

# HOGG Conference on Geological Collectors and Collecting

4-5 April 2011

Flett Theatre

Natural History Museum

London

## Programme & Abstracts

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# HOGG Conference on Geological Collectors and Collecting

4-5 April 2011, Flett Theatre, Natural History Museum, London

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## Monday 4 April 2011

10:00 – 10:45 **Registration**, coffee and a chance to view exhibits and poster presentations.

### Talks

*Why collect?*

10:45 – 11:15 Richard Fortey (Natural History Museum, London). *Collecting Fossils: pitfalls and practice.*

11:15 – 11:45 Julian Wilson (Christie's, London). *Rare geological books and maps: an auctioneer's perspective.*

11:45 – 12:15 Jonathan Larwood (Natural England, Peterborough). *Field collecting: the development of policy and guidance.*

12:15 – 2:15 **Lunch break** and a chance to view exhibits and posters

*Map and Book Collecting*

2:15 – 2:45 Tom Sharpe (National Museum of Wales, Cardiff). *North on the map: the geological map collections of the National Museum of Wales.*

2:45 – 3:15 Stuart Baldwin (Baldwin's Scientific Books, Witham, Essex). *Book collecting in the history of the natural sciences, especially geology, palaeontology & natural history.*

3:15 – 3:45 Christopher Toland, (Consultant Geologist, Oolithica Geoscience, Cheltenham, Gloucester). *The eye of a collector: how map collecting illuminates history.*

3:45 – 5:00 **Tea** and a chance to view exhibitions and posters

### Hands-on workshops

11:30 – 12:30 *Book conservation.* (Annie Elliott, Camberwell College of Art, London).

2:15 – 3:15 *Conservation of objects.* (Chris Collins and colleagues from the Natural History Museum, London)

### Behind the scenes tours

11:30-12:30 Exhibition of Geological special collections in the Library

2:15 – 3:15 Visit to the Palaeontology Department

2:15–3:15 Visit to Minerals Department (Group 3)

3:15 – 4:15 Visit to Rocks Department (Group 2)

4:30 – 4:50 Visit to the Earth Sciences library to view the very large and colourful William Smith Geological Map

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### Evening event

6:00 pm **Gallery Talk and Preview of Travel, Science and Natural History auction lots** at Christies South Kensington Saleroom, 85 Old Brompton Road, London SW7 3LD, a short walk from the Natural History Museum.

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## Tuesday 5 April 2011

10:00 – 10:45 Coffee and a chance to view exhibitions and posters.

### Talks

#### *Fossil Collecting*

10:45 – 11:15 Karolyn Shindler (Historian, London). *"I have found wonders." The life, letters and passion for collecting of the 19th century fossilist, Barbara Yelverton, Marchioness of Hastings.*

11:15 – 11:45 Jonathan Radley (Warwickshire Museum, Warwick). *Collecting the Jurassic: local museums and a window on the past.*

11:45 – 12:15 Richard Edmonds (Earth Sciences Manager, Dorset County Council, Dorchester). *The furtherance of science: the role of Dorset collectors.*

12:15 – 2:15 **Lunch break** and more time to view exhibitions and posters.

#### *Rock and Mineral Collecting*

2:15 – 2:45 Monica Price (Oxford University Museum of Natural History).

*The Corsi Collection of decorative stones: how Faustino Corsi brought geology to the arts.*

2:45 – 3:15 John Faithfull (Hunterian Museum, Glasgow). *Spending a fortune in the 18th century: William Hunter's mineral collection, and how it was used.*

3:15 – 3:45 Chris Collins (Natural History Museum, London). *Preserving collections through the ages: the history of specimen conservation at the Natural History Museum.*

3:45 – 5:00 **Tea** and a final chance to view exhibitions and posters.

### Hands-on workshops

10:45 – 11:45 *Paper conservation.* (Richard Weedon, Camberwell College of Art, London.)

2:30 – 3:30 *Digital Photography for Collections - managing digitisation projects of all sizes and budgets.* (Simon Harris, Freelance Collections Manager and Photographer, Birmingham.)

### Behind the scenes visits

11:45 – 12:45 Minerals Department (Group 1)

2:00 – 2:30 A second chance to visit the Earth Sciences library to view a very large and exceptionally colourful *William Smith Geological Map.*

2:15 – 3:15 Minerals Department (Group 2)

3:15 – 4:15 Rocks Department (Group 1)

4:30 – 4:50 Another chance to visit the Earth Sciences library to view a very large and exceptionally colourful *William Smith Geological Map.*

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## Posters and Exhibits

Bert Sliggers (Curator palaeontology/mineralogy, The Teyler Museum, Haarlem, The Netherlands)  
*The English mineral trade and the Teyler Museum*

Jonathan Larwood (Geologists' Association, London) and Richard Weedon (conservator)  
*The Geologists' Association Carreck Archive: conserving the photographic record of the GA*

Colin MacFadyen (Scottish Natural Heritage)  
*The Scottish Fossil Code*

Susan Turner (School of Geosciences, Monash University & Queensland Museum Geosciences)  
*Beautiful One Day — Perfect the Next! 19<sup>th</sup> – early 20<sup>th</sup> century geological collectors and collecting in the Great State of Queensland, Australia*

Svetlana Nikolaeva (Palaeontological Institute Russian Academy of Sciences and International Commission on Zoological Nomenclature, Natural History Museum, London)  
*Bringing the collecting past to life: historical collections in the Natural History Museum*

Phil Stone (British Geological Survey, Edinburgh) and Adrian Rushton (The Natural History Museum, London)  
*Early British fossil collections from the Falkland Islands*

Jane Insley (Senior curator, Engineering Technologies, Science Museum, London)  
*'Rescuing a dull – or even repellent – subject': dioramas at the Museum of Practical Geology, 1937*

Roy Starkey (Honorary President, The Russell Society)  
*Matthew Boulton, his mineral collection and the Lunar Men*

Jill Darrell and Brian Rosen (Natural History Museum, London)  
*Charles Darwin: a systematic naturalist, a virtuoso or a miser?*

Bob McIntosh (British Geological Survey, Edinburgh) and colleagues  
*Out of Africa: the E.O. Teale archive at the British Geological Survey*

Bob McIntosh (British Geological Survey, Edinburgh) and colleagues  
*GeoScenic: the National Archive of geological photographs, British Geological Survey*

David Bate (British Geological Survey, Keyworth)  
*Early geological mapping at the BGS and the development of geological cartography*

Monica Price (Oxford University Museum of Natural History)  
*Polished windows on an ancient world: decorative stone collections in the Oxford University Museum of Natural History*

Karolyn Shindler (Historian, London)  
*"The cleverest woman I've ever known": the letters and fossils of Barbara Hastings*

## Collecting fossils: pitfalls and practice

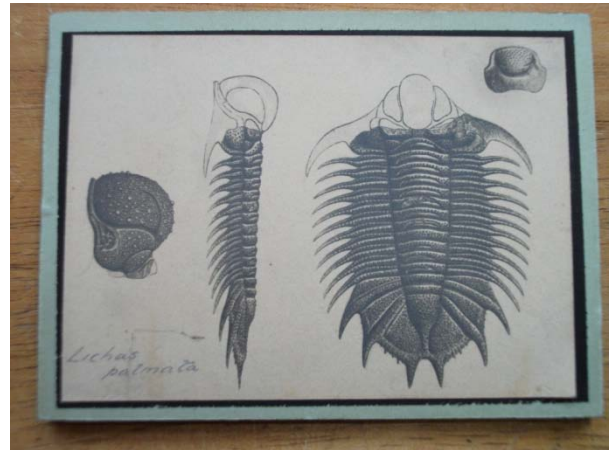
**Richard Fortey, Natural History Museum, London**

[r.fortey@nhm.ac.uk](mailto:r.fortey@nhm.ac.uk)

As a collector of fossils for more than forty years I am practically a fossil myself. I will recount some of the stories of the problems and pleasures of collecting trilobites though my career, and a few tales from my years as a curator/researcher at the Natural History Museum.

