects is essential for photogrammetric modelling. Colintrave, Argyll and Bute. © CC-NC-BY the ACCORD project

The records produced via these techniques can be used to perform the same functions as traditional records, but have a number of advantages and offer the potential of completely new modes of analysis and representation. They generate versatile records which, in theory, are more easily distributed, more easily manipulated and have the capacity to be re-purposed in multiple ways e.g. to study surface condition (Condition monitoring at Ormaig: Case Study 37) or to create replicas. These records have particular utility in recording scripts or carving that lies over multiple or irregular surfaces, the comparison of current interpretations of designs with those in historic records, to distinguish original and later carvings and to distinguish between a stone's natural and carved features. The surface recording resolution possible with some of these techniques also allows the capture of previously unrecordable (e.g. not visible to the naked eye) information and the analysis of surface using, e.g. metric groove analysis (Kitzler Åhfeldt 2013) and virtual lighting (Jones *et al.* 2015) (Imaging Techniques: Case Study 7). This extreme detail allows the discovery of the processes of the stone's manufacture, including, potentially, the hand of individual artisans as well as subsequent changes in condition through weathering or other processes. Additional benefits of a true 3D digital record include its use as the basis for replication including through '3D printing' (using either additive or subtractive methods), translating the digital into a form of physical replica with multiple uses including teaching, research and display (Robert the Bruce: Case Study 5). This new form of replication raises a number of interesting issues that echo those arising from the growing awareness of the value of historic physical replicas both as analytical tools and important artefacts in their own right. Digital records, through their amenability to multiple forms of manipulation, also allow for the investigation of historic colour, likely original lighting conditions, and the 'virtual' placement of stones in their original landscape setting (Cradle of The Scots: Case Study 19).

Case Study 5: Robert the Bruce

Case Study 7: Imaging techniques

Case Study 37: Condition monitoring at Ormaig
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There is now an ever increasing body of digital records much of which would support meaningful further analysis, re-use and re-tasking to build on the objective of their original production. This highlights one of the key structural weaknesses that impacts on the reuse of this data. This relates to the management and dissemination of digital records. There is no centralised inventory of 3D records that clearly indicates what has been recorded, how it has been recorded and what formats the data are currently in. This leads inevitably to the potential that work is duplicated, that the opportunity for comparing records generated at different times is lost, as is the potential for thematic studies that draw together records generated from multiple fieldwork events. Underlying this problem are well-recognised issues of long-term data preservation (Richards *et al.* 2013; Niven *et al.* 2014), the use of standardised metadata and paradata (see the [London Charter](#); Bentkowska-Kafel *et al.* 2012; Jeffrey 2010) as well as multiple issues that arise with data sharing under confusing and/or restrictive data licensing regimes. The affordable long-term curation of digital data in all forms remains a thorny issue in multiple commercial, governmental and academic domains, but is particularly acute for high-volume 3D data which often transitions through multiple-file formats, open or proprietary, during the workflow to the final product, raising along the way a chain of, sometimes difficult,

decisions for the archivist. As a result very little 3D content finds its way into a Trusted Digital Repository and consequently may be undiscoverable and/or unusable in a relatively short timescale. In addition to the above, there is the broader issue that even where 3D digital datasets are actively curated for future use, they are almost always archived as discrete items, rather than being part of a wider body of information and without mechanisms linking them to broader research material. This situation has arisen at least in part because existing recording strategies are mainly conservation and communications-led, rather than research-driven. Conservation priorities, as opposed to research, tend to be piecemeal rather than thematic and comprehensive. Although, both the ambitious HES Rae project ([HS Focus Magazine 2012](#)) and the [Scottish Ten](#) project are comprehensive with regard to the legal status of their targets, covering HES properties and Scottish [UNESCO](#) World Heritage Sites respectively. Furthermore there remains a sense that current digital recording practice is still being technically led rather than being developed or exploited with the needs of researchers or public audiences in mind. In part, this is because of the difficulty expert recording practitioners and non-technical academics have in communicating at the same technical level. There is both a skills deficit among researchers and an absence of clearly framed research questions, each of which are contributory factors to this communications barrier. Data capture and processing does not tend to include academic support despite a general understanding that it, as with all recording, is at some level a subjective act. Dialogue between technical and academic specialists could enhance the utility of the subsequent datasets. Such co-working could also ensure adequate resolution for research questions and at the same time help refine new research questions. The framing of new research questions is also undermined by the lack of knowledge about what work has been done and what records are available, as discussed above. However, it could also be said that data is not being generated in a cohesive manner because the research community is not saying 'this is what we want to know' clearly enough. The skills gap between academics and technologists may also explain why there has to date been limited research on digital records of carved stones in their reconstructed landscape settings, subject to different seasons, lighting etc. Although the potential of digital recording for individual stones is recognised, we still need to explore more fully the value of what 'virtual re-contextualisation' might deliver.

While there is not yet a seamless integration between the deployment of digital recording technologies and research-led approaches, work with the public and communities of interest through these technologies holds out notable potential as means of engagement (Wemyss Caves: Case Study 36). There is increasing reflection on the nature of the relationships between community groups, digital heritage professionals and the outputs they have created. Such work is indicating that some of the social values invested in the original object can be translated to or recreated in the process of replication and 3D model capture (Jeffrey *et al.* 2015). This is contingent on a number of factors but points to a key aspect of the digital record from this perspective as being the process itself, who does it and why, as much as the actual output files (Community co-production: Case Study 6).

Case Study 6: Community co-production

There remains some anxiety over the potential for digital recording to become 'a double-edged sword'. This relates to outmoded 'preservation by record' arguments and the potential that more easily generated accurate physical records (e.g. via 3D printing or other computer-controlled production methods) could be deployed at the expense of conserving physical remains or used to justify rather than simply mitigate the re-location of monuments from their

original context and communities. This anxiety most likely arises from some of the grander claims made when the technologies were in their infancy and currently digital recording is considered most useful for analysis, re-visualisation, enhancement or perhaps providing forms of 'remote access' for those not able to physically visit sites. As with all forms of recording, analogue or digital, the final records have multiple uses, but are not considered as surrogates for the original. However, as exemplified by community co-production (Community co-production: Case Study 6) the recording process itself is not a neutral activity and does have implications for how the original is subsequently perceived both by heritage professionals and the multiple forms of community in which the original is situated.

3.4 Organising Data

3.4.1 *Taxonomy—labelling types of stones*

The effective classification of material—the recognition and exposition of the order within its diversity through the definition of recognised types and sub-types and the devising of accurate terminology to label them—is a fundamental basis of research into material culture. Accurate and rigorous classification (or 'taxonomy') depends not only on the recognition of similarities and distinctions between items but, crucially, also on an informed understanding of which traits are significant (so it is value-based: see Section 4.3.1). Classification is thus inherently analytical. The multi-disciplinary nature of carved stone research raises special problems for effective taxonomy as different disciplines (e.g. art history or archaeology) may have different ways of referring to the same material. Distinctions which are relevant to one discipline may be less so to another. Terms may have different meanings in another discipline (e.g. 'inscribed') or not be understood at all (e.g. 'orthostat'). Furthermore, terms which have popular currency may be too imprecise for scholarly use, while terms used by researchers may have no resonance with the general public (e.g. 'cross' versus 'cross-slab', 'cross-marked stone', 'free-standing cross', etc.).

Classification is not an arid academic exercise. On the contrary, taxonomy inevitably shapes thinking as it focusses attention on, or diverts it away from, certain types of material, or aspects of a particular type. It thus has a profound effect on which kinds of material are considered together and which are not, indeed which kinds are considered at all. The contrast in the level of attention given in Ireland and in Scotland to what appears to be a shared class of material but which is referred to by different labels—'bullaun' and 'rock-cut basin' respectively—is a case in point (Bullaun stones: Case Study 2). It also raises the question of the extent to which it is possible and desirable to align the classification of Scottish material with the terminology used of the same types of material in other countries.

The detrimental effect of a no-longer useful taxonomy is illustrated by the case of the deceptively clear and simple three-class system for analysing Pictish sculpture set out in *ECMS* (Allen and Anderson 1903). The clarity and simplicity of the system, and the authority of its creators, has led it to dominate discussion of Pictish sculpture for over a century. Its shortcomings have been increasingly highlighted by expert scholars (Henderson 1993a; though for a partial defence see Clarke 2007), yet general academic and public writings continue to perpetuate it. It elevates the presence or absence of Pictish symbols over other, arguably more relevant, criteria, resulting in a distorted impression of the material: for instance by splitting what is arguably a unitary type—the upright cross-slab—into two sub-groups based on whether or not they bear symbols. Conversely, by lumping together all non-symbol-bearing relief

sculpture into the overly heterogeneous Class III, the significance of this diverse body of sculpture was obscured. Allen and Anderson's scheme had no place for simple, cross-incised stones and this numerous and important type was largely omitted from *ECMS*. It was not until Henderson's pioneering work in the 1980s, and her extension of the Allen and Anderson scheme to a new 'Class IV' label, that these stones were properly recognised as a category and integrated into research (Henderson 1987a).

Classification is not a once-and-for-all activity—as understanding evolves, so does the taxonomy based on it, and as understanding changes existing terminologies may need to be refined, or even abandoned altogether. It may take time before such innovations are accepted within a discipline, whether from inertia or because new interpretations are actively contested. Even when scholarly consensus is reached this does not necessarily ensure speedy adoption by wider audiences, as the dogged longevity of the *ECMS* system demonstrates. The tension between keeping abreast of the latest terminological developments and sticking to authoritative terms that are widely understood is particularly acute for resources (such as Canmore) which have a wide range of users. Faddish or controversial systems which lack widespread support within the scholarly community must be avoided, yet, as the *ECMS* example above shows, simply because a system is long hallowed, does not guarantee its usefulness any more than does its novelty. One of the advantages of online resources over physical publications is that, in theory, they can be readily updated to take account of evolving classifications and terminologies, and items can be cross-referenced with multiple tags to ensure that they can be found using a range of alternative terms (and these can be embedded to avoid them cluttering up an entry). In practice, however, resources for this level of indexing are currently lacking.

Existing classifications and terminologies have evolved organically within period specialisms and generally represent the cumulative efforts of a number of scholars, sometimes over generations (N.B. study of past classification systems can be a useful means of exploring past value).

Only exceptionally are they the result of initiatives by an individual or committee to set out an over-arching schema (typically in association with the preparation of a corpus or major catalogue). Earlier taxonomies tended to prioritize the content of the carving rather than a more archaeological approach prioritizing form and function (e.g. the classification of Iona slabs on the basis of form of cross-motif carved in them (RCAHMS 1982) versus a classification based on monument form (as a proxy of function) and geology (as a proxy for date) (Forsyth and Maldonado in prep.). The complex, multi-faceted nature of carved stones, and the diversity of approaches to their study means that there is unlikely to be a single, perfect taxonomy which satisfies all users. Different systems will have their merits depending on the purpose to which they are put. The key is rather to be explicit about the principles of classification, to use labels consistently, and not to diverge from existing systems without clearly articulated justification. Similarly, clumsily long-winded labels which are accurate but inelegant, or which strain normal English usage, are unlikely to gain support.

The long-standing challenges of classification and labelling have taken on a new dimension with the advent of digital technology. Digital databases such as Canmore have immense potential for kinds of research which was simply impossible in the days of solely print publication, but problems of labelling and indexing constitute a barrier to realising that potential in full. The historic accumulation of data in these resources means there are inconsistencies in spelling and hyphenation in the database which can effect search results (e.g. searches on the variants

‘ogam’ and ‘ogham’, both of which are in scholarly and popular use, bring up different results). Technological improvements in ‘fuzzy’ searches may alleviate this, but some tidying up of data is necessary (see Canmore upgrade: Case Study 30; Reflections on Terminologies: Case Study 28). In some cases the terminology used is not that of the scholarly community, or brings up perverse results (e.g. ‘gravestone’). This is a non-trivial problem which nonetheless must be addressed before Canmore can be used effectively to search for categories of carved stones. Scholars typically devise or refine terms in an *ad hoc* and intuitive way to meet a particular research need, and terms may not be conceived within an overarching hierarchy or with an awareness of established principles of classification and terminology. A collaborative approach—involving scholars, IT specialists, archivists and non-academic end-users—is necessary to establish agreed principles, in consultation with cognate bodies elsewhere. A project of this nature is likely to be a substantial undertaking but it has the potential, not only to greatly enhance the kinds of research that is currently undertaken but also to facilitate new types of research based on data searches which were hitherto unthinkable. These terminological issues are not only a concern for Canmore users, but also beset those who search for carved stones related items and new discoveries in the indexes of publications such as the annual *Discovery and Excavation in Scotland*, and *Proceedings of the Society of Antiquaries of Scotland*.

Two final points: in addition to English language taxonomies and terminologies generated by modern scholars, due attention should be directed to nuances of meaning enshrined in traditional terms relating to carved stones in Gaelic (e.g. *clach*, *leac*, *coirthe*) and Scots (e.g. *lair-stane*, *bore stone*). Often these are preserved in place names which, in addition to yielding insights into past understandings of carved stones, can sometimes provide important evidence of the prior existence of lost stones or the original/previous location of moved stones.

Case Study 2: Bullaun stones

3.4.2 Names—labelling individual of stones

A separate issue from the labelling of recognised types of monuments is the naming and numbering of individual stones, and the lack of recognised conventions for doing so. With the possible exception of Roman stones, which are typically referred to in the scholarly literature using one of two authoritative numbering schemes enshrined in major corpora, comprehensive numbering schemes are not much used and there is a lack of consistency in naming stones (variously from the name of the field, nearest farm, nearest settlement, or the parish). Stones which have been moved may be referred to by the name of their findspot and/or the name of their current location. The extent to which traditional names for stones are respected and used varies (e.g. the Pictish cross-slab referred to as, alternately ‘Drumduro’/‘Chapel of Garioch’/‘[The Maiden Stone](#)'). In some cases scholars have coined memorable names for crosses, e.g. Constantine’s Cross’ for the [Dupplin cross](#), but this can cause problems if the invented nature of such names is lost sight of, e.g. the invented ‘[St Oran’s Cross](#)’ in contrast to the traditional names for the crosses of saints [John](#), [Martin](#) and [Matthew](#).

Where there are multiple stones from a single site, their numbering may follow one of several logics (e.g. order of discovery/publication, distance from core of site, size/degree of completeness, order of museum accession) or be effectively arbitrary. Lost stones may or may not be included in numbering sequences, and problems also arise when separate numbers are assigned to fragments of what is, in reality a single monument. This lack of care and consistency

in numbering and labelling schemes and the perpetuation of competing systems can lead to confusion regarding the identity and numbers of stones at sites, resulting in unwarranted omissions or duplications. The British Academy corpus of Anglo-Saxon sculpture usefully laid out principles for the consistent naming and numbering of sculpture and these have been followed by the Welsh corpus (i.e. parish name, site name, number by order of discovery; also separately numbered within county). If applied consistently, such a system could be usefully adopted for Scotland's early medieval sculpture and, perhaps with modifications, for other periods also. Canmore is in the process of moving from an entirely site-based system (in which multiple carved stones at a single site were registered collectively under that site) to one in which individual early medieval carved stones are each assigned their own entry (see Canmore upgrade: Case Study 30; Canmore upgrade example: Case Study 4). This will, in effect, give each early medieval carved stone a unique reference number which, although too cumbersome for ready labelling, will doubtless prove useful in keeping track of the 2000+ stones in this category. More recent categories of carved stone are perhaps too numerous to be individually catalogued in this way, though it may be practical for some sub-categories.

3.5 Datasets

3.5.1 *Handlists and corpora*

Typically, a handlist provides a simple listing of basic information on all the stones of a specific period and/or monument type within a defined geographical area. They may or may not be illustrated (e.g. Henderson 1987; Fraser 2008). They are useful in establishing the extent of a body of material and the research already conducted on it. These can usually be produced rapidly but possess significantly less detail compared to a typical corpus and do not contain any analysis.

A corpus is a complete survey representing the state of knowledge at the time of its compilation. It groups and categorizes material, typically through an advanced study of design and style (as opposed to materiality or other values). They tend not to consider context and landscape in any detail. Examples include Steer and Bannerman 1977; Allen and Anderson 1903. The strength of most corpuses is that they provide high quality, detailed and richly illustrated information. Data is presented in a consistent format, usually through a degree of comparative analysis. However, once completed, published corpuses are not easily revised or updated with new information. Digital publication, as an online resource, provides opportunities for regular refreshing of the data aiding comprehensiveness, and increased accessibility.

Historic surveys are useful as records of missing stones but there may be a finite amount of surviving data available to (re)record and (re-)analyse existing corpuses. There may be the perception that a subject area is deemed to have been 'done', which can stifle subsequent scholarship for a generation, as claimed for *ECMS* (Stevenson 1981a, 175). It is not always clear as to what questions were being framed by the data, however, the degree of consistency contained within most corpuses means there are still valuable opportunities for reassessment with new perspectives. In some cases there is a ceiling on studies that is likely only to be broken as the result of new technology to study design and materiality.

To date, many existing corpuses and thematic datasets (see below) have been driven by a single disciplinary approach, usually art historical. There are strong opportunities for such studies to be multi- and inter-disciplinary in character to enrich analysis and understandings.

