

EDITORIAL

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# Editorial

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After the Second World War, up to the 1970s and, in some parts of the world 1980s, there was a cataclysmic mass destruction of our cultural heritage, especially in European and American countries. Perhaps historians will look back and see this as a major cultural event.

Most parts of the world were concerned primarily with modernisation at a time when economies were weak. In the UK, a priority would be to ensure that all homes had inside toilets and running electricity and good heating. Thus post-war planners made major decisions that shaped the appearance of the majority of UK cities. In my city of Bristol, once the second city in England and a historic centre in the twelfth century for the claimant queen Matilda, with important historical influence through from the Anglo-Saxons, the English Civil War and the Victorian age, you may not appreciate from a first visit its huge historic importance: in 1334 lay subsidy records, Bristol is listed second only to London in size and importance in England, in 1337 for the purpose of the poll tax it lies third after London and York and even in 1750 it is estimated as the second most populous. Yet visit it now and most historic areas have disappeared completely and a casual visitor would not rate it as of exceptional historic importance. It is said that post-war planners destroyed more of Bristol than bombs in the war, with their vision of a concrete city spreading from the main railway station to the main shopping centre. Great regions of Victorian and Georgian houses were demolished to make way for roads, hastily built concrete shops, and tower blocks. Right up to the 1970s, this was regarded as progress. One of the most beautiful Georgian squares, Queen Square [1], had a main road driven through it in 1937, and buildings demolished to make way. Meanwhile many of the larger historic buildings were becoming expensive to maintain and so left derelict, some becoming so dangerous that they eventually had to be pulled down and the land sold for development.

This destruction of heritage was widespread throughout much of Europe from the 1920s up to the 1980s. In the UK, readers may be familiar with the country house lifestyle of the 1920s. But in 1955 it is said that one

country house was demolished every 5 days [2], and people didn't really care: as country houses were destroyed, so were their contents sold off or disposed of, often the results of centuries of collecting the very best that was available. Social change as from the late nineteenth century onwards led to a mass change in attitude towards our heritage. In the main part, it was the wealthy that had been guardians of much of the heritage for many centuries. Yet with income from land and tenant farmers no longer so important due to industrialisation and international trade, with electricity and modern conveniences replacing servants, with wars, and with inheritance tax, large estates were considered more a burden than an asset. In many countries, there were also huge changes often due to revolutions, political systems and major economic difficulties such as inflation. Many of the older families lost their importance and decisions were placed in the hands of nouveau riche who at the time had less experience and tradition of being cultural guardians.

Destruction was huge and irreversible around the world. In Latin America many of the Spanish and Portuguese built cities were bulldozed to make way for new buildings. In the US, anyone that has visited New York will see the strange subterranean Penn station [3], the original building being built in the early twentieth century to last hundreds of years but destroyed in the 1960s to make way for Madison Square Gardens on economic grounds. This travesty is an important influential factor for turning world opinion against the destruction of our heritage. If you have visited Bucharest in Romania you will know that Ceausescu destroyed a huge area of the centre to build his palace, so large that it resulted in a major problem of stray dogs as the displaced people were forced into tower blocks and abandoned their pets: his grandiose plans were said to be brutal, but were they any more brutal and destructive than Bristol's post-war planners? Probably not.

Meanwhile when this huge destruction went on in Europe and the Americas, much of Asia was struggling to gain independence or under the yoke of political repression, so their priorities were not to preserve ancient

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monuments and buildings. In some Asian countries there was less reconstruction of cities, but major neglect of historic monuments. Consider Angkor Wat in Cambodia, purportedly the largest temple complex in the world. It, together with much of the religious heritage in Cambodia, was neglected for decades until economic and political stability returned. Now it is a major UNESCO site. In other, rapidly developing countries, such as China, huge historic centres of cities that had been maintained for centuries were knocked down in a push for modernisation.

Capitalists, aristocrats, democrats and communists were all at it in the twentieth century, destroying a heritage that had evolved very slowly for centuries. In the past there had been waves of localised destruction, for example in Rome, the Popes raided marble from the Coliseum in order to construct new churches, and in Latin America, the Spanish conquistadors organised a mass destruction of Inca, Aztec and many other cultural artefacts – for example there are only fragments of Aztec written texts available due to the enthusiastic destruction of material by priests. But the twentieth century appears unique for a mass international desecration of our global historic heritage. Most governments were dependent on some sort of political support, even tyrants have to feed their armies, and people wanted hot water in the homes and good food on the table and washing machines and televisions rather than fine paintings and important buildings.