I began my life with trilobites on the Arctic Island of Spitsbergen, when it was an adventure just to get there. The long gap between collection and publication is illustrated by the fact that I am still

working on some of the collections, even though I named my first trilobite from this remote locality in the early 1970s. I shall tell the story of this particular trilobite, *Opipeuter*. One does not have to go anywhere that exotic to discover new species.



*Trilobites: an illustration of an example of a fascinating fossil find*

My next big project was in South Wales. The Spitsbergen experience alerted me to the likelihood that we had under explored strata of the same Ordovician age in the UK. This indeed proved to be the case, and with Bob Owens from the National Museum of Wales, we more than doubled the number of known species by patient bashing of the rocks around Carmarthen.

More recent experiences include fieldwork in Australia, Thailand and Morocco. As for pitfalls, these have included physical threats, like nearly dying in the Arctic Ocean and in the Australian outback, and, more mundanely, having to recognise fake trilobites in Morocco.

Once safely back in the Museum, there are still other possible pitfalls, not least the eccentric ideas that may grow up around geological history. I shall briefly explore a couple of these stories relating to former employees. It remains true that the endurance and care of the collections is paramount, to make them available for the interpretation of future generations of scholars.

## Rare geological books and maps: an auctioneer's perspective

**Julian Wilson, Books and Manuscripts Specialist; Associate Director, Christie's**  
[jwilson@christies.com](mailto:jwilson@christies.com)

Auctions of books have provided an open market and public forum for bibliophiles, whether collectors, institutions or dealers, for over 400 years. Conceived in continental Europe, the practice spread to London in the late 17th-century, rapidly becoming the most important method for the collecting and dispersal of books. The development in the 19th-century of the great London-based auction houses created a new commercial environment, one that would, at the beginning of the current century, lead to their multi-national status and bring globalisation to the art market.

Collections of geological books, even from the earliest days, have been dispersed through auction. The very extensive library of the physician and natural historian, John Woodward, contained many important geological works; his collection was sold at auction in 1728, and comprised some 4755 lots of books sold over 29 consecutive days.

In the 19<sup>th</sup> century, Gideon Mantell's library and fossil collection was dispersed in 349 lots in a 3 day sale in May 1853. In the 20<sup>th</sup> century, the Templeman sale at Hodgson's in 1949 was a highlight, as was Haskell Norman's sale in 1998, followed into the new millennium by Joseph Freilich's sale at Sotheby's New York in 2001.

I will discuss some of these historic sales in in general, and provide a more detailed look at how some important individual geological books and maps have fared at auction through time. I'll also consider the current state of the auction market in relation to the modern collecting of geological books and maps, and will assess recent trends in the light of the impact of the internet and economic recession.



*One of the 1845 geological maps of Russia by Roderick Impey Murchison and others, part of a set of two maps in a contemporary slipcase which sold for £8,750 at the Christie's sale of Valuable Russian Books and Manuscripts on 29 November 2007.*

## Field Collecting: the development of policy and guidance

**Jonathan Larwood, Senior Specialist – geology and palaeontology, Natural England.**

[jonathan.larwood@naturalengland.org.uk](mailto:jonathan.larwood@naturalengland.org.uk)

At the heart of any policy or guidance should be the desire to share and encourage good practice to ensure that field collecting, whether collecting rocks, fossils, minerals or cores, is undertaken to common standards. The policy aim is to maximise the information gained by collecting.



*The Jurassic coast*

In the UK the 1949 *National Parks and Access to the Countryside Act* established our geological and geomorphological heritage as central to nature conservation

legislation. More than 60 years on what has been the effect on the development of policy and guidance on field collecting?

The 1949 legislative framework for nature conservation led to a strongly site-based system for geological conservation with the UK's most important geological sites today conserved as a UK-wide network of nationally and internationally important Sites of Special Scientific Interest (SSSIs). Recognising that a small number of SSSIs may have a finite or particularly delicate geological resource – such as rare mineralisation or fossil deposit of limited extent – the legislation provides the ability to manage and restrict the collecting that is undertaken.

However, to be effective, legislation requires clear guidance to support its successful delivery. National Societies such as the Geologists' Association and the Geological Curators' Group developed guidance on good field practice and set simple standards for field work and collecting with a strong site and specimen conservation message. In the 1990's English Nature (now Natural England) developed principles for responsible (and sustainable) fossil collecting.

Examples of the successful practical application of the legislation and guidance include the establishment of a collecting code and voluntary recording scheme within the Jurassic Coast World Heritage Site in Dorset and East Devon, and the development of a collecting permit system for mineralisation in the Caldbeck Fells in Cumbria. These examples adapt the same principles of responsible and sustainable collecting for very different collecting resources. They also illustrate how collecting policy and guidance cannot be developed in isolation. To be truly successful, co-operation and collaboration are essential.

## North on the map: the geological map collection of the National Museum of Wales

Tom Sharpe, Department of Geology, National Museum of Wales, Cardiff

[tom.sharpe@museumwales.ac.uk](mailto:tom.sharpe@museumwales.ac.uk)

After the National Museum of Wales (NMW) was founded in 1907 its initial curators set about expanding the holdings of the Cardiff Museum into a national collection. The first geological member of staff was Frederick John North (1889-1968), who joined as Assistant Keeper of Geology in 1914, and became Keeper of Geology in 1919, a post he held until 1958. North not only developed the rock, mineral and fossil collections, but established a significant collection of topographical and geological maps and archives.



*An extract from a William Smith map in the National Museum of Wales*

North's most important archive acquisition was a collection of over 2,000 papers relating to the geologists Henry Thomas De la Beche (1796-1855) and William Buckland (1784-1856). As well as publishing extensively on the history of geology, another major strand of North's work in the 1930s was the development of the map collection.

Between 1929 and 1939, North added over a thousand maps to the collection. Of these over 85% were either early geological or antiquarian maps, including maps by Speed, Saxton, Blaeu, Jansson, Kitchin, Lhuud and Ogilby. Where original maps were not available, he acquired photostat or facsimile copies from other collections. The impetus for the rapid growth of the map collection seems to have been the 1929 purchase, for one hundred pounds, of around 90 geological maps collected by Tom Sheppard (1876-1945), Director of Hull Municipal Museum. This superb collection comprised mainly geological maps by Knipe, Walker, Cruchley, Geikie, Ramsay and others. It also included three copies of William Smith's 1815 map, a copy of Smith's small 1820 map and two copies of George Bellas Greenough's 1819 (1820) map.

North continued to expand his core collection. Two more copies of Smith's 1815 map were added in 1930 and 1931. After his death, further copies of the 1815 map were acquired in 1983 and 2003. As a result, the National Museum of Wales can now account for nine copies of William Smith's famous map, including four of the five issues, or variants, of Smith's 1815 map. It is probably the only place where these now can be examined side by side. Recent work on the collection and on maps held elsewhere debunks the myth Smith's large map ceased publication after the appearance of Greenough's 1819 (1820) map, and provides evidence that production of Smith's large map continued almost until his death in 1839.