There has been a bias towards documenting early medieval, rather than later medieval and modern, stones (e.g. Allen and Anderson 1903; Fisher 2001; see Section 2). However, there are some notable early medieval omissions, for example Anglo-Saxon sculpture in southern Scotland is excluded from the British Academy's [Corpus of Anglo-Saxon Sculpture](#) (except as comparative material).

3.5.2 *Thematic datasets and studies*

Thematic studies of carved stones include several different types of record sets. They can be incorporated in studies of other types of heritage assets such as church buildings, e.g. Scottish Church Heritage Research [Places of Worship in Scotland project](#) and the [Corpus of Scottish Medieval Parish Churches](#), or graveyards, e.g. Scottish Association of Family History Societies [Graveyards Inventory](#). In these cases information of carved stones may be difficult to access and not particularly detailed.

Thematic studies also include records only of carved stones but the method of compilation means they are not intended to provide complete coverage or drawn-together analysis (e.g. Willsher and Hunter's 1978 study of 18th-century gravestone carvings). In other cases thematic studies may look at just one facet of a carved stone design but intend to reflect the state of current knowledge in this area (e.g. Davidson's 1977 inventory of 17th-century gravestones in Angus and Mearns). As with corpuses, thematic datasets may not be easily updated or refreshed if published in paper form.

3.5.3 *Audits*

The scale of an audit is significant, involving tracing surviving monuments, as known through existing records as well as new discoveries not included in sources such as Canmore. Audits are often used to establish condition and to identify what has been lost. So far, there has been no national audit (and only limited regional examples) to measure and characterise what exists, or has been lost, on the ground. The scale of architectural, later medieval (with the exception of funerary monuments) and early modern carved stones in particular are an unknown quantity.

Without any form of overview, it is impossible to identify gaps in current knowledge and begin to fill these in strategically. While we know anecdotally that carved stones are a resource under threat, such as loose and vulnerable stones, particularly at church sites, the lack of an overview means we cannot understand the nature of their vulnerability in terms of the relationship between different types of carved stones, stewardship issues and the rate of loss. With an audit it becomes possible to assess both condition and risk, and values/significance to help to target the finite resources available for maintenance and repairs more effectively. This is especially pertinent in the case of graveyards (see Graveyard recording: Case Study 3).

Case Study 3: Graveyard recording
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3.5.4 *Canmore*

[Canmore](#) is Scotland's principal heritage dataset, representing over a century of accumulated information. Its key strengths include regular update of content, the facility to crowd-source information, inclusion of images for many entries and its design for use by a broad user-base spanning researchers, heritage managers and the wider public.

As a database, Canmore does not present any analysis of information that it collates and indexes from different sources but is a valuable 'building block' resource for researchers. However, the level of detail within Canmore (in common with other Historic Environment Records (HERs) and statutory list compiled by Historic Environment Scotland: HES) is variable and there is no standard format or terminology to describe the different types of carved stones. This variability coupled with the limited number of search terms considerably limits the database's search capabilities, particularly for groups of records (see Canmore upgrade: Case Study 30; Canmore upgrade example: Case Study 4).

Canmore does not include information on monument condition, ownership or statutory designations. Nor is it directly linked to other datasets containing such information, although the portals of [PastMap](#) and [Scotland's Places](#) provide access to HES statutory lists, HERs, National Library of Scotland (NLS) maps and selected records from the National Archives of Scotland (NAS).

There are records kept (e.g. of condition, such as HES monument warden reports) that are not publicly accessible. There are lists of monuments classified for designation purposes (HES Decision Portal etc.), but the schemes used for this are very simplistic and outdated. Some information is downloadable in GIS format and usable for those with the skills to do so. The fact that these databases do not 'talk' to each other, and, especially with Canmore (which lists all sites), is a hindrance to research. So, even if Canmore terminology is updated, it still cannot be readily interrogated to establish what of these categories is designated and how.

Case Study 30: Canmore upgrade

Case Study 4: Canmore upgrade example
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3.6 Scientific analysis

Scientific analysis of carved stones is increasingly contributing to carved stone study in multiple ways including conservation techniques, surface analysis and stone sourcing. Stone is vulnerable to deterioration and decay under the influence of a variety of physical and chemical agencies. 'Weathering' encapsulates a range of processes, driven by moisture movement, driving rain, freeze-thaw cycles, salt crystallisation and chemical attack from pollutants. Biofilms can engender and mediate these processes, having a significant impact on the surface of carved stone, including staining, alteration of the movement of moisture, and physical stresses on microstructure. Longer-term climatic variability also brings about change to the physical conditions affecting the historic environment, for instance increased rainfall exacerbates problems caused by water ingress and increases both macro- and microscopic biological growth. In conservation contexts, responses to these forms of material degradation often result in steps to measure, record, protect, and/or repair carved stones (e.g. Sheltering monuments: Case Study 17). There is a long and continuing tradition of regular repair and maintenance using

traditional craft techniques and materials). However, the development of heritage science during the 20th century has led to the introduction of new techniques for measuring change, analysing materials, protecting them from decay, and consolidating vulnerable components. For instance, petrographic analysis is used for characterisation and the determination of provenance and biocides for the management of biofilms. As a result of these techniques, the nature of carved stone, and their dynamic relations with their physical environments is altered to some degree, whether directly or indirectly. For instance, rates of weathering can be modified and signs of wear and age removed.

Science-based materials analysis techniques provide information on the physical and compositional condition of stone when carved, as it changes through its lifespan and what its condition is now, both on the surface and internally. Some methods of analysis which use specially developed statistical-based algorithms to isolate patterns in the worked surface have the capacity to reveal information about the stone-carver (Kitzler Åhfeldt 2013), possibly their place of work, their support workers and clients, the nature of tools used in the carving process and the procuring and movement of stone.

As historic and prehistoric carved stone is highly valued, direct sampling for laboratory analysis is limited or impossible. This leads to the application of visual characterisation, classification and condition assessment methods, using descriptive 'field' methods and terminologies derived from the geological and physical geography disciplines (see Geissen *et al.* 2014). Increasingly, a range of instrumental analytical techniques are applied on the rare occasions that materials can be transferred to the laboratory. There are also variants of many methods available for non-destructive testing *in situ*, removing the need for destructive sampling of materials (or on whole objects in the laboratory, but without destructive sub-sampling). Provenance discrimination and material condition assessment requires compositional, mostly mineralogical analysis using combinations of techniques such as thin section petrography, X-Ray Diffraction, X-Ray Fluorescence, magnetic susceptibility, nuclear magnetic resonance, FTIR spectroscopy, Raman spectroscopy and quantitative colour measurement. These investigative techniques are being brought together into schemes to assess the risks to and vulnerability of stone to changing environments, including changing conservation practice and management regimes.

Figure 79: Historic Scotland Conservation Group using X-ray fluorescence to try to identify a white coating on the St Andrews Sarcophagus. © Sally Foster

Case study 8: Science value and material decay

There is an increasingly strong working relationship between archaeologists and geologists and other scientists in the heritage sector and as a result an excellent understanding of Scottish rock micro fragments is developing. This leads to a continuing refinement in the techniques which allow carved stones to have their original source in the landscape pinpointed (Magnetic susceptibility: Case Study 9).

Case study 9: Magnetic susceptibility

3.7 Ways of working

3.7.1 *Research environment*

The advent of digital technology and widespread access to the internet have had a transformative effect on how research is conducted, as new technologies continue to facilitate new ways of working. Collaborative working is becoming ever easier thanks to the internet which supports ready sharing of data, and easy communication. Open Access publishing and online databases such as Canmore (Section 3.5.4) are a great boon, although commercialization of data and images remains a barrier to research (see Section 6.2.8). New digital technologies hold out the promise of exciting new techniques and approaches but expectations will be thwarted unless there is effective dialogue between ‘knowledge people’ and ‘techies’ concerning project design and implementation.

Changes in the way in which university research is funded has resulted in a multiplication of schemes, each with specific criteria, which inevitably shape research projects, suiting some better than others. Some funding sources, e.g. HES, are bound by modern national boundaries. Others have specific agendas, e.g. European Union funding requires international cooperation with at least two non-UK partners. Other priorities appear more transient, with preferences at different times for, e.g. database projects, interdisciplinary projects, projects with Knowledge Exchange elements, or the inclusion of Early Career Researchers.

Within UK Universities, institutional concern to score highly in periodical national research assessment exercises (e.g. REF) can result in pressure on academics to prioritize certain kinds of research activity over others. Although one positive by-product of the current REF emphasis on ‘Knowledge Exchange’ between university and non-university sectors, and on the ‘Impact’ of research on society, is the encouragement of academics to give greater attention to community engagement, and collaboration with heritage bodies. There are systemic challenges in achieving the latter as a number of heritage bodies, including HES, shift from a system of relying on in-house experts to out-sourcing academic expertise on the model of freelance contractors.

Reconciling the different timescales to which heritage bodies and the Academy work can be problematic for professional academics who juggle research with teaching and who cannot take research leave at short notice. Another issue is that levels of scholarly rigour required by academic publication may go beyond those required for heritage management purposes. The laudable aim of getting research findings quickly into the public domain may be in conflict with pressures on academics to focus on major outputs and publish in peer-reviewed outlets. Dissemination of new research via the web in advance of full publication (e.g. Iona website) may be in conflict with current conventions regarding academic intellectual property, although rapid changes in digital publication and the use of the internet and social media are challenging norms in this area. While these issues remain to be fully resolved, the challenges are very much worth overcoming as there are many mutual advantages to closer working between heritage bodies and the Academy.

3.7.2 *Multidisciplinary, interdisciplinary and transdisciplinary working*

By their very nature, carved stones are of interest to scholars from a wide range of academic disciplines, and each of these branches of knowledge brings to the subject its own approaches, techniques and expertise. How best to combine knowledge from different disciplines to gain maximum understanding is an increasing challenge as the growth of knowledge and the introduction of new technologies leads to ever narrower specialisation.

There are several different modes of collaboration between disciplines. The most straightforward is the multi-disciplinary approach whereby researchers work in partnership with others in different disciplines to tackle different aspects of a problem. Researchers remain within their own disciplines and work in parallel. A good example of a multi-disciplinary approach to carved stones research is Edwards' corpus of early medieval inscribed and sculptured stones in Wales (Edwards 2007; 2013). Co-ordinated by a field-archaeologist/field-epigrapher with art-historical training (who is thus a multidisciplinary researcher herself), it also involved expert contributions from a geologist, a linguist, a palaeographer and an illustrator. Other multi-disciplinary approaches to carved stones might, for instance, involve art historians, genealogists, digital modellers, archaeological illustrators or conservators (see Disciplinary collaborations: Case Study 18).

Multi-disciplinary working can be a highly effective means of pooling expertise but one hazard with this mode is that the experts often work in isolation on separate aspects of the problem contributing a 'specialist report' which is seen only by the project leader, and remaining unaware of the findings of the others until after publication. This can result in lost opportunities to share findings in advance of publication and to feedback to one another while research is underway (although, admittedly, such interaction can be challenging to coordinate). In broader terms, working in parallel does not necessarily foster understanding of other disciplines and what they might contribute to specific problems. By working solely along established disciplinary lines, multidisciplinary projects run the risk of merely answering existing questions rather than generating new ones. A particular problem of carved stones research is the extent to which recording (whether that be drawing, photography or digital scanning) is done by technical specialists, who may have limited knowledge and understanding of the material, working separately from the researcher. The costs and logistical challenges of getting the researcher and recorder in the field together may be prohibitive but when they can work closely together, both record and analysis are generally enhanced (see the Irish [Ogham in 3D](#) project).

A more intense form of disciplinary collaboration is the interdisciplinary mode, in which participants from different disciplines work together more interactively. With interdisciplinary working, there is a merging of approaches from both disciplines, in contrast to multidisciplinary working in which researchers stay within existing disciplinary boundaries. Interdisciplinary projects are useful in answering questions which cannot be adequately addressed within existing disciplines and tend to emphasise new knowledge that exists between or beyond existing academic disciplines. Working across disciplines in this way can be more challenging and requires greater attention to communication between/among researchers throughout multiple phases of the research process.

Interdisciplinarity is highly relevant to carved stones which demand approaches which, for instance, fall between archaeology and art history. Increasing attention to materiality (see Section 3.2.3) is driving new interdisciplinary consideration of, for example, the ways in which material properties of a particular stone enable and constrain the way in which it has been carved, drawing on understandings derived from geology, archaeology, art history, and a practical understanding of stone-carving. Another example relevant to carved stones is the emerging interdisciplinary field of 'graphicacy' that seeks to understand the communication of conceptual information by means of non-figural graphic devices.

Interdisciplinarity is about innovations that integrate and move beyond discipline-specific approaches, whereas transdisciplinarity refers to the transfer of modalities (techniques, theories, approaches) from one discipline to another. Researchers continue to work within their discipline but import innovations from other fields. A number of theoretical approaches developed in prehistoric archaeology have been transferred to the study of carved stones of later periods (Gondek 2007). An example of this is phenomenology, which emphasises the sensory experiences of those interacting with archaeological material (Tilley 1994; Tilley and Bennett 2004), and which originates in philosophy and social theory. An example of transdisciplinarity on a more practical level, would be the transference of techniques and approaches developed on a landscape scale (in connection with LiDAR topographical survey) to surface analysis of carved stones on a much smaller scale (Kitzler Åhfeldt 2013).

Finally, cross-disciplinary working, results in aspects of one discipline being explained in terms of another in order to yield new insights. Thus a researcher in a discipline which does not usually consider carved stones (e.g. mathematics) might apply approaches established in that discipline to explain aspects of it within the terms of that discipline (e.g. geometric ornament, such as interlace). Such approaches can yield insights of interest to carved stones researchers, even if the study is not directed at them. An example of cross-disciplinary work relevant to carved stones is Lee's application of statistical techniques established in information theory to Pictish symbols (Lee *et al.* 2010, but see Sproat 2010).

Despite the obvious potential of the kind of multi-disciplinary approaches outlined above, enthusiasm for them should not be at the exclusion of single disciplinary approaches which still have much to contribute to the study of carved stones.

Case Study 18: Disciplinary collaborations

3.8 Research recommendations

(N.B. the order of the following recommendations is not meant to imply an order of priority or importance)

See also Section 2 for background to these research recommendations.

3.8.1 Principles

1. Align recording campaigns to support research on specific themes/bodies of material (Sections 3.3, 3.7).
2. Take full advantage of any opportunities arising from the (re-)display of stones to record and analyse (Section 3.7).
3. As a matter of course if something is going to be scanned, what research questions might be asked of it? (Sections 3.3.2, 3.7)
4. Develop an agreed terminology and taxonomy to describe, recognise and group carved stones for each period (Section 3.4.1).
5. Research traditional names, folk practices, traditions, and stories associated with stones (Sections 3.2.3, 3.4.2).
6. Do not neglect fragments (Section 3.2.3, 3.3).
7. Improve data management and access (Sections 3.3.2, 3.5, 3.7.1).

8. Make data sets and research results openly and freely available, preferably via the web (Sections 3.3.2, 3.5.4, 3.7, 6.2.8).
9. Focus on the future development and use of non-destructive and non-invasive methods (Section 3.6).
10. Investigate the impact of carved stone studies on research, teaching and conservation communities (Sections 3.2.1, 3.3, 3.7).
11. Acknowledge that recording cannot be separated from analysis (Sections 3.2, 3.2).
12. Recognise the value of established discipline-based methodologies and continue to pursue these where appropriate (Section 3.2).
13. Fully utilize new analytical frameworks (Sections 3.2.2, 3.2.3, 3.2.4).
14. Improve understanding of stone-working techniques through: historical and ethnographic study of stone carving, physical analysis of worked stone and creative experimental carving techniques (Sections 3.2.3, 3.7.2).
15. Understand who was producing carved stones and how this was achieved (social and logistical aspects as well as technical, i.e. procurement and transport of stone, organization of work and training, relationship between carvers and commissioners, etc.) (Section 3.2.3).

3.8.2 Problems

1. Lack of awareness of potential of carved stones to address existing research questions and to help frame new ones (Section 3.2).
2. Lack of communication between research, teaching and conservation communities (Section 3.7).
3. Availability of scientific data: lack of central record of what scientific analysis has been conducted and where to access results (Sections 3.6, 3.5, 3.7).
4. Lack of central record of what digital recording has been conducted and where to access records (Sections 3.3.2, 3.5, 3.7).
5. Limited accessibility of scan data. The problems are both technical (software compatibility, stability of data, format), and institutional (lack of sharing) (Sections 3.3.2, 3.5, 3.7).
6. Lack of uptake of new theoretical approaches available to frame new research questions (Section 3.2).
7. Lack of broader awareness of technical knowledge built up over the last 20 years and of the potential of technology to help answer research questions (Sections 3.3.2, 3.5, 3.6, 3.7).
8. Lack of interdisciplinary working within academic community (Section 3.7.2).
9. Difficulties in engaging more fully with the diversity of existing communities outside Academia to ensure the most fruitful interdisciplinary collaboration (Section 3.7.2).
10. Scale of resource. Some categories of carved stone are so numerous that comprehensive recording initiatives are unfeasible. How then to prioritize? How to ensure consistency of data/approach if recording is done piecemeal? How to ensure that records can be made available? (Sections 3.3, 3.5)
11. Lack of alignment between conservation- and heritage-led research (which may be very case-specific, and funded and conducted on much shorter time scales) and more strategic research agendas (Sections 3.6, 3.7.1, 3.7.2).
12. Lack of awareness of collaborative opportunities between researchers using the same datasets/or researching similar themes in relation to different data sets (Section 3.7.2).