But what happened from the 1970s onwards? People suddenly started looking back at their heritage. Much was buried in museums, religious institutes, neglected private houses and so on, and the money to restore them often had to be found from public purses or donations or philanthropists. But conservation and preservation gradually became the order of the day. Politicians and the general public need to be convinced, as it is they that prioritise the conservation of culture – a change from the historic influential families from a century back. It became harder to demolish buildings of historic interest. In the UK, societies formed to restore those country houses of historic interest that were left standing. TV programs on restoring houses, on buying and valuing antiques, became prime time viewing. No longer is the old ceramic found in the attic or the old picture purchased in a car boot sale, the province of grandmother dressed in black sitting in a rocking chair listening to the grandfather clock chiming, but a whole new generation is fascinated when an expert values it and comments on the historic and cultural provenance of these long forgotten objects.

Commissions were set up to assess our heritage. Public opinion moved away from modernisation for the sake of it. Perhaps one reason is that people were no longer so concerned with survival as they had been in the 1960s

but had more assets, to buy nice things for their houses, to visit interesting buildings, to travel and see important monuments in different countries, to go to museums. There, of course, have always been museums and always been collectors of paintings, but this was no longer seen as an elitist activity for impoverished aristocrats or fusty old professors. Local conservation societies care that an old building is maintained and that a religious building is opened up and that a museum keeps important objects. Despite the talk of recession, real disposable income in the twenty first century has in most parts of the world outstripped many fold real disposable income of the 1950s and a typical house is no longer furnished just with necessities.

Hence a concern about our heritage is now no longer the preserve of just a small elite. But over this period there has also been major neglect, especially of smaller less prestigious buildings and museums and religious structures. Unused buildings decay rapidly – damp and dry rot and adverse weather and rats and insects have their effect. Unless lived in or maintained they can be expensive to keep in a good state. And their contents, whether frescos in little used churches or furniture stored in basements of old houses or carpets rolled up in corners, will also be subject to decay. Climate change has an unknown and possibly serious potential influence on buildings. Air now is more full of pollutants, objects in museums need protection from the city fumes that invade the building every time someone opens the door and walks in. Whereas the best funded museums will always have the money to protect their most valuable objects, what of a small building down a side street? What of all the objects not on display stored in basements of neglected buildings?

And as more and more places are opening up, neglected churches or temples or mausoleums that perhaps have had one person occasionally looking in every week or so just to check it hasn't collapsed, uncover a vast wealth of material ranging from old books to old textiles that can provide a rich story about the culture and inhabitants of the region, that no one has studied. There will be hoards of coins sitting in cupboards in museums, and millions of paintings (the Hermitage in St Petersburg has 3 million or more), sitting in archives, many rarely if ever displayed over the years. This everyday history can tell us a lot about a civilisation.

At the same time, scientific methods have been employed with great effect to study the provenance of culturally important objects, ranging from major paintings and statues in world renown museums to textiles and coins found unloved in cupboards. Analytical chemistry techniques such as spectroscopy and chromatography play an important role, but so do imaging and methods ranging from those from biology to physics to

mathematical modelling and computer visualisation. In the past most cultural studies have been primarily descriptive, cataloguing and organising objects often to be displayed in museums or at least organised in drawers so that interested people can examine them. Museum curators are good at this – their job is to assemble and maintain collections.

But scientific approaches can tell more and move our study of heritage from descriptive to deductive. By examining the pigments in a painting can we tell how it was painted, where it was painted and even whether it is a forgery? By looking at dyes in a textile can we find out about the origin of manufacture and the geographical route it took to get to its destination and hence about trade routes? By analysing the metal content of a coin can we tell about the economic factors of the time and even whether it was created from melted down coins from a neighbouring country? So scientific approaches provide additional insight. Biology has moved from a primarily descriptive to a deductive science over the last few decades, a typical biologist nowadays being a laboratory scientist in a white coat analysing samples on complex instruments, rather than someone sitting in a jungle making drawings of interesting species of fauna and flora. So too there is a slow but steady movement in the adoption of scientific methods in cultural studies. In addition new instrumentation and approaches are required to study objects in museums, posing special challenges, for example miniaturisation to bring non-invasive measurements into the museum shelves, screening large numbers of objects, finding out about hidden layers in paintings, checking for possible decay, all need methods tailored to the needs of cultural conservation.