## Book collecting in the history of the natural sciences, especially geology, palaeontology & natural history

**Stuart Baldwin, Baldwin's Scientific Books**

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Collecting is a basic human trait. For example, collections of Upper Cretaceous flint sea-urchins have been found in association with prehistoric graves. Although my own collecting only goes back a mere 75 years, I've observed a number of evolutionary trends in both sources of books and their collecting techniques.

In 1936 my eyes were opened to the world of book collecting with the receipt at Christmas of the first

Rupert Annual. In my teens the novels of Jack London became a great interest followed by general natural history, geology including its history and philosophy, palaeontology, scientific biography, history of science and latterly bees and beekeeping. The thrill of collecting still creates a buzz!

As I see it, collecting has to strike a balance between what one has to spend and what is out there to collect. Knowledge of what is there to collect has probably seen the greatest changes in my lifetime. These range from the former Farringdon Road barrows in London, to secondhand bookshops – now on the Red List of endangered species – to the four different types of auction, book fairs and internet sites such as [www.viaLibri.net](http://www.viaLibri.net). There are many other possibilities too.

Other sources of information for collectors include published specialist bibliographies such as the one by compiled by Challinor in 1971. In my 40 years of dealing in antiquarian books, I've also come across other unusual sources. Armed with new information, and intrigued by some choice items from my own library, I hope you'll be inspired to track down that elusive title, or even better, to find a collector's item that you didn't even know existed. Happy collecting!

### Further reading:

Baldwin, S.A. 1999. *A Beginners Guide to Secondhand Bookdealing*. Baldwin's Books, Witham, Essex.



*Some collectables*

## The eye of a collector: how map collecting illuminates history

**Christopher Toland, Consultant Geologist, Oolithica Geoscience, Cheltenham**

[christophertoland@hotmail.com](mailto:christophertoland@hotmail.com)

Map collecting can be a valuable aspect of scholarship and shed light on hidden corners of history. Three items from my own collection, provide good examples of the way map collecting can lead to new perspectives on the past.

The first example is Adam Sedgwick's unpublished *Geological Map of Westmorland*. This map was believed lost for over 100 years, and was only recently re-discovered. Though undated it is thought to have been coloured around 1840. Based on over 9 months fieldwork undertaken in 1822-1824, this map includes much unique data, and represents a considerable improvement on earlier mapping attempts (including William Smith's 1824 map). In terms of accuracy and detail it remained unsurpassed until the Geological Survey entered the area in 1866. But it also highlights Sedgwick's deficiencies as a field geologist!



*Adam Sedgwick's Map of Westmorland (c. 1840)*

The second example is a series of geological maps published by J and C Walker between 1830 and 1838. This series of maps illustrates the rapid evolution of separately-published geological maps during the 1830's and how that evolution was driven by competing publishers exploiting a new and large market for geological maps. It also highlights the role played by publishers in popularising geology and geological maps.

The final example is a series of three maps published by James Knipe between 1837 and 1881. This series, which included England and Wales, the British Isles and Scotland, appeared in at least 50 different issues over a 44 year period. With the exception of the Geological Survey, Knipe was perhaps the most prolific geological map publisher of mid-19<sup>th</sup> century Britain. Although he lacked money, social status and influence, he was an active practitioner of geology who undertook consulting projects for clients such as Liverpool Corporation and the Duke of Rutland. Although he made no major scientific breakthroughs, Knipe played a key role as a populariser of geology. His life and works remain largely undocumented – a fact that has inspired me to prepare a lengthy paper on him. Draft copies are available on request.

## ‘I have found wonders.’ The life, letters and passion for collecting of the 19th century fossilist, Barbara Yelverton, Marchioness of Hastings

**Karolyn Shindler, historian, London**

[karolynshindler@aol.com](mailto:karolynshindler@aol.com)

Barbara Yelverton, Marchioness of Hastings, was clever, beautiful, talented, persuasive – and a passionate fossil hunter and collector. In a few short years, she established herself as a serious palaeontologist. Unusually for a woman in the mid-19<sup>th</sup> century, she wrote three academic papers under her own name. Much of what we know about her comes from 64 letters she wrote to Professor Richard Owen, the greatest comparative anatomist of the day. These are preserved in the Natural History Museum and containing a compelling mix of collecting and the personal information.



*A crocodile fossil prepared by Barbara Hastings*

There seems to have been nothing in her background and upbringing to indicate what she would become. To the geologist Edward Forbes she was, ‘a fossilist and knows her work’, and ‘one of the most excellent (and without exception the cleverest) women I ever met.’ She was born in Warwickshire in 1810, and inherited the title on her father's death, when she was less than a year old. In 1831 she married the second Marquis of Hastings, George Augustus Francis Rawdon Hastings, and developed a passion for gambling.

Hastings died in 1844. After she remarried in 1845 and went to live on the Hampshire coast, near the late Eocene (36.5 million years old) fossil-filled strata of Hordle Cliff, her serious fossil collecting began. By 1847 the Marchioness had built a museum which contained, Owen noted, ‘fossils, several thousands, and some of them the finest in the world.’ Owen was just one of many famous geologists who came to admire and study them.

Many of her specimens were purchased – both locally and from abroad – but she also excavated, and was a highly skilled preparator. Her collection contained birds, reptiles and mammals, including an early relative of the horse. She and Owen exhibited one of the most famous reptiles in the collection, *Crocodylus hastingsiae* Owen, (now *Diplocynodon hantoniensis*) at the British Association for the Advancement of Science meeting in Oxford in 1847.

For reasons now unclear, by 1855 she had sold her collection and moved away from Hordle. She died three years later, leaving behind in the Natural History Museum some truly splendid fossils.

## Collecting the Jurassic: local museums and a window on the past

**Jonathan Radley, Keeper of Geology, Warwickshire Museum and Honorary Research Fellow, GEES, University of Birmingham**

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The Jurassic holds a special place in the hearts of English geologists. William Smith, the father of English Geology, and author of the first geological map of England and Wales, who grew up in a small village in the classic Jurassic country of the Oxfordshire Cotswolds, initially made his big breakthrough – the association of particular fossils with specific rock layers – thanks to his careful collecting of fossils from Jurassic rocks.



*Jurassic fossil find: Ichthyosaurus skeleton at Stockton Quarry, Warwickshire, 1898.*

Some of the most important dinosaur and marine reptile finds, made by collectors such as Mary Anning (1799-1847), were excavated from the Jurassic rocks in Dorset, and the World Heritage Site Dorset Coast remains a Mecca for fossil collectors. The Jurassic is also important economically; shales deposited in the Upper Jurassic are a source rock for North Sea oil.

In the central English county of Warwickshire, organised, scientific, systematic collecting of local rocks and fossils began in 1836, with the establishment of the Warwickshire Natural History and Archaeological Society. In the past Jurassic rocks in Warwickshire have yielded some spectacular finds, including many marine reptiles. But finds don't have to be so impressive to be very valuable. Well documented, systematic collecting of 'common' fossils also greatly enhances knowledge of Jurassic environments.

Today, the Warwickshire Museum Service continues to collect local Jurassic fossils. This collecting has resulted not only in the establishment of some new fossil species, but is also helping us to understand the natural processes of the past. Although the number of Jurassic exposures in Warwickshire is becoming scarcer, and accessible fossil sites – particularly sites accessible to the public - are becoming increasingly hard to find, fossil collecting remains a significant activity in Warwickshire.

In spite of all the work done on Jurassic geology, there is still much to learn. Fossil collecting continues to play an important role in increasing our understanding of the environment during this geological period. For many, fossil collecting serves as an excellent introduction to the science of geology. And properly reported and recorded fossil finds, whether made by amateurs or museum professionals, can significantly add to our knowledge of the Jurassic. This is an area where amateur groups and natural history societies working with local museums can play an important role. So share your finds, learn from them and work with local museums and natural history societies and groups to help to bring the Jurassic world 'back to life' – and enhance your knowledge and appreciation of geology at the same time.