13. Recording biases—some categories of carved stones are well recorded, others overlooked; cut off dates, geographical restrictions including national boundaries (Section 3.3).
14. Recording driven by technological developments rather than research needs (Sections 3.3, 3.6).

3.8.3 Practice

1. Conduct research into the biographies of stones using the physical evidence of later interventions and through references to stones in historical records (Section 3.2.3).
2. Respect traditional names for stones, where these exist (Section 3.4.2).
3. Increase awareness of Scotland's heritage of carved stone in art education (i.e. art schools) to encourage creative responses (not replication and conservation) (Section 3.7.2).
4. Develop integrated digital records that directly incorporate and/or directly reference other important datasets, technical, social, value, historic records etc. (Sections 3.5.4, 3.7.3).
5. Establish a forum for a meeting place between different disciplines and experts in different periods (Section 3.7).
6. As with digital recording, there is a strong perception that a national data archive comprising the nature, location and results of scientific investigations would be extremely beneficial touch (Section 3.5).
7. To this end create a central corpus with Building Information Modelling (BIM) characteristics suitable for cross-disciplinary data sharing. This should integrate scientific data, 3D recording, 3D/moving images. Link with theorising visualisation and other monument and site information mapping. Test the design to ensure it can support analysis of research questions identified in ScARF (Sections 3.5, 3.7).
8. Record fully before (re-)display (e.g. by photographing/scanning the back/underside of stones or portions obscured by display) (Sections 3.3, 3.7).
9. Conduct scientific analysis before (re-)display (e.g. take samples at point of restoration/conservation) (Sections 3.6, 3.7).
10. Maintain up-to-date bibliography of new publications relating to carved stones (Section 3.2, 3.6).
11. Compile bibliographies of past work on subsets of carved stones (fill in gaps) (Section 3.2.1).
12. Encourage Open Access publishing (Sections 3.3.2, 3.5.4, 3.7, 6.2.8).
13. Increase access to grey literature (Sections 3.2.1, 3.5.1, 3.5.2, 3.5.3, 3.7, 6.2.8).
14. Remove charges for academic use of Canmore images (3.5.4, 3.7.1, 6.2.8).
15. Ensure Scottish material is considered in its wider geographic context (Section 3.2).
16. Develop a strategy to use scientific and technological techniques to deliver information about (Section 3.2.2, 3.2.3, 3.2.4, 3.6):
 - a. the stone carver and possibly the place of work
 - b. their support workers and clients
 - c. the character of tools used
 - d. procuring and movement of stone
 - e. the stone's condition from time of carving, as it changes through its lifespan, and condition of it now at the surface and internally—both important for preserving and presenting.

3.8.4 Projects: enhancing existing

1. Recognise and develop the different scales of analysis that digital technologies can contribute to: carvings (e.g. details of inscriptions), monuments (nature and materiality of the whole monument and its carvings), and landscape (e.g. 'reinstating' carved stones in their landscape phenomenological potential, etc. (Section 3.3.2, 3.2).
2. Review existing scanned material and identify its research potential (including review of process histories, 'capturing' some of existing creative responses) (Section 3.3.2).
3. Carry out a pilot project to assess options to improve data-recording methods to join up data sets across time and space (Section 3.3).
4. Exploit the significant opportunity with regards to the scientific study of existing preserved collections of fragments, samples, etc. (Section 3.6).
5. Assess how to improve Canmore's search capabilities (for example introduce increased labelling, additional search engine terms and tagged images) (Sections 3.5.4, 3.4).
6. Assess Canmore's potential to improve its capacity to act as an umbrella site with other datasets in order to link carved stones records to other types of data such as architectural, place names, landscape and local history. There should be dual development with HERs and issues should be flagged to Scotland's Historic Environment Data ([SHED](#)) forum to incorporate in their strategy to increase access and contextualisation of information (Sections 3.5.4, 3.7.2).
7. Create a digital handlist for carved stones of the early medieval period and use it to perform an audit of the resource, identifying lost or misplaced stones, and assessing the nature and level of risk to each stone (Section 3.5.1).
8. Create a digital handlist for carved stones of the later medieval period (to include updating existing handlist of medieval effigies) and use it to perform an audit of the resource, identifying lost or misplaced stones, and assessing the nature and level of risk to each stone (Section 3.5.1).
9. Through a pilot project, test the strength of existing information and identify gaps in knowledge needing to be filled by an audit of the ecclesiastical carved stone resource in Scotland (Section 3.5.3).
10. Assess how carved stones are presently being managed (e.g. owners, managers, condition, risk, location, maintenance regimes, previous repairs and preservation) (Sections 3.2.3, 3.5.3, 3.6).
11. On the basis of the above (7–10), develop more strategic (and research-based) policies for safeguarding stones (Section 3.5.3).
12. Develop a recording strategy for use by a range of groups (including the public and those lacking subject knowledge) to document different types of ecclesiastical carved stones. This should lead to action on the ground and must reflect current understanding of carved stones but also enable new appreciations to be developed. This would aim to enhance recording practices to standardize and formalize data capture and management and to identify and share good practice (Sections 3.3, 3.5).
13. Digitize back issues of Pictish Arts Society *Journal* and *Newsletter*, similarly with 'ephemeral' publications of other special interest groups (Sections 3.2.1, 3.7, 6.2.8).
14. Conduct an audit of any squeezes still in existence in museums or other collections in Scotland and beyond (bearing in mind practices of collaboration between learned societies, it is possible that some might exist furth of Scotland) (Section 3.3.1).
15. Assess why there is a lack of (early medieval) research questions—are these not being asked because data is not available to frame them? But is data not available because the research community is not indicating this is what they want to know? (Section 3.2).

3.8.5 Projects: new approaches

1. Create a digital/print corpus of all early medieval carved stones from Scotland (a 21st-century equivalent to *ECMS*) (All of Section 3).
2. Develop and apply methods of chemical testing to identify if stones have been submerged in water (implications for procurement and transportation) (Section 3.6).
3. Investigate patterns of loss as evident through modelling destructive agencies to assess whether due to human or environmental agency. It is particularly important for assessment of human agency to have a link with understanding values. For example, the issue of graffiti is not just—and not always—a destructive act and in either case forms part of a stones' biography (Sections 3.2.3, 3.6).
4. Scan all incised (i.e. non-relief) early medieval monuments—including Pictish Class I and 'Class IV' crosses and inscriptions—with a view to conducting groove analysis (through applying statistical methods to high resolution digital surface records) in order to identify different carving techniques, the work of individual carvers, etc.) (Section 3.3.2).
5. Use of experimental carving to answer questions that tie directly to the potential for surface analysis based on digital recording as well as new questions about tool use and tool marks (Sections 3.2.3, 3.3.3).
6. Exploit the phenomenological potential of digital records more fully, to investigate the nature and materiality of the whole monument and its carvings and 'reinstating' carved stones in their landscape, etc. (Section 3.3.2).
7. Investigate the capacity for technology to assist with edge enhancement ('wind back' weathering) recognising inscriptions and profile analysis (Section 3.3.2).
8. Investigate what the physical form of fractured/damaged surfaces can reveal about cause and date of damage? (Sections 3.2.2, 3.6).
9. Conduct chemical testing to identify if stones have been submerged in water during their life-time (for what this tells about procurement and transportation) (Sections 3.2.3, 3.6).
10. Explore the engineering of erection/re-erection using experiential craftworking (Section 3.2).
11. Explore the use of templates in carving ornament, on single monuments and between different monuments (Section 3.2).
12. Explore the transportation of stones using experiential craftworking (Section 3.2).
13. Utilize the newly digitized evidence from medieval charters ([POMS database](#)) to identify references to stones (extant and lost) and make the information available via central or linked database (also other medieval sources such as hagiographies now available digitally) (Sections 3.2, 3.7.2).
14. Explore theme of memory, landscape and monuments using historic literary descriptions of moving through the landscape (Section 3.2).
15. Investigate the work of Scots-born stone carvers abroad (Section 3.3).
16. Investigate memorials to Scots abroad (e.g. Scottish cemetery, Kolkata; Gaelic gravestones in Nova Scotia) (Section 3.3).
17. Investigate vocabulary relating to (carved) stones in Gaelic and in Scots, including place names (Sections 3.2.3, 3.4.2).
18. Investigate how ogham stones functioned as markers of memory, power and territoriality (also themes of inheritance and ancestors) (Section 3.2).

19. Reassess current digital data and applications such as rich intelligence modelling. Review existing scanned material and identify its research potential (Sections 3.3.2). For example:
 - a. establishing if drawings can be generated from scans
 - b. reviewing process histories
 - c. 'capturing' some of the existing creative responses
 - d. obtaining better readings of inscriptions and other key imagery in conjunction with historic plaster casts, etc.

4. UNDERSTANDING VALUE

4.1 Introduction

This section considers why people value carved stones (singly and as collections) and why they are relevant to society. Values are ‘qualities and characteristics seen in things, in particular the positive characteristics (actual and potential)’ (Mason 2002, 7; Section 4.2). These values are not intrinsic to the subject but are socially constructed and contingent. The values that we attribute to things also change with time as understanding and other circumstances change. We therefore need to understand the different ways in which carved stones are valued. We also need to be able to reflect critically on how we have acquired this understanding, and be aware of its implications. Section 4.3 will introduce the strengths and weaknesses of research on different categories of values in relation to carved stones, leading to research recommendations in Section 4.4.

Understanding the value of carved stones is critical because international heritage and conservation practice promotes a values-based approach to heritage management. A values-based approach involves a process whereby decisions—whether addressing conservation needs, developing interpretation plans or managing change for other reasons, such as development—are first informed by an understanding of cultural significance. Understanding significance releases potential, and is independent of institutional domains and boundaries: it is a ‘powerful persuader’ and a way of eliciting the passion and expertise of curators and others, and of sharing this (Russell and Winkworth 2009, 2–3). It provides the means to ensure that future actions enhance, exploit or, at the very least, do not impact adversely on what is deemed significant—of good practice. Cultural significance is the sum of values, and these need to be researched (de la Torre 2002; 2005). There are useful reviews of the development of the application of values in heritage contexts in, for example, Emerick 2014 and Jones and Leech 2015. Yet, what do we actually know about such values and their application in the context of carved stones? Have we taken into account the cyclical relationship between the creation of knowledge (Section 3) and our academic and scientific values? A related issue is access to data and to knowledge, and how this feeds into the values that people ascribe to things.

An understanding of values in relation to carved stones will also provide a framework and means to progress the aims and intended outcomes of government and sector strategies. *Our Place in Time (OPIT)* refers to the need ‘to ensure that the cultural, social, environmental and economic value of our heritage continues to make a major contribution to the nation’s wellbeing’ (Scottish Government 2014, 7). In terms of SG National Outcomes, a better understanding of carved stones can particularly contribute to two SG National Outcomes: ‘We value and enjoy our built and natural environment and protect it and enhance it for future generations’ and ‘We take pride in a strong, fair and inclusive national identity’ (Scottish Government 2015).

4.2 Identifying and evaluating value, significance and importance

This Framework seeks a holistic approach that considers the full range of possible values for carved stones, and allows their research potential to encapsulate the full spectrum of interests, i.e. not just those of academics. Figure 80 illustrates four established typologies and terminologies that can be used as a framework for analyzing values. The carved stones Research

Framework adopts Mason’s influential set of criteria (Mason 2002) as it seeks to draw a distinction between cultural values and what are better recognized as public values (instrumental benefits). As denoted by Clark (2010), for example, public value recognizes the knowledge value (e.g. through education) of heritage places, their identity value (how we understand the relationship between personal and community identity and a sense of place), bequest value (as something to care for in order to pass down to future generations) and their distinctiveness value (what makes them special). The benefits also include economic growth and regeneration, benefits to areas where projects take place, benefits to communities affected by the projects, and benefits to individuals.

In general, we need to know more about the relationship between cultural and public values. For example, in the case of Hilton of Cadboll (Contemporary social value: Case Study 14; Monument biography: Case Study 16), what has been the impact on local public values of the excavation to understand the context of the cross-slab and to recover its missing portions, and the community’s creation and erection of an imaginative reconstruction of the cross-slab? What has been the impact of what happened locally on cultural values held by the other communities of interest?

	<i>OPIT</i>	Clark 2010	English Heritage 2008	Mason 2002
Cultural values	Cultural	Scientific	Evidential – potential to yield evidence	Historical (educational/academic and artistic)
		Historical	Historical (illustrative, associative)	
		Artistic/aesthetic	Aesthetic	Aesthetic (visual and other senses)
	Social	Social	Communal (commemorative & symbolic, social, spiritual)	Social
				Spiritual/religious (organized and ‘secular’)
Public values (benefits)	Economic	Economic		Economic
	Environmental	Benefits to areas, communities, individuals		
		Public values (knowledge, identity, bequest, distinctiveness)		Cultural/symbolic
				Political

Figure 80: Comparison of different schemes for cultural values and public values (the benefits that do or could flow from them).

Establishing values requires a variety of methodologies; it is a process that calls for the involvement of many people in different disciplines and cross-cutting approaches. Values are opinions and these need to come from all interested parties not just specialists. This creates practical challenges for heritage professionals wanting to work in an informed way with an understanding of values. Practically, this means that heritage managers seeking to establish the

cultural significance of carved stones, need to be both expert advisor and orchestrator of the different views that have been garnered, for the values extend to communities of interest beyond their personal, professional and other concerns. It is through a process of what Mason (2002, 14) calls ‘elicitation and elaboration’ that cultural significance at a particular moment in time can be established in a collaborative way, and in a manner, that can help to manage conflicts and inform a common purpose.

When is expertise in one area to be surrendered to another? Stories have a social value even if that value can be shown to be based on misconceptions. Opportunities arise from the multiple values attributed to carved stones, meaning that you can tell many stories about them, and different communities of interest may intersect in different ways with these stories.

Conservation debates and international charters currently tend to privilege certain values over others. This traditional heritage discourse is most clearly seen in designation practices (Historic Scotland 2011) where the prime considerations in determining whether a monument, building etc. is of national, regional or local importance are historic and aesthetic (Jones and Leech 2015; Section 5.2.2). Ranking (deciding what is most important) is appropriate for specific purposes, but not for ranking multiple and varying values. Certainly, we need ultimately to be able to identify priorities, but we need to improve the evidence base for such decisions and acknowledge that such ranking schemes are over simplistic and not holistic. The risk is that narrowly defined designation schemes have a knock-on effect in terms of how the future of the heritage is approached, such as in determining allocation of grants. There is much that it ought, in theory, to be possible to achieve with intelligent application of informed assessments of significance without ranking systems. Informed assessment of significance can be applied to single, group or national assemblages of carved stones, regardless of who owns or cares for them, and if and how they are presently designated for protection purposes. We also need to acknowledge that carved stones lacking ‘national importance’ may be significant in other ways; conversely, stones lacking high social recognition may be extremely important.

For example, a gravestone may be valued locally because it commemorates someone who is remembered as playing an important role in the history of the local community, and its production may testify to high levels of local craftsmanship, but there is nothing of national significance about the burial marker, whether in terms of its art-historical significance (its form and decoration), or the associations of the named individual that it commemorates. Simple cross-incised stones may be of limited aesthetic value, very difficult to date, and potentially hold little interest to the local community, but could be evidence for some of the earliest Christian communities in Scotland, their contacts, their places of burial if not their church sites (Auchnaha: Case Study 39).

Case Study 39: Auchnaha

4.3 Ways of valuing

See Section 8.2 Table 3 and Section 8.3 Tables 9–11.

4.3.1 Historical

Historical value is at the heart of how we value our heritage—its age, developmental sequence, function, rarity or representativity, relationship to things of the same class or related classes or

periods, or to features in the vicinity, relationship to the landscape, and associations with people and events (past and current). This is exemplified by traditional designation criteria, which also tend to place an emphasis on aesthetic considerations (Historic Scotland 2011). The historical value of carved stones therefore lies in their educational/academic value, namely their potential to tell us more about our ancestors and what happened in the past, and in their 'artistic' value, as a good, unique or representative example of a type of work, etc. (Mason 2002).

Academics have their own individual interests and preferences like anyone else, but what they all have in common in some way is that they value carved stones for their potential to tell us about the past and present, or other scientific potentials. As might therefore be expected, most of the long history of research on carved stones falls in some way into this category, but the knowledge and understanding on which to make such evaluations is highly uneven (see Sections 2 and 3). The carved stones can be explored on many different levels: the intrinsic interest of a stone or stone collection; its immediate context/location; and the landscape setting. There are also scientific developments in the fields of recording and analysis that allow us to ask different questions of the stones themselves. This all means we can still learn to value carved stones in quite different ways from a historical perspective.

There is a welcome trend towards researching the archaeological context of carved stones and their landscape setting (notably prehistoric rock art and early medieval carved stones), but we need more of this. These aspects of historical value are particularly important when few stones from a particular period (such as early medieval), still stand outside, yet we still have the potential to recover information about where some of these stood or once stood. The former locations of stones, even very important ones, are likely to be unmarked and unprotected. This applies to the site of the [Dupplin Cross](#), which was descheduled after small-scale excavation in advance of the 1998 relocation of the cross to St Serf's, Dunning. The reason for the move was to protect it from weathering, and it was formerly located on private land where it was difficult of access. The move to Dunning was preceded by a sojourn at the National Museum of Scotland, and the return of the stone to Strathearn was commemorated by the local community, who walked from Dunning to its former hillside location, where a few words were pronounced (pers comm. M Hall). This is a useful reminder of the intangible activities and values associated with carved stones and their (former) locations, but it also begs the question of how and if such sites should be protected/researched/commemorated in the future, and the implications of not doing so.

