

GEOLOGICAL CURATOR



Volume 8

Number 10



GEOLOGICAL CURATORS' GROUP

Registered Charity No. 296050

The Group is affiliated to the Geological Society of London. It was founded in 1974 to improve the status of geology in museums and similar institutions, and to improve the standard of geological curation in general by:

- holding meetings to promote the exchange of information
- providing information and advice on all matters relating to geology in museums
- the surveillance of collections of geological specimens and information with a view to ensuring their well being
- the maintenance of a code of practice for the curation and deployment of collections
- the advancement of the documentation and conservation of geological sites
- initiating and conducting surveys relating to the aims of the Group.

2008 COMMITTEE

Chairman	Helen Fothergill, Plymouth City Museum and Art Gallery: Drake Circus, Plymouth, PL4 8AJ, U.K. (tel: 01752 304774; fax: 01752 304775; e-mail: helen.fothergill@plymouth.gov.uk)
Secretary	Matthew Parkes, Natural History Division, National Museum of Ireland, Merrion Street, Dublin 2, Ireland (tel: 353-(0)87-1221967; e-mail: mparkes@museum.ie)
Treasurer	John Nudds, School of Earth, Atmospheric and Environmental Sciences, University of Manchester, Oxford Road, Manchester M13 9PL, U.K. (tel: +44 161 275 7861; e-mail: john.nudds@manchester.ac.uk)
Programme Secretary	Steve McLean, The Hancock Museum, The University, Newcastle-upon-Tyne NE2 4PT, U.K. (tel: 0191 2226765; fax: 0191 2226753; e-mail: s.g.mclean@ncl.ac.uk)
Editor of <i>The Geological Curator</i>	Matthew Parkes, Natural History Division, National Museum of Ireland, Merrion Street, Dublin 2, Ireland (tel: 353 (0)87 1221967; e-mail: mparkes@museum.ie)
Editor of <i>Coprolite</i>	Tom Sharpe, Department of Geology, National Museums and Galleries of Wales, Cathays Park, Cardiff CF10 3NP, Wales, U.K. (tel: 029 20 573265; fax: 029 20 667332; e-mail: Tom.Sharpe@museumwales.ac.uk)
Recorder	Michael Howe, British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG, U.K. (tel:0115 936 3105; fax: 0115 936 3200; e-mail: mhowe@bgs.ac.uk)
Minutes Secretary	Tony Morgan, Clore Natural History Centre, World Museum Liverpool, William Brown Street, Liverpool L3 8EN, U.K. (tel: 0151 478 4286; fax: 0151 478 4390; e-mail: tony.morgan@liverpoolmuseums.co.uk)
Committee	Michael Howe, British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG, U.K. (tel:0115 936 3105; fax: 0115 936 3200; e-mail: mhowe@bgs.ac.uk) Will Watts, Scarborough Museums & Gallery, Town Hall, St Nicholas Street, Scarborough YO11 2HG, U.K. (tel: 01723 232572; fax: 01723 376941; e-mail: Will.watts@scarborough.gov.uk) Hannah Chalk, School of Earth, Atmospheric and Environmental Sciences, University of Manchester, Oxford Road, Manchester M13 9PL, U.K. (tel: 0795 6208704; e-mail: Hannah-lee.Chalk@manchester.ac.uk) Cindy Howells, Department of Geology, National Museums and Galleries of Wales, Cathays Park, Cardiff CF10 3NP, Wales, U.K. (tel: 029 20 573554; fax: 029 20 667332; e-mail: cindy.howells@museumwales.ac.uk)
Co-opted members:	Steve Thompson, (NatSCA), Museum of North Lincolnshire, Oswald Road, Scunthorpe, South Humberside DN15 7BD, U.K. (tel: 01724 843533; fax: 01724 270474; e-mail: Steve.Thompson@northlincs.gov.uk) David Gelsthorpe, Manchester Museum, Oxford Road, Manchester M13 9PL, U.K. (tel: 0161 2752660; fax: 0161 2752676; e-mail: David.gelsthorpe@manchester.ac.uk) David Craven, Bolton Museums, Art Gallery and Aquarium, Le Mans Crescent, Bolton, Greater Manchester BL1 1SE, U.K. (tel: 01204 338764/557661; fax: 01204 332241; e-mail: david.craven@bolton.gov.uk)

The views expressed by authors in *The Geological Curator* are entirely their own and do not represent those of either the Geological Curators' Group or the Geological Society of London unless otherwise stated.

© The Geological Curators' Group 2008. ISSN 0144 - 5294

Cover: Photograph of the large 'kidney ore' specimen adjacent to the entrance to the Riverdale Hall Hotel. [See paper by Young *et al.* on pages 473-476]

THE GEOLOGICAL CURATOR

VOLUME 8, NO. 10

CONTENTS

VOLCANOES EXPLODE AT THE MANCHESTER MUSEUM: A CASE STUDY OF A VOLCANO THEMED PUBLIC EVENT by A. Bunney, H. Chalk, A. Edwards, D. Gelsthorpe, B. Sitch	467
BELLINGHAM HEMATITE: AN IRON ORE MYSTERY by B. Young, S. Kilby and P. Tandy	473
OBITUARY: MICK COOPER (1946-2008)	477
GEOLOGICAL CURATORS' GROUP : 34TH ANNUAL GENERAL MEETING	481
PRESENTATION OF THE A.G. BRIGHTON MEDAL TO GEOFFREY TRESISE	487
INDEX TO <i>THE GEOLOGICAL CURATOR</i> VOLUME 8 (2004-2008)	489

VOLCANOES EXPLODE AT THE MANCHESTER MUSEUM: A CASE STUDY OF A VOLCANO THEMED PUBLIC EVENT

by A. Bunney, H. Chalk, A. Edwards, D. Gelsthorpe and B. Sitch



Bunney, A., Chalk, H., Edwards, A., Gelsthorpe, D. and Sitch, B. 2008. Volcanoes explode at The Manchester Museum: A case study of a volcano themed public event. *The Geological Curator* 8 (10): 467 - 472.

It is often difficult to inspire the public about igneous rocks. This case study of a public activity day shows that through working with a range of partners, innovative ideas can bring the subject alive. Experts with objects to handle talked to the public about eruptions and volcanoes, with eruption demonstrations, hands on activities, explosions and artists workshops taking place throughout the day.

A. Bunney, H. Chalk, D. Gelsthorpe and B. Sitch, *The Manchester Museum and A. Edwards, School of Earth, Atmospheric and Environmental Sciences, The University of Manchester. Received 11th January 2008.*

Introduction

It can be difficult to get the public inspired by igneous rocks. This paper provides a case study in which this challenging subject was tackled in innovative ways, to enthuse and excite a family audience.

In November 2007, The Manchester Museum ran a public event entitled 'Volcano Day'. The event included volcano-related object handling, demonstrations and hands-on science based activities. The event was delivered and supported by a range of partners, including: the Geologists' Association, The Hancock Museum and the School of Earth, Atmospheric and Environmental Sciences of The University of Manchester.

Demonstrating a volcanic eruption

The Geologists' Association Curry Fund awarded the museum a grant of £300 to borrow a volcano model from the Hancock Museum. It was felt that a demonstration of an eruption would help bring volcanic rocks alive and provide a focus to the day.

The volcano model was made from a fibreglass cone that came apart and fitted into a family car. The 'eruption' was generated using a series of light and smoke effects which were activated using a remote control.

Pyroclastic flows and gaseous eruptions were simulated in two ways. Firstly, an atomiser generated 'smoke' from a small pool of water in the top of the cone. The 'smoke' then overflowed down the side of the cone, hugging the surface in the same way a pyroclastic flow would behave (see figure 1).

Secondly, a Plinian style eruption was achieved by activating a smoke pump (using 'Disco' smoke), this sent a column of smoke into the air (see figure 2). It should be noted that the fire alarm had been isolated in the immediate area of the demonstration.

Lava flows were simulated through a bank of spotlights that gradually turn on in sequence, from the top of the cone to the bottom (see figure 3). The lights then shone through a transparent section of the fibreglass cone. Eventually, all the lights illuminated as if the volcano were in full eruption.

The model was used as part of a demonstration which included details of eruptions that related to



Figure 1. Simulated pyroclastic flow



Figure 2. Simulated plinian eruption.

handling activities taking place elsewhere in the museum. A particular focus was the eruption which destroyed Pompeii in AD 79.

Volcanic objects for the public to handle

A range of specimens from the collection were made available for handling. These focused on eruption structures such as pahoehoe and aa lava, and Pele's hair. A range of intrusive igneous rocks were used to explain cooling rates versus crystal size and other geological phenomena. Postgraduates from the School of Earth, Atmospheric and Environmental Sciences at Manchester University were on hand to help explain their significance.

Susan Brown and her husband from the Geologists' Association represented Rockwatch at the event. They organised a very popular activity which involved making volcano themed dioramas. They had a range of literature on how to get more involved in geology and Rockwatch.

The Manchester Museum holds a number of volcano related artefacts in the archaeology collection. Pompeii, famously destroyed in AD 79 by the eruption of Vesuvius provided antiquaries with a treasure trove of artefacts from a well-known and dated historical event (see figure 4).

Material has been taken from the site since at least the 18th century and many museums have material from Pompeii. The Manchester Museum is no exception. Objects include mosaic tesserae, a slab of dressed marble, a short length of chain, a miniature



Figure 3. Internal lights illuminate a 'lava flow'.

seat with zoomorphic legs, perhaps for a figurine of a deity; a metal hook; a copper alloy bowl with a removable lid; a copper alloy matrix perhaps for stamping bread with the inscription DEELAREO; three oil lamps from Pompeii and one from Herculaneum and a Greek or southern Italian vase.

Manchester Museum has copies of plaster casts of a human victim of the disaster and a dog, which died still chained up. It was decided that within the con-



Figure 4. Artefacts from Pompeii were demonstrated.

text of the museum's human remains policy it would not have been suitably respectful to display these objects.

It was decided to put out some objects which, whilst not having quite the same sensational appeal of artefacts from Pompeii or Herculaneum, did help to explore the more beneficial long-term aspects of volcanoes from the point of view of human beings. This included prehistoric stone axes and rough-outs from the pyroclastic rocks of Lake District, which show benefit of volcanoes to human beings over the millennia. Other benefits are fertility of volcanic soils is good for grapes in Sicily, Italy and Germany and obsidian used to make a range of different tools.

Volcano day was timed to coincide with a meeting of Manchester Museum's Young Archaeologists' Club. A private viewing of the objects and a demonstration of the volcano model was provided. The older members of the club helped the Curator of Archaeology with object handling.

Partnership with Manchester University's School of Earth, Atmospheric and Environmental Science

The Manchester Museum is part of the University of Manchester and is able to call on the expertise of a wide range of scientists who are experts in their field. Two such experts were on hand to demonstrate some exciting aspects of igneous rocks.

A range of volcanic rocks were available for handling from different volcanoes. These ranged from various types of basalts to examples of spectacular minerals including natural sulphur. Dramatic projections of eruptions helped bring the specimens to life. A popular aspect of the handling session was a microscope showing thin sections of volcanic rocks, which were then displayed on a screen (see figure 5).

One of the highlights of the day was a large 'volcanic' explosion. The demonstration provided onlookers, in an outside courtyard area, with an appreciation of the driving force behind volcanic activity, the evolution of gas from magma at depth, under pressure.

A substantial steel drum was filled with water, (a safer analogue of lava!) and a two-litre carbonated drinks bottle was modified with a metal collar attached to a short chain and a substantial weight which allowed the bottle, when submerged, to float about 500mm from the base of the drum. The bottle



Figure 5. Microscopic views of thin sections of volcanic rocks were displayed on screen, and were very popular.

was partially filled (approximately one-third) with liquid nitrogen and sealed with its screw cap. The drinks bottle was then dropped into the drum, where the heat exchanged from the water rapidly caused the liquid nitrogen to 'boil'. Carbonated drinks bottles are extremely strong, being designed to contain liquids with dissolved gas at modest pressures however, after approximately ten seconds under water, the developed pressure caused by the 'boiling' liquid nitrogen is sufficient to cause a catastrophic failure of the bottle with a resultant violent explosion. The shock wave, constrained by the base and sides of the drum causes a waterspout of up to 30m to be erupted from the open top of the drum. This is accompanied by a pretty loud bang (see figure 6)!



Figure 6. The 'volcanic' explosion.

A short talk was given by Mandy Edwards explaining the significance of the dissolved gas in creating the explosion. A full risk assessment was carried out and the demonstration was conducted by experienced staff.

The tonic water activity and volcano model

No volcano day would be complete without a kitchen sink science activity. So rather than filling the museum with the heady fumes of vinegar and bicarbonate of soda, something a little more explosive was used.

The workshops ran hourly throughout the day and involved visitors 'erupting' a bottle of tonic water. They then made their own volcano, which they could erupt at home.

After briefly discussing how volcanic eruptions occur, an explosive eruption was simulated. This involved using a bottle of slimline tonic water and quickly dropping half a packet of Menthos through a paper tube and into the bottle. The tonic water then erupts out of the bottle, showing the power of expanding gas in a liquid. After demonstrating an eruption, the visitors had a go for themselves. Only one participant sprayed tonic water across the room (and he was a member of staff).

How does this work? When a bottle of slimline tonic water is opened, the pressure inside is released and the CO₂ dissolved in the liquid slowly escapes as bubbles. When the Menthos are added to the bottle of tonic water, two things happen; firstly, the heavily pitted surface of the Menthos gives the sweets a large surface area. This provides a nucleation site for the gas bubbles, which allows the dissolved CO₂ to escape as a gas. Secondly, Menthos contain gum arabica and gelatine. These reduce the surface tension of the tonic water, making it easier for the CO₂ bubbles to form. The formation of bubbles increases the volume of the liquid and the pressure pushes the tonic water out from the bottle.

The second part of the workshop involved the construction of an erupting volcano to take home (see appendix 1).