## The furtherance of science: the role of Dorset collectors

**Richard Edmonds, Earth Sciences Manager, Dorset County Council, Dorchester**  
[r.edmonds@dorsetcc.gov.uk](mailto:r.edmonds@dorsetcc.gov.uk)

The Dorset coast has long been famous for fossils. The partnership between fossil collectors, most famously Mary Anning, and the great gentlemen scientists of the day, Buckland, De la Beche and Conybeare, demonstrates an extraordinary partnership that advanced the early study of palaeontology. Today, most people continue to celebrate Mary Anning and her contribution, though a few would like to rewrite history and interpret her as a commercial collector simply motivated by personal financial gain.



*A fossil acquired under the Heritage Lottery Fund Collecting Cultures*

Despite over 200 years of collecting, collectors continue to make discoveries that are new to science. The coast is a prolific source of fossils simply because the strata are rich and subject to rapid erosion. However, that erosion is completely unpredictable; storms and landslides can take place at almost any time, and the inter-tidal ledges are rarely clean of weed and sediment.

Because they tend to have more time to spend in the field and hold enormous local knowledge of the dynamic nature of the coast, it is local amateur and professional collectors who tend to make the most significant finds. And yet, despite their efforts, many of the most important fossils are rescued quite literally 'in the nick of time'. Although, the dedication of fossil collectors plays an important role in enhancing specialist knowledge of palaeontology, their activities can lead to conflict. For example, stratigraphers need to collect fossils *in situ* – so fossil collecting must be restricted in some areas in order to allow stratigraphic research to take place.

The priorities for the management of the Dorset coast are to provide the best opportunities for the fossils that make this coast famous to be recovered rather than destroyed by the sea, and to promote open dialogue between collectors and scientists based on an understanding and respect for the strengths of each. Unfortunately, this enlightened approach is under attack from those who would rather see highly restrictive and ineffective management applied to this coast. Management that only recognises the scientist's contribution to the development of the geological sciences and ignores the important contribution of amateur or professional fossil collectors must be challenged.

## The Corsi Collection of decorative stones: how Faustino Corsi brought geology to the arts

**Monica T. Price, Oxford University Museum of Natural History**

[monica.price@oum.ox.ac.uk](mailto:monica.price@oum.ox.ac.uk)

Faustino Corsi (1771-1845) was a lawyer in Rome who delighted in collecting samples of the different marbles, granites, serpentines and other polished decorative stones used since ancient times in his native city. He was by no means the first to build a substantial collection or to write about 'marbles', but his intellectual approach to the study of decorative stone was more pioneering.



*The Corsi catalogue and samples from the Corsi Collection*

Corsi attempted to correlate the names of stones described by ancient authors such as Pliny and Strabo with those used by the scalpellini (stone-cutters) of 19<sup>th</sup> century Rome in order to establish the locations of quarries. He intended that his collection should be used as an identification aid, choosing to acquire large specimens illustrating diversity of appearance.

Significantly, he recognised that an arrangement into a petrological order would be most useful, and in the catalogue he prepared he tried to articulate in his descriptions such subtle details as grain-size, texture, lustre, and significant mineral and fossil constituents, as well as the more obvious properties of colour and pattern.

Corsi's collection of 1,000 samples is preserved in the Oxford University Museum of Natural History. This collection it allows us to see exactly which stones Corsi was writing about. It also reveals that while some parts of his geological commentary are satisfyingly accurate, others reflect contemporary mineralogical misunderstandings or represent a curious discrepancy between theory and observation.

Corsi's work brought a geological perspective to decorative stones – an area that had largely been the preserve of artisan stone workers, archaeologists and antiquarians. His legacy also helped to give decorative stone collections a rightful place in scientific institutions worldwide. Visitors are welcome to view the Corsi collection by appointment. E-mail [mineralogy@oum.ox.ac.uk](mailto:mineralogy@oum.ox.ac.uk) for details.

### Further reading:

Cooke, L. & Price, M. T. 2002, 'The Corsi Collection in Oxford', in J. J. Herrmann, et al., (eds.), *ASMOSIA 5 – Interdisciplinary Studies on Ancient Stone Proceedings of 5th International Conference, Museum of Fine Arts, Boston 1998*, Archetype Publications, London, pp. 415-420.

## Spending a fortune in the 18th century: William Hunter's mineral collection, and how it was used

John Faithfull, Hunterian Museum, Glasgow

[jfaith@museum.gla.ac.uk](mailto:jfaith@museum.gla.ac.uk)

William Hunter was born in East Kilbride, near Glasgow, in 1718. After studying medicine at Glasgow and Edinburgh, he moved to London, where he became very rich as a teacher of anatomy and royal physician. As well as medicine, he had very wide interests in art, numismatics, chemistry, biology and geology. He was a prominent member of the Royal Society, and was the first Professor of Anatomy at the Royal Academy.

Around 1765, Hunter developed plans for a museum and library to run alongside his anatomy school, and began to spend very large sums of money on acquiring books, manuscripts, coins, insects, animals, shells, rocks, minerals, ethnographic material and antiquities. Archival materials indicate that the museum was very much seen as a research tool, and he encouraged its use by scholars from across Europe.



A specimen from William Hunter's collection

Many of Hunter's minerals were bought from dealers: Jacob and Elizabeth Forster, Peter Woulfe, and John Jeans, among others. Dr George Fordyce, another Scottish doctor in London, worked closely with him on the mineral collections and carried out extensive analytical work. As a result, several papers were published in the Transactions of the Royal Society, by Fordyce and others. When Hunter died in 1783, there were around 2500 mineral specimens in his collection, listed in a catalogue posthumously completed by Fordyce. Fordyce also left a fascinating and unique note, describing the rationale behind his mineral collecting, and the selection criteria used for specimens. This shows the integral role of mineralogy in the development of chemistry, but also hints at Hunter's broader interests in Earth processes.

Hunter bequeathed his entire collection to the University of Glasgow, where it survives essentially intact, together with extensive archival material such as catalogues, lab notes, mineral bills and invoices, and letters. These continue to provide a rich and unusual insight into 18<sup>th</sup> century science, culture and collecting.

## Preserving collections through the ages: the history of specimen conservation at the Natural History Museum

**Chris Collins, Head of Conservation, Natural History Museum, London**

[chris.collins@nhm.ac.uk](mailto:chris.collins@nhm.ac.uk)

The condition of preserved specimens in today's museum collections is the only way of measuring the success or otherwise of past preservation treatments. In many cases the objectives and expectations of the techniques used to preserve specimens have changed through time from maintaining the overall appearance to the demands of research to extract molecular or isotope data.

Many organic materials will naturally deteriorate before they enter the museum

environment and therefore preservation or preparation techniques including taxidermy

and skin preparation, plant mounting and the use of spirits to store specimens were developed to aid the entry, use and display of objects in museums. Without these preservation techniques it is very unlikely that these specimens would exist today.



*Conservation in action*

In the life science collections many of the techniques used to preserve collections are based on 17<sup>th</sup> Century or earlier methodologies passed down and developed as a craft skill. Alongside these older craft skills sit the modern techniques such as cryo-preservation used to preserve molecular and other biochemical data.

In the Earth sciences, many of the preservation techniques have changed moving through time from quite intensive interventive techniques using the '*resin-du-jour*' to modern non-invasive techniques which have been derived from adapting and exploiting new materials or techniques derived from other fields of preservation.