A key and very positive shift is the recognition that all elements of the history of a carved stone contribute to its biography, need research and are relevant (see Sections 3.3.3 and 4.3.7). There is also a growing appreciation of the value of pre-digital recording technologies for carved stones, notably plaster casts (Figure 81). These are things of interest in their own right, and for what they can tell us about their parents, objects that may worn or even lost (e.g. Needham and Cowie 2012; Foster *et al.* 2014). They invite a composite biographical approach, which also offers, among other things, important insights into the histories of curatorship, of past communities of interest, and the craftsmen who made them (The craft of replicas: Case Study 13; Foster and Curtis 2016).

Figure 81: Examining the NMS' late 19th-century concrete replica of the [Kildalton Cross](#) (IB 6) for evidence of its manufacture, at the time of its conservation in 2016. © Doug Simpson

Blatant weaknesses in understanding historical value include the assumption that even the best-known monuments are well understood (Stone of Scone: Case Study 32) and fully published, a preference for the most complete and visually impressive stones, disregarding the loose and vulnerable fragments (but see Henderson 2005), and a tendency to focus on select attributes of carved stones, rather than seeing them and their context in a more holistic sense. This is very much the case for gravestones where there has been little analysis of values at assemblage level at individual sites even though it is recognized that sites and regions can be highly individual and culturally specific. The potential of collections is generally under exploited, whether because assemblages come from one place, or have come together in a particular museum collection (where a part of their value is what it tells us about histories of collection). More generally and critically, our ability to understand the contextual characteristics of carved stones is hampered by lack of reliable scholarly overviews, and ready access to standardized records about the carved stones. It is often difficult to put them into the wider (regional and supra-regional, ignoring modern national boundary) contexts that are necessary to evaluate them fully from a historical perspective.

Case Study 13: The craft of replicas

Case Study 32: Stone of Scone

4.3.2 *Aesthetic*

In this context, aesthetic relates to the sensory qualities of carved stones as experienced by individuals, something that relates strongly to a sense of well-being. It is an art-historical appreciation of an object as a thing of beauty and/or power, but extends beyond the visual qualities. Certain types of forms, designs and motifs on carved stones easily lent themselves to early visual appreciation, notably of some early medieval carved stones, whereas this did not apply to other categories, such as rock art. This begs the question of how aesthetics have an impact on what we choose to research and how we choose to do this. A superficially unpossessing carved stone can have many and important stories to tell (Auchnaha: Case Study 39). ‘Art’ can also be conceptually complex while poorly executed (cf. Pulliam 2015, 211 on the Book of Deer).

Aesthetic appreciation of carved stones is of course very much bound up with their immediate contexts and landscape or museum locations, as well as the materiality of the stones, how they have been worked and how they have aged (Figure 82). The emergence and legacy of the different approaches of archaeological and art-historical disciplines is something to be aware of (e.g. in listing designation criteria). This was not necessarily always an issue in earlier scholarship, with archaeologists recognizing both the art and archaeological aspects of carved stones (see e.g. Hawkes 2009), and archaeological museum curators recognizing the value of the carved stones as, for example, a resource for artists (Anderson 1881a, 134).

Figure 82: The gravestones in [St Vigeans churchyard](#) in Angus were a particular source of inspiration for Joseph Anderson, who was brought up nearby. © Anouk Busset

Aesthetic considerations stray into artistic (in a historic sense) and indeed into other values. Certain artistic traditions were appropriated, refashioned and revived in later times. An example is the legacy of Celtic traditions in art in all media of later medieval times (when they were

expressions of powerful heritage and ancestry) and subsequently the Celtic Revival of the 19th and early 20th century, when political and nationalist agendas came to the fore (Pulliam 2015; Fowle 2015). This interest is very clearly seen in our Victorian and Edwardian graveyards (Figure 83; Celtic Revival: Case Study 15). Notable Celtic Revival exponents in Scotland with a particular interest in carved stones and the design on them include Alexander and Euphemia Ritchie (Iona Celtic Art: MacArthur 2003) and George Bain (Seright 1999).

Figure 83: This gravestone at [St Machar's Cathedral](#) in Old Aberdeen (1935) contains subtle visual references to Gaelic tradition including, highly unusually, the letters FEARN in ogham script (a reference to the childhood home of the deceased). © Sally Foster

An unknown is the ways in which modern conservation and presentation methods impact on aesthetic values and other values (e.g. the redisplay of the [Nigg cross-slab](#) (Figure 84) or The Brodie Stone: Case Study 33; Douglas-Jones *et al.* 2016). Related to these is the ability to see and value the age of something and how the qualities of what Holtorf (2013) calls 'pastness' impact on the sense of authenticity (see Section 5.3.4).

Figure 84: Detail of the most recent mounting of the [Nigg cross-slab](#). © Sally Foster

Case Study 15: Celtic Revival

4.3.3 Social

Social value encompasses the collective meanings and values (significance) attached to heritage practices, places and objects by a contemporary community or communities (Jones and Leech 2015, para 1.6; see Section 5.2.1 for a discussion in relation to 'ownership'). This contrasts with academically informed historic/artistic perceptions of past significance (Section 4.3.1). It is more a process of valuing than a fixed value category (Jones 2016). While its importance is increasingly recognised in international heritage instruments and policies (Jones and Leech 2015), it proves difficult to give consideration to this in practice, particularly when national regulatory practices may not be fully aligned with a (comprehensive) values-based approach. This is also because the social value of heritage in general is little researched, and because of the challenges of addressing this (Jones 2004, 67).

Contemporary communities in this context can be understood as communities that self-identify in some way. Social value is not exclusive to local communities, as it is most usually interpreted; it may include academics (all sorts, with very diverse perspectives) and other specialists who engage with and may enjoy working with carved stones for their professional duties, pilgrims, tourists, the diaspora (interested in gravestones and genealogy), and special interest groups, such as the [PAS](#). Such communities may be remote/virtual as well as 'on the spot'. However, it is the non-specialist views that risk being left undiscovered, not articulated and considered alongside the longer-established values.

The practical, conceptual and methodological problems in working with social value are not unique to carved stones but carved stones in Scotland have acquired an international profile in pioneering studies of social value because of their topicality, specifically the [Hilton of Cadboll Pictish cross-slab](#) (Contemporary social value: Case Study 14). Historic Scotland grant-aided Siân Jones to produce a research report that explored the values attached to early medieval carved stones, particularly the relationship between meaning, value and place. This evidence-based

report was informed by, among other things, ethnographic research (Jones 2004; Foster and Jones 2008). Jones demonstrated why understanding social value is relevant, but each case is different and needs its own research. Nonetheless, she was able to also identify a number of wider implications relevant to early medieval carved stones in general, and for heritage management in general. Critically in this context, she teased out the different foci and values of the local community and those carrying out their professional duties working for heritage organisations, and what lies behind these. She also pinpointed the different modes and opportunities for negotiating knowledge and authority, in other words for exploration of different values and seeking a common purpose and way forward.

In general, we lack precise information about how people value carved stones, both generally and in specific instances. There is also a lack of understanding of the impact of research on how different communities of interest then value carved stones. What difference, for example, did the Hilton of Cadboll research project make to local understandings, and why? What difference has the redisplay of the collections of early medieval sculptures at Whithorn had, whether on residents, tourists or, for example, those working within the heritage agencies? Knowing this will help us to structure audience development and to find the most effective tools for improving engagement. To what extent do such redispays increase the awareness of underappreciated collections on the part of academics (and thus act as a catalyst for new research)?

We do not know if there is something about carved stones that makes people value them in a different way from other monuments in their landscapes. How differently are carved stones perceived in different settings, such as at ecclesiastical sites (Figure 85), or prehistoric carvings on the hillside? If communities particularly value stones, is it particular stones, and if so why? Are there perceived differences between 'natural' and cultural (worked) stones? Can folklore studies help with this? What are the traditions of stewardship? How do the discourses of different groups vary, and why? With the potential for local significance arguably untapped (e.g. for local 'stories behind the inscriptions' in graveyards), is there any appetite for local communities to value their carved stones beyond the local, and if so in what ways and why?

Figure 85: The Pictish cross-slab at [Elgin Cathedral](#), with visitors. © Sally Foster

Historic and aesthetic values, in particular, are affected by the condition of a stone. Much of the research into stone conservation is about arresting the loss of fabric and managing appearance, such as the impacts of weathering and vegetation growth. But how is the changing form of carved stones or physical measures for their protection affecting their social value (Figure 84; Jones 2006b; Douglas-Jones *et al.* 2016)?

The [ACCORD](#) project has been researching the social values invested in replication and 3D models of archaeological material, as both physical replication of digital materials and as original artefacts in own right. Several local community groups selected carved stones for these exercises (Jeffrey 2015; Jeffrey *et al.* 2015). The laser scanning of carved stones has therefore become a vector for researching the value of the co-production of digital resources by community groups and professionals with heritage and technical expertise.

More generally, with analogue and digital replicas being a tool for understanding, protecting and presenting Scottish carved stones since the late 1830s, there is a case for better understanding how people value and engage with replicas. This has implications for understanding the ways in

which authenticity is negotiated, and harnessing that understanding (see [Section 5.3.2](#)). Museums that may hold collections of replicas, mainly historic plaster casts of carved stones, also need guidance on how to curate these, particularly if they are under pressure to rationalize their collections/storage spaces. In what ways are such replicas of value (Foster and Curtis 2016)?

Case Study 14: Contemporary social value

4.3.4 *Spiritual/religious*

This relates to formal religious and what Mason (2002) terms ‘secular’ spiritual values, by which he means non-institution-based spiritual experiences. Historic church sites, which may have their origins in early medieval times (Making a difference: Case Study 1), were at the heart of Scottish communities and are often still physically accessible. With their time depth and place-centered focus, such sites offer unique biographies of their communities, even to those no longer interested in them for spiritual/religious reasons. Much of these stories, with their potential international interest, are linked to, if not directly bound up in, the carved stones, notably gravestones. The same applies to places of worship of other denominations and faiths.

The meanings and values attached to the carved stone inheritance of the Church by today’s believers have not been researched. However, in at least one instance the stones are being evoked as *Living Stones* for religious observance although, interestingly, not illustrated (Pray Now Group 2015). This can be contrasted with some past attempts to move carved stones into churches for their protection when the congregations of the time did not want to give them too much liturgical importance (e.g. Strathmiglo, St Madoes, Dupplin at Forteviot; pers comm. M Hall). They are also beginning to play a role in church-led, faith-based pilgrimage tourism (Faith in Cowal: Case Study 12; [Scottish Covenanter Memorials Association](#), established 1966; [Pilgrim Journeys: Exploring Scotland’s Sacred Places](#), established 2016 by Scotland’s Churches Trust working with VisitScotland).

The social value of carved stones at past and present places of worship for non-believers and those of other faiths requires research (see Section 4.3.3). In a predominantly secular society, how are carved stones (that may require training to understand their texts and visual imagery, or to appreciate their historic significance) to be understood and valued in a religious context (Figure 86)?

Figure 86: A significant place may also be created in the present, as in the past: Depiction of a renowned Buddhist teacher carved in low relief and painted in traditional Tibetan Buddhist style, Holy Isle, off Arran (1990s). © Katherine Forsyth

The non-institutional spiritual appreciation of carved stones—of the numinous qualities of their materiality and setting, and its relationship to where and how the carved stones are being preserved and presented to the public, has also not been researched.

Case Study 12: Faith in Cowal

4.3.5 *Economic*

The best assessment of heritage values is likely to come from a complementary use of both cultural (see above) and economic values (Mason 2002, 15), indeed of public values more generally. We are not aware of any work that has specifically looked at the economic value of carved stones, for example of the carved stone heritage trails that exist (the Pictish Trail in Highland etc.), of carved stone-related craftwork, or of mass-produced tourist items. Indeed, work that might have done so in some way, such as the Historic Environment Advisory Council Scotland (HEACS) 2009 report outlining the social and economic context for ecclesiastical heritage, did not engage with carved stones in any way.

There is clearly much work that could be done to consider the economic value of certain carved stones in certain contexts (such as tourism). There is also an economic angle to the ways in which positive community engagement with, for example graveyards, can reduce anti-social behavior, with its social and economic benefits for society (see Section 6.2.1). Research could also be undertaken on non-use public values, which link back to social values: the ways that individuals value carved stones simply for their existence, often as entities with ‘agency’ (the ability to make a difference) in the community; the way people might want to conserve the carved stones as something they might wish to ‘consume’ at some stage in the future; and the ways in which people might wish to pass on carved stones to generations to come.

4.3.6 *Cultural/symbolic, and Political*

Cultural/symbolic value refers to the ways in which carved stones might be used to build cultural affiliations in the present through building on shared values that are not related to the chronology and meanings of a site. Examples include the use of carved stone images, particularly in branding, such as Glenmorangie’s prominent use of a design from the Hilton of Cadboll stone as the emblem that adorns their bottles, exemplifying their pride in their Scottish roots (their Tain distillery is close to Hilton of Cadboll; Skipworth in Clarke *et al.* 2012, ix). Other examples include the logo of public and commercial companies, such as Sabhal Mòr Ostaig’s (University of the Highlands and Islands) use of a Burghead bull. Products, such as Marks and Spencer’s inclusion of high-cross-shaped biscuits in their ‘Scottish’ shortbread also fall into this category. Political value refers to the way that heritage such as carved stones might be used to shape civil society, such as promoting certain ideological causes. The Scottish *cause célèbre* is the ‘Stone of Destiny’/Stone of Scone, delivered to Edinburgh Castle with much pomp and ceremony at the bidding of the Conservative-led Westminster Parliament on St Andrews Day 1996, and viewed with not a little controversy and cynicism (Welander *et al.* 2003; Ascherson 2002). The heritage issues included weighing up the relative value of returning the stone to Scotland against removing it from the very fine medieval coronation throne that had been designed to house it, on top of which it was not returned to Scone Abbey whence it had actually come (Rodwell 2013, 207–216).

4.3.7 *Temporal dimension of value*

Carved stones offer insights into the social biographies of people (both individuals and communities), while a cultural biographical approach to the carved stones (including collections of stones and replicas) offers the framework for exploring the meaning and values that carved stones had from the point of their creation, including selection of rocks from which to carve them (see Section 3.2.3). The nature and shifting pattern of these values for different communities of interest is of importance in its own right. It enables us to identify how and on what (or not) our present values systems are based, and to provide a hook to the interests of contemporary communities. Graffiti is a particularly good example of how the values attached

to specific marks on stones, as well as the act of carving graffiti, change across time and space, and between individuals and communities, and the debates that can arise from this (Figure 87; Graffiti: Case Study 34). By thinking across and between biographies, bigger patterns can be observed. The biographical approach can therefore provide contextual overviews to explore whether different practices can be linked to different periods at regional and national level. It can assist with defining what we mean by ‘carved stones’, refining our understanding of aspects of materiality (evidence of remaking and reuse, for example) and interpreting the social values placed on carved stones in the present.

Figure 87: Norse graffiti made in [Maeshowe](#) Neolithic chambered tomb, as recorded in a painted, 20th-century plaster cast in the NMS (IB 310). © Doug Simpson

A biographical approach also allows some very specific issues to be considered. For example, the value placed on the location and context of carved stones (historically and today) and what underpins those values (ownership and sense of belonging) (Figure 88).

Figure 88: Spolia—transported carved stone fragments—may have particularly extended cultural biographies, as here in Sir Walter Scott’s gardens at [Abbotsford](#), Scottish Borders. © Sally Foster

Case Study 34: Graffiti

4.4 Research Recommendations

See also Section 2 for background to these research recommendations.

4.4.1 Principles

1. Ensure that the full range of values of carved stones are routinely explored and used to inform understanding of their significance, and do this in relation to different communities of interest. This will enable value assessments to feed into the heritage cycle.
2. Reflect on the implications of broader understandings of value for carved stone management practices in general, identifying strategic research needs as this knowledge changes.

4.4.2 Problems

1. Bridging the gap in theory and practice between designation criteria/authorised heritage discourse and values-based approaches (Section 4.2).
2. Marrying cultural values and public values in practice (Sections 4.2, 4.3.5).
3. Understanding how access to data and knowledge feeds into values held by the public (Sections 4.1, 4.3.3).

4.4.3 Practice

1. Consider the value of carved stones as single stones, groups and collections (Section 4.3.1).
2. Respect the value of the places that carved stones once stood/were used, and factor this into the overall understanding of the value of carved stones (Section 4.3.1).

3. Apply biographical, interdisciplinary approaches because they offer a framework for exploring value through time and into the present, embracing social value (Section 4.3.7).
4. Ensure regional and supra-regional overviews exist to provide a context in which to understand values and ultimately significance. Modern national boundaries will often be an irrelevance in this context (Section 4.3.1).
5. Marry an understanding of values with an understanding of the physical condition of the stones and scale of risks to them to establish how the values (and ultimately the significances) are being affected, and what the potential opportunities are (Section 4.3.3).
6. Factor in the value of analogue and digital replicas of carved stones (historic and modern), and in doing so consider a composite biographical approach (Section 4.3.1).