Partnership with an artist

Volcano day provided an ideal opportunity to work with Ilana Halperin, an artist who was working on the collections as part of the museum's Alchemy project. One of the strands of Ilana's work focused on

temporary landscapes created by volcanic events. Using this theme and the collections as inspiration, she led several drawing workshops for the under 12s. Ilana used a power point presentation of images of erupting volcanoes from the museum's lantern slide collection, to inspire the participant's drawings.

In order to engage families when they enter the museum, the Manchester Museum hands out stickers to children. This provides an opportunity to inform visitors what's going on during the day. Our stickers for Volcano day pictured an exploding volcano.

Craft activities also engage younger visitors. In addition to the Rockwatch activities, visitors were also able to make paper models of volcanoes, colour in volcano outlines and solve a volcano word-search.

Conclusion

The success of Volcano day lay in making volcanoes exciting. Key to this were the range of partners that delivered the day.

Bringing volcanoes alive was key to enthusing visitors. One of the central elements of this was the loan of the volcano model, thanks to a small grant. The preparation of the grant application took several hours, but this case study clearly shows the benefit of using the model. The grant enabled the Geologists' Association to target an audience it traditionally finds difficult to reach.

A multi-disciplinary approach to subject of volcanoes broadened the appeal of the day. The constraints of space and number of staff and volunteers were the main limiting factors.

Acknowledgements

We would like to acknowledge the support of the staff and postgraduate students from the School of Earth, Atmospheric and Environmental Sciences at Manchester University, the public program volunteers, The Hancock Museum, The Geologists' Association, The Alchemy project and the Manchester Museum visitor services staff.

Appendix 1

Volcano Recipe

You will need:

- Baking powder / Bicarbonate of Soda
- Red food colouring
- Vinegar (preferably white)
- Washing up liquid
- Water
- Empty plastic bottle

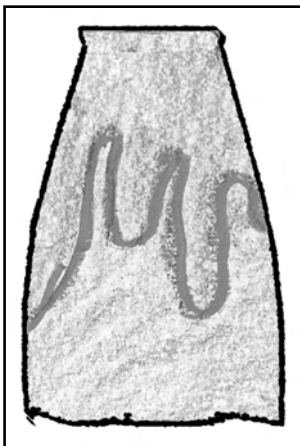
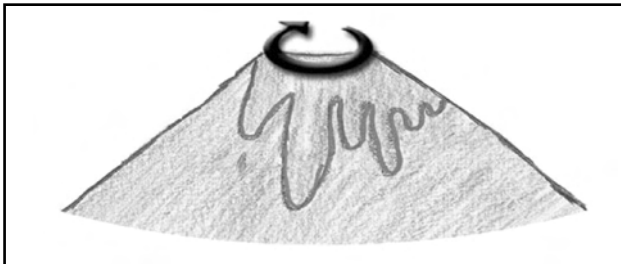
Step 1 - making the cone

Cut the top off the bottle approximately 2cm below the lid (see figure 7). Turn this up-side-down to represent the magma chamber and place inside the remaining top half of the bottle, cut to size. Secure the upturned top of the bottle with some clay or plasticine to seal the edge.



Step 2 - making the volcano sides

Roll your volcano picture into a cone and put it inside the plastic volcano cone (see figures 8 and 9).



Step 3 - making the activation fluid

To make your activation fluid, pour the following ingredients into your empty plastic bottle:

- 150ml (1/4 Pint) vinegar
- 3 tablespoons of washing up liquid
- A few drops of red / orange food colouring

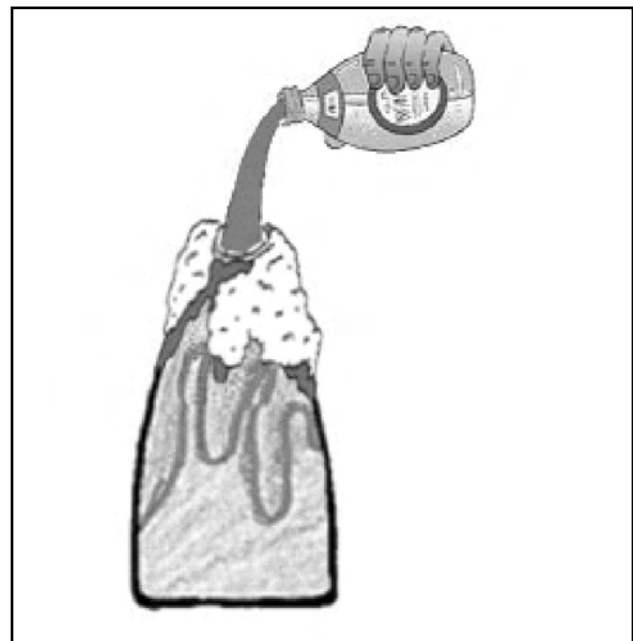
Step 4 - loading the volcano

Carefully spoon the baking powder into the crater making sure that it is no more than half-full (this will use about 2 teaspoons of baking powder) (see figure 10).



Step 5 - erupting the volcano

Slowly pour some activation fluid (see figure 11) into the crater and watch the lava as it flows out of your volcano!



The lava will only erupt if there is baking powder in the crater. When your volcanic eruption has finished, it is a good idea to take out the crater and give it a quick wash before having another go!

Things to try

= Try loading the crater with different amounts of baking powder. How does this affect your eruption?

= Try pouring the activation fluid into the crater at different speeds. What effect does this have?

= Try adding more washing up liquid or some fresh water to the activation fluid mixture. What happens?

How do volcanoes work?

The lava that erupts from a volcano is in fact really hot rock. It is rock that has been heated so much that it has become runny. When this runny rock is underground, it is called magma. Volcanoes form where the surface crust of the earth is weak. This means that the magma can creep up through cracks in the weak crust. When it gets to the surface: BOOM!

A volcanic eruption happens when the magma forces through the surface (like the way that a fizzy drink will spray everywhere if you shake it up before you open it!). The way that a volcano erupts depends on how runny the magma is and much pressure has built up before the magma breaks through the surface. When a volcano erupts, we call the magma a new name: Lava.

Lava quickly cools down in the open air or sometimes, in water. When it cools down, the lava becomes hard again and turns back into rock.

BELLINGHAM HEMATITE: AN IRON ORE MYSTERY

by **B. Young, S. Kilby and P. Tandy**

Young, B., Kilby, S. and Tandy, P. 2008. Bellingham hematite: an iron ore mystery. *The Geological Curator* 8 (10): 473 - 476.



The origin of fine specimens of 'pencil ore' hematite, in the collections of the Natural History Museum, London, labelled 'Bellingham, Northumberland', has long been enigmatic. Whereas hematite ores are unknown, and unlikely, in the geological setting of the sedimentary ores which were the basis for the local iron smelting industry, several very large blocks of spectacular 'kidney ore' and 'pencil ore' hematite have long been prominent in an ornamental garden at Bellingham, where they prompted fruitless prospecting activity in the 1930s. This investigation has traced the true west Cumbrian origin of these specimens.

B. Young, Department of Earth Sciences, University of Durham, South Road, Durham DH1 3LE, UK.

S. Kilby, Bilsmoor, Burswell Villas, Hexham, Northumberland NE46 3LD, UK.

P. Tandy, Department of Mineralogy, The Natural History Museum, London SW75BD, UK. Received 13th November 2008.

Introduction

The small North Northumberland market town of Bellingham (Figure 1) was, for several years during the 19th century, a significant though rather short-lived, centre for iron ore mining and smelting. It may not therefore seem surprising that a fine specimen of hematite, simply labelled as originating at 'Bellingham, Northumberland' has for many years featured in the systematic display of minerals in the Natural History Museum in South Kensington, London. However, hematite is unknown from this part of Northumberland and the authors' attempts to track down the origins of this specimen have revealed the likely source of this and other specimens of hematite seen today at Bellingham.

Iron ores and the iron industry of the Bellingham area

Clay ironstone nodules are abundant within the Redesdale Ironstone Shales, a mudstone formation that lies between 3 and 12 metres beneath the Redesdale Limestone within the Lower Carboniferous Lower Border Group in the Ridsdale and Bellingham areas of Northumberland (Frost and Holliday 1980). Analyses of the nodules reveal iron contents of up to 36.51% Fe, though in furnace practice the yield was generally around 33% (Strahan *et al.* 1920). Although it is likely that small-scale working of these ores may extend back over many centuries, large-scale working began with the establishment of blast furnaces at Ridsdale in 1839 and at Hareshaw, near Bellingham in 1841 (Atkinson

1974). Originally worked opencast in large quarries, the remains of which are still conspicuous landscape features near Ridsdale, the ores were followed underground where they were extracted using pillar and stall techniques (Lebour 1873; Hemmingway 1972). Iron smelted at the Hareshaw ironworks was employed in the construction of the High Level Bridge across the Tyne at Newcastle upon Tyne. However, the ventures soon proved uneconomic in the face of high transport costs, the discovery of higher quality and cheaper Jurassic ores in the Cleveland area, and the development of better smelting practices at larger operations at locations such as Consett and Teesside (Bell 1864). There are no



Figure 1. Geographical location of locations discussed in text.

records of iron ores from outside of the Bellingham or North Tyne areas ever being used in the local furnaces. By 1878 the iron industry in this area had ended (Strahan *et al.* 1920).

Bellingham hematite specimens

For many years a specimen of compact finely crystalline purplish grey hematite of the 'pencil ore' variety has been on display as part of the systematic collection of minerals in the Mineral Gallery at the Natural History Museum (NHM), South Kensington (NHM Registration No. BM1937,1486). This, and a very similar specimen (NHM Registration No. BM1937,1487), were donated to the museum in 1937 by a Mr R. Davidson.

Correspondence between Davidson and G. F. Claringbull at the Museum, relating to this donation, and preserved at the NHM, reveals that Davidson was then investigating what he believed to be the occurrence of high quality hematite ore in the Bellingham area. In a letter to Claringbull, dated October 17th 1937, that is accompanied by a photograph (Figure 2) of hematite specimens at Bellingham, Davidson referred to his discovery of blocks of high quality hematite up to 1 ½ tons in weight, which he offered to the museum, though in his reply, dated 21st October, Claringbull declined the offer, advising that the smaller specimens previously donated would "...serve to represent the locality in this collection...". It seems that Davidson, and presumably also the museum, believed that Bellingham was a credible potential source of these specimens, no doubt partly because of the area's known history of iron ore mining and smelting. However, no more precise location than 'Bellingham, Northumberland' accompanied Davidson's donation.

Several very large, and rather spectacular, specimens of hematite, much of it in the form of 'kidney ore', are still prominent objects in the grounds of the Riverdale Hall Hotel (formerly Riverdale Hall) at Bellingham (Figure 3).

R. Davidson's prospecting activities

The limited surviving correspondence, and more recently obtained local information, reveals that R. Davidson was a mining engineer who originated from Bellingham but who by 1937 was living and working in Kenya. It is also clear that Claringbull and Davidson had met previously, as Claringbull refers in his letter to an olivine dolerite specimen from the 'Blue Reef Mines' left with him by Davidson on a previous visit.



Figure 2. The NHM photograph of hematite specimens at Riverdale Hall, Bellingham., in about 1937.

R. Davidson is the figure on the left; the pipe-smoking man on the right is believed to be Sir John Renwick, owner of Riverdale Hall until about 1935: the female figure cannot be identified. The large 'kidney ore' specimen in the right foreground is almost certainly that which stands today by the entrance to the Riverdale Hotel (Figure 3).

In his correspondence with Claringbull on the Bellingham hematite, Davidson uses Bellingham Post Office as his contact address and refers to his present holiday in England being spent "...hunting for hematite etc...". It seems he was re-visiting his home country on leave from Africa, though appears to have been enjoying something of a 'busman's holiday'.

A few older present-day Bellingham residents recall his visit and refer to his interest in locating the source of several very large hematite specimens which for many years had been conspicuously displayed in the gardens of Riverdale Hall (now the Riverdale Hall Hotel), and which he believed must have originated locally. It seems that his donations to the Natural History Museum comprised fragments of this material and that, because of his failure to identify a local provenance, could only offer 'Bellingham, Northumberland' as their source.

Nothing more is known of Davidson or his prospecting interests after his obvious failure to locate the deposit he supposed might await discovery in the Bellingham neighbourhood.

The Riverdale Hall (Hotel) connection

As mentioned above, spectacular specimens of 'kidney ore' hematite survive today in the grounds of the Riverdale Hall Hotel. It is possible, by careful examination of the rather poor quality photograph that



Figure 3. Photograph of the large 'kidney ore' specimen adjacent to the entrance to the Riverdale Hall Hotel.

accompanies Davidson's 1937 letter to Claringbull, to identify the very large piece that today stands near the hotel entrance (Figure 3). There seems no doubt that it was the abundance of these examples of very high quality hematite in the Riverdale Hall grounds that attracted Davidson's attention and provided the basis for his fruitless prospecting activities.

What then was the source of these specimens and how and when did they arrive in Bellingham?

Riverdale Hall was built in 1866 by James Dees. Dees, who was born in Meldon, Northumberland, in 1815, married Ann Gibson of Bellingham in 1842. He trained as a civil engineer and in 1845 became the resident engineer on the Whitehaven and Furness Railway, subsequently becoming chief engineer of the Cleator and Egremont Railway, and in turn Director and Deputy Chairman of the Solway Junction Railway. Dees also had interests in the west Cumbrian minerals industry as proprietor of the

Whitehaven Brick Company and later, through his involvement in the partnership of Fisher, Dees and Fletcher, operators of the Parkside Mining Company in Frizington, came to be closely involved in the mining of hematite iron ore.

The Parkside Mines at Frizington were well known in the late 19th century as sources of fine specimens of minerals characteristic of the west Cumbrian hematite orebodies. Perhaps best known, in museums throughout the world, are spectacular examples of large beautifully coloured crystals of baryte (Symes and Young 2008). However, the mines were also a source of superb examples of 'kidney ore' and other forms of hematite. The large 'kidney ore' specimens at Riverdale Hall Hotel are absolutely typical of those formerly found at the Parkside Mines, Frizington, fine examples of which exist in numerous museum collections.