Many of the deterioration processes that natural history objects undergo were recognized half a millennium ago. The techniques used to slow these processes down are just a reflection of the technology of the time. However, reflecting back on older preservation techniques often indicates that old is not always bad and quite often that they provide practical solutions to modern day problems.



## The English mineral trade and the Teyler Museum

**Bert Sliggers, Curator at the Teyler Museum, Haarlem, The Netherlands**

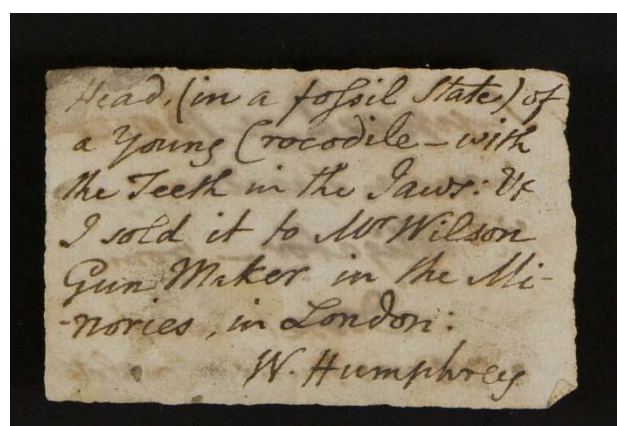
[BSliggers@teylersmuseum.nl](mailto:BSliggers@teylersmuseum.nl)

The Teyler Museum in Haarlem – the first and oldest museum in the Netherlands – opened its doors to the public in 1784. With its art and science collections, this museum is a typical product of the Age of Enlightenment. The first director, Martinus van Marum (1750-1838), began to acquire palaeontological and mineralogical collections, and developed extensive international networks of scholars and scientists, mainly in England, France and Germany, to exchange knowledge. English merchants such as A.F. Forster, the Heuland family, William Humphrey and White Watson were amongst van Marum's correspondents.

Van Marum's travel journals (Belgium (1782), Paris (1785), Germany (1786), London (1790), Germany (1798) and Switzerland (1802) as well as his correspondence, the labels and the financial administration documents preserved in the museum archives provide a fascinating insight into the way van Marum worked to build up the collection. The letters that van Marum received from scientists and collectors who he had met during his journeys abroad are of particular value, and often reveal how new objects were acquired.

The notes about the previous owners of the science objects that are included on the old labels also provide a great deal of information about the background of each object in the collection. Thus the collection not only provides information about van Marum's collection policy, but also reveals valuable information about collections he acquired for the museum by purchasing them from the owner or at auctions.

The flourishing trade in minerals and fossils in the late 18th and early 19th centuries was remarkable. As the letters, travel journals and labels reveal, van Marum developed excellent contacts both with merchants who visited The Teyler Museum and with collectors he visited on his travels – and regularly did business with the most important mineral and fossil dealers at the time.



*History in a nutshell: a label written by William Humphrey for a specimen now in The Teyler Museum*

## The Carreck Archive: conserving the photographic record of the Geologists' Association

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Richard Weedon, photographic conservator

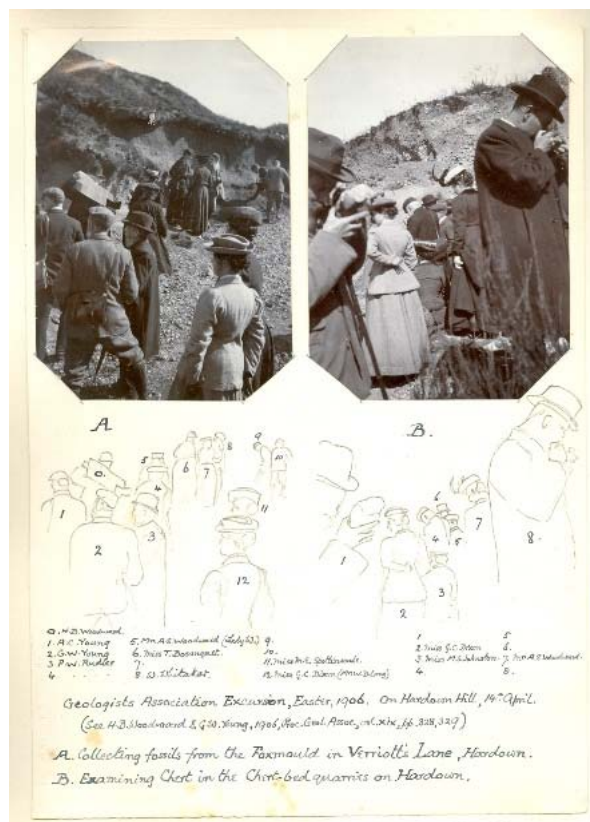
[weedon@easynet.co.uk](mailto:weedon@easynet.co.uk)

The Geologists' Association (GA) Carreck Archive is a collection of photographs, postcards, letters and associated ephemera documenting the field meetings and activities of the GA from the 1880s through to present day. It was initiated in the 1920s and comprises 21 albums along with a significant volume of loose material. Along with the British Association's collection and the archive of the British Geological Survey (BGS), the Carreck Archive is considered to be one of three nationally important geological photographic archives. It provides a well documented geological and, uniquely, social record of the field work carried out by the GA.

A conservation project for the Archive, supported by a grant from the GA Curry Fund, began in 2007.

As part of this project a detailed conservation inventory was drawn up and conservation work, including cleaning, repair and re-housing of loose material and albums, was completed. Where albums were beyond repair, they were replaced with new portfolios. All loose material is now ordered and contained within conservation grade wallets, and the entire collection is now housed within a series of bespoke archive boxes.

Now that the BGS has agreed to provide a permanent repository for the archive, the next stage of its conservation can begin. The GA and the BGS are exploring how to digitise and document the archive in detail. Once digitised it can then be made more widely accessible through the internet where, we hope, it will encourage a new interest in the importance of photographic record of geological sites and geological field work.



A typical page from the Miss MS Johnson Album documenting a 1906 field excursion to Hardown Hill



Conservation repair of an album

## The Scottish Fossil Code

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The Nature Conservation (Scotland) Act 2004 included provision for Scottish Natural Heritage to prepare the Scottish Fossil Code. Work on the Code began in 2006 and after two years of preparation, including a full public consultation, it was launched in April 2008 in Cromarty, the birthplace of Hugh Miller.



**Scottish Natural Heritage**  
All of nature for all of Scotland

The Code aims primarily to help conserve the fossil heritage of Scotland and is probably the first national code of its kind. It was produced with assistance from palaeontological researchers, land managers, collectors and others with an interest in Scotland's fossil heritage, and provides advice on best practice in the collection, identification, conservation and storage of fossil specimens found in Scotland.

We hope that the Code will enhance public interest in the fossil heritage of Scotland and promote this resource for scientific, educational and recreational purposes. And by following the Code you will increase the interest and satisfaction that can be gained from forming a fossil collection.

### Essentials of the Scottish Fossil Code:

- **Seek permission** - *You are acting within the law if you obtain permission to extract, collect and retain fossils.*
- **Access responsibly** - *Consult the Scottish Outdoor Access Code prior to accessing land. Be aware that there are restrictions on access and collecting at some locations protected by statute.*
- **Collect responsibly** - *Exercise restraint in the amount collected and the equipment used. Be careful not to damage fossils and the fossil resource. Record details of both the location and the rocks from which fossils are collected.*
- **Seek advice** - *If you find an exceptional or unusual fossil do not try to extract it; but seek advice from an expert. Also seek help to identify fossils or dispose of an old collection.*
- **Label and look after** - *Collected specimens should be labelled and taken good care of.*
- **Donate** - *If you are considering donating a fossil or collection choose an Accredited museum, or one local to the collection area.*

The Code may be viewed and downloaded from [www.snh.gov.uk](http://www.snh.gov.uk).