4.4.4 *Projects: enhancing existing*

1. Establish the different meanings and values placed on carved stones by communities, how this connect to concepts of identity and place, and how knowledge might lead to greater public engagement with the carved stones (Section 4.3.3).
2. Establish how cultural and natural activities affect the historical and current values of the carved stones. Cultural activities include actions to conserve, present and interpret carved stones. Natural activities include the impact of weathering and erosion. Consider these at different scales, in relation to the materiality of the stones, their immediate location and context, and their landscape setting (Sections 4.3.2, 4.3.3).
3. Establish priorities for protecting/researching the earlier, especially primary, locations of carved stones so that we better understand their meaning and values through time (Section 4.3.1).

4.4.5 *Projects: new approaches*

1. Establish whether there is anything distinctive about how people value *carved* stones/different types of carved stones, and in different contexts (Section 4.3.3).
2. Focus on understanding neglected areas of carved stone value, such as social, spiritual and economic (Sections 4.3.3, 4.3.4, 4.3.5).
3. Establish how current local communities of believers and non-believers value the stones at ecclesiastical sites, and how can this be used to improve engagement in their protection, engagement and enjoyment (Section 4.3.4).
4. Establish the value of loose and vulnerable carved stones to inform future priorities for attention, and to better understand how to work effectively with them (Section 4.3.1).
5. Explore traditions of stewardship and how these influence the values placed on carved stones (Section 4.3.3).
6. Explore the ways in which provision of greater information about carved stones alters perceptions of their value (Sections 4.1, 4.3.3).
7. Establish how better to use an understanding of value to improve how people engage with and enjoy carved stones (Section 4.3.3).
8. Establish how replicas of carved stones 'work' in practice and the implications for heritage management practice (Section 4.3.3).
9. Research and provide guidance for museums on how to assess the significance, needs and opportunities for replicas of carved stones in their care (Sections 4.3.1, 4.3.3).
10. Explore the economic value (actual and potential) of carved stones (Section 4.3.5)
11. Establish the non-use values of carved stones (Section 4.3.5)

5. SECURING FOR THE FUTURE

5.1 Introduction

Securing carved stones for future generations is a dynamic and ongoing process of understanding and seeking to manage change. This means making careful judgements about how to retain the cultural significance of carved stones at the same time as providing for their future needs, including access, security, maintenance and repairs. We need research to underpin our decision-making to help us to identify and adopt the highest standards in conservation management. Scientific and digital technologies have opened new research avenues. These include geological analysis (Magnetic susceptibility: Case Study 9) and 3D recording and modelling (Robert the Bruce: Case Study 5). Such work contributes significantly to our appreciation of the triggers of deterioration and the methods and techniques available to arrest these in order to preserve stones. Scientific and digital technologies additionally create baselines to map future changes in condition and risks to preservation (Section 3.3.2).

Research can help ensure protection through an understanding of carved stones that is both forward-looking and retrospective. We need to be able to anticipate what would happen as a result of our intervention but also to recognise the changes that have already taken place and, where possible, their cause as well as effect. Carved stone biographies can help us to identify previous work in terms of action taken. These may also reveal the philosophies that guided early conservation practice and past use of carved stones within their particular historical contexts (see for example Figure 89). Our work must be reflective for ‘without understanding conservation is blind and meaningless’ (Clark 2001, 8). There is a need for research to be more joined-up with practice to help drive the conservation heritage cycle and strategy outlined in Section 1.4. This means engaging more fully with the philosophical and practical dilemmas that arise in consequence of our actions (or indeed lack of action).

Figure 89: As part of the local authority’s landscape ‘improvements’ carried out during the 1950s, many of the gravestones in [Preston West Churchyard](#), Prestonpans were moved from their original positions and laid flat into a concrete and pebble bed. © Susan Buckham

Anecdotal evidence and existing research (Section 10) indicate the range of issues facing carved stones (not least the effects of weathering and erosion Figure 90). Currently it is difficult to respond to these strategically without a more detailed understanding of diversity in management practices, the extent of actual conservation on the ground and the current condition of, and risks to, carved stones (Section 3). Consequently, there is an urgent need for research to identify the nature and scale of threats and the options and opportunities to resolve these to safeguard stones. This research will help us to identify the most vulnerable stones, prioritise action and direct future analysis.

Figure 90: A sandstone headstone suffering from severe stone decay. This stone was moved and reset into the boundary wall of [Preston West Churchyard](#), Prestonpans, East Lothian. © Susan Buckham

5.2 Ways of protecting

See also Section 8.2 Tables 1–3 and Section 8.3 Table 6.

5.2.1 Ownership

Different types of ownership bring with them distinct issues, opportunities and available resources. Further research is needed to create strategies to enhance management and tackle threats to carved stones that are informed by and accommodate these differences. Carved stone owners include central government, local authorities, ecclesiastical bodies, institutions, communities and private individuals. In some cases a stone's owner and manager may be separate parties. A further layer of complexity is created at sites where multiple ownership interests exist (see for example Section 5.3.4). It is difficult to fully grasp the issues involved with caring for stones due to the fragmented nature of responsibilities towards them. Our understanding is particularly constrained by the lack of available records on ownership and condition.

Currently we lack insight into the fundamental curatorial issues facing the ownership groups who bear the biggest share of stewardship responsibilities: local authorities, churches, heritage bodies (for example HES, NMS: National Museums of Scotland, FCS: Forestry Commission Scotland, NTS: National Trust for Scotland), community groups, and farmers and other private individuals. We also know anecdotally that an inability to identify owners is a major issue for carved stones (see also Section 5.2.2). To better understand how ownership, management, protection and enhancement of carved stones interrelate we need research to help answer basic questions like the ones listed below:

- What is the diversity of management within current local authorities (for example for stones in local museums)?
- To what extent do carved stones present a management burden for churches (for example if early medieval fragments are housed within the church)? Is there the need to remain open for visitors, bringing greater security issues or increased insurance? What impact does the increasing amalgamation of parishes under one minister, who may have little knowledge or even interest in the carved stones in the care of individual churches, have in practice on stones?
- What is the impact of changes in ownership and use after churches and manse become redundant upon public access, stone condition or public opinion? How can we create better physical access to sites and monuments (including architectural sculpture) after a change in ownership/use?
- What resources do 'friends of' groups or other types of community management bring and what professional support is needed to ensure the sustainability of their actions, information, experience and skills (Figure 91)? See also Edinburgh Graveyards Project: Case Study 20 and also the work of Archaeology Scotland's [Adopt-A-Monument project](#).
- How does harnessing community values affect stewardship?
- How does graveyard conservation management conflict with burial provision (Buckham 2011)?

Figure 91: Graveyard 'friends of' groups, like the Friends of the [Canongate Kirkyard](#), Edinburgh, can undertake a range of stewardship activities. Currently we lack a detailed understanding of the benefits and long-term legacy of this type of work. © Susan Buckham

Understanding ideas of the ownership of carved stones is not simply a matter of the legal definition of property. Ownership should also take into account the cultural claims made on the

resource, as well as the potential for others to get involved in stewardship. Heritage has a powerful role within the production of social identity (see for example Barkan and Bush 2002). On this basis a carved stone can be part of a group's identity and vice versa; the stone is meaningful because it conveys a group's identity. This interrelationship is founded on the basis that heritage, like identity, is inalienable: it cannot be transferred to the possession of others. Siân Jones in her seminal study of the Hilton of Cadboll cross-slab (2004; 2005; 2006a; Contemporary social values: Case Study 14) has characterised the conservation of carved stones in Scotland as beset by controversy that stems from contested claims of ownership based on different conceptions. She argues that the 'crux of the conflict lies in the distinct meanings and values attached to the monument in local contexts in contrast to the spheres of heritage management and national patrimony' (Jones 2005, 48; Figure 92).

Figure 92: Front cover of Jones 2004 showing the lower portion of the Hilton of Cadboll cross-slab after its discovery and excavation in 2001. Crown Copyright: Historic Environment Scotland

Claims to stones are often expressed through discourses of 'belonging'. This is evidenced by the metaphorical and symbolic meanings communities attached to stones, which are used as a focus to mediate the relationship between people and place. Heritage management systems tend to privilege professional authority and the scientific, aesthetic and historic values of heritage above the values derived from its cultural meaning to contemporary society (see Section 4.2). Accordingly, heritage professionals often lack an awareness and understanding of these social values, particularly within a local context. These values are not monolithic but reflect the heterogeneous nature of communities. Furthermore, the range of claims to stones can become more fragmented and complex, and possibly increasingly contested, where secondary contexts have resulted in new relationships and associations (see Barkan and Bush 2002). The relationship between communities and carved stones is not static. It may operate at a subliminal level as part of the background of daily life only for latent values and associations to surface when the relationship is threatened, for example by the removal of a carved stone from the locality into a museum far from where it was located. Heritage professionals can perceive these local values as short-lived and so less 'authentic' and valid against conservation needs or national measures of cultural significance (see Section 5.3.2). Local interests and attachments can clash with notions of 'national public benefit', particularly for conservation. The deep-rooted nature of a local community's relationship with carved stones may mean they resist conservation. This is not only because attitudes towards conservation may differ since the concepts of 'preservation', 'protection', 'permanency', 'decay' and 'aging' are all culturally defined, and therefore subjective, but because it may undermine a community's own sense of the authenticity for stones to embody the relationship between themselves and place by demonstrating another's authority and 'ownership' over the stone.

Further research is needed urgently to investigate how the different meanings placed on carved stones by communities connect to concepts of identity and belonging. Identifying case studies where contested ownership has been successfully negotiated could encourage more effective locally based conservation and stewardship. Examples of a continuum of stewardship may similarly inspire community engagement (e.g. Robert Fergusson's gravestone Figures 93–94).

Figure 93: Robert Fergusson's gravestone at [Canongate Parish Churchyard](#), Edinburgh, has been the focus of a series of attachments that intersect with notions of belonging. © Susan Buckham

Figure 94: Detail of the inscription panel erected by Robert Fergusson's gravestone, [Canongate Parish Churchyard](#), Edinburgh. © Susan Buckham

5.2.2 Legislation and codes of practice

Anecdotal evidence suggests the provisions and current enforcement of the law means that the measures that could be used to protect carved stones can prove ineffective in practice (one factor being they were designed to protect the historic environment more generally). Portable stones and gravestones appear to be particularly vulnerable in this respect (Section 5.3.3–4). The risks to loose stones, which frequently fall through legislative and curatorial gaps, are exacerbated by a lack of clarity in the wider sector as to how Treasure Trove and the common law principle of *bona vacantia* might best be applied to such objects. Furthermore, there is a lack of clarity over how the impending changes to burial legislation, which enables grave reuse and procedures for dealing with apparently 'ownerless' gravestones and structures, could affect carved stones in graveyards. We know through anecdotal evidence that an inability to identify legal owners is an issue that can increase the risks to carved stones. For example, if it is not clear who owns a stone, it may be ineligible for designation, regardless of its potential importance. At the very least, designation registers a stone's significance and may mean that its condition is monitored in some way. One example of the problems arising from unclear ownership is shown by a local authority audit of graveyards in Aberdeenshire, which found an absence of paperwork relating to the ownership of graveyards casting uncertainties over who was responsible for the maintenance of sites (see also Section 5.3.4).

Research plays a critical role in helping us to understand how the law and codes of practice influence the management and protection of carved stones in practice. With this knowledge we can create, implement and evaluate strategies to improve the protection of carved stones. Although many threats are known anecdotally, without a strong evidence base to quantify the actual risks in practice, policy-makers cannot make recommendations to address issues through more effective guidance or, in limited cases, by legislation. Although aspects of property law have a significant impact on the treatment of carved stones, such as through the Treasure Trove process, they were not originally designed with conservation in mind. It is, however, doubtful if there is currently the political will or parliamentary time to change the law relating to the ownership and care of carved stones. Generally speaking, changes to the legislation are most easily effected where good practice is established as the norm and legislation is required to deal with a noncompliant minority.

Scheduled monument and listed building legislation is the primary available means of protecting known carved stones on a statutory basis: Scottish Historic Environment Act 2014; *Scottish Historic Environment Policy (SHEP)*: Historic Scotland 2011; superseded by *Historic Environment Policy Statement (HESPS)*: Historic Environment Scotland 2016. Both categories of designation have the capacity to manage proposed changes to carved stones and their immediate environment. Scheduled status can only relate to stones that have been assessed as nationally important, or are part of monuments assessed as nationally important. Listing, as well as protecting nationally important examples, can also apply to regionally or locally significant carved stones. Scheduled status is primarily determined on the grounds of a monument's cultural values, considered in terms of intrinsic, contextual and associative characteristics, including its potential to inform our understanding of the past. The basis for listing is age and rarity, architectural or historic interest, and close historical associations. Neither of these systems is designed to take into consideration public values, and, while scheduling guidance

recognises that social value is a part of cultural value (see Section 4.2), the criteria for assessment of national significance are weighted towards more intrinsic considerations related to historic value (Section 4.2). Yet social and public values are highly important to present communities, so these too are desirable to protect for future generations. The scheduling in 2015 of a heart-shaped stone setting known as the [Tinker's Heart](#) in Argyll is the first case to explicitly give a significant weighting to the social values of a monument (Figure 95). In general terms, what is currently designated lags behind not just current academic and scientific values, but also behind current understandings of what cultural value is, let alone public values. Some presently undesignated carved stones holding significant social and public values risk being overlooked (and hence are vulnerable), although they may, on (re)assessment, also possess important cultural values too.

Figure 95: [Tinker's Heart, Loch Fyne, Argyll](#). *Crown Copyright: Historic Environment Scotland*

Given its passive nature, designation is not an effective safeguard on its own. Indeed, it can create an unrealistic sense of security. This is particularly the case where owners and managers do not have sufficient knowledge about the carved stones, about conservation principles and techniques to inform their actions, or indeed the necessary financial resources to act (see Section 5.3). While it imposes the need to secure consent to any changes to carved stones, it does not require nor necessarily prompt their active management, whether through maintenance or works to enhance, or recover, their significance (see for example Figure 96). A carved stone may be only part of a small element of a structure that is listed, or its curtilage, and its presence, significance and designation may be overlooked. There may be a lack of clarity about the extent of a designation which creates grey areas in terms of how laws are interpreted and applied, thus diluting effective protection.

Figure 96: View showing the poor condition of the landscape at [St Michael's Churchyard, Cambusnethan](#), North Lanarkshire. The graveyard, along with three mausolea, is Category B listed. The graveyard contains several late-medieval grave-slabs and an early medieval cross-shaft was discovered here in 1898. © Susan Buckham

Current legislation creates a loophole for the disposal of carved stones within churches. There is no legal protection for carved stones inside a church in use with Ecclesiastical Exemption, so the protection offered by listed building status will only apply once the church ceases to be in use. As there is no Scottish equivalent of the Pastoral Measures Act 1983, carved stones are therefore vulnerable to disposal if a church is cleared prior to closure.

Other measures affecting carved stones also involve complex issues for their protection. The 'Treasure Trove' process deals with objects where the descendants of the original owner cannot be traced. Rather than being based on statute law (such as the Treasure Act 1996 elsewhere in the UK), the Crown's right in Scotland to portable antiquities lies in the common law principle of *quod nullius est fit domini regis*, under which treasure and ownerless goods (*bona vacantia*) can be claimed by the Queen's and Lord Treasurer's Remembrancer (QLTR) on behalf of the Crown as part of the royal prerogative. Although not originally intended for the purpose, since the 19th century the law has been used to acquire portable antiquities for museums, including carved stones. Today, the [Code of Practice on Treasure Trove in Scotland](#) (revised in January 2016) is the most authoritative statement of the operation of the procedures for treasure and *bona vacantia*, together commonly described as 'Treasure Trove'.

The Treasure Trove process in Scotland is more comprehensive than in many other jurisdictions, and is not concerned with the motivations of the people who originally buried them, the material from which they are made, the ownership of the land on which they are found or the means by which they were discovered. It is, however, solely focused on determining the ownership of recently discovered portable antiquities, normally allocating those claimed to the care of accredited museums. The process has therefore been described (e.g. Foster 2010a) as presenting grey areas for the protection of stones as there can be different interpretations about whether it covers stones that have been known for many years, that are part of an owned building, or are located on sites where claims can be made to stones on a heritable basis (e.g. a churchyard). Notwithstanding issues over the extent of public understanding of the system and its enforcement, and although not a mechanism designed to provide care for carved stones, if properly implemented the Treasure Trove process can offer protection by museums for most newly discovered stones.

5.2.3 Policy and guidance

Protection is not simply about (passive) designation (see Section 5.2.2); the legislation is supported by policy and guidance. Good management practices, rather than just being enforced, need to be adopted and enabled by guidance and policies that encourage carved stones to be valued. Currently, the extent and nature of internal guidance for different types of owners and managers of carved stones (see Section 5.2.1) is unclear. Core national policy and guidance for carved stones includes the Scottish Executive's 2005 *Policy and Guidance for Carved Stones* (although not mentioned in *SHEP: Historic Scotland* 2011 or [HESPS](#): Historic Environment Scotland 2016) and HS's *Conservation of Historic Graveyards* (Maxwell *et al.* 2001; see Sections 2.8 and 10.8 for further examples).