It seems almost certain that the striking large examples of 'kidney ore' that long graced the grounds of Dees' Northumberland home, Riverdale Hall, were brought here from Frizington to serve as garden ornaments. In this context they appear to be unique. Despite the common practice in many British metal-

liferous mining communities of using spectacular large mineral specimens for outdoor decoration, few, if any, examples are known of hematite or any of its associated minerals ever being employed in this way in west Cumbria, though smaller specimens were widely used by Cumbrian miners in constructing 'spar boxes' (Forbes 2003).

Dees died in 1875, and is buried in the Roman Catholic churchyard at Bellingham. Riverdale Hall eventually became the Riverdale Hall Hotel in 1979.

Conclusions

Although Bellingham has long been known as a centre of iron ore mining and smelting, the ores worked have all been typical clay ironstones of sedimentary origin, found as nodules within a restricted part of the Lower Carboniferous succession. Hematite is not known to be a constituent of any of these ores. Moreover, no hematite mineralization of either syngenetic or epigenetic origin is known from any part of the Bellingham neighbourhood. The extremely close resemblance of the hematite varieties present in the grounds of the Riverdale Hall Hotel, together with the history of the building, point to the west Cumbrian orefield, and the Parkside Mines in particular, as the likely source of these fine specimens. Whereas the authors are unaware of specimens of hematite in other collections bearing Bellingham as their source, the results of this investigation may clarify the origin of any similar specimens claimed to be from this location.

Acknowledgements

The authors wish to thank John Cocker, current owner of the Riverdale Hall Hotel, for information on the history of the building and for giving us access to the remaining hematite specimens. Tommy

Brecons, of Bellingham is thanked for contemporary recollections of R Davidson, and David Banks of Egremont is thanked for providing information on James Dees. Shaun Eke is thanked for enhancing the archival photograph (Figure 2).

References

- ATKINSON, F. 1974. *The Industrial Archaeology of North-East England*. Vol. 1. David & Charles, Newton Abbot.
- BELL, I.L. 1864. On the manufacture of iron in connection with the Northumberland and Durham Coal-field. *Transactions of the North of England Institution of Mining Engineers* **13**, 109-155.
- FORBES, I. 2003. *Secret worlds. Spar boxes of the North Pennines*. Durham County Council, Killhope Lead Mining Museum.
- FROST, D.V. and HOLLIDAY, D.W. 1980. *Geology of the country around Bellingham*. Memoir of the Geological Survey of Great Britain, H.M.S.O.
- HEMMINGWAY, J.E. 1972. The Redesdale Ironstone Beds. *Bulletin of the Historical Metallurgy Group* **6**, 12-14.
- LEBOUR, G.A. 1873. On the geology of the Redesdale Ironstone district. *Transactions of the North of England Institution of Mining Engineers*, **22**, 111-128.
- STRAHAN, A, GIBSON, W., CANTRILL, T.C., SHERLOCK, R.L. and DEWEY, H. 1920. *Iron ores. Pre-Carboniferous and Carboniferous bedded ores of England and Wales*. Special Reports on the Mineral Resources of Great Britain, Vol. 13, Memoir of the Geological Survey of Great Britain. H.M.S.O.
- SYMES, R.F. and YOUNG, B. 2008. *Minerals of Northern England*. NMS Enterprises, National Museums Scotland.

MICHAEL P. COOPER (1946-2008)

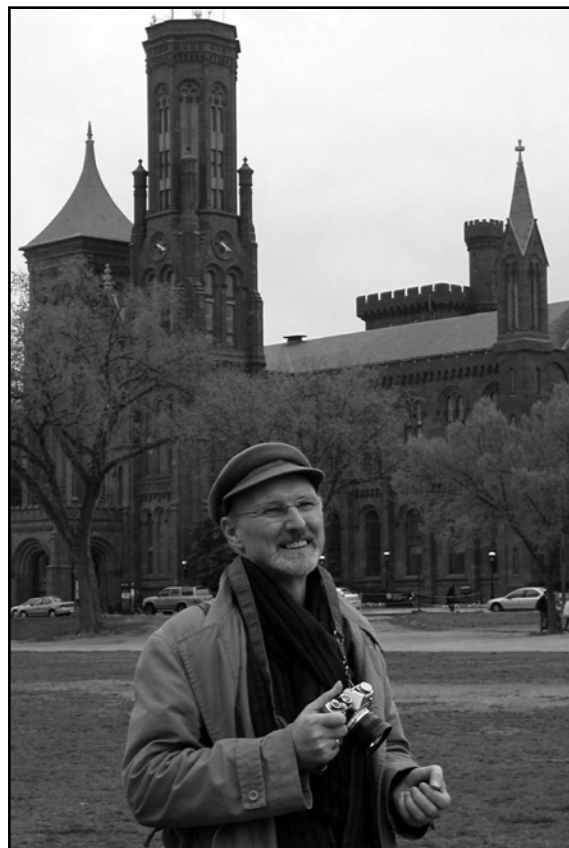


Photo: John S. White

Michael Phillip Cooper, known simply to the mineralogical and museum community as "Mick", was born in Nottingham on October 11, 1946. He was educated at Bilborough Grammar School and having a particular love of the natural sciences went on to read chemistry at the University of Manchester Institute of Science and Technology (UMIST). While studying at UMIST he met up with Richard Braithwaite (then a young lecturer in the Chemistry Department), Tim Greenland, Jim Knight and Terry Seward. All were keen collectors and for a time they pooled their resources, purchasing parcels of mineral specimens from exotic localities and accompanying each other on field trips to Derbyshire and the north of England. Mick's favourite collecting localities were in the Caldbeck Fells and he made numerous visits to the area, the first with Jim Knight in 1965, who remembers saying "someday, someone will write a book about this place...". Mick's final year of study at UMIST was marred by personal tragedy. He lost his father and mother in quick succession and as a result opted out of the chemistry course before

graduating, returning instead to the family home in Nottingham to live with his younger brother Peter.

A short spell in industrial research followed, where among other things he developed formulations for coloured inks (once remarking to one of us that you would never pick a coloured pen up again if knew the compounds it contained). Being possessed of a restless intellect, chemistry did not keep his attention for long, and a deep and abiding interest in museums and collections led him to a job at the Portland [art] Gallery in Manchester. During his time at the art gallery a heart problem (a deterioration of the Mitral valve) was diagnosed, and it was quickly apparent that surgery would be necessary. The heart valve was replaced at Wythenshaw Hospital in Manchester and a long convalescence, once again in Nottingham, followed. Mick never returned to work in Manchester, but the city's loss was Nottingham's gain and he set out on a career in documentation with the museum service.

In his spare time, Mick pursued the dual roles of freelance photographer and semi-professional ragtime guitarist. He had a remarkable ability to capture all sorts of subjects on film and by the mid-1980s had become particularly skilled in the field of mineral photography. The Olympus camera company had introduced the groundbreaking OM- system at about this time and Mick was quick to realise the potential of its macro lens system in combination with TTL flash metering.

Mick's mineralogical interests in the 1980s were centred on the Caldbeck Fells and he began to gather data for what would become the first of two major mineralogical works. He knew the area intimately, and not just the minerals, he knew the plants, the animals and the complex history of mining. He had visited the fells many times on field trips with collecting companions, or birdwatching with his brother Peter, who by this time had also died of a brain tumour. This is all the more remarkable as he did not own a car, (or have a driving licence) until almost all of the work for the book was complete, relying almost entirely on friends to take him on field visits. Publication of *Minerals of the English Lake District: Caldbeck Fells*, with Chris Stanley of the Natural History Museum, cemented Mick's position as one of Britain's leading mineralogists. The book remains a benchmark by which other topographic publications are judged. The years of painstaking work visiting archives, collections both public and private, and analysing unusual specimens, combined with the hundreds of hours spent in the field, produced a truly definitive work on this unique mining area. One of the few things he was disappointed with was the title, which was intended to be simply *Minerals of the Caldbeck Fells*.

The excellence of the Caldbeck Fells photography meant that Mick was in great demand as an illustrator. He contributed photographs to many important works including *A Mineralogy of Wales* (Bevins 1994); *Minerals of Scotland* (Livingstone 2002) and *Minerals of Britain and Ireland* (Tindle 2008). He also produced superbly illustrated articles in journals such as *The Mineralogical Record*, *Lapis*, and *The UK Journal of Mines and Minerals*, (which he also edited until 1994 when the pressure of museum work became too much for him to continue). He was an Associate Editor of the *Mineralogical Record* and for a time contributed regular reports from the major European Shows (which he often visited accompanied by Oxford University's mineralogy curator Monica Price). As a consequence of a chance meeting with Jörgen Langhof at the Munich Show in 1993, Mick was invited to travel to Stockholm to

take photographs for the now classic book *Långban* (Holtstam and Langhof 1999). The book features 61 of his finest images and Mick and Jörgen becoming firm friends with a strong interest in the history of mineral collecting.

Mick took a leading role in mineralogical societies from the 1980s onward. He was a member of the British Micromount Society from the early days, and for a time was editor of its newsletter. He was also member of the Russell Society, perhaps the premier organisation in the UK for amateur and professional mineralogists, and was its newsletter editor at the time of his death. Both positions employed his skills as a wordsmith to good effect, he was particularly adept at disentangling other peoples sentences to produce clear and elegant prose.

In gathering information for the Caldbeck Fells book, Mick became very interested in the people who from the mid-eighteenth century onward had supplied collectors with their cabinets of curiosities. He had a standing advertisement in the *UK Journal of Mines and Minerals* which reads as follows: "Wanted for long established archive of MINERAL COLLECTORS' EPHEMERA. mineral dealer's lists, show flyers and catalogues and dealer's labels, articles, etc. Anything, any nationality, but especially British." After publishing several articles on notable mineral dealers in *Matrix*, which is a journal of the history of mineralogy, Mick's second major publication hit the shelves. *Robbing the Sparry Garniture: A 200-year history of British mineral dealers 1750-1950* was launched to critical acclaim in 2006. This truly encyclopaedic work deals with its subject matter with a rigour and breadth unlikely ever to be equalled.

Mick was a member of the Museums and Galleries History Group, and his research interests statement reads as follows: "I am particularly interested in the development of natural history collections, especially mineralogy and botany, particularly through the agency of natural history dealers. Also in Blaschka and other models of natural forms and in early British art galleries (Nottingham Castle has long claimed to be the first municipal provincial museum and art gallery - but was it??). I am also keen to promote the value of museum archives for "introspective" collections research and documentation." Perhaps the project which he was most proud of was the rescue of the mineral collection belonging to the Duke of Devonshire at Chatsworth House (Cooper 2005). This began in 1992 at the twentieth anniversary AGM of the Russell Society. Rumour had it that the Chatsworth collection was extensive and historic,

but none of the committee members had ever seen it, so a visit was arranged. This chance visit resulted in a restoration and rescue project, that spanned more than ten years, and many hundreds of hours of painstaking research and curatorial work. The collection included the now famous Duke's Emerald a crystal presented by the last Emperor of Brazil which had lain undiscovered in an old cardboard box for more than a century. Mick negotiated its loan for public display and it can now be seen in The Vault, a new annex to the mineral display at the Natural History Museum.

Mick's tall distinguished frame was well known to many in the museum world. He was a knowledgeable and witty companion in the field, at a mineral show or behind the scenes when visiting a collection. A scholar with a deep knowledge of his subject areas, he possessed a breadth of knowledge and a facility for expression equalled by few of his peers. At the time of his death, Mick had recently returned from a visit to the Rochester Symposium. He delivered two talks and had wowed the conference delegates with his presentational and research skills. He passed away from heart failure in his sleep on June 2, 2008. He will be remembered as a good friend, a great historical researcher, a first-class mineral photographer, a fine guitar-player and an engaging writer with a brilliant and enquiring mind.

Mick's papers, manuscripts, research documents and dealer label collection will be placed in the library at Oxford University for reference. His slides are to be passed to National Museum of Wales, where in due course they will be available in digital form. Mick is succeeded by his wife Catherine Foley, and sister Kate Whitmore, to whom we offer our deepest sympathy.

Selected Bibliography

- Bevins, R.E. 1994. *A Mineralogy of Wales*. National Museum of Wales, Geological Series No.16, Cardiff.
- Cooper, M.P. 1991. Famous mineral localities: pyromorphite-group minerals from the Caldbeck Fells, Cumbria, England. *The Mineralogical Record* **22**, 105-121.
- Cooper, M.P. and Stanley, C.J. 1997. Die Mineralien der Caldbeck Fells, Cumberland, England. *Lapis*, **22**(3) 13-34, 50.
- Cooper, M.P. 2001. Keeping it in the Family: The Humphreys, Forsters and Heulands. *Matrix*, 3-31.
- Cooper, M.P. 2005. The Devonshire mineral collection at Chatsworth House: an 18th-century survivor and its restoration. *The Mineralogical Record* **36**, 239-272.
- Cooper, M.P. 2006. *Robbing the Sparry Garniture: A 200-year history of British mineral dealers, 1750-1950*. The Mineralogical Record, Tucson, Arizona.
- Cooper, M.P., Green, D.I. and Braithwaite R.S.W. 1988. The occurrence of mattheddleite in the Caldbeck Fells, Cumbria: a preliminary note. *UK Journal of Mines and Minerals*, **5**, 21.
- Cooper, M.P. and Stanley, C.J. 1990. *Minerals of the English Lake District: Caldbeck Fells*. British Museum (Natural History), London.
- Green, D.I., Bridges, T.F., Cooper, M.P. and Thomson, N. 2005. A review of the supergene mineralisation at Silver Gill, Caldbeck Fells, Cumbria. *Journal of the Russell Society* **8**(2), 85-97.
- Holtstam, D. and Langhof, J. 1999. *Långban: the mines, their minerals, geology and explorers*. Swedish Museum of Natural History.
- Livingstone, A. 2002. *Minerals of Scotland: past and present*. NMS Publishing, Edinburgh.
- Tindle, A.G. 2008. *Minerals of Britain and Ireland*. Terra Publications, Harpenden.