## Beautiful One Day — Perfect the Next!

### 19<sup>th</sup> – early 20<sup>th</sup> century geological collectors and collecting in Queensland, Australia

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From the First Fleet until 1859, what is now Queensland was part of the eastern colony of Australia called New South Wales, though it was considered to be officially British until 1901. As a result, 19<sup>th</sup> century collecting in Queensland was carried out under a colonial umbrella and most specimens ended up in British institutions, especially in what is now the Natural History Museum (NHM).

Adventure, discovery, and wonder inspired geological collecting and collectors in Queensland. Early field workers and expeditions set off in hope and expectation into the vast continent, sometimes realising the dream with finds. Fossils, especially from the southeastern part of Queensland, contributed to the revolutionary thinking that culminated in the publication of Darwin's *Origin of Species* in 1859. And the astonishing finds of large vertebrate fossils – the Australian megafauna – made on the Darling Downs in the 19<sup>th</sup> century underpinned the career of Richard Owen, first superintendent of the NHM. By the end of the century, the search for Owen's 'dinosaurs' became the thrust for Australian collectors. Home-grown museums also craved remains for display.

Key players in the Queensland collecting scene included 'new chums' like Sam Stutchbury and George Bennett; official museum collectors such as Kendall Broadbent; aspiring scientists like Charles De Vis; and rare trained geologists like Richard Daintree, Norman Taylor, the Hann Brothers, and James Smith. Even the odd foreigner, such as Ludwig Leichhardt, became involved. Post-Federation, the Queensland Museum's Heber Longman rose to local fame on the back of vertebrates like *Rhoetosaurus* and *Kronosaurus*, assisted by local collectors and the launch of new 'foreign' sorties. These included the Wilkins NHM 'Undiscovered Australia' and Harvard Museum of Comparative Zoology expeditions.

Throughout, the land dictated the terms with extreme climate, fauna and native inhabitants often taking their toll. But the outlook was not always as sunny as promised by Government agents in colonial exhibitions. Even the later 20<sup>th</sup> century NHM expedition to the west had difficult moments. Lack of man- and woman-power and money has meant that geological collecting in Queensland has never really reached its potential. It relies, instead, on serendipitous finds.

#### **Further reading:**

Turner, S. 1986. A short history of vertebrate palaeontology in Queensland. *History of Earth Sciences Journal* 5: 50 – 65.



Queensland Museum collector Kendall Broadbent in late 19th century (photo courtesy of Queensland Museum)

## Bringing the collecting past to life: historical collections in the Natural History Museum

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Many of the important historical collections of Palaeozoic cephalopods now held in the Natural History Museum and described in the 19<sup>th</sup> century by 'famous names' such as James Sowerby and John Phillips are comprised of specimens carefully and systematically collected and documented by enthusiastic amateurs. Some of the most significant contributions were made by people whose 'day jobs' were totally unrelated to palaeontology. Keen collectors such as pharmaceutical chemist William Gilbertson, civil engineer William Bisat, whitesmith Samuel Gibson and medic Wheelton Hind all built up important collections which professional palaeontologists and geologists still use in their own studies.

But as well as enabling the identification of important details such as original type fossils, study of these 'amateur's' collections is also revealing fascinating historical details about the way the collections were originally built up and curated. This not only helps to make the collections more accessible to the scientific community for further palaeontological work. It also helps to bring the collecting past to life!



Well-documented specimens of *Beyrichoceras umbilicatum* Bosat, 1934 from Wheelton Hind's collection at the Natural History Museum, London. The specimens were identified by W.S. Bisat

### Further reading:

Svetlana Nikolaeva and Nina Morgan, Lost and Found, *Geology Today*, Vol. 26, No 1, January-February 2010, pp. 16 – 20

## Early British fossil collections from the Falkland Islands

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Although the early geological exploration of the Falkland Islands was piecemeal and opportunistic, 19<sup>th</sup> century scientific explorers did find and collect fossils. Charles Darwin first discovered fossils in the Falkland Islands during his 1833 visit aboard *HMS Beagle*. Most – but not all – of Darwin's Falkland specimens were transferred from the Museum of Practical Geology (MPG) in 1880 to the Natural History Museum (NHM) in London.



Falkland fossils (photo copyright NHM)

Darwin's fossils were probably not the first from the Falkland Islands to enter the NHM collection. A number of other specimens acquired by the museum before 1880 may also have come from the Falklands. For example, fossils purchased in 1869 from Robert Etheridge Senior may have come from the Falklands, but because Etheridge had no known connection to the Falklands, their provenance is unclear. However, at the time of the sale Etheridge was palaeontologist at the MPG where he would have encountered Darwin's Falklands collection. Could two specimens from the MGP have found their way into Etheridge's private collection and been subsequently sold to the NHM?

The NHM also holds an undescribed collection made in 1842 by Robert McCormick during Ross's *Erebus & Terror* expedition, which was bequeathed to the NHM when McCormick died in 1890. In addition, a description of fossils acquired in 1876 by the *Challenger* expedition was published in 1885, but some of the collecting locations cited are implausible and we have been unable to locate the material in the NHM or elsewhere. There is also an intriguing uncertainty associated with a collection given in 1903 (with descriptions published in 1906) to the Scottish National Antarctic Expedition and which now resides in the Royal Museum, Edinburgh. The Scots were preceded in 1902 by a Swedish Antarctic Expedition but a shipwreck prolonged the Swedes' absence, during which time their fossil collection, left stored in the Falklands, mysteriously diminished. The surviving Swedish material is now held by the Natural History Museum in Stockholm. Could the rest be in Edinburgh?

### Further reading:

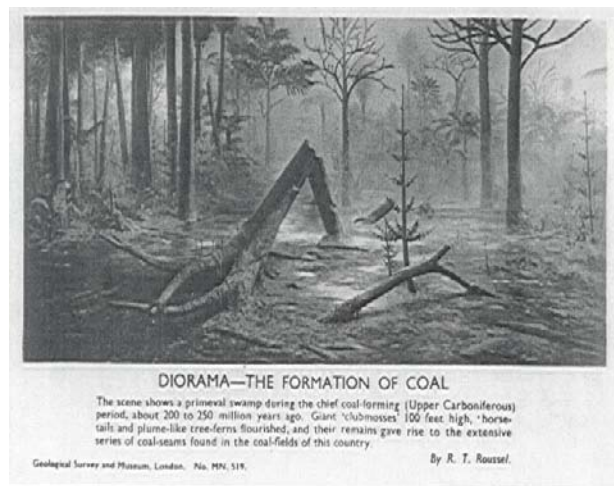
Stone, P. & Rushton, A. W. A. 2007. Fossil collections from the Falkland Islands: the *Beagle*, *Erebus & Terror*, *Challenger* and *Scotia* expeditions. *The Falkland Islands Journal*, 9 (1), 124-133.

## Rescuing ‘a dull, even repellent, subject’: dioramas in the Museum of Practical Geology, 1937

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When the new Museum of Practical Geology opened to the public in 1935 it included brand new exhibitions, and conference and laboratory facilities. But the curator, Dr W McIntock, was aware that “the ordinary visitor regards geology as a dull, even repellent, subject”. He also thought that museums showing systematic collections of rocks, minerals and fossils “usually present a deserted and desolate experience.” To improve the museum experience, he took advantage of new display techniques, including illustrated guidebooks, descriptive labels, diagrams, sections and sketch maps, photographs, models, pictorial representations of former geological scenes, and panoramic scenes of geological interest.