While resources have been allocated for research to develop guidance or systems to assess risks to carved stones, these have not always sought input from their intended target audiences or been followed up by studies to assess their effectiveness in practice. For example, Maxwell *et al.* 2001 is strong in many important areas of graveyard conservation but some of the best practice recommendations (for example for grass maintenance; Figure 97) are simply unachievable within available local authority budgets. Furthermore no guidance is provided on health and safety, one of the major priorities for cemetery managers. Although the lack of guidance in this area was remedied by HS in 2003, anecdotal evidence suggests that this has had limited effect upon local authority gravestone health-and-safety testing programmes. In other cases, we find research on carved stone condition and risk assessment has not been fully utilised to help create guidance or develop policies. For example, Thomson's 2000 development of a risk-assessment model for Scottish market crosses has the potential to be applied to other categories of carved stones (see also the Carved Stone Decay in Scotland Assessment Methodology Handbook; Section 2.6.3). In other instances, local or regional projects are developing good practice but often information is not being widely shared through guidance literature or published as case studies. One such example is PKHT's [Historic Churchyards project](#), which piloted the use of different planting schemes aimed at limiting damage to historic stonework from grass cutting.

Figure 97: Gravel is used in in this churchyard to avoid the burden of grass maintenance at the expense of the site's historic character. © Susan Buckham

Anecdotal evidence suggests that current best practice guidance for carved stones is not being widely followed. Research is needed to understand why this is the case, the impact of this upon carved stone preservation and the potential that exists to raise standards (for example Figure 98). Research should prioritise identifying the types of situations that involve more arbitrary decision-making on the appropriate conservation actions. How do judgements vary, for example, where it is deemed necessary to remove or cover stones? Where are the most important gaps in knowledge (for example assessing significance or repair techniques)? How significant are factors such as a lack of (craft) skills and knowledge, public attitudes, available resources and the mechanisms to deliver management services? What are the connections between awareness, value, protection and policy and how can we capitalise on these? Once we can answer these questions we will be better placed to develop best-practice guidance and policies, to enable the implementation of this and monitor its effectiveness on an ongoing basis with future research.

Figure 98: The moss from this gravestone has been removed using a rake. © Susan Buckham

5.2.4 Physical conservation

Research is needed to consider both the individual needs of carved stones, since each situation is different, as well as wider and strategic issues. Carved stones like other elements of the historic environment need to have their condition assessed and regularly monitored to identify those at risk (Thomson 2000 has wider relevance), while conservation plans need to also take into account the asset's cultural significance as well as its public values: a holistic approach is called for. But what carved stones require active conservation and when? What changes should this involve? Who is needed to make this happen? Do we have the conservation and craft skills to effect this? What philosophical questions do these raise?

Conservation organisations will aim to regularly monitor the monuments that they have a direct responsibility for. HES is particularly ambitious in its use of digital technology. This means that it should be possible for them to monitor the condition of targeted carved stones at the micro level (HES Rae Project initiated in 2011: HES 2015). In practice, though, it is challenging to find a way to regularly and scientifically monitor the condition of carved stones, risks to them (including pace of change) and opportunities to address these issues, even for those that are designated, let alone the wider resource. Mega-level changes (to overall form, and shape of a carved stone/monument) and macro-level changes (to the surface overall and overall condition) are visible to the eye, but micro-level changes (to the surface detail, through abrasion and weathering) are not. One question is what role volunteers can play in such processes, with the evidence to date suggesting that trained volunteers are well capable of recognising mega and macro-level condition issues, and opportunities to address them, but can identify micro-level issues at a gross level only, and are less likely to be able to identify opportunities to address these. By contrast, risk can only be scientifically assessed by specialists (outcome of an informal review of carved stone projects involving volunteers by members of EH, HS and project managers in May 2005).

This all makes it extremely difficult to identify priorities for conservation action. Added to this, the majority of carved stones are also in private ownership or in the care of organisations whose prime objective is not conservation, such as the church. With access to technical conservation advice and skills very limited, in both the state and private sector, and ever more limited resources, the outcome is that conservation priorities for action have tended to be piecemeal

rather than informed by any overview of where the greatest needs lie from a holistic perspective. Highly significant carved stones can be off-radar, despite high levels of immediate risk to their condition. Even if there is a local champion to progress a conservation project, whether the owner or another party working with the owner's permission, carved stones that are not publicly accessible (in a garden or other private or inaccessible space) are less likely to attract public funds. Research is needed to establish where the priorities for action lie for carved stones that are not in the direct care of conservation bodies, particularly for those categories of carved stones that we already know to be particularly vulnerable in some way (see Section 5.3.3–5). Research is also needed to find the best ways to engage and support the active stewardship of carved stones by a far broader sector of the population. The necessary management action may in fact be relatively simple to effect with a little effort (Achnaha: Case Study 39)

If a carved stone has conservation needs, what interventions are appropriate? This may involve visible or invisible alterations to the fabric of the stone, introducing new material (how should old be distinguished from new? should a stone be cleaned? Figure 99), changing the surrounds of the stone to provide shelter from weathering, moving the stone to an alternative protected space (what sort of space and how local should this be?), replacing a stone with a replica (how and in what ways should this be obvious? should former location be marked and how? Figure 100) or even creating replicas (analogue? digital?) to curate while allowing the original stone to 'die' with the passage of time (cf Walderhaug Saetersdal 2000).

**Figure 99: Laser treatment to remove soiling from a carved stone in the [St Vigean's Museum](#).
*Crown Copyright: Historic Environment Scotland***

Figure 100: Replica of the [early medieval cross shaft](#) discovered in 1898 at [St Michael's Churchyard, Cambusnethan](#), North Lanarkshire. © Susan Buckham

Stone conservation solutions are not yet the match for the problems (Doehne and Price 2010, 75) but the science will continue to progress, and conservators need to learn and do more science. Nonetheless, what is acceptable today will likely be regarded as inappropriate in the future, just as we today are critical of many past conservation actions. Knowledge of past conservation techniques needs to be more widely researched, as well as on a case-by-case basis. Today good records need to be kept, not just of what was done but the conservation planning process that led to the decisions about what to do. These records also need to be shared, with scope for [OASIS/HERALD](#) to provide an index to such grey literature, but this will require a buy-in beyond archaeological researchers who already use these facilities.

While the present focus is consolidants, the questions of if and how to control biological growths remains a particularly keen issue for Scottish carved stones. How efficacious from a purely conservation perspective are the shelters (Figure 101) and other protective devices that were or are introduced (see Muir 2005; Sheltering monuments: Case Study 17)? This research wants to include new and creative solutions, such as at Rodney's Stone, Brodie, where a modern wicker artwork provides a wind-break for the Pictish stone, the immediate surroundings of which have been transformed as part of a carefully considered conservation strategy (The Brodie Stone: Case Study 33).

Figure 101: [Three early medieval stones](#) in a shelter at [Inchinnan New Parish Church](#). These were moved to the new parish church following the demolition of the [old church](#) in 1977. © Sally Foster

Case Study 17: Sheltering monuments

Case Study 33: The Brodie Stone

5.3 Protection priorities

In 2015, participants at the Future Thinking on Carved Stones in Scotland Workshops 1–3 identified a range of dilemmas linked to the conservation and management of stones (Section 5.3.1). Ensuing discussions highlighted how different attitudes towards the concept of ‘authenticity’ might influence how we respond to these issues in practice (Section 5.3.2). The workshops also identified two particularly high-risk categories that should be prioritised within strategies to protect carved stones: loose and vulnerable carved stones (Section 5.3.3) and gravestones (Section 5.3.4), as well as raising concerns about some other carved stone categories (Section 5.3.5).

See Section 8.2 Tables 1–3 and 8.3 Tables 4 and 8.

5.3.1 Issues and dilemmas

Conservation is embedded with a range of practical and philosophical dilemmas. Accordingly, we need to make judgements about how to balance concerns that achieve the best outcomes holistically for understanding, valuing, preserving and engaging with carved stones. The issues we face may relate to recognising and attempting to resolve conflicting values. For example, are carved stones artefacts or monuments? What weight do the artistic merits of architectural carved stones hold against structural and contextual values? When does graffiti possess cultural values and when is it detrimental to significance (Graffiti: Case Study 34)? Dilemmas may stem from concerns for unintended outcomes of our action (or equally a lack of intervention). For example, can preservation by record be a double-edged sword? How can we identify future needs? Will increased tourism result in higher risks to stones from visitor damage, theft or vandalism? We face a significant challenge in devising ways to safeguard stones that simultaneously optimise benefits to preservation, research, access and engagement (Foster 2005b). Creating greater self-awareness of these different perspectives enables us to see how changes in preservation link to shifts in the cultural and public values placed on carved stones, and the role our actions to arrest deterioration play in this dynamic. This understanding is urgently needed to guide practical actions to protect the highest at-risk categories of carved stones (see Section 5.3.3–5).

The values of each stone will be different at any moment in time as will their conservation needs, so the range of solutions will always be time- and place-specific, but there are wider issues, beyond the technicalities of conservation science, that we must also research. The approach taken in the Materials, Authenticity and Values (MAV) Project reminds us how critical it is that we reflect on the material qualities of carved stones (and their replicas), and the spaces we encounter them in, how this intersects with the ways authenticity is negotiated, and the manner in which different communities of interest value the thing in question (Science, value

and material decay: Case Study 8). Qualitative research is necessary to better understand these issues and their implications for what we do and how we do it. In making our decisions to protect carved stones, what emphasis should we give to the different sorts of values, and where should the balance lie between the cultural and public ones (see Section 4.2)? The Moray Buried tombstones: Case Study 35 is an excellent example of how partnership working initially driven by different, potentially conflicting, sets of cultural values can produce wider benefits for understanding, accessing and engaging carved stones. Conserving *in situ*, the use of shelters or moving stones can impact either positively or negatively on stones' landscape associations and values. Is it more important to keep a stone on display *in situ* or locally than to perhaps provide more ready access or greater security to it somewhere else? What is the attitude of the public, including private owners of carved stones, to replicas of carved stones as part of heritage strategies? How should their presence and role be communicated?

Case Study 35: Buried tombstones

5.3.2 Authenticity

How carved stones are cared for and protected (indeed the heritage in general) is informed by attitudes to what is 'authentic' (see Section 2.8.2); we tend to value those things we perceive to be authentic, and seek to preserve those qualities. Until recently there has been an overwhelming emphasis on material authenticity, with the 'true' nature of objects being defined in relation to origins, provenance and fabric (see Pye 2001; Muñoz Viñas 2011). For carved stone, continuity and character of setting has also played an important role in assessing authenticity, because such materials have often become fragmented or separated from their original contexts. For instance, early medieval carved stone is rarely in its original historical context, and has a 'schizophrenic' tendency to be viewed as both monument and artefact (Foster 2001). The authenticity of subsequent settings, whether in the landscape, historic buildings or museums, is therefore open to question in the context of authorized notions of authenticity, and various forms of expert practice and judgement are devoted to addressing it, and in different contexts (e.g. Jokilehto 2006). Carved architectural fragments that have become detached from ruinous historic buildings also jeopardise authenticity, and much effort is expended on maintaining their material and historical associations, either through physical association or through record.

The rise of conservation science in the mid-late 20th century further reinforced materialist conceptions of authenticity (Muñoz Viñas 2011, 67–9). Increasingly sophisticated techniques for analysing and treating fabric (see Section 2.8.1) offer the promise of ways of both establishing and stabilizing the authenticity of historic objects, including carved stones. However, in the last 20 to 30 years a parallel body of literature has arisen, questioning materialist approaches. It has been argued that authenticity is not an intrinsic or essential quality. Instead it is something that is constructed by people; a product of specific regimes of meaning and practice. Experts—such as art historians, archaeologists, conservators and heritage managers—play a crucial role it is argued in producing and mediating authenticity.

There has been relatively little research applying these arguments specifically to carved stone monuments and a materialist approach to authenticity prevails especially in the context of their conservation. Nevertheless, some recent studies have attempted to overcome the 'materialist'/'constructivist' dichotomy. Gustafsson and Karlsson (2014) have conducted a

comparative study of authenticity at eight rock-art sites with World Heritage Status. Jones and Yarrow (2013) have examined the production of authenticity through expert practice at Glasgow Cathedral, where carved stone elements of the building, in particular the gargoyles, pose specific problems. Jones (2009; 2010) has also examined the experience of authenticity using the early medieval Hilton of Cadboll cross-slab as one of her case studies (Contemporary social value: Case Study 14). This research highlights that the materiality of such monuments, including signs of weathering and age value, are important in terms of people's experience of authenticity (and see also Holtorf 2013). The Science, value and material decay: Case Study 8 examines the values associated with material transformation and the impact of science-based conservation on these values. More important still is the network of relations between such objects and past people and places. This has important implications for their 'affective' qualities and indeed for their role in heritage interpretation and education (see Jones 2016 in press).

There is a pressing need for more research on approaches to authenticity in relation to carved stones. How should we deal with authenticity in light of the often complex and fragmented biographies of many carved stone monuments? Do the carved surfaces and aesthetic qualities of carved stone play a role? How is authenticity experienced in relation to carved stone monuments and fragments and what are the implications as regards their conservation? Carved stones with their history of analogue and digital replication and reconstruction offer a particularly useful laboratory for exploration of what authenticity is, and how it was perceived over the last couple of centuries (in the past many museums, such as the Royal Scottish Museum, had a tradition of disposing of their historic plaster casts of carved stones). This understanding is necessary to inform heritage practice in general as well as the specifics of protecting and presenting carved stones.

Recent research has focused on the historical, ethical and practical issues associated with both physical and digital replicas, often using carved stones as the case studies. For example, the practical questions to consider in relation to replicas such as achieving a quality of reproduction with an appropriate level of detail, proficiencies in casting techniques and impact on the original stone (Maxwell 2005). Traditionally, the materialist approach has underpinned a straightforward distinction between originals and replicas. Lacking original substance, replicas were seen as secondary, shallow and lacking in 'aura', even while they were accorded value in the context of education and display. Yet, recent research has shown that replicas acquire their own cultural biographies, while simultaneously contributing to the social lives of the stones they replicate (Foster *et al.* 2014; Foster and Curtis 2016). It has also been argued that authenticity and value can 'migrate' from originals to replicas (Latour and Lowe 2011), while others suggest that replicas acquire distinct forms of authenticity and value (Cameron 2007; Holtorf 2005; Jones 2010). Nevertheless, there have been very few qualitative social studies examining how replicas of historic objects and monuments 'work' in their own right and in relation to their parent (though see Jeffrey *et al.* 2015 on digital 'replicas'). How do they mediate people's experience of heritage? When and how do they acquire authenticity and value? What kinds of social and material relations do they sustain? Given their widespread use in heritage and museum contexts, there is a pressing need for qualitative research that can increase our understanding of these areas.

Case Study 8: Science, value and material decay
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5.3.3 At-risk categories of carved stones: loose and vulnerable

Loose and vulnerable stones, often found in and around existing and former ecclesiastical sites (see Figures 102–103), are an ‘at risk’ group for several reasons. Responsibility for them falls between curatorial stools (e.g. museums, HES, local authorities and the church). They are not well protected by current legislation. Listing does not usually cover loose stones and portable stones by definition cannot be scheduled. In many cases ownership is unclear and, where known, owners difficult to trace. Depending on the exact nature their status as ‘ownerless’ and ‘portable’ they may not be covered by Treasure Trove. When stones enter the Treasure Trove process there is a need for full conservation assessments to be made. Their portability is a risk to their traceability and raises the likelihood of theft and sale. Movement increases the chance of stones being taken out of their historical context. There may be issues over the extent and quality of recording and cataloguing to document their original placement (or to develop biographies of secondary associations) and to evidence claims if stones have been stolen or sold. *Ex-situ* architectural stones individually, or as assemblages, are fragments that can provide evidence, which may otherwise be missing, to help us to understand what buildings formerly looked like and how they were used. The gathering together of fragments (or equally not) can make them difficult to access physically. Interpreting their potential evidential value requires specialist knowledge and available resources to carry out analysis, meaning that the importance of fragments can be overlooked with their day-to-day care. If neither designated nor owned, their existence, cultural and public values may simply pass unnoticed. The Elgin Cathedral: Case Study 21 shows how interpretation and presentation can improve how visitors experience and appreciate carved stones, particularly where a stone’s historic and aesthetic importance may not be immediately obvious.

Figure 102: 17th-century sculptures removed from the chapel at [Fettes College](#), Edinburgh, for safety reasons. © *Dianne King*

Figure 103: Detached carved finial from an unknown monument within [Canongate Parish Churchyard](#), Edinburgh. © *Susan Buckham*

Case Study 21: Elgin Cathedral

5.3.4 At-risk categories of carved stones: carved stones in graveyards

The divided nature of ownership within graveyards (gravestones and other funerary structures are heritable property and as such do not belong to the graveyard owner) results in a lack of clarity over responsibilities and inhibits joined-up management (Figure 96). Assessing a gravestone or graveyard’s significance and condition is challenging. This is due to the sheer number of monuments and sites that exist but also because of the diverse range of forms they can take (Figures 45–53). We currently lack information of sufficient detail to enable even a basic assessment of what survives, and in what condition, or to carry out preliminary analytical groupings to create for example monument chronologies (Section 3). Anecdotal evidence clearly shows best practice guidance is not informing the day-to-day care of graveyards (Figures 89, 96–98, 103) and the risks arising from changes to burial legislation are presently unclear. There are limited resources available to care for this considerable resource. A local authority audit of graveyards in Aberdeenshire, found the absence of paperwork relating to the ownership of graveyards cast uncertainties over for the statutory responsibilities to maintain sites. This situation is unlikely to change and accordingly there is an urgent need to develop conservation policies tailored to maintenance and current management priorities. The Edinburgh graveyards:

Case Study 20 is a good example of a graveyard project informed by a research strategy (for more details see Buckham 2013a).