David Green
Roy Starkey
Jim Knight

GEOLOGICAL CURATORS' GROUP

34th Annual General Meeting

**National Museum of Ireland,
Collins Barracks, Dublin, Ireland.**

3rd December 2007.

1. Apologies for absence.

H. Brunton, H. Chalk, D. Craven, T. Cross, P. Crowther, D. Johnston, S. McLean.

2. Acceptance of the minutes of the 33rd AGM held at Plymouth Museum, December 2006.

Agreed.

3. Matters Arising.

None raised.

4. Chairman's Report.

The three years that I have spent as Chairman of the Group have passed by very quickly. Looking back at the other reports that past Chairmen have written I have noticed that this thought is a very common one, perhaps it is related in part to the successful way that GCG Committee works with everyone sharing the work load and bringing their different skills and interests to the attention of the Committee and the membership. I am pleased to be leaving the Committee in a very healthy state with committed officers and younger members of the profession on board. May I also encourage anyone who is thinking that it would be of interest to them to consider standing for Committee - after all what have you got to lose by putting your name forward?

One of the successful outcomes for 2007 has been the rationalisation of the holdings of the back issues of the Geological Curator kept in Manchester. We have made sure that there are complete runs at the national museums, large regional museums and in our own archive. Over twenty of our members received near complete sets of the journal for the price of postage. Work has started on the digitisation of the journal and I hope that this would be available from our web site for anyone to read and download for their own use.

Dynamic rationalisation of the collections held in our institutions is a topic that has been discussed in 2007. Geological collections are not easy for a non specialist to assess and it is here that the extensive datasets and expertise that GCG can quickly access that have proved very useful in our dealings with other institu-

tions responsible for geological collections. I am sure that this is an area that will be of concern to the Committee in the future as well.

One way that we can add to the knowledge of our members and the museum profession as a whole is through our provision of meetings and training days. The training days we have organised this year have been very successful and we intend to build on this success and offer more of these courses to everyone. However our general interest meetings have struggled to attract sufficient numbers to make them viable to run. The Committee spend a lot of time trying to make the venues and topics of our meetings relevant to the members of GCG and I must thank Steve McLean who has worked very hard in his role as Programme Secretary. On a personal note I hope that GCG will be visiting further a field again on our study trips.

I am very pleased with the way our web site works now and we are publishing more content on our site all the time. The web site is a very important tool in communicating the group's aims to a wide audience. On a final note I would like to thank all of the people who have helped GCG by serving on the Committee or its smaller working groups and have helped to keep GCG relevant in today's museum profession and I wish my successor a fulfilling, busy and enjoyable three years.

Mandy Edwards (Chairman 2005 - 2007).

Questions from the floor.

Phil Doughty: What is "Dynamic rationalisation"?

Mandy Edwards: The ability to dispose of collections or items from collections in a planned way.

A general discussion took place on specimen disposal. It was generally agreed that institutions need to know as much as possible about their collections before they are de-accessioned as many will be of historic and scientific value. GCG could be used as a way of accessing specialist expertise in researching collections and giving advice on methods other than disposal.

Acceptance of report: Proposed - Susan Cooke.
Seconded - Christine Thomson.

Agreed.

5. Secretary's Report.

Three Committee meetings have been held during

the year: 24th January in the Geological Society, London; 24th April and 5th September in the Manchester Museum. Attendances have been good with most Committee members attending all three meetings.

In order to enhance our profile within the Geological Society, and to promote geological curation more widely, Mike Howe has attended several Science Committee meetings and reported back to the Committee to keep us up to date with developments within the Geological Society as a whole as well as representing us in the development of the Geological Society's Science Strategy and other areas. An intention to try to improve our publicity and communication through the Society channels in 2007 was not really achieved, due to lack of time on the Secretary's part.

Very limited progress has been made with the proposed revised Guidelines for Geological Curation, but it is expected that the editorial team of Patrick Wyse Jackson, Tom Sharpe and Matthew Parkes will give this more attention during early 2008.

I would especially like to acknowledge the support of Nigel Monaghan, Keeper of Natural History, National Museum Ireland, and also the National Museum itself, for the invaluable support to undertake GCG activities and attend committee meetings over the past 2 years.

Matthew Parkes.

Questions from the floor:

Mike Taylor (National Museums Scotland).

GCG Committee should bear in mind certain new and forthcoming legislation and related matters.

1. The Scottish Fossil Code, required by the Scottish Parliament to cover the disposition as well as the collection of fossils, is now imminent, and accordingly includes sections on collections care and on museums and other repositories. It does not have the force of law but is supplementary to the Nature Conservation (Scotland) Act 2004 and will have the effect of defining good practice.

2. Possible changes to import-export law, comprising a forthcoming review of the export control regulations for cultural objects, and an apparent review of the English legislation which effectively makes it illegal to deal in or handle antiquities which were collected illegally abroad. If this is extended to fossils and other objects it will be highly relevant to museums.

Acceptance of report: Proposed - Phil Doughty.
Seconded - Steve Thompson. Agreed.

6. Treasurer and Membership Secretary Reports.

Hand-over of the GCG accounts to the new Treasurer took place at last years AGM, and thanks go to Helen Kerbey, our previous Treasurer, for passing them on in good order, and for the willing advice, often sought in the early months of my reign.

I am pleased to report that income has gone up, and expenditure down, in almost all the categories on the accounts. Subscriptions have risen by over £1100, and while this was in part due to the increase in subs agreed at last years AGM, it is mainly due to the tenacity of the Membership Secretary, Cindy Howells, who has ensured that every member is now fully paid up. Thanks to Cindy, our membership list has at last been tightened up, and every member who had not paid for the past 3 years has been contacted and has either now paid the arrears or has been struck off the records. Non-payers in future will receive prompt reminders.

Income from workshops is up by £900, such that these are no longer loss makers, and a further substantial income of almost £1400 has resulted from three retrospective Gift Aid payments. Please ensure that you have filled in the Gift Aid form if you are a tax payer, as this brings in c. £500 to the Group.

Expenditure is also down, largely due to a reduction in printing costs for the Geological Curator, for which we are indebted to Matthew. The only expenditure which continues to rise are the travel costs for members attending Committee meetings. As reported by Sara Chambers in 2004, this is largely due to the continued unwillingness of our paymasters to value the work of the group by supporting staff attendance on Committee.

Balance in hand now stands at £8628, compared with £6258 this time last year. In addition our US Dollar account now stands at \$1687, while our new Euro account currently stands at 163.

Grateful thanks are due to Caroline Buttler (Cardiff) and David Green (Manchester) for the onerous task of auditing the accounts, and to Tiffany Adrain for looking after the US Dollar account from her base in Iowa.

Cindy Howells, as Membership Secretary, has dealt with all membership enquiries and reports the following current membership totals (2006 figures in brackets):

Geological Curators' Group
34th Annual General Meeting, Dublin 03/12/2007
2007 Accounts 27/11/06 - 23/11/07

Income			Expenditure	
Subscriptions	£ 4,705.74	(3568.96)	Geol Curator	£ 2,212.80
Seminar and workshop fees	£ 1,270.00	(370.00)	Coprolite	£ 1,528.44
Gift Aid ¹	£ 1,381.88	-	Seminars and workshops	£ 543.15
Donations	£ 26.00	(12.00)	Committee expenses	£ 618.72
			Bank charges	£ 15.00
			Web site fees	£ 96.01
Balance as at 27/11/2006	£ 7,383.62			
	<u>£ 6,258.75</u>		Balance as at 23/11/2007	<u>£ 5,014.12</u>
				<u>£ 8,628.25</u>
				<u><u>£13,642.37</u></u>

NOTES

¹Gift Aid for 2004/5, 2005/6 and 2006/7 = £432.92, £529.27 and £419.69 respectively

American Account currently at \$ 1687.42
European Account currently at 163.37

Auditors: David Green

J R Nudds Treasurer 27/11/2007

Caroline Buttler

UK Personal	172	(170)
Overseas Personal	18	(13)
UK Institutional	62	(69)
Overseas Institutional	27	(27)
Honorary	8	(8)
Total	287	(287)

(We have had 18 new members during the year, balanced by some cancellations).

Questions from the floor.

Patrick Wyse Jackson: There appears to be a general downward trend in the Group's balances. Would it be better to distribute the newsletter and journal by electronic means such as pdf format or publish in Meta-subscription format? This latter could provide income from downloads.

Mandy Edwards commented that electronic formats have been discussed in Committee and that all forms have advantages and disadvantages.

Acceptance of report: Proposed - Nigel Monaghan. Seconded - David Gelsthorpe.

Agreed.

7. Programme Secretary's Report.

None received.

8. Journal Editor's Report.

Since taking over editorship of the journal from Patrick Wyse Jackson, Volume 8 Part 7 was issued with a thematic set of papers arising from last years Seminar on Learning with geology collections organised by Helen Fothergill in Plymouth. Thanks to all the contributors for promptly responding to my queries. The small delay in issuing this arose from a printing problem. Volume 8 Part 8 is largely ready to go to the printers in December and should be issued soon.

All contributors to this Local Heroes Seminar have been asked to submit their papers in written form for the journal and the next issues in 2008 should include a number of contributions from this meeting. Papers are always welcome, as would be more use of the journal for lost and found items, book reviews, collection label series, fact file, notes and so on. All members are encouraged to contribute. Thanks are due to David Craven for agreeing to deal with book reviews and I would encourage anyone with books to review, suggestions for new titles that would be of interest to reviewers to contact David directly. Thanks are also due to the printers at Leinster Leader.

Acceptance of report:

Proposed - Tom Sharpe. Seconded - Cindy Howells. Agreed.

9. Newsletter Editor's Report.

2007 saw the completion of the 18th year of publication of Coprolite. As usual, three issues (Number 52, 53 and 54) were published, in March, June and November, totalling 42 pages (compared with 34 last year and 52 in 2004).

For Coprolite to fulfil its role as a newsletter, it needs to have some news. Any news of events, meetings, exhibitions, new acquisitions, publications, staff changes and job moved, or anything at all relating to geology in museums would be very welcome. Do tell us what you and your museum are doing.

Thanks are due to Barnes Print Group of Nottingham who print and distribute Coprolite and always send it out on time.

Acceptance of report:

Proposed - Alan Howell. Seconded - Jean Archer. Agreed.

10. Website Editor's Report.

The GCG website has continued to develop over 2007 with a new easy to navigate design. New issues of Coprolite are available on-line and a wide range of geological resources are now included. The number of website visits is progressively increasing month on month, with 1205 visits from around the world in 2007. New developments in the coming year will include making Geological Curator available on-line and the ongoing development of the resources.

Please let me know if you have anything you would like to include on the website.

Acceptance of report:

Proposed - Cindy Howells. Seconded - Lyall Anderson. Agreed.

11. Recorder's Report.

Education Survey.

GCG conducted a survey into the relationship between natural history curators and education staff in museums. The survey was posted on the GCG, NatSCA and GEM discussion groups, and the results published in Geological Curator. The results suggest that curators and education staff could work more closely to help each other and to share skills. The study also highlighted the disparity in the provision for natural history between the Key Stages, with KS1 to KS3 being widely catered for while fewer museums cater for KS4 and KS5.

Back issues.

We have used the list of institutions who responded to our "State and Status" survey as a basis for inform-

ing organisations and people about the availability of back issues of the Geological Curator. If you have not received such a mailing then please contact Helen Fothergill.

Workshop Survey.

In order to determine what type of workshops members wanted us to run, a list of possible topics was circulated. The responses were interesting, with general topics rather than specialised ones being most popular at the moment, for example; imaging for geological collections, storage, collections and on-site conservation.

Other suggestions include: vertebrate palaeontology, identification of bryozoans, and guidelines on where to go for historical research. Many of those who responded asked for more events to be held in Scotland or the North of England.

Current work.

Work is continuing on revising the Directory of British Geological Museums (Nudds, 1994). SPNHC have asked us to produce a document on specimen conservation as part of their "How-to" series of leaflets.

Agreement of report: Proposed - David Gelsthorpe.
Seconded - Steve Thompson.
Agreed.

12. Election of Officers and Committee for 2008.

No nominations have been received from the wider membership for any posts.

The Committee propose the following: Chairman - Helen Fothergill. Recorder - Mike Howe.

Both changes agreed by the meeting.

All other Committee members and co-opted members have agreed to continue for 2008.

13. Proposal to confer Honorary Life Membership on Philip Powell.

All previous recipients of the Brighton medal have subsequently become Honorary members of GCG. The Committee needs the approval of the AGM to confirm this for Phillip Powell.

Agreed.

14. Any other business.

None.

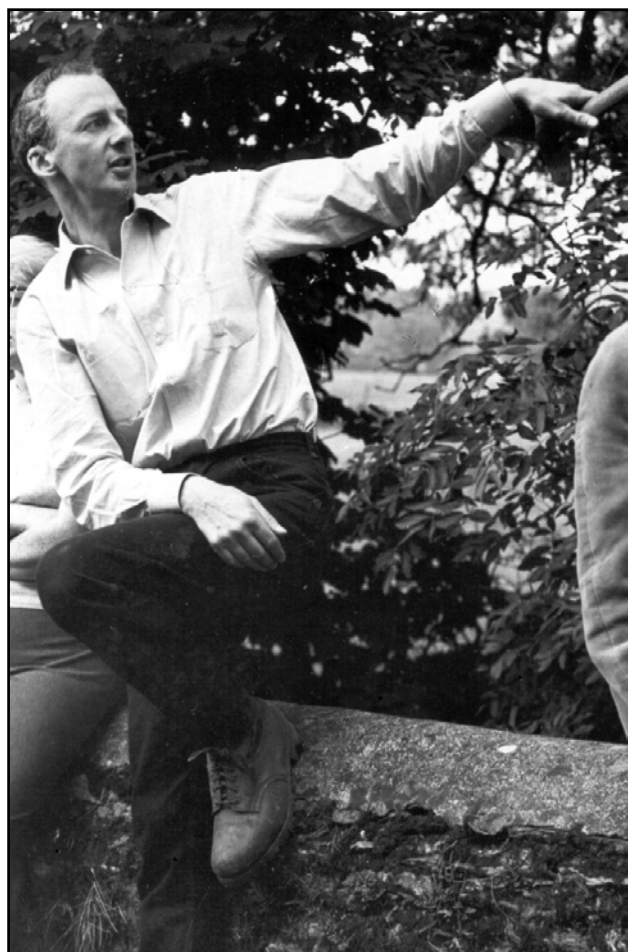
15. Date and venue for the next AGM.