Hence we feel there is a need for a journal that involves using scientific techniques to study our cultural heritage. There are a few journals but mainly in conservation studies, also a significant number in archaeology. The new journal *Heritage Science* [4] emphasizes the use of scientific methods for the study of our heritage. It is a peer reviewed journal: in this area there is a significant "grey" literature often of un-refereed conference proceedings and extended abstracts or book chapters, but within the core scientific community, peer review is considered essential to establish the credentials and respectability of a study. Another feature is that the journal is Open Access (OA). One particular feature of heritage studies is that there are many small institutions, for example provincial museums and conservation societies, that cannot afford subscriptions to large publishers – OA will result in wide and unrestricted access throughout the world. Finally the journal is owned by a well established publisher, Springer. Whereas there are many house magazines or smaller publishers in this area, we consider it essential for long term digital archiving and maintaining the momentum

long after the current personnel both in the academic and publishing world have moved on to be under the umbrella of an established international scientific publisher, and we would hope in the years and decades and even centuries to come these papers will remain as an important digital archive. No one really knows what the archival future of digital publications are, in the British Library comprehensive paper archives stretch back many centuries. How many existing web resources will be available to researchers in 200 years' time? Maybe only a portion, yet well established publishers are dedicated to long term digital archiving via a series of agreements which is important for the preservation of scientific information especially in an age when so many journals are now online only.

As can be seen from a glance at the journal [4] there is a glittering international quality editorial board. Features include some from outside academia, for example the Smithsonian, the Getty, the New York Metropolitan Museum and the Hermitage, and an excellent geographical distribution including several representatives from Asia and Latin America. Although the vast majority of papers published in this area currently are European or North American based, there are tremendously important cultural artefacts found in all parts of the world. For example, China, Mexico and Iran contain important finds about significant and influential ancient civilizations and for the future we hope that there will be an expanding literature on the use of scientific techniques from these and many other regions of the world. The journal's Editorial Board is deliberately not Eurocentric to ensure that we get a full range of international contributors, looking to the future where the use of scientific methods for the study of our heritage will rapidly expand throughout the world.

Our scope is somewhat broad although all papers must be based upon sound scientific methodology and be applied to problems of cultural significance. The journal also interfaces with archaeology so long as the paper is primarily scientific rather than descriptive in nature and the findings can be put in context of human development. But a major theme is conservation whether in museums or buildings, and an interface between academics and those such as museum curators or conservators or historians.

We are already getting tremendous support from our editorial board and look forward to some exciting papers for 2013, and hope that there will be something to interest everyone. For the launch of the journal, this tremendous diversity of applications and techniques is already evident in our first papers. One paper discusses the influence of humidity on our conserving our heritage, especially buildings [5]. Another paper looks at modelling the flow of particles in a library in Prague – how they

penetrate paper which is an important question that needs answering for the long term conservation of books [6]. A paper studies medieval coins from Hungary and shows how they can be distinguished by their metal content according to the different reigns of their kings [7]. A lost statue found inside the walls of the Winter Palace, St Petersburg, is studied and the sculpture is found to have been created in Italy by a Russian artist [8]. A study of ancient amber objects looks at their geographical origins and hence trade routes between different civilisations [9]. A study of gold medallions in the Royal Palace in Seville, a UNESCO World Heritage site and the oldest Royal Palace in Europe still in use, shows that the gilding is quite modern and does not correspond to the original 14<sup>th</sup> century artwork [10]. Finally we publish a comprehensive review on fine particulate matter on our heritage – an important and not well studied factor that can lead to degradation of objects in museums and libraries and is especially significant due to modern life styles causing pollution, especially in urban centres where the majority of museums and historic buildings are found [11].

This exciting variety of applications using modern scientific techniques suggests that there is a big potential for modern scientific methods in the study of our heritage and with increasing interest and concern, the journal will capture these exciting new developments.

Received: 1 March 2013 Accepted: 1 March 2013  
Published: 3 April 2013

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doi:10.1186/2050-7445-1-1

Cite this article as: Brereton: Editorial. *Heritage Science* 2013 1:1.

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