Figure 104: Many owners of historic gravestones cannot be traced. In cases where families have died out this leaves stones effectively ownerless. View of [Kilmore Churchyard](#), Dervaig, Mull. © Sally Foster

Case study 20: Edinburgh graveyards

5.3.5 At-risk categories of carved stones: other categories of carved stone

The architectural carved stones and prehistoric rock art tend to be eclipsed within conservation management strategies and research, which have tended to focus on early medieval carved stone monuments and gravestones (e.g. Section 2.8). The lack of guidance literature and peer-reviewed case studies to inform interventions leaves decision-making vulnerable to being arbitrary rather than grounded in established good practice. Both *in situ* rock art and architectural carved stones can be physically inaccessible which present logistical challenges for carrying out work and its subsequent monitoring. The Imaging techniques: Case Study 7 shows the value of new technologies for recording carved stones (see also Condition monitoring at Ormaig: Case Study 37). The condition of architectural carvings depends on the effectiveness of the overall building maintenance programmes and rock art on bedrock sites is often exposed and sensitive to environmental changes. Architectural carved stones can hold value on the basis of both their artistic and structural merits. This duality can cause tensions for identifying conservation priorities. In the case of rock art, balancing preservation with access and interpretation can require imaginative solutions to be found (e.g. [Dunadd](#)—Figure 64, [Cochno](#)).

Case Study 7: Imaging techniques

5.4 Research recommendations

See also Section 2 for background to these research recommendations.

5.4.1 Principles

1. Embed a holistic understanding of the values and significance of carved stones into practices to protect them, following international conservation policies.
2. Engender greater common purpose among the range of communities with an interest in protecting carved stones by seeking to understand and address their perspectives and issues for them at both individual casework and strategic levels.

5.4.2 Problems

4. Limited ability to create strategies to protect carved stones in the absence of an overview of the resource supported by more detailed records that identifies and assesses the significance of current condition and the risks to carved stones (Section 5.2.4)
5. The fragmented environment for protection (i.e. owners, stewards, curators, funders) leads to a lack of clarity over ownership and management responsibilities meaning that the protection of carved stones in practice can fall into the gaps between of different bodies' remit (Sections 5.2.1, 5.3.2, 5.3.4)

6. Addressing what is out of sight: this means recognising and prioritising the needs of carved stones at risk that are generally inaccessible (Section 5.3.5), as well as recognising and prioritising the latent social values placed on carved stones (Sections 5.2.1, 5.3.2).
7. Considerable bodies of data, research and analysis are unpublished, uncollated, and therefore potentially inaccessible to all but heritage managers (Section 5.2.4).
8. Getting the outcomes of valuable day-to-day management and research fed into longer-term research projects (Sections 5.2.3, 5.2.4).
9. Maximising community stewardship while acknowledging there is a gap between what volunteers and specialists can offer in terms of technical and scientific conservation (Sections 5.2.1, 5.2.3, 5.2.4).
10. Expanding the availability of specialist advice and expertise, including knowledge from different disciplines but also skills and expertise gain through practical experience of management and repairs (e.g. crafts people, cemetery managers, museum curators, property managers) (Section 5.2.3, 5.2.4).

5.4.3 *Practice*

1. Prioritise loose and vulnerable stones; stones associated with past and present ecclesiastical sites as well as other burial sites (Sections 5.3.3, 5.3.4).
2. Build on rock-art conservation and management research elsewhere in Britain and Europe (Section 5.3.5).
3. Factor in carved stone/replica materiality, biography and landscape context (Sections 5.2.1, 5.3.1, 5.3.2).
4. Adopt reflective practices—forward-looking and retrospective—that acknowledge and consider the intersection of value, authenticity and materiality (Sections 5.2.1, 5.3.1, 5.3.2).
5. Recognise the value of understanding the history of protection practices on a case-by-case and more strategic level (Section 5.2.4, 5.3.2).
6. Optimise use of scientific and digital technologies (Sections 5.2.4, 5.3.2).
7. Support projects that include or focus on active community involvement (Sections 5.2.1, 5.2.4, 5.3.2).
8. Ensure research is published in peer-reviewed journals (Section 5.3.2).
9. Avoid reinventing the wheel by making better use of existing research (Sections 5.2.3, 5.3.4).
10. Develop refreshed/new policy and guidance for carved stones. This should include:
 - a. Advice for local churches to set out procedures for formalised de-accession, covering the steps for the parish to take, as well as for new owners and subsequent purchasers of de-accessioned churches and manse with carved stones (Section 5.2.2).
 - b. Advice on the criteria and method of evaluation for decision making for the most common scenarios to protect stones e.g. using shelters, including re-roofing of ruins (Sections 5.2.4, 5.3.1).
 - c. Assess the degree and impact of arbitrariness within conservation approaches, for example, when to remove stones, and the concerns, views and requirements of audience (Sections 5.2.1, 5.3.1, 5.3.2).
 - d. Consider whether the Treasure Trove process offers opportunities for a conservation assessment (Section 5.2.2).

5.4.4 *Projects: enhancing existing*

1. Produce a series of rich case studies on groups of carved stones and sites known to be particularly vulnerable within current management (e.g. loose and vulnerable; graveyards; inaccessible sites). Carry out research to establish the nature of incremental changes to curation trends. Use this information to identify main issues and to suggest strategies to resolve them, including priorities to protect and display stones both *in situ* and new relocations (Sections 5.2.4, 5.3.3, 5.3.4, 5.3.5).
2. Investigate the impact of poor practice of groundkeepers, tourists and other unintentional human damage, including how they perceive threats to carved stones including their own impact. This should include a skills audit of those working with or responsible for carved stones (including recorders, tour guides, managers, owners etc.). Scope out the main issues and suggest strategies to resolve them (including strategies for audience development) (Section 5.2.3, 5.2.4, 5.3.1).
3. Build up an evidence base to investigate the connection between protection, policy and the law. Research should explore practices in other countries and consider how to best deploy information to users. This should demonstrate through mapping different scenarios, as well as case studies, what the results will be for carved stones (and loose and vulnerable stones in particular) if current curatorial issues are not resolved. The study should:
 - a. Review the approaches taken in other countries whose legal systems are also predicated on *bona vacantia* to advocate for best practice. Research should clearly set out the limitations of the law to fulfil protection functions and where opportunities exist to improve enforcement (Section 5.2.2).
 - b. Quantify evidence for policy-making to assess the scope for good practice in conservation management to be enforced through new burial legislation (Section 5.2.2).
 - c. Assess the scope for reforming the duty of reporting of archaeological finds, as set out in the Civic Government (Scotland) Act S 67 to strengthen protection for carved stones (Section 5.2.2).
 - d. Assess how the Treasure Trove Code of Practice is communicated to and understood by heritage managers and the wider public to identify any opportunities to improve its effectiveness in practice, including a strategy for implementation (Section 5.2.2).
 - e. Review the approaches taken in other countries in respect of international best practice that has already crystallised e.g. the *Burra Charter* (Australia ICOMOS 2013) (Section 5.2.3).

5.4.5 *Projects: new approaches*

1. Produce a series of rich case studies that reflect on how authenticity is experienced in relation to carved stones (both as monuments and fragments) and in relation to replicas (analogue and digital). Apply findings to identify strategies to improve the protection and stewardship of carved stones both *in situ* and in new relocations and, at the same time, enhance access to and engagement with the resource (Sections 5.2.1, 5.3.1, 5.3.2).
2. Undertake foresight research, to identify long-term trends in potential threats and opportunities in relation to carved stones. For example, consider the ongoing impact of the transfer of Church of Scotland land to private ownership. Use findings to advocate

- to strengthen guidance, and where feasible, the legislative framework (Sections 5.2.1, 5.2.2).
3. Undertake a programme of on-the-ground investigation of graveyards likely to have early historic foundation through unobtrusive means to help clarify their origin with the aim of improving their protection by cemetery managers (especially in advance of grave reuse) (Sections 5.2.2, 5.3.4).
 4. Develop a strategy to identify significant stones that are under threat before deterioration happens. This might involve, for example, risk assessment using details of stone construction and form to identify areas more susceptible to damage and decay, or risks associated by types of ownership (Sections 5.2.4, 5.3.1).

6. ENGAGING AND EXPERIENCING

6.1 Introduction

This section focuses on the *mechanisms* to create social benefits by promoting an appreciation of values and significance. There is an important distinction to be drawn between understanding the values placed on carved stones (see Section 4) and understanding how engagement with carved stones is both influenced by these values but also shapes these values. In both senses, engagement can be seen as a demonstrable impact of value.

People experience carved stones in myriad ways. They may seek them out directly through site and museum visits or instead experience them as backdrops to their daily lives. Engagement may be mediated virtually through the media, internet and the arts. Such encounters can trigger positive or negative responses to stones. Strategies to improve engagement depend upon understanding *how* people experience carved stones rather than solely *why* people value them. Heightened engagement can be achieved through improved physical (or remote web-based) access, interpretation, artistic responses and displays. Engagement is a subjective experience. It allows people to respond to the materiality of carved stones and to enjoy them on their own terms and to draw their own values without necessarily having a specific need for ‘knowledge’.

Our perception of the ‘value’ of carved stones shapes our attitudes and behaviour towards them, either positively or negatively, and influences how we communicate their importance to others. Effective engagement begins with a sound understanding of what enables different modes of interaction, recognising how people appreciate carved stones and being able to measure the difference they make to people’s lives. Equally, it depends on understanding the influence communities can have upon carved stones and harnessing its positive effects. Research is also important to explore why in some cases engagement does not work.

6.2 Ways of engaging

See also Sections 8.1 Table 3, Section 8.2 Table 3 and Section 8.3 Tables 9–11.

6.2.1 *Through better understanding of values*

Case studies, like the Faith in Cowal, Edinburgh Graveyards Project and NDRAP rock art recording (Faith in Cowal: Case Study 12; Edinburgh graveyards: Case Study 20; Rock-art recording: Case Study 29), clearly show communities can make a difference to carved stones. However, we lack an overview that draws this evidence together to map out the ways people engage, their motivations, and how this affects the stones over time. Similarly, we lack details about how carved stones figure in communities’ daily practices, their impact on people’s daily lives and the difference this makes (Figure 105). Future research needs to evaluate impact on a qualitative as well as quantitative basis in order to inform ongoing practice and improve engagement strategies. There are several quantitative metrics that can be used to evaluate success. These include visitor numbers, web page hits, volunteering rates, the number and level of grants secured and instances of vandalism (e.g. graffiti, fire-raising, and theft) or other behaviour that deters visitors to sites with carved stones (e.g. concerns for personal safety due to substance abuse and prostitution). Qualitative measures of success might be found through an assessment of instrumental benefits such as regeneration and economic growth along with

social and financial gains to areas where projects take place, and to the individuals and communities affected by projects.

Figure 105: Veil by Jake Kempsell, South Gyle Shopping Centre, Edinburgh, forms part of thousands of people's shopping experience every year. © Dianne King

6.2.2 *Through understanding audiences*

The potential audiences for carved stones are multiple and diverse. They include local residents, academics/researchers, policy makers, scientists and artisans but also the creative community, media, schools, church congregations, amenity groups, tourists, special hobbyists and special interest groups. The Rhynie stones: Case Study 23 is an excellent example of the potential for audience engagement by creative community-based collaborations. The internet enables audiences, particularly those overseas, to engage with carved stones virtually. Lots of engagement appears to be happening, particularly within local communities (e.g. through national events such as Doors Open Day: Figure 106). Yet little research currently exists on audience identities, their specific needs, experiences and learning outcomes, and the implications this holds for future practice and research. Without such studies it is difficult to explore why some people are not currently interested in carved stones and to develop strategies to improve engagement with 'missing audiences'. Priority audiences include formal/informal education and lifelong learning as well as congregations and ministers, to help churches theologise their own material heritage (see for example Faith in Cowal: Case Study 12).

Figure 106: Children's I-spy trail at [Calton Old Burial Ground](#), Edinburgh during Doors Open Day 2011. © Susan Buckham

Case Study 23: The Rhynie stones

6.2.3 *Through targeted interpretation*

Targeted interpretation relays the key stories about the past that carved stones can tell us or contribute towards. It is creative. Effective messaging harnesses the special nature of carved stones in terms of their ambiguity of meaning and the freedom of imagination this affords; it reveals stones as personalities and distillations of the landscape and as gateways to creative skills, memory and relationships. Such themes provide opportunities to democratise interpretation to reflect local values. Co-produced and co-curated interpretation is particularly effective at bringing reciprocities of understanding between local communities and professionals (Wemyss Caves: Case Study 36).

Case Study 36: Wemyss Caves

Although the range of stories it is possible to tell about carved stones has not yet been fully recognised (see Section 2), it is clear that the 'messaging' needs to be joined-up across the sector and extend beyond one's own community of interest. Research is essential to explore how information can cater to different audience requirements, such as adopting common language or addressing educational gaps, and to determine how different theoretical approaches might make stories 'grip'. The Iona stones redisplay: Case Study 26 illustrates how an approach that considers the materiality and biography of stones can reveal that their importance does not always lie in their artistic form but in the changing ways people in the past

engaged with them. Imagining the material in terms of the ideas that were current at the time of its creation and interpreting stones within their landscape and biographical context can optimise access through highlighting historical and social linkages. Such approaches can help viewers appreciate less ‘obvious’ significance: for example, a fragment of early medieval carving may have little artistic merit but represent the only evidence for an early Christian community in a particular area (Achnaha: Case Study 39). Case studies can assist with identifying opportunities to improve storytelling by utilising different media (including digital) and from linking and layering of information to extend and deepen engagement. Forthcoming (as of April 2016) guidance on graveyard interpretation produced by Archaeology Scotland’s [Adopt-a-Monument](#) project and Kirkyard Consulting was designed using feedback from two workshops on graveyard interpretation attended by community groups and professionals involved with heritage or cemetery management.

Case Study 26: The Iona stones redisplay

6.2.4 Through encouraging creativity

Art, literature, theology, performance and experimental craft practice, as well as digital and visualisation technologies, are all examples of highly effective platforms to explore creative, cross-disciplinary responses to carved stones. Similarly, science offers another strong avenue for engagement, for instance through interpretation of astronomical monuments such as inscribed meridian markers and the Kirkhill Epitome (see Fraser forthcoming) and survey monuments such as Ordnance Survey benchmarks. Recent projects, such as the Ballochmyle: Case Study 24, show the innovative synergies that can result (see also St Andrews University’s [3D digital reconstructions of ruined buildings](#); AOC Archaeology Group 2014; Faith in Cowal 2016). Such approaches, particularly those including public engagement, broaden the context for carved stones, helping to reach new audiences and establish new levels of engagement. The Kelsae Stane: Case Study 25 is an excellent example of how the production of a modern carved stone can engage current communities through a creative process that resonates powerfully and meaningfully with a sense of place. More research is needed to evaluate how social and cultural values are encapsulated or transformed by creative engagement and what the long-term impact is for how communities engage with carved stones (see for example Hall 2013a who considered the use of sculptured stone crosses in popular cinema).

Materiality is a key research area as it lends as much weight to how stones were experienced and made as to their meaning. It involves a consideration of craftsmanship and offers a good opportunity to fuse theory with experimental craft practice and a greater application of theories of visualisation (e.g. groove analysis: Kitzler Åhfeldt 2013).

Case Study 24: Ballochmyle

Case Study 25: The Kelsae Stane

6.2.5 Through presentation and displays

We communicate the importance of carved stones through their presentation. The use of high-quality designs and materials and well-maintained settings subliminally conveys the value of stones. Good physical or (virtual web-based) access shapes engagement. It allows viewers to

experience and respond to the intrinsic qualities and materiality of stones. People are invited to explore and enjoy them on their own terms, creating their own values and significances.

Carved stones offer a ready sense of place both in and out of a landscape context. Presentations that link stones, sites and landscapes (either physically or virtually) so they become part of a journey increase understanding and access (see for example The Cradle of Scotland: Case Study 19; Faith in Cowal: Case Study 12; Elgin Cathedral: Case Study 21; the [Association of Significant Cemeteries in Europe European Cemeteries Route](#)). More detailed studies are needed into the ways presentation influences people's experience of heritage and the implications this holds for displaying stones in different contexts or using different media. What happens, for example, when new spaces and new activities are created for carved stones in terms of increasing viewers' accessibility and knowledge (see e.g. Figure 21)?

Case Study 19: The Cradle of Scotland

6.2.6 Through visitor studies

There has been a tendency for visitor studies to use quantitative methods, such as questionnaires and visitor counts, for short-term surveys to look at the visiting patterns, visitor expectations and satisfaction, and the impact of messaging (e.g. Buckham 2013a; Figure 107). More recently, a small number of studies have employed more qualitative methods of assessment, such as in-depth interviews, participant observation and observational tracking, over an extended period of time. This research has produced a far deeper understanding of why people respond to heritage in the ways they do and some of the factors underlying different communities' responses (e.g. Jones 2004; McClanahan 2004).