Monday 1st December 2008.

University of Portsmouth.

Seminar theme: "A new look at old fossils".

PRESENTATION OF THE A.G. BRIGHTON MEDAL TO GEOFFREY TRESISE



Address by Mandy Edwards, Chairman of the GCG at the GCG AGM, National Museum of Ireland, Dublin, 3rd December 2007

One of the final responsibilities of the term in office of the Chairman of GCG is to award the AG Brighton medal at our AGM meeting. The medallist is a counselled choice of the Chairman who awards the AG Brighton medal to recognise actual achievement over a long period. The recipient of the award in 2007 is Geoffrey Tresise.

Geoff is known for his work at Liverpool Museum where he started in 1960. Although he retired in 1996 Geoff is still working on the collection which means that he has accumulated 47 years so far with the collections at Liverpool.

When he began Geoff inherited a collection that had sustained damage during the Second World War. An

incendiary device which landed on an adjacent building caused a fire which destroyed many specimens. Was this the most severe form of dynamic rationalisation that a curator has to face? From 1951 until 1960 there was no geological curator on the staff at the museum. The remnants of the collection were packed away until they could be moved back to the museum when Geoff was appointed. Work began on the long term process of examining and listing the collections. Improvements in the storage of the collections allowed Geoff to start acquiring new specimens for the collections. Hundreds of specimens were bought using the War Damage Fund and Geoff also participated in a Geologists' Association expedition to the Harz Mountains of Germany to collect rocks and minerals for the museum. Wendy Simkiss the current Assistant Curator for the collection has written that "Looking at the modern collections, many of them have labels in Geoff's handwriting, demonstrating how much curation work he has done over the years. It is Geoff that has been responsible for our large number of Triassic *Chirotherium* and

Rhynchosaur footprints, gemstone collections and Northern England Mineral collections."

Geoff has written many papers throughout his career and they reflect the specialisations he has adopted over the years. His early work included several papers on the Greensands of Wessex. He moved onto the relationships of geology and wine in the 1980s but the majority of his papers and the subject that Geoff is probably best known for is his work on the *Chirotherium* footprints of the British Triassic, particularly those of Cheshire and Merseyside. One of his papers has quite an infamous title "Sex in the footprint bed" *Geology Today*, 12, 1, 22-26, 1996 which, although sounding like an Alan Titchmarsh novel, is actually a paper about sexual dimorphism as shown by his beloved *Chirotherium* tracks. One of his most recent papers published in 2003 is a review of the early work done by George Morton and Henry Beasley on the classification of Triassic footprints.

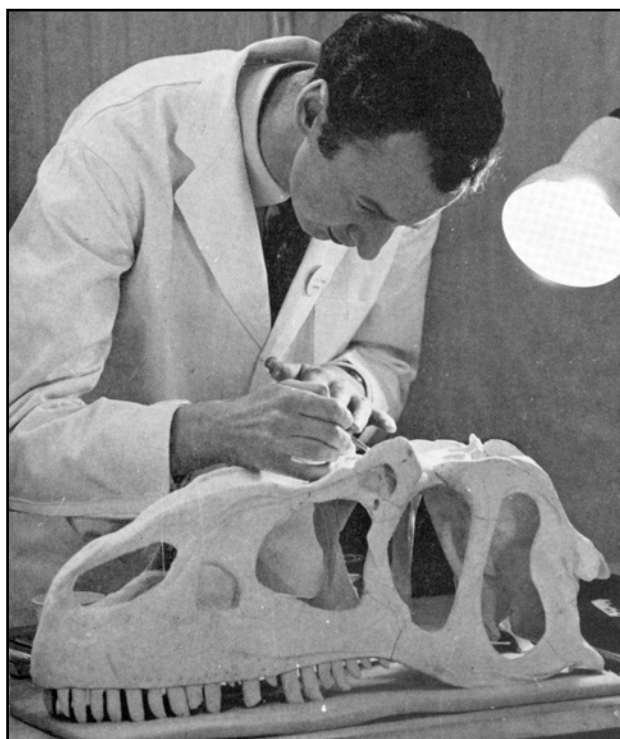
From his earliest days at Liverpool Geoff has been involved in developing and curating the displays at the museum. His interests in both dinosaurs and footprints are reflected in the dioramas, including the gallery "Earth before Man" which is still on display today. Perhaps the most popular display Geoff was involved in was "Dinosaurs Alive" in 1995 which featured some very temperamental robotic dinosaurs.

Geoff has also been a pioneer in the educational fields running a five day vacation course for geology students which included fieldwork. He was also part of the team who established the recently renamed Clore Natural History Centre, after a long series of experiments in open access to Liverpool's collections known as "What's in Store?" It was Geoff who re-established the teaching collections and built them up after the success of the 19th Century Circulating Museum.

Geoff's contribution to various professional groups associated with both museums and geology has been notable. Geoff is already an Honorary Member of the GCG. He was on the GCG committee following the Group's foundation in 1974, and was Secretary from 1981-1987. Geoff has also been member of the Geologists' Association and joined the Liverpool Geological Society soon after arriving in Liverpool and was quickly elected to the LGS council. He is

still on the council today. He has been a member of the Geological Society for over 50 years and has recently been awarded an Honorary Fellowship. He was a member of the Museum Assistants Group where he was vice-chairman in 1966. Geoff has also been an examiner for the Museums Association. There are many of us working in museums and with geological collections today who gained their diploma qualification with Geoff as their supervisor.

Following his retirement in 1996 Geoff has returned to the Earth Sciences section of the renamed World Museum Liverpool. He still writes papers and articles, gives the younger staff the benefit of his knowledge, and is, most importantly still identifying; numbering and cataloguing the collections. With Geoff's dedication, knowledge, and despite his ambivalence to computers the collections and their documentation have grown substantially over the 47 years he has been associated with Liverpool. He is still actively working on the collections and is still connected to the wider museum community through his work with the friends of the Museum group, recently becoming its Secretary. He is still doing what he enjoys most, working with collections, and for museums, which is what being a Geological Curator is about. So it is with great pleasure that I present the AG Brighton Medal to Geoffrey Tresise.



The Geological Curator

Index to Volume 8 (2004-2008)

AUTHOR INDEX	489
PERSONAL NAMES INDEX	490
INSTITUTIONS AND ORGANISATIONS INDEX	495
PLACE NAMES INDEX	497
GEOLOGICAL AND SYSTEMATIC NAMES INDEX	498
MUSEOLOGICAL INDEX	499
MISCELLANEOUS INDEX	500
PAGINATION AND DATES OF PUBLICATION	500

AUTHOR INDEX

Anderson, Lyall I.		Ewin, Timothy	
1. Charles W. Peach, palaeobotany and Scotland	393	1. Excavating fossils: an activity for a geology outreach event	305
Barnes, Emm		2. Reconstructing fossils: a drop in, self led geological activity	331
1. The bone trail: generating enthusiasm for earth sciences in the classroom and museum	321	Fletcher, J.	
Batty, Mike		1. See Doyle, A.M. (1)	
1. <i>Chirotherium</i> and its domain: a description of rediscovered specimens from northwest England	437	Fothergill, Helen	
2. The Bone Trail: generating enthusiasm for earth sciences in the classroom and museum	321	1. The state and status of geological collections in United Kingdom museums: 2001	53
Bertie, D.M.		Freedman, Jan	
1. Hugh Miller's graptolite revisited	43	1. Forgotten heroes? The relationship between curators and education staff reassessed	335
Blagborough, Hilary		Friend, P.	
1. Lost & Found 261: British Antarctic Survey Antarctic plant fossils	381	1. Muriel Agnes Arber (1913-2004)	47
Blissett, D.J.		Gasparini, Calvino	
1. See Donovan, S.K. (3)		1. See Pagliuca, Nicola Mauro (1)	
Bourke, M.C.		Gelsthorpe, David	
1. See Hasiotis, S.T. (1)		1. Marie Stopes the palaeobotanist, Manchester, Scott of the Antarctic and her adventures in Japan	375
Chamberlain, Steven C.		Gómez-Cruz, R.	
1. If your mineral collection is in a fire	427	1. See Noè, L.F. (1)	
Craven, David		Gómez-Pérez, M.	
1. Field science with gifted and talented students at Key Stage 3	301	1. See Noè, L.F. (1)	
Donovan, S.K.		Green, D.I.	
1. Comment and response on 'Bioerosion, preparation and curation'	177	1. Anthropogenic humboldtine from Cornwall, England	33
2. Trace fossils in the museum: guest editor's preface	204	Hannibal, J.T.	
3. Collecting invertebrate trace fossils	205	1. Trace fossils in two North American museums: the Cleveland Museum of Natural History and the New Mexico Museum of Natural History and Science	261
4. See Lewis, D.N. (2)		Hasiotis, S.T.	
Doyle, A.M.		1. Continental trace fossils and museum exhibits: displaying organism behaviour frozen in time	211
1. A new tool for palaeontological preparation: the split-V pen	37	Hensley, C.	
Edwards, A.L.		1. See Donovan, S.K. (1)	
1. Trace fossil collections at the University of Manchester	243	Hone, Sarah	
Ensom, Paul C.		1. Earth Lab workshops at the Natural History Museum	309
1. Dinosaur tracks from Dorset: a twenty five year retrospective	227	Howe, Mike	
2. Errata	281	1. Lost & Found 262: Flatters & Garnett Ltd Petrological thin sections	463
		Howells, Cindy	
		1. The Geological Curators' Group - the first 34 years....!	352

- Kerbey, Helen
1. Challinor's curious marks 3
 2. Lost & Found 260: Mr Alfred Bernard Badger
 3. Gallery Review: a visit to the Creation Museum, Kentucky, USA 455
- King, Helen
1. Earth science education - ways of working together 315
- Lewis, D.N.
1. See Donovan, S.K. (1)
 2. Trace fossils - the poor relations of museum paleontological collections? 255
- Lucas, S.G.
1. see Hannibal, J.T. (1)
- Noè, L.F.
1. A pliosaur travels: the packaging of a unique Cretaceous marine reptile, and its transport from Colombia to the United Kingdom 271
- Nudds, J.R.
1. The collections of George Gardner (1810-1849) from the Santana Formation (Cretaceous) of Northeast Brazil 169
- Oldershaw, Cally
1. Earth science teaching and learning resources and networking opportunities to support geological curators 297
 2. The 'Museum Buddy Scheme for Schools': an example of good practice 317
- Pagliuca, Nicola Mauro
1. A journey towards the Earth's core at the Geophysical Museum of Rocca di Papa (Rome, Italy) 341
- Parkes, M.
1. Editorial 296
- Patarroyo, P.
1. See Noè, L.F. (1)
- Peart, Shawn
1. See Shelford, Annette (2)
- Pickerill, R.K.
1. See Donovan, S.K. (3)
- Pietrangeli, Donatella
2. See Pagliuca, Nicola Mauro (1)
- Pollard, J.E.
1. See Edwards, A.L. (1)
- Putman, Simon
1. See Oldershaw, Cally (2)
- Pyrah, Barbara
1. Lost & Found 259: A collection of fossils donated to the Blandford Forum Museum, Dorset 19 (also 49)
- Radley, J.D.
1. Bioerosion, preparation and curation 29
 2. Comment and response on 'Bioerosion, preparation and curation' 179
 3. The Jurassic of Warwickshire: perspectives on collecting 181
 4. Trace fossils: a smaller museum's perspective 247
- Ratcliffe, P.R.
1. See Doyle, A.M. (1)
- Rolfe, Ian
1. Lost & Found 258: Catherine Raisin Collection 19 (also 49)
- Shelford, Annette
1. Poetry rocks! Developing simple creative writing activities using geological collections 313
 2. Ideas and evidence at the Sedgwick Museum of Earth Science: new resources for secondary science 325
- Sheperd, Jess
1. Lost & Found 261: John St. Aubyn mineral collection 463
- Taylor, Michael A.
1. See Anderson, Lyall I. (1)
- Torrens, H.S.
1. The life and times of Hastings Elwin or Elwyn (1777-1852) and his critical role in founding the Bath Literary and Scientific Institution in 1823 141
- Twitchett, R.J.
1. See Radley, J.D. (1)
- Washington Evans, J.
1. See Nudds, J.R. (1)
- Wyse Jackson, P.N.
1. Thomas Hawkins, Lord Cole, William Sollas and all: casts of Lower Jurassic marine reptiles in the Geological Museum, Trinity College Dublin, Ireland 11
 2. Editorial: the bicycle and the mailman 270
 3. Presentation of the A.G. Brighton Medal to Hugh S. Torrens 287