*Artist's impression: an example of a geological diorama*

‘Panoramic scenes’ appears very swiftly to have come to mean dioramas – skewed perspective modelled scenes. McIntock was clear on their advantages; they were more vivid than a picture, and provided a stereoscopic representation. Made to be comfortably viewed by a group of 20, and sited where they would make the most sense to the visitor, the dioramas were colourful, brightly lit, and gave more serious students ‘an eye for country.’

McIntock used the finest diorama artists in the country, as the Imperial Institute and the Science Museum had before him. Their stories are the subject of further research, and the stories of the geological dioramas have been pieced together from papers in the BGS Archives, Keyworth. Sixteen dioramas were listed in a *Museums Journal* article in June 1936, where four were illustrated. Three more feature on postcards held by the family of the lead artist, Raphael Rousset.

The dioramas were removed from display in the mid 1990s, and the records of their dispersal are no longer extant. If you have any information about their whereabouts – please get in touch!

### Further reading:

Dr W F P McIntock, Geological dioramas in the Museum of Practical Geology - June 1936, *The Museums Journal*, vol xxxvi, p89-94 plus plates vi, vii.

## Matthew Boulton: his mineral collection and the Lunar Men

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Matthew Boulton FRS (1728 - 1809) was born in Birmingham on 3 September 1728. The son of a Birmingham manufacturer of small metal products who died when Boulton was 31, he became a key member of the Lunar Society, a group of Birmingham men prominent in the arts, sciences, and theology.

Together with his partner and fellow Lunar Man, James Watt, Boulton became a dominant player in the development of the steam engine. Their firm installed hundreds of Boulton & Watt steam engines in Britain and abroad, initially in mines and later in factories. The mineral-rich county of Cornwall, with its many mines, was a major market for the firm's engines, and Boulton spent several months a year there overseeing installations and resolving problems with the mine owners.

During the course of his work, Boulton amassed an extensive collection of geological specimens, mostly from British localities. The collection is dominated by the ores of copper, tin, lead and zinc. Many specimens are from Cornwall, Staffordshire and Derbyshire. Sadly a catalogue of the collection does not appear to have survived, although the meticulous labelling and quite detailed information on some specimens suggest that Boulton himself appreciated the value of recording full details. It therefore seems likely that a manuscript catalogue would have existed.

Boulton's collecting interest appears to have centred around materials which were of relevance to his business interests. Whilst the collection does include a small number of fine and aesthetic mineral specimens, the bulk of the material is non-descript geological samples. His extensive collection of geological specimens is now preserved in the Lapworth Museum, Birmingham.

### Further reading:

Uglow, Jenny (2002). *The Lunar Men: Five Friends Whose Curiosity Changed the World*. London. Faber & Faber.



*Portrait of Matthew Boulton by Carl Frederik von Breda (1792). © Birmingham Museums & Art Gallery.*



## Charles Darwin: a systematic naturalist, a virtuoso or a miser?

Brian Rosen, Department of Zoology, Natural History Museum

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Charles Darwin (1809-1882) was a prolific collector of geological and biological specimens. The Natural History Museum holds over 14,000 of his specimens. The bulk of them are beetles and barnacles, though the Museum also holds most of his birds, mammals (living and fossil), fish, reptiles and amphibians. Substantial collections of materials collected by Darwin also exist elsewhere, notably his geological specimens at the University of Cambridge.

A common problem with historical collections like Darwin's is that there is often little or no information about the origin of a specimen on museum labels and in museum registers. In Darwin's case, this had led to the common perception that Darwin's specimen documentation was poor.

But in fact, Darwin was extremely methodical. In his 1839 book describing the Beagle voyage, Darwin reflected that collectors should 'trust nothing to the memory, for the memory becomes a fickle guardian when one interesting object is succeeded by another still more interesting.' Thanks to his careful documentation, Darwin left a complex legacy of lists, field notebooks and diaries.

Ironically though, this complexity sometimes makes it difficult to find the necessary information about a given specimen, because it requires an understanding the relationship between these various sources and as well as knowledge of Darwin's specimen numbering system. To overcome this problem and help to recover relevant information for any given specimen a 'generalized collection trajectory' can be useful for working methodically through all the different potential sources of information about a given collection. In Darwin's case, we have identified nine trajectory phases. In this poster, we explain Darwin's numbering system for his specimens and reveal relevant information recovered for some of his specimens based on this nine-phase trajectory.

### Further reading :

Van Wyhe, J. (Director), 2002 onwards. *The complete work of Charles Darwin online.*

<http://darwin-online.org.uk/>



*Four of the specimens mentioned in Darwin's Coral Reef Specimen List, arranged around the first sheet of his list (in his handwriting). The list and specimens are in the NHM, and are part of a little exhibit prepared by Darwin himself, probably to accompany a presentation at the Geological Society of London in 1837.*

## Out of Africa: the E.O. Teale archive at the British Geological Survey

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Edmund Oswald Teale (formerly Thiele), was an Australian geologist who worked extensively in East Africa between 1908 and 1936. Edmund Oswald Thiele was born on 29<sup>th</sup> November 1874 in Doncaster in Victoria, Australia, the only child of Johann Gotthold Adalbert Oswald Thiele and Christianna Cuzens. He studied at the University of Melbourne where he was awarded Hons. B.Sc. First Class Honours in Geology, Palaeontology and Mineralogy (Caroline Kay Scholarship in Geology) in March 1908. Thiele went on to collect a M.Sc. in December 1910 and a D.Sc. in 1916 with his doctoral subject: Palaeozoic Geology of Victoria; Physiography of Eastern Victoria.



Thiele first travelled to Africa, to Tanganyika, in 1908 but with the occupation of the country by the Germans in the First World War he returned to Australia in 1916, going back to East Africa after the First World War (with a name change to Teale in 1917). Teale stayed in East Africa until 1936 when he became Sir Edmund Oswald Teale, Kt. Bach., D.Sc., F.G.S., F.R.G.S., M.Inst.M.M. He died at the grand age of 97 in England in 1971, leaving behind around 1200 stunning photographic plates illustrating his travel and field geology in the region.



*Life in the field: photos from the E.O. Teale archive*

The Teale archive, which is now held by the British Geological Survey, is quite varied. Notable items include a typescript autobiography and especially his photographs and lantern slides. These, numbering around 1400, are a rich source of visual information covering his life and travel in Africa, Australia, New Zealand and Russia. Other items include eight diaries for 1928-1936; 301 letters; 41 field notebooks; testimonials and a typescript history of the Geological Survey in Tanganyika. Even small items were retained for the archive, for instance receipts for bullets for his rifles – obviously for protection during the long months spent geological surveying in the African bush!

For a summary listing of the archive see:

<http://www.bgs.ac.uk/services/NGDC/archives/teale.html>. And to view a web exhibition go to:  
<http://www.bgs.ac.uk/archives/edmundteale/home.html>

## GeoScenic: the National Archive of geological photographs, British Geological Survey

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GeoScenic, the National Archive of Geological Photographs, is a major international collection of images relating to the earth sciences. The collection was founded in 1891, and has been built up systematically ever since. This rich resource for geosciences-related images forms a key component of the British Geological Survey (BGS) OpenGeoscience service, a web-site based services that makes wide range of resources freely available to users for non-commercial purposes.