Figure 107: Visitor surveys were carried out at [Canongate Kirkyard](#), Edinburgh as part of Edinburgh World Heritage's graveyards project. © Susan Buckham

6.2.7 Through education

Educational engagement offers a strong context to communicate the research perspectives and learning potential of carved stones. As the HES Education: Case Study 27 shows this resource possesses significant educational value. It offers multi-disciplinary, place-based learning suitable for both formal, curriculum-based and informal activities that fit well with cross-sector priorities such as health and well-being, place-making, social inclusion and skills development. However, different educational audiences are likely to be captivated by different questions about carved stones and may well have differing levels of prior knowledge. The *Picts* learning resource: Case Study 38 illustrates how telling stories familiar to the youngest school children such as 'Little Red Riding Hood' using the Pictish symbols can provide an effective hook for deeper engagement with the subject. Research can identify these varying needs (e.g. a lack of familiarity with Christianity and its iconography) but also establish the nature, extent and impact of current educational engagement on audiences and communicators. We need to know, for example, whether teachers are not using existing resources (such as digital materials and CPD opportunities) because they do not know they exist, are not made relevant or because of a skills deficit. To what degree does teaching focus on the history and 'original' meaning of carved stones and to what extent does it explore their values to contemporary society? How they are being (or how might they be used) as case studies to support elements of the existing curriculum?

Case Study 27: HES education

Case Study 38: <i>The Picts</i> learning resource
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6.2.8 *Through information management and access*

Greater access to information allows reciprocities of understanding between communities and professional, as well as between different disciplines. It affirms that carved stones are a resource for all. It creates opportunities to input local value and broadens the context for engaging with carved stones, particularly from local to national. Ready access to data creates bridges between different disciplines and generates opportunities to involve different communities in research and analysis as well as data collection. The Reflections on terminologies: Case Study 28 outlines the main steps needed to help make this aspiration a reality. In particular, the accessibility of information plays a fundamental part of the social value of digital records, which research suggests struggles to draw people in emotionally (e.g. Jeffrey *et al.* 2015).

While greater access to data, particularly through digital dissemination modes, has clear benefits, it also highlights some legacy issues around copyright, licensing, reuse and charging for data. The key holders of carved stones datasets include local and national government bodies, academic departments, commercial units and community groups. In addition to the varied means of gaining access (e.g. from immediate direct download to a requirement for written request for individual data), each of these may have different approaches to how they wish to share their data and for what purposes. This can vary from complete and unfettered open access with no effective licensing restrictions, to a charge for supply and strict conditions on reuse, particularly commercial reuse. An argument has been made that information generated via public funding should in turn be made freely available to the public. This has been the strategic approach for a number of UK and Scottish Government (see [Scottish Government 2015](#)) datasets in other sectors using the Open Government Licence ([OGL](#)) regime; for example, a number (but not all) [Ordnance Survey datasets](#) are available under this regime, which includes commercial reuse. Similarly other licencing regimes, such as [Creative Commons](#), allow multiple forms of licencing, from no restrictions at all (CC0) to versions including no commercial reuse, restrictions on data adaptations, 'share alike' clauses and a requirement to attribute the original data creator. While even Creative Commons struggles to map onto IPR, copyright and licensing regimes in every international jurisdiction, the ability for data creators to confidently share their data assured that they will be attributed as the original creator is often enough for many researchers in the academic and community domains. To be comfortable with commercial reuse of one's data with only an attribution requires a commitment to the concept of 'open data' (as opposed to 'open access') at its most fundamental, bearing in mind open does not necessarily mean free. Although this approach is currently being advocated widely by various groups internationally, many data creators feel less comfortable with this. In addition it must be recognised that for some organisations their data, especially in media formats, are historically considered as having a financial as well as research value and they operate under historic licencing regimes that reflect this. Ideological positions that might promote 'open data' at its most fundamental may have to be tempered with an understanding of the complexities of historic licensing regimes and the financial imperatives under which some data holders operate.

Case Study 28: Reflections on terminologies
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6.2.9 Through volunteering

Volunteers' engagement with carved stones is longstanding and frequently carried out by local community groups, although several individuals have also made significant contributions (e.g. Betty Willsher). Much of this engagement has typically been 'bottom up' in character (e.g. family history societies across Scotland; Buried tombstones: Case Study 35) but over the last 20 years heritage professionals have designed and co-ordinated projects either focussing on carved stones (e.g. Rock-art recording: Case Study 29, [Carved Stones Advisor Project](#); Perthshire [Historic Churchyards](#)) or embracing them as part of a wider heritage remit ([Scotland's Rural Past](#)). Increasingly such initiatives seek to foster engagement between local communities and professionals that leads to co-production and co-curation of resources (e.g. Archaeology Scotland's [Adopt-a-Monument project](#); [ACCORD](#)). Through such collaboration, there has been an increase in the reciprocities of knowledge exchange and understanding between local communities and professionals (e.g. Community co-production: Case Study 6). Volunteers have been involved in a variety of work including the discovery of stones, their recording, compilation of datasets (e.g. SAFHS [Graveyard Inventory](#)), stewardship, interpretation, presentation and research through conferences and publishing ([PAS](#)). Volunteer engagement has included the natural environment and citizen-science style projects as well as built-heritage projects.

Relatively little evaluation has been carried out to understand the issues involved and the potential legacy of volunteer engagement. There is a need to create a series of rich case studies to evidence social and cultural impacts and specific areas of engagement. For example, how does harnessing community values affect stewardship? Or how does volunteering shape perceptions of the different values of carved stones to modern communities? How do we replicate success in other areas (e.g. [Orkney Heritage](#))? How might different beneficiaries perceive a particular project activity? Through research, we can help to improve learning from previous projects.

Case Study 29: Rock-art recording
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6.3 Research recommendations

See also Section 2 for background to these research recommendations.

6.3.1 Principles

3. In order to achieve a sustainable heritage cycle it is critical to understand the two-way relationship between the act of experiencing and engaging with carved stones, and how this is mediated, with the ways carved stones are valued.

6.3.2 Problems

11. Knowing how people perceive, relate to and experience carved stones (and their replicas) in practice (Section 6.2.1).
12. Lacking evidence, and therefore an understanding, of the factors that enable different audiences, in different contexts, to engage in different ways with carved stones (Section 6.2.2).

13. Lack of strategy for how to engage both secular and faith-based communities with churches and churchyards, on the basis that these are no longer places everyone understands, regularly visits or indeed feels comfortable in (Sections 6.2.1, 6.2.6).
14. Limited pre-existing knowledge about carved stones, and in particular their ecclesiastical context, among a wide range of audiences including academics, teachers and creative professionals (Sections 6.2.7, 6.2.8).

6.3.3 *Practice*

7. Sharing experiences and publishing results e.g. through peer-reviewed journals (Sections 6.2.1, 6.2.2, 6.2.8).
8. Recognise the benefits arising from greater collaboration between the different communities with a (potential) interest in using carved stones for creative and educational projects by actively seeking out partnerships opportunities, and reporting back on outcomes to multi-disciplinary audiences (Sections 6.2.1, 6.2.2, 6.2.4).
9. Support projects that include or focus on local community involvement leading to co-created and co-curated activities and resources (Sections 6.2.1, 6.2.2, 6.2.9).

6.3.4 *Projects: enhancing existing*

15. Establish a baseline for current engagement with carved stones through working with others (e.g. churches, heritage organisations and voluntary groups etc.) to record activities taking place. Analyse information to identify examples of good practice but also negative outcomes or missed opportunities (e.g. failure to engage local communities, politicians or policy-makers and to identify missing audiences). Feed results back to stakeholders (Sections 6.2.1, 6.2.6).
16. Identify a range of qualitative indicators to measure the effects of engagement with carved stones. These should preferably correspond to SHEA and BEFS Measuring Success metrics so they can link to SG National Outcomes (Sections 6.2.1, 6.2.6).
17. Identify sites with difficult access (physical and intellectual) or unpublished carved stones. Research the cultural and social significance of stones as a basis to develop and implement audience development strategies. Publish findings to provide case studies of good practice (Sections 6.2.1, 6.2.2, 6.2.6).
18. Evaluate the success and impact of existing educational and other resources for carved stones. Include an investigation of the factors underlying the current lack of wider uptake of digital material aimed at academic and public audiences by tracing engagement online for impact assessment (Sections 6.2.1, 6.2.2, 6.2.7, 6.2.8).
19. Evaluate the success and impact of carved stone projects involving volunteers (Sections 6.2.1, 6.2.2, 6.2.9).
20. Evaluate the success and impact of faith-based tourist projects involving carved stones for both believers and non-believers (Sections 6.2.1, 6.2.2, 6.2.6).
21. Compare the success and impact of accessing digital resources, replicas and experiencing the stones themselves (Sections 6.2.1, 6.2.2, 6.2.6, 6.2.8).

6.3.5 *Projects: new approaches*

5. Research how presentation (of carved stones and of interpretative material) influences how people experience them. Apply new knowledge to develop interpretation strategies and create a series of rich case studies to help answer:

- a. What happens when you create new spaces and new activities for carved stones (Sections 6.2.4, 6.2.5, 6.2.6)?
 - b. How can biographical and other thematic approaches to carved stone interpretation be used to make stories 'grip' better? (Sections 6.2.3, 6.2.6).
 - c. How can promotion most effectively encourage visitors? (Sections 6.2.2, 6.2.6).
- 6. Determine whether creating a community GIS database or community science resources could heighten a sense of inclusivity and ownership, assisting the process of engagement and providing educational or tourism benefits (Sections 6.2.6, 6.2.7, 6.2.8, 6.2.9).

7. Looking forward

Mute stones can speak volumes to us all, if we choose to listen. Significance is the tool for releasing that potential, thinking and working in a ‘joined-up’ way.

The production of this Research Framework initiated a broader conversation about the value and significance of Scotland’s carved stone heritage in the 21st century, the benefits of future research on this heritage, and how this might best be achieved. Under the headings of Creating Knowledge and Understanding (Section 3.8), Understanding Value (Section 4.4), Securing for the Future (Section 5.4), and Engaging and Experiencing (Section 6.3), the Framework has identified research principles, problems, practices and ideas for projects, whether enhancing existing initiatives or new directions, while historiographies identified how we arrived at our present understanding and some of the gaps and issues with our current understanding (Section 2).

With its wiki-format, users can continue to breathe life into this Framework so that it continues to reflect current practice and research priorities as they inevitably develop over time. This is just the beginning of a process, and it is the ambition of the authors and [NCCSS](#) that they and others will continue to organize activities, such as workshops, that will develop some of these issues, and broaden engagement. Ongoing communication and capacity building is crucial, and it is clear that there is much existing data, research, knowledge, experience and enthusiasm across the many existing communities of interest that can be brought together and utilized with a little more effort. But new directions and more significant investments of effort in particular areas are also needed for the needs and opportunities identified in this Framework to be realized in the context of the heritage conservation cycle, national heritage strategies and government national outcomes (see Sections 1.4 and 4.1).

Looking forward, successful carved stone research may appear as:

- **International in perspective and outlook:** considering the local, national and supra-national, learning from what happens elsewhere.
- **Enlightening**, offering significant insights into human endeavour and thought.
- **In the mainstream** of academic, heritage and wider public activities.
- **Holistic**—admitting and embracing all the possible values and significances that can attach to carved stones, not just the historic; recognizing how research draws from and feeds into making a difference in the heritage conservation cycle.
- **Cross-cutting, interdisciplinary, silo-busting** and **imaginative: challenging**, not just for how it makes us think about understandings of carved stones, their value, protection and interpretation, but for our theoretical and practical approaches to other topics.
- **Collaborative:** strategic and joined-up working across sectors and across stakeholder interests; more common purpose; routinely identifying when planned work with carved stones needs research, or uniquely offers research opportunities, and enabling this; enabling greater and multiple dividends from each unit of research.
- **Visionary, directed** and **targeted:** addressing specific needs (as identified in Research Recommendations in this Framework) while practicing foresight; balancing extensive research projects and detailed case studies.
- **Intelligent and informed decision-making** that brings an understanding of values, condition and risk to strategies and projects to protect and enhance enjoyment and engagement, as well as to supporting further research.

- **Readily accessible** as primary data and research outputs for different audiences: available; searchable intelligently; comprehensible; presented to a good and coherent standard.
- **Shared and inviting**, broadening communities of interest so that carved stones needs and opportunities are better recognized and addressed including and beyond the immediate academic and heritage sector.
- **Innovative**, employing established and new methodologies, notably scientific and digital technologies. Applying materiality, biography and landscape approaches.
- **Enhancing capacity** through matching experts, researchers and public, and promoting and developing skills, academic and practical.
- **Reflected upon** and **acted upon** with, for example, new policy and guidance, or different approaches to heritage management and interpretation.
- **Valued publicly**, with carved stones having an impact for their instrumental benefits, and where those uses (e.g. tourism) are informed by research.

Figure 108: Entrance to south aisle of the nave, Coldingham Priory. Hunter 1858, engraved by W Banks and Son, Edinburgh

- 8.1 Carved Stones Workshop report 1 [not included here - [see pdf on website](#)]
- 8.2 Carved Stones Workshop report 2 [not included here - [see pdf on website](#)]
- 8.3 Carved Stones Workshop report 3 [not included here - [see pdf on website](#)]
- 8.4 Summary of the Impact of Workshops 1-3 [not include here – [see pdf on website](#)]

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- Adding a New Dimension to Dundee's Medieval Carved Stones (AOC Archaeology Group) <<http://dundee-medieval-stones.aocarchaeology.com/>>
- Archaeology Community Co-production of Research Data (ACCORD: Glasgow School of Art) <<http://www.gsa.ac.uk/research/research-centres/digital-design-studio/research/current-projects/accord/>>
- Association of Significant Cemeteries in Europe European Cemeteries Route <<http://cemeteriesroute.eu/european-cemeteries-route.aspx>>
- Adopt-A-Monument (Archaeology Scotland) <<http://www.archaeologyscotland.org.uk/our-projects/adopt-monument>>
- Carved Stone Adviser (CSAP) <<http://www.scottishgraveyards.org.uk/index.shtml>>
- England's Rock Art (ERA) <<http://archaeologydataservice.ac.uk/era/>>
- Future Thinking on Carved Stones in Scotland (FTCSS) <<http://www.stir.ac.uk/cehp/projects/>>
- Heritage and Science: Working together in the CARE of Rock Art (Newcastle University) <<http://research.ncl.ac.uk/heritagescience/>>
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- Masons' Marks Project <<http://masonsmarkproject.org.uk/>>
- Northumberland and Durham Rock Art (NADRAP) <http://archaeologydataservice.ac.uk/era/section/record_manage/rm_projects_nadrap_home.jsf>
- Ogham in 3D (Dublin Institute for Advanced Studies) <<https://ogham.celt.dias.ie/menu.php?lang=en>>
- Rosslyn Chapel (CyArk) <<http://archive.cyark.org/rosslyn-chapel-intro>>
- Scottish Ten <<http://www.stoneproject.org/>>
- Stone Project (Edinburgh College of Art) <<http://www.stoneproject.org/>>
- Strathearn Environs and Royal Forteviot (SERF) <<http://www.gla.ac.uk/schools/humanities/research/archaeologyresearch/projects/serf/>>

Online resources (accessed 17 April 2016)

- Canmore (Historic Environment Scotland) <<https://canmore.org.uk/>>
- Corpus of Anglo-Saxon Sculpture (University of Durham) <<http://www.ascorpus.ac.uk/>>
- Corpus of Romanesque Sculpture in Britain and Ireland <<http://www.crsbi.ac.uk/>>
- Corpus of Scottish Medieval Parish Churches (University of St Andrews) <<http://arts.st-andrews.ac.uk/corpusofscottishchurches/>>
- Explore the Collections (Historic Environment Scotland) <<http://collections.historic-scotland.gov.uk/simpleSearch.jsp>>
- Graveyard Inventory (Scottish Association of Family History Societies) <<http://www.safhs.org.uk/burialgrounds.asp>>
- OASIS: Online AccesS to the Index of archaeological investigations <<http://oasis.ac.uk/pages/wiki/Main>>
- PastMap <<http://pastmap.org.uk/>>
- Places of Worship in Scotland (Scottish Church Heritage Research) <<http://www.scottishchurches.org.uk/>>
- Scotland's Places <<http://www.scotlandspplaces.gov.uk/>>
- War Memorials Online <www.warmemorialsonline.org.uk>

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10. PUBLISHED SOURCES

Key sources are listed as follows: 10.1 Prehistoric; 10.2 Roman; 10.3 Early medieval; 10.4 Later medieval; 10.5 Architectural; 10.6 Graveyards; 10.7 Public monuments; 10.8 Heritage and conservation; 10.9 Digital. For a sense of what is covered by each heading, bearing in mind the chronological overlaps of some of these categories, see Section 2.

These lists are produced from a database maintained on RefWorks, so that they can be easily updated, without any significant change to the outputs.

The NCCSS aims to publish online an annual list of publications on carved stones in Scotland (www.carvedstones.scot/documents) and welcomes suggested additions. We also welcome details of existing literature too. Please send complete references (note format below) to carvedstones@stir.ac.uk.

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10.4 Later medieval

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