PERSONAL NAMES INDEX

- Adamson, Robert 397
- Adamson, Sarah 318
- Addams, Robert 149, 156
- Agamennone, Giovanni 342
- Agassiz, Louis 171, 174
- Aikin, Arthur 144
- Alcock, Rodney 233, 235
- Anderson, Lyall 393
- Andrew, Kate 363
- Anning, Mary 13, 329, 366, 416, 417
- Arber, E.A. Newell 47
- Arber, Muriel Agnes 47, 48
- Argyll, Duke of 395
- Aristotle 344
- Arkell, W.J. 287
- Atkinson, Lesley 360, 366
- Babbage, Charles 152
- Babington, William 52
- Bader Alfred 143
- Badger, Alfred Bernard 189
- Baker, David 35
- Baldwin, Stuart 358
- Balfour, Professor John Hutton 408, 412, 415
- Barlow, Dr Edward 146, 147, 148, 150, 152
- Barnes, Emm 321
- Barstow, Richard 52
- Batty, Mike 437
- Beasley, Henry 254
- Beche, Henry De La 14, 56, 400
- Beckford, William senior 157
- Beesley, Thomas 182

Berry, Alexander	160	Cole, Grenville	288
Berry, Dr Leonard G.	431	Cole, Lord William Willoughby	11-18
Bertie, David M.	43	Cole, Miss	150
Besterman, Tristram	249, 356, 359	Collins, Chris	360, 363, 365, 367, 370
Bishop, Mike	362, 365	Conybeare, Rev. William, Daniel	14
Black, Joseph	152	Cooke, Susan	367-368
Blagborough, Hilary	381	Cooper, John	352, 356, 358, 359, 362, 363, 364, 365
Blake, Peter	185	Cope, John	367
Blaserna, Pietro	342	Copp, Charles	185
Blissett, Donovan J.	205	Cornish, Lorraine	174
Bonney	3	Cotterell, T.S.	141
Bonnington, James Melvin	414	Coutinho, José Alvares (Junior)	173
Bourke, Mary C.	211	Cowper Reed	3
Bowden, Alastair	366	Cox, Ann	157
Bowles, Rev. William Lisle	151	Cox, Samuel junior	157
Bowman, John Eddowes	171, 172	Cox, Samuel	157
Bowman, Mrs	171, 172	Coxe, Mary Anne	157
Boys, Daniel	159	Coxe, Rev. Holled	157
Brighton, A.G.	287	Crabbe, Rev. George	151, 152
Brighton, Bertie	362	Craven, David	301, 321
Brighton, Edith	362	Cross, Tony	360
Briscoe, Peter	33-35	Crossling, John	364, 366
Brodie, Rev. Peter Bellinger	182, 248, 250, 254	Crowther, Peter	14,17
Brown, Daniel	153	Crowther, Peter	14, 17, 355, 361-363
Brown, P.A.	240	Cruickshank, Arthur	17
Brunton, Howard	352, 356, 359, 360, 366	Currant, Andy	370
Buckland, William	400	Cuvier, George	56
Buckman, S.S.	288	da Cruz, Captain Antonio	170
Budge, Mr J.	397	Darwin, Charles R.	56, 406, 408
Bulman, O.M.B.	47	Davis, Dr Paul	229
Burhouse, Clinton	362	Davis, John	431
Burke	412	Davy, Sir Humphrey	152
Burns, Robert	406	de Luc, Jean Andre	151
Byam, Dr Richard Scott	158	De Rossi, Michele Stafano	341, 342
Calceolan, Francesco	335	Delair, Justin	234, 362
Camperdown, Lord (see Duncan, Robert Dundas)		Demathieu, G.	254
Candela, Dr Yves	394	Dick, Robert	393-396, 400, 406
Carms, N.	5	Dinkel, Joseph	172
Carruthers, William	410	Donovan, Stephen K.	177, 179, 204, 205, 255
Casali, Andrea	142, 156, 157	Dorling, Mike	364
Challinor, John	3-9	Doughty, Phil	55, 59, 352, 356, 357, 358, 359, 360, 361, 366
Chamberlain, Helen	427	Doughty, Philip (see Doughty, Phil)	
Chamberlain, Steven	427	Doyle, Adrian, M.	37
Chambers, Sara	368, 369	Duff, Keith	360
Chantrey, Sir Francis Leggatt	153, 154, 157, 158	Duke, Jenny	317
Chapman, Sandra	17, 42	Duncan, Philip Bury	150, 151
Charig, Alan	359	Duncan, Robert Dundas	157
Charlesworth, Edward	19,49	Dunn, John	230
Christison, Sir Robert	412	Dyke, Van	142
Clark, Andrew	365	Earl of Enniskillen (see Cole, W.W.)	
Clark, Roger	15,17	Edmonds, Richard	239
Clarke, Rev. William Branwhite	159, 160	Edwards, Amanda L. (see Edwards, Mandy)	
Clarke, Samuel	14	Edwards, Mandy	243, 352, 364, 365, 367, 369, 370
Clasby, Paul	360	Ekwin, K.	160
Cleal, Chris	370	Elwin, Fountain	157, 161
Cleevely, R.J.	19,49	Elwin, Harriett	142, 145
Cleevely, Ron	358, 359	Elwin, Hastings Philip	157
Clements, Roy	352, 357, 358, 363, 366	Elwin, Hastings senior	142, 143, 144
Coates, Jane	142	Elwin, Hastings	141-168
Cochran, Admiral Sir Alexander	144		

Elwin, Margaretta Matilda	157	Harriot, J.	250, 254
Elwin, Marianne/Mary Ann	159, 160	Hasiotis, Stephen T.	211
Elwin, Peter	142	Hastings, Elwin	159
Elwin, Rev. Fountain	142, 145	Haughton, Rev. Samuel	11
Elwin, Whitwell	157, 158	Hawkes, Di	363, 364
Elwyn, Hastings (see Elwin Hastings)		Hawkins, Thomas	11-18
Elwyn, William Brame	142	Haygarth, Dr John	154
Emslie, Dr Alexander Leith	43	Haysom, Trev	234, 238, 240
Ensom, Paul	227, 352, 360, 361, 362, 363, 365	Haysom, W.J.	234
Etches, Steve	237, 238	Haysom, W.T.	238, 240
Etheridge, Robert junior	412	Hellyer, T.	158
Evans, H.J.	5	Henning, Alison	321
Evans, Jane Washington	169	Hensley, Caroline	177, 179
Evans, Mark	366, 367	Herries Davies, Gordon	370
Ewin, Timothy	305, 331	Herschel, [William]	151
Faithfull, John	363, 364, 365	Hide, Liz	367
Falconer, Rev. T.	147	Hill, David Octavius	397
Farington, Joseph I	42	Hill, William	145
Fleming, Rev. John	397	Hippesley, Sir John Coxe	150, 152, 156
Fletcher, James	37	Hladysz, Bill	431
Forbes, Mr	408	Home, Sir James Everard	160
Foster, Tiffany	366	Hone, Sarah	309
Fothergill, Helen	51, 53, 352, 356, 367, 369, 370	Hooker, Sir William J.	169
Fowler, Peter	321	Horne, John	399, 400
Freedman, Jan	299, 335	Houlton, Lt-Col. John Torriano	151
Friend, Peter	48	Howe, Mike	367, 370, 397, 463
Fujii, Kuyiro	375, 377, 378, 379	Howe, Steve	360
Galitzin, Prince Boris	347	Howell, Alan	359, 360
Gardner, George	169-175	Howells, Cindy	353, 370
Gasparini, Calvino	341	Howells, Kim	58
Geikie, Sir Archibald	395, 400, 412	Hudleston, W.H.	19, 49
Gelsthorpe, David	375	Huizing, Terry	433
George III, King	148	Humboldt, Alexander von	33
Gibbes, Sir George Smith	151, 152, 154, 155	Hume, Joseph	145
Gibson, Mr	438	Hunt, Adrian	262
Gipps, Sir George	159	Hunter, Rev. Joseph Hunter	141, 145-151, 154, 155, 156, 158, 160
Gladstone	55	Hutt, Steve	365
God	456-459	Hutton, James	55, 56, 412
Goebel, Professor K.	375	Hutton, Thomas	12, 13
Gómez, José Royo y	272	Ingenhousz, Dr Jan	152
Gómez-Cruz, Rigoberto	271	Ishimoto, M.	347
Gómez-Pérez, Marcela	271	Jagger, Charles	157
Gordon, Alexander	142, 145	Jarzemowski, Ed	365
Gordon, Nick	367	Jeffrey, Paul	17
Gourgey, Ros	365, 368	Jeffreys, John Gwyn	398
Gowers, Sheila	235	Jenkinson, Andrew	365
Gray, David	42	Jesty, Bill	234
Green, David	33, 365	Jobbins, Alan	359
Green, Margaret	360	Johnston, Colonel	158
Greenough, George B.	144, 156	Johnston, Dale	366, 369
Gregory, Professor J.W.	19,49	Johnston, Mary Jane	399
Grey, C.E.	329	Jones, Dr J.M.	361
Grieve, David	44	Jones, E. Lloyd	329
Griffith, Sir Richard	11	Jones, Mike	353, 357, 358, 366
Gunning, Alastair	370	Jowell, Tessa	57
Hall, Cally	365	Jukes, Joseph Beete	11
Ham, Ken	455	Keates, Kevin	238, 239
Hannibal, Joseph T.	261	Kelly, Dr Simon	234
Hardman, Arthur	329	Kennedy, Maev	57
Hardy, Graham	408, 412	Kerbey, Helen	189, 369, 370, 455
Hare	412		

Kerr, Stephen	44	Moyal, Ann	159
Kidston, Robert W.	415	Munt, Martin	367
Kinahan, George Henry	11	Murchison, Roderick Impey	55, 56, 397, 400, 404, 413
King, Bob	361	Neeve, Benjamin	395
King, Helen	315	Nelson, Admiral Horatio	143
Kirk, A.	234	Newman, Andy	360, 361, 362, 365, 367
Knell, Simon	146, 152, 360, 361, 364	Nichol, Camilla	367, 368
Lacey, Professor W.S.	381	Nicholson, H. Alleyne	412
Lamarck, Jean	56	Nicol, William	394
Lane, Charles Henry	143	Noe, Leslie F.	271, 367
Lang, A.G.	415	Norman, Dr David	230
Lansdowne, Lord	151	North, F.J.	3,4
Lapworth, Professor	189	Norton, John	359
Lavington, Lord	143	Nudds, John	
Le Bas, Michael	19,49		169, 352, 356, 362,363, 364, 365, 366, 367, 370
Le Marchant, John Gaspard	144	Nugent, Hon. Nicholas	144
Leonardo	142	Nugent, Oliver	144
Lerner, Allan	262	O'Brian, Lord James	158
Lewer, David	232	O'Brien	153, 154
Lewis, David N.	177, 179, 255	O'Brien, Lord James	157
Lockett, Daniel	368	O'Bryan, Captain James	144
Lofthouse, Shaun	361	O'Bryan, Lord James (see O'Bryen, Lord James)	
Lonsdale, William	150, 154	O'Bryen, Jane (see Ottley, Jane)	
Loveridge, Bob	173	O'Bryen, Lord James	153
Lucas, Spencer G.	261, 262	Oldershaw, Cally	297, 317, 318
Lyell, Sir Charles	19, 49, 56, 410, 413	Oldham, Thomas	11
Lynch, Cheryl	318	Oliver, Peter	369
Mabson, Jemima née (see Peach, Jemima)	395	Oliver, Professor F.W.	375
Macaulay, Zachary	158	Orr, P.J.	205
MacDonald, Jerry Paul	262	Ottley, Jane	153
MacEney, Rev. John J.	153, 154	Ottley, Lucretia	144
Macewen, Margaret	399	Ottley, Miss	158
Mackenzie, Sheila	395	Ottley, Thomas	143, 144
Macleay, Alexander	160	Owen, Richard	12, 13
Mangin, Rev. Edward	147	Page, Brian	288, 357, 359
Manning, Aubrey	58	Pagliuca, Nicola Mauro	341
Manning, Phil	321, 367	Parkes, Matthew	55, 366, 370
Mantell	400	Parry, Dr. Charles Henry	145, 152
Manvers, Lord (see Pierrepoint, Charles)		Patarroyo, Pedro	271
Martill, David	173, 174, 411	Patey, Mrs S.F.	157
Martin, John	362, 366	Payne, Ralph	143
Matilda, Margaret	143	Peach, Benjamin	
McGinnes, Mike	360		44, 395, 396, 398, 399, 400, 402, 413, 404, 407, 414, 415
McLean, Steve	362, 365, 369	Peach, Charles William	393-425
Mellish, Claire	44	Peach, Charles	44
Meloy, Bryan	360	Peach, Elizabeth	396, 400
Menon, Federica	173	Peach, Jemima Mary (daughter of Peach, Charles)	
Methuen, Paul Cobb	157		395, 396, 399, 401
Miller, Giles	367, 369	Peach, Jemima (wife of Peach, Charles)	399, 406
Miller, Hugh		Peach, Joseph	396, 400
	43, 393, 396-398, 400, 402, 404, 406-408, 416-418	Peach, William	396, 400
Miller, Lydia	398	Pearson, Professor Paul	298
Molloy, Anthony James Pye	144, 145	Peart, Shawn	325
Monaghan, Nigel	362	Peel, Mrs	400
Moody, Derek	233	Peel, Robert	400
Moore, Thomas	151, 152	Pemberton, Dan	367
Morgan, Rhodri	298	Pennington-George, Anne	357
Morgan, Tony	366	Pettigrew, Tim	355, 358, 359
Mortimore, Dr Rory	360	Pettit, Bill	356, 364
Motani, Ryosuke	17	Petty-Fitzmaurice, Henry	145