*Vesuvius erupting in 1885-1886. A photo from the GeoScenic archive*

The extensive GeoScenic archive includes about 50,000 images and continues to grow rapidly as new images are added from BGS historical collections and current photography. This valuable source for images of UK geology and landscape covers topics ranging from field geology, landscapes, oblique aerial photographs, geohazards, marine operations, fossils, and rocks, right down to stunning photomicrographs of rocks and minerals in thin section. Historic photographs such as the extractive industries of china clay in Cornwall and granite quarrying in Aberdeen; images of surveying and life in early 20th century East Africa; and portraits of early geologists are well represented too. Also included are many special collections, such as the Dr R. Kidston collection of Carboniferous fossil plants, made up of 3,618 images captured from the original glass plates; the British Association for the Advancement of Science collection, comprising 6,905 images dating from c.1890 to the 1940s; the H.W Haywood, Leeds Cave Club photographs, showing 633 images of cave exploration in Yorkshire in the 1930s, along with an extensive range of historical and modern BGS collections.

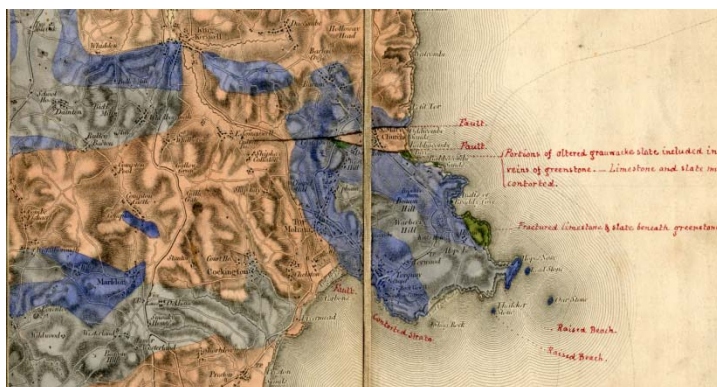
New additions represent an increasing number of international photographs, including a full pictorial record of the recent volcanic eruptions on the island of Montserrat. Set your browser to <http://geoscenic.bgs.ac.uk> and take a look!

## Early geological mapping at the BGS and the development of geological cartography

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Henry Thomas De la Beche was perhaps the first person to geologically survey an entire Ordnance Survey one-inch topographical map. His first completed sheet (Old Series 22) undertaken at his own expense in 1830-31 covered south-east Devon and part of Dorset. There is a suspicion that one of his aims was to sell the idea of systematic geological mapping to the Board of Ordnance in the expectation of receiving Government funding. If so, he was successful.



*Detail from De la Beche's manuscript copy of one-inch Old Series geological sheet 22 (1834)*

In 1832 De la Beche obtained financial support from the Board of Ordnance for a geological survey of Devon at the one inch scale. Then in 1835 he successfully established the Geological Survey (now known as the British Geological Survey, or BGS) on a formal basis. The Government of the day never envisaged that it would become a permanent enterprise!

The early Geological Survey maps were coloured according to an agreed scheme that represented just 16 geological formations. But as mapping continued more formations were recognised and the colour scheme was further elaborated. Today the BGS recognises some 2500 formations.

It has also become a major collecting organisation. The Devonian Controversy of 1834 – 39, in which De la Beche played a key role and which involved a dispute over the application of fossil evidence to stratigraphic interpretation, led to an appreciation of the need to establish a scientifically-based collection of fossils in support of the mapping programme. The BGS now holds more than 3 million fossil specimens, about half a million rock samples (excluding borehole material).

It also preserves 68 512 registered field slips (excluding Old Series one-inch slips, which are currently unregistered). Although these have provided a valuable paper record of actual observations for many years, in 2007 BGS dispensed with their use. It now gathers field data using a tablet PC. Our latest advance is to make geological data available to a wider audience via iGeology, a free smart phone App that allows the user to access a geological map of the UK simply by tapping in a place name or postcode.

### Further reading:

Bate, D. G. 2010. Sir Henry Thomas De la Beche and the founding of the British Geological Survey. *Mercian Geologist*, **17**, 149-165. PDF at <http://nora.nerc.ac.uk/11264/>

## Polished windows on an ancient world: decorative stone collections in the Oxford University Museum of Natural History

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Decorative stone collections bridge the arts and the sciences in a very special way. Polished rocks and minerals embellish our monuments, work-places, shops and homes. They can also illustrate geological processes particularly clearly, offering great potential for teaching earth sciences. Faustino Corsi's collection of 1,000 polished blocks of marbles, granites, jaspers and other decorative stones, was acquired by the University of Oxford in 1827. Corsi was fascinated by the beauty and diversity of the different stones used in Rome since ancient times, but also viewed the collection from a geological perspective, the subject of another paper at this meeting.



*The Museum's pillars form a built-in reference collection*

Polished decorative stones featured in other historic rock collections acquired by the University over the years, notably the early 19<sup>th</sup> century Scottish rock collections of John MacCulloch, and the remarkably diverse geological collections of Professor Charles G.B. Daubeny (1795-1867). Other material was added during the early years of the 20<sup>th</sup> century when the Corsi collection was formally transferred to Museum custodianship. These include collections of named samples from museums, geological surveys and stone traders in Cornwall, Devon, Derbyshire, Ireland, India, and the USA.

Not all our decorative rocks are polished samples. During the 1870s and 80s the Museum obtained sets of beautifully labelled trimmed samples from the marble quarries of the Italian Alps, supplied by Guglielmo (William) Jervis, the English curator of the Royal Industrial Museum in Turin. Other 'rough' decorative stones include samples from Greece supplied by the Marmor Marble Company during the early 20<sup>th</sup> century, the heyday of the rediscovery of Ancient Roman marble quarries when there was a huge upsurge in the popularity of decorative stone for public buildings.

The Museum continues to acquire decorative stone specimens. It now has more than 2,000 samples, making it an exceptional resource for identifying stone used in historic buildings and artefacts. The collections are kept in store, but enquiries to see and study them are welcome and should be addressed to [mineralogy@oum.ox.ac.uk](mailto:mineralogy@oum.ox.ac.uk).

However, one of the Museum's finest collections is permanently on public display. Resting on the walls dividing the central court from the surrounding galleries are 127 columns of different British or Irish ornamental stones, each labelled with its provenance, a key component of the Museum's 19th century neo-Gothic architecture.

### Further reading:

Price, M.T. 2007, *Decorative stone: the complete sourcebook*. Thames & Hudson, London, 288pp.

## ‘The cleverest woman I've ever known’: the letters and fossils of Barbara Hastings

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Barbara Yelverton, Marchioness of Hastings, wrote a long series of letters on her fossil-hunting at Hordle Cliff on the Hampshire coast to Richard Owen, Professor of Comparative Anatomy at the Royal College of Surgeons and Conservator of its Hunterian Museum. Sixty-four of them are preserved in the Owen Collection in the Natural History Museum’s General Library.

She employed a collector at Hordle and purchased many of her fossils from local women and children, as well as from abroad. But she also collected herself, was a skilled preparator – and knew how good she was. In a letter to Owen concerning a *Trionyx henrici* specimen she was sending to him she commented: ‘You will see what trouble the mending has cost me, & all I beg, is, if they should accidentally get broken let them be returned to me unmended as I will back my mending and cement against any other.’



*“A beautifully perfect head”: the type specimen of Crocodilus hastingsiae exhibited by Barbara Hastings at the British Association Meeting in Oxford in 1847*

The geologist Edward Forbes called her the ‘the cleverest woman I've ever known,’ and he wasn’t alone. She built a museum to house her collection, and Owen, Forbes, William Buckland, Enniskillen – many of the great names of 19<sup>th</sup> century palaeontology - came to admire and study her thousands of fossils, some of them, according to Richard Owen, ‘the finest in the world’.