Phillips, John	19,49	Smith, Rev. James	44
Phillips, Phil	358, 362	Smith, William	55, 141, 145, 151, 154-156, 184, 323
Pickerill, Ron K.	205	Sollas, William Johnston	11-18
Pierce, Stella Whyberd	141	St. Aubyn, Sir John	52, 463
Pierrepont, Charles Herbert	149, 150, 156	Stanley, Mick	352, 358, 360, 362
Pietrangeli, Donatella	341	Steel, Lorna	367
Pollard, John E.	243, 249, 250, 254	Steward, Don	359, 361
Portlock, Joseph Ellison	11	Stewart, Dr Sarah E.	394
Powell, Phil	359, 367, 370	Stopes, Henry	375
Powrie, James	402	Stopes, Marie	375-380
Poynton, Francis John	160	Straw, Professor Alan	365
Pratt, Samuel Peace	151	Strickland, Hugh	405
Prevost, General George	143	Stutchbury, Samuel	14
Price, David	359, 362, 371	Suess, Eduard	17
Price, Monica	356, 362, 363	Sutcliff, Mr W.H.	376
Price, S.	233	Sutherland, Diana	364
Price, Valerie	362	Swansborough, Sue	360
Priestley, Joseph	151-152	Sylvester-Bradley, Peter	288
Proctor, Chris	365	Taylor, A.	417
Putman, Simon	317, 318	Taylor, Mike	17, 360, 361, 362, 367, 393
Pyrah, Barbara J.	19,49	Telford, Thomas	396
Radley, Jon	365	Tennyson, Alfred, Lord	416
Radley, Jonathan D.	29, 179, 181, 247, 254	Thackray, John	365
Raisin, Catherine	19, 49	Thomas, H. Harington	160
Ramsay, Andrew	400	Thomas, Rev. Archdeacon Josiah	157
Ramsay, Professor	395	Thompson, Christine	399
Ratcliffe, Paul R.	37	Thompson, Steve	365, 368
Rawle, Caroline	318	Thornton	149
Reid, Colin	362, 364	Thornton, Peter	361
Reynolds, Sir Joshua	143	Tisdall, Jenny	113
Riley, Tim	357, 358	Titchmarsh, Alan	58
Robinson, Dr George W.	431	Todd, Jonathan	367
Robinson, Eric	321, 364	Torrens, Hugh	
Roden, Rosemary	360, 361	141, 287, 288, 321, 352, 355, 357, 358, 360, 361, 364, 366	
Rolfe, Ian	19, 49	Traquair, Ramsay	412
Ross, Andrew	42	Tresise, Geoff	250, 357, 359, 361, 366
Rubens	142	Trewin, N.	44
Ryback, George	35	Turner, Jane	317, 318
Salmond, Colonel William	152	Twitchett, Richard J.	29
Salter,	397	Underwood, George Allen	150, 157
Sansom, I.	185	Uttley, Steve	33,34
Scheele, Carl Wilhelm	152	Verne, Jules	342, 343
Scott, Professor D.H.	375	Vernet	142
Scott, Robert Falcon	375, 377	Veronese, Paolo	143
Sedgwick, Adam	13, 56	von Martius, Carl, Friedrich Philipp	169
Sedman, Ken	358	von Spix, Johann Baptist	169
Selby, Dave	232	Waagen, Gustav	142
Selby, Joy	232	Walker, [Deane]	149
Seward, Albert	3	Walter, Mike	431
Sharpe, Haley	365	Ward, Henry Augustus	13
Sharpe, Tom		Warner, Rev. Richard	150
173, 352, 356, 357, 359, 360, 362, 364, 365, 366, 367		Warren, Martin	360, 362
Shelford, Annette	313, 325	Wass, Glenys	113, 356, 365-367
Sheperd, Jess	463	Waterson, Dr Charles D.	401
Shute, John	151	Watson, Sir William	154
Simkiss, Wendy	365	Watt, James	151
Siveter, Derek	17	Weaver, Thomas	288
Sizer, Colin	357	Webster, Norton	156
Smiles, Samuel	393, 394, 395, 406, 407	Webster, Thomas	155
Smith, Di	359, 360	Weightman, Gill	360

Weiss, (Chair of Botany)	375	British Geological Survey	17, 62, 66, 102-105, 297, 361, 362, 367, 371, 419, 463
Weiss, Mrs	377	British Micromount Society	478
Whybrow, Peter	360	British Museum (Natural History)	12, 13, 19, 105, 256, 257, 339, 358, 359, 360, 398, 415
Wiechert, E.	346	British Natural History Society	19, 49
Wilberforce, William	158	British Society for the History of Science	288, 321
Wilkinson, Charles Hunnings	146	Buxton Museum	359
William IV, King	157, 158	Camborne School of Mines	297, 360, 366
Williams, G.J.	3-6	Cambridgeshire Geology Club	48
Wilson, Mark	31	Capita Symonds	297
Woods, Henry	149, 150, 156	Carnegie Museum of Natural History	267
Woolhead, Elizabeth Diana	142	Castle Museum, Norwich	359
Worm, Oleus	335	Challenger Society	297
Wright, Jo	239	City of Leicester Museum Trust	93
Wyllie, Andrew	230	Cleveland Museum of Natural History	261-268
Wyse Jackson, Patrick		Clore Natural History Centre	488
11, 55, 287, 352, 355, 356, 362, 364, 367, 369, 370		Colombian Geological Survey (INGEOMINAS)	272
Young, James 'Paraffin'	408	Commissioners for Slave Compensation	158, 159
		Committee of Heads of University Geoscience	
		Departments	297

INSTITUTIONS AND ORGANISATIONS INDEX

Aberystwyth University	3	Copenhagen Museum	335
Aggregates Levy Sustainability Fund	92	Countryside Agency	92
American Philosophical Society	151	Countryside Commission	92
Anglo American plc	297	Countryside Council for Wales	297
Ashmolean Museum, Oxford	151	Creation Museum, Kentucky	455-459
Association for Science Education	297, 299	Czech Geological Survey	368
Association of Teachers of Geology	359, 360	DCMS/Wolfson Fund	92
Banff Institution	43, 44	Departamento Nacional de Produção Mineral	169, 174
Banff Museum	43, 44	Department for Education and Skills (DfES)	301, 303
Bath and West of England Agricultural Society		Department of the Environment, Transport and Regions (DETR)	185
144, 145, 152, 157		Designation Challenge Fund	92
Bath City Museum	358	Devon and Exeter Institution	148
Bath General Hospital	146	Dinosaur Isle Museum	58, 89, 367
Bath Literary and Scientific Institution	141-168	Dorset County Council	239
Bath Philosophical Society	154	Dorset County Museum	227-241
Bath Provident Institution	145	Dorset Natural History & Archaeological Society	228, 230
Bath Record Office	145	Dudley Museum and Art Gallery	362
Bath Royal Literary and Scientific Institution	141-168	Dynamic Earth	58, 367
Bath United Hospital	146	Earth Science Education Forum (Cymru)	297-299
Bath University Library	144	Earth Science Education Forum (England and Wales)	58, 297-300
BBC	230, 356	Earth Science Education Unit	297, 300
Biological Curators' Group (BCG)		Earth Science Teachers' Association	297, 299
354, 358, 359, 361, 362, 364, 365, 366, 370, 371		Edinburgh Caithness Benevolent Association	411
Birmingham Museum and Art Gallery	358	Edinburgh Geological Society	413-415, 417
Black Country Museum	362	Edinburgh Museum of Science and Art	398, 415, 417
Blackburn Museum	438	Edinburgh Naturalists' Field Club	412
Blandford Forum Museum	19, 49	Elgin Museum	368
Bolton Local Authority	321	English Heritage	297
Bolton Museum	301, 321, 360	English Nature	185, 297
Booth Museum, Brighton	360	Environment Agency	297
Botanical Institute, Munich	375	European Regional Development Fund	92
Botanical Society of Edinburgh	408, 412, 417	Exeter Institution	148
Bristol City Museum	14, 15, 16, 17, 358	Farnham College, Surrey	144
Bristol City Museum and Art Gallery		Federation for Natural Science Collections Research (FENSCORE)	101, 104, 110, 113, 370
15, 16, 89, 305, 331, 339, 363		Friends of the Sedgwick Museum	48, 275, 278
Bristol Institution for the Advancement of Science,		GEES	315-316
Literature and the Arts	14, 417		
British Antarctic Survey	381		
British Association for the Advancement of Science			
13, 171, 361, 362, 397-399, 402, 414, 416			

GEM	335	Merseyside County Museum	358, 359
Gemmological Association of Great Britain	297	Mill Green Museum	317-320
Geographical Association	297	Mineral Industry Research Organisation	298
Geological Curators' Group		MLA (The Museums, Libraries and Archives Council)	57, 84, 112, 113, 317, 325
48, 53, 56, 59, 110, 111, 112, 113, 142, 204, 227, 288, 297-300, 335-340, 352-374, 488		Munich Academy of Sciences	169, 172
Geological Museum, South Kensington	58, 357, 359, 367	Museu de Ciências Naturais e de Historia Barra do Jardim	173
Geological Society of Dublin	11-18	Museum and Galleries History Group	478
Geological Society of London		Museum Assistants' Group	353, 488
11, 13, 19, 49, 144, 161, 288, 298, 353, 354, 357, 358, 361, 363, 370, 488		Museum für Naturkinde, Berlin	367
Geological Survey	399, 400, 402, 404, 405, 417	Museum National d'Histoire Naturelle	366
Geologists AIJOCC (L'Association Internationale de Joves de Casals Catalan)	92	Museum of Lancashire	437, 438, 446, 447, 450, 451
Geologists' Association (GA)	48, 93, 185, 236, 298, 362, 467, 488	Museum of London	40
Geology Museum, University of the West Indies	206	Museum of Science and Industry in Manchester	57
Geology Trusts	185, 298	Museum of Scotland	230, 367
Geophysical Museum of Rocca di Papa, Rome	341-350	Museum of the Birmingham Philosophical Institution	14
Glasgow Geological Society	414	Museums and Galleries Commission	57
Guy's Hospital	19, 49	Museums Association	56, 57, 59, 70, 238, 353, 357, 358, 359, 364, 370, 488
Hampshire County Museum Service	360	Museums, Archives and Libraries of Wales (CyMAL)	113
Hancock Museum, Newcastle upon Tyne	89, 358, 361, 369, 467	Museums' Documentation Association	57, 70, 71, 113, 358, 359, 363, 370
Haselmer Museum	335, 362	National Art Library, London	142, 143
Health and Safety Executive	298	National Fund for Acquisitions (Scotland)	92
Heritage Lottery Fund	57, 58, 92	National Library of Scotland	395
Higher Education Academy, Geography, Earth and Environmental Sciences	298	National Museum of Ireland, Dublin	370, 487
HOGG	367	National Museum of Scotland	19, 49, 84, 393-425
Hull University	358	National Museum, Prague	368
Hunterian Museum, University of Glasgow	19, 49, 89, 230, 232, 359, 364	National Museums and Galleries of Wales	3, 4, 5, 8, 84, 189, 298, 358, 359, 361, 364, 366-368, 370, 381, 479
Imperial University, Tokyo	375	National Museums and Galleries on Merseyside	57
INHIGEO	288	National Natuurhistorisch Museum, Leiden (RGM)	177, 178, 206, 255-258
Institute of Geological Sciences	359	National Preservation Office	113
Institute of Materials, Minerals and Mining	298, 299	National Scheme for Geological Site Documentation	185, 365, 370
Institute of Physics	298	National Soil Research Institute	298
International Commission on Zoological Nomenclature	205	National Stone Centre	298
Ipswich Museum	19, 49	National Trust	228, 239
Istituto Nazionale di Geofisica e Vulcanologia (INGV)	341, 342-344, 348	Natsca	335, 370, 371
John O' Groat Association	411	Natural Environmental Research Council	93, 102
Joint Nature Conservation Committee (JNCC)	185	Natural History Museum	12, 13, 14, 17, 19, 35, 37, 40, 49, 57, 61, 62, 89, 102, 105, 174, 200, 229, 232, 239, 255, 256, 257, 298, 309-311, 365, 367, 370, 379, 407, 473, 474, 478, 479
Kelvingrove Museum, Glasgow	370	Natural Sciences Conservation Group	367
King's School, Ely	47	Nature Conservancy Council (NCC)	357, 362
Lapworth Museum, University of Birmingham	89, 364	New Mexico Museum of Natural History	261-268
Leicestershire Museum and Art Gallery	56, 353, 357, 367	New York State Museum	427, 429, 435
Linnean Society of London	398	Newnham College, Cambridge	47
Liverpool Geological Society	488	North Lincolnshire Museum, Scunthorpe	181, 368
Liverpool Museum	89, 250, 361, 487	North of England Museum Service	365
Ludlow Museum	359, 368	Northern Ireland Museums Council	113
Ludlow Resource Centre	368	Nottingham Academy	146
Maidstone Museum	365	Open University	298
Manchester Geological Society	171	Oxford University Museum of Natural History	12, 14, 17, 89, 199, 200, 359, 362, 363, 367, 479
Manchester literary and Philosophical Society	171	Palaeontological Association	354, 358, 359, 361
Manchester Museum		Parliamentary Office for Science and Technology	298
33, 89, 171-174, 243-246, 321, 359, 360, 364, 365, 367, 375-377, 438, 442, 446, 448, 450, 451, 467-470			
Manpower Services Commission	68		

Perth Museum and Art Gallery	362	UK RIGS (The Association of UK Regionally Important Geological and Geomorphological Sites Groups)	298
Peterborough City Museum and Art Gallery	362	Ulster Museum	14, 361
Philpott Museum	361	UNESCO	58, 141, 273
Plymouth City Museum and Art Gallery	51, 335, 339, 370, 463	Universadade Regional do Cariri	169, 173
Plymouth Polytechnic	362	Universidad de Los Andes	275
Poor Law Commissioners	12	Universidad Nacional de Colombia	271-280
Preservation of Industrial & Scientific Material (PRISM)	92	University of Amsterdam	178
Provincial Medical and Surgical Association	146	University of Bangor	381
Quarry Products Association	298	University of Birmingham	185, 189, 359
ReSource	57	University of Bristol	180, 239
Richmond National Institution for the Instruction of the Industrious Blind	11	University of Cambridge	271-280, 325, 363
RIGS (Regionally Important Geological and Geomorphological Sites)	58, 92, 182, 183, 186, 365	University of Edinburgh	146, 407, 408, 415, 417
Rockwatch	298	University of Leicester	357, 366
Rossendale Museum	438	University of Liverpool	358
Royal Academy, London	153	University of Manchester	173, 243, 354, 362, 370, 467-469
Royal Albert Memorial Museum	148	University of Manchester Institute of Science and Technology (UMIST)	477
Royal Botanic Gardens	169	University of Portsmouth	173, 239
Royal College of Surgeons of Edinburgh	44	University of Sheffield	358, 362
Royal Dublin Society	11	University of the West Indies	206
Royal Geographical Society (with the Institute of British Geographers)	298	University of Worcester	369
Royal Geological Society of Ireland	12	Ward's Natural Science Establishment, Rochester, New York	13
Royal Institute (Brussels)	365	Warwickshire County Council	249
Royal Institution of Cornwall	398	Warwickshire Geological Conservation Group	183, 187
Royal Meteorological Society	298	Warwickshire Museum	181-187, 247-254
Royal Military Academy, Sandhurst	144	Warwickshire Natural History and Archaeological Society	247-254
Royal Military College	144	Warwickshire Naturalists' and Archaeologists' Field Club	248
Royal Physical Society of Edinburgh	398, 412, 413	Whitby Museum	361
Royal School of Mines	400, 402	Woodwardian Museum	47
Royal Scottish Museum	230, 232, 402	Worcester City Museum and Art Gallery	361
Royal Society	378	Workers' Educational Association	298
Royal Society of Chemistry	298	Wroxham School, Potters Bar	317-320
Royal Society of Edinburgh	395, 399, 412, 413, 415	Yorkshire Dinosaur Coast Project	58
Russell Society	478	Yorkshire Museum	19, 49, 89, 227, 358, 362, 367
Science, Engineering, Technology and Mathematics Network	298	Yorkshire Philosophical Society	152, 288
Scottish Museums Council	84, 113	Zoological Society	19, 49
Scottish Natural Heritage	92		
Scunthorpe Museum and Art Gallery	363, 368		
Sedgwick Museum			
12, 19, 47, 49, 89, 271-280, 313, 325-330, 357-359, 362, 364, 365, 366, 367			
Sheffield Museum	335		
Society for the History of Natural History	288		
Society for the Preservation of Natural History	113		
Somerset County Museum	89		
Stoke Museum	359		
Suffolk County Council	326, 328, 330		
Sunderland Museum	362		
Surrey Museums Consultative Committee	93		
Systematics Association	358		
The 24 Hour Museum	113		
Torquay Museum	365		
Trinity College Dublin	11, 12, 14, 287, 362, 366		
UCL, (Department of Geological Sciences)	89, 367, 375		
UK Offshore Operators Association	298		

PLACE NAMES INDEX

Aberllefenni, Wales	4-6
Addiewell, Scotland	409
Antarctica	220, 221
Antilles	208
Araripe, Brazil	169-175
Ardentinny, Argyll and Bute, Scotland	169
Arthur's Seat, Edinburgh, Scotland	408
Avon Dassett, Warwickshire, England	182
Barra do Jardim, Brazil	169-175
Barrington Pit, Cambridgeshire, England	329
Barrow on Soar, Leicestershire, England	14
Bath, England	141-168
Belle Vue Quarry, Dorset, England	239
Bellingham, England	473-476
Blackven Water, Charmouth, Dorset, England	14
Blockley Station Quarry, Gloucestershire, England	185

Brechfa, Wales	3-8
Bryn Bala, Aberystwyth, Wales	3-7
Caldbeck Fells, England	478
Calton Cemetery, Edinburgh, Scotland	397
Chatsworth House, England	478
Cragleith, Scotland	407
Cross Hands Quarry, Warwickshire	183, 185
Dorset, England	227-241
Durlston Bay, Dorset, England	234
Edgehill, Warwickshire, England	182
Florence Court, County Fermanagh, Ireland	13
Flowton, Ipswich, England	19, 49
Gamrie, Scotland	43
Greenskares, Scotland	43
Greiston Quarry, Peebleshire, Scotland	43, 44
Grinshill, Shropshire, England	249
Hock Cliff, England	179
Inchnadamph, Scotland	399
Isle of Portland, Dorset, England	239-240
Kentucky, USA	455
Kevin Keates' Quarry, Dorset, England	238-239
Koruzluky, Czech Republic	33
Lesmahagow, Scotland	396, 401
Long Itchington, Warwickshire, England	182
Lyme Regis, Dorset, England	13, 48
Lymm, England	449
Midland Valley of Scotland	398, 399, 401
Musselburgh Old Pit, Scotland	408
Neales River, Australia	222
New Mexico, USA	265-267
North Devon, England	48
Ohio, USA	261-265
Parkside Mines, Frizington, England	475, 476
Pendarves Mine, Cornwall, England	35
Penzance, Cornwall, England	398, 401
Pera Point, Jamaica	207
Pettycur, Scotland	408
Red Deer Valley, Alberta, Canada	40
Riverdale Hall, Bellingham, England	474, 476
Rocca di Papa, Rome, Italy	341-350
Santo Ecce Homo Convent, Colombia	271
Simpson Desert, Northern Territory, Australia	220, 221
Smokejack Brickworks, Ockley, Surrey, England	41
Southam Cement Works, Warwickshire, England	182-185
Storeton, England	449
Street, Glastonbury, Somerset, England	12, 14
Sunnydown Farm Quarry, Dorset England	236-237
Tendaguru, Tanzania	41
Transbaikalia, Siberia	3, 4
Villa de Leyva, Colombia	271
Warwickshire, England	247-254
Wheal Jane, Cornwall, England	33, 34
Worbarrow Trout, Dorset, England	234

GEOLOGICAL AND SYSTEMATIC NAMES INDEX

<i>Acanthostega</i>	326
<i>Acer palmatum</i>	378
<i>Allosaurus</i>	264
Angiosperm	378, 379
<i>Anomoeichnus ohioensis</i>	263
Antarctic plant fossils	381
<i>Antholites</i>	413
<i>Aphrodita aculeate</i>	44
<i>Arenicolites</i>	247, 248
<i>Arthropleura</i>	261, 266, 267
<i>Aspidorhynchus comptoni</i>	171, 172, 173
<i>Attenborosaurus conybeari</i>	11-17
<i>Aviculopecten ellipticus</i>	401, 402
<i>Baropus hainesi</i>	263
<i>Bichordites monasteriensis</i>	207
Blue Lias Formation	181, 182, 185, 248, 249
<i>Brachiosaurus</i>	41
<i>Brachychirotherium</i>	252, 254
<i>Cadrocarpon</i>	413
<i>Calamites nodosus</i>	411
<i>Calamopleura cylindrical</i>	171
<i>Caulopterus peachii</i>	397, 401
Charmouth Mudstone	181, 183
<i>Chelone subrotundum</i>	443, 450
<i>Chirotherium</i>	244, 250, 251, 254, 437, 440, 443, 447, 448, 450
<i>Chirotherium barthii</i>	437, 443, 444, 448, 451
<i>Chirotherium storetonense</i>	437, 443, 444, 448, 449, 450, 451
<i>Chondrites</i>	248
<i>Cladocyclus gardneri</i>	171
Clypeus Grit	183
<i>Clypeus ploti</i>	184
Coal balls	376, 377, 379
<i>Cochlichnus</i>	262, 264
Coelacanth	174
Cretaceous flora	379
<i>Cretovarium japonicum</i>	379
Cromer Forest Bed	355, 416
<i>Cruziana seilacheri</i>	177
<i>Dalmanella budleighensis</i>	401
<i>Deinotherium</i>	329
<i>Didymaulichnus</i>	247
<i>Diplichnites cuithensis</i>	266, 267
<i>Diplocraterion</i>	248, 250, 251
<i>Diplograptus foliaceus</i>	44
Durness Limestone	396
Dyrham Formation	181
<i>Edmontosaurus</i>	41
<i>Entobia</i>	207
<i>Equisetites keuperina</i>	437, 438, 442, 443, 445, 448, 450, 451
<i>Erettopterus bilobus</i>	401
<i>Eurycleidus arcuatus</i>	11-17
<i>Eurypterygius communis</i>	11-17
Fish	169-175

Forest Marble Formation	181	<i>Stigmara</i>	377
Frodingham Ironstone	179-180	<i>Synaptichnium</i>	437, 440
Fungus gnat	377	<i>Taenidium</i>	207
<i>Gastrochaenolites</i>	178, 207, 257	Tendaguru Beds	41
<i>Ginkgo biloba</i>	375	Tetrapod footprints	437-454
<i>Glossopteris</i>	375, 377	<i>Terebratula</i>	177
<i>Gnathichnus pentax</i>	29, 30 249, 257	<i>Teredolites longissimus</i>	208
Gogo Formation	258	<i>Thalassinoides</i>	248, 251, 266
<i>Gordia</i>	247	<i>Thalassiodracon hawkinsi</i>	11-17
<i>Graptolithus foliaceus</i>	44	Trace fossils	203-268
<i>Gryphaea</i>	29, 184	Continental	211-226
<i>Gryphaea arcuata</i>	179, 180	Crayfish burrow	219
Horseshoe Canyon Formation	40	Dinosaur tracks	227-241
Humboldtine	33-36	Scorpion burrow	220-221
<i>Ichniotherium</i>	265, 440, 443	Skink burrow	220-221
<i>Ichthyosaurus communis</i>	185	Wasp nest	222-223
<i>Iguanodon</i>	40, 41, 327, 329, 371	Wolf spider	221-222
<i>Isochirotherium</i>	437	<i>Treptichnus bifurcus</i>	249
<i>Kulindrichnus</i>	248	<i>Tubicaulis sutcliffi</i>	376
<i>Lepidotus temnurus</i>	171	Vertebrate footprints	437-454
Lilstock Formation	183	<i>Vinctifer comptoni</i>	169, 172
Lithophaga	178	<i>Waehneroceras</i>	184
Macduff Slate Formation	43	Woolly rhinoceros	329
<i>Margaritichnus</i>	265	<i>Zoophycos</i>	264
Marlstone Rock Formation	181		
<i>Monograptus priodon</i>	43		
<i>Notelops brama</i>	169, 172		
<i>Ophiomorpha</i>	266		
<i>Planolites</i>	247, 443, 450		
<i>Planolites montanus</i>	249		
<i>Platyschisma simulans</i>	401		
<i>Plesiosaurus hawkinsii</i>	12-17		
<i>Plesiosaurus triatarsostinus</i>	13		
Pliosaur	271-280, 331-334		
<i>Podichnus centrifugalis</i>	29, 30, 177		
<i>Porites</i> sp	178		
<i>Purbeckopus pentadactylus</i>	234		
<i>Radulichnus inopinatus</i>	29, 30		
<i>Rhacolepis brama</i>	171, 172, 173		
<i>Rhacolepis buccalis</i>	171		
<i>Rhacolepis latus</i>	171		
<i>Rhenocystis</i>	256		
<i>Rhizocorallium</i>	251		
<i>Rhomaleosaurus megacephalus</i>	11-17		
<i>Rhynchosauroides</i>	439, 441		
<i>Rhynchosauroides articeps</i>	443, 445		
<i>Rhynchosauroides beasleyi</i>	446		
<i>Rhynchosauroides minutipes</i>	446		
<i>Rhynchosauroides rectipes</i>	248, 445, 446		
<i>Rhynchosauroides tumidus</i>	443, 445		
<i>Rotodactylus matthesi</i>	443		
<i>Rotodactylus tumidus</i>	443		
<i>Rusophycus</i>	207		
Santana Formation	169		
<i>Schaubcylindricus coronus</i>	207		
<i>Scolicia prisca</i>	207		
Southern Highland Group, Dalradian	43		
<i>Spengleria rostrata?</i>	178		
<i>Sphenopteris affinis</i>	411		

MUSEOLOGICAL INDEX

This excludes a detailed breakdown of every entry in the State and Status of geological collections in the UK Report, Geological Curator Volume 8, Number 3, pages 53-136, including the appendices.

Conservation	84-88
Documentation	69-73
Environmental conditions	80-83
Fossils	
Dinosaur tracks	227-241
Displaying trace fossils	211-226
Preparation	29-31, 37-42, 272
Split-V Pen	37-42
Trace fossils	203-268
Labels	277
Learning	295-334
Microscope slides	393, 407-409, 446-448, 463, 464
Minerals	
Anthropogenic minerals	33-36
Chemical cleaning	33-36
Fire damage	427-435
Mounting plant cuticle	393, 410, 411
Nature of collections	60-68
Packaging	271-280
Packing	275-276
Personnel and management	89-94
Sectioning of coal balls	376-377
Services	95-97
State and status of geological collections in the UK	53-136
Storage	74-79
Trace fossils	203-268
Transport	271-280

MISCELLANEOUS INDEX

Award of the Brighton Medal to Geoffrey Tresise	487
Award of the Brighton Medal to Hugh S. Torrens	287
Book Reviews	10, 32, 190, 260, 324, 382-384, 460-462
Editorial	270, 296
Errata	199, 281
Geological Curators' Group 29th AGM	21
Geological Curators' Group 30th AGM	191
Geological Curators' Group 31st AGM	282
Geological Curators' Group 32nd AGM	289
Geological Curators' Group 33rd AGM	385
Geological Curators' Group 34th AGM	481
Lost and Found	19, 20, 49, 50, 189, 381, 463, 464
Obituary: Mick Cooper (1946-2008)	477
State and status of geological collections in United Kingdom museums: 2001	53

PAGINATION AND DATES OF PUBLICATION

Volume 8, Number 1: pp 1-26 [May 2004]
Volume 8, Number 2: pp 27-50 [November 2004]
Volume 8, Number 3: pp 51-138 [May 2005]
Volume 8, Number 4: pp 139-202 [December 2005]
Volume 8, Number 5: pp 203-268 [June 2006]
Volume 8, Number 6: pp 269-294 [December 2006]
Volume 8, Number 7: pp 295-350 [July 2007]
Volume 8, Number 8: pp 351-390 [December 2007]
Volume 8, Number 9: pp 391-464 [October 2008]
Volume 8, Number 10: pp 465-500 [May 2009]