COPROLITE

No. 41 June 2003

DROPPINGS FROM THE GEOLOGICAL CURATORS GROUP

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Coprolite is sponsored by Burhouse Ltd of Huddersfield, wholesale distributors of minerals, gemstones, gemstone products and jewellery components.

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Notice of Annual General Meeting

Please note that the 30th AGM of the Geological Curators' Group will be held at 16.00 on 9 December 2003 at the Ludlow Museum Resource Centre, Ludlow, Shropshire. Nominations for the posts of Officers and 2 Committee Members must be made by two members of the Group and submitted in writing to Giles Miller, GCG Secretary, Department of Palaeontology, Natural History Museum, Cromwell Road, London SW7 5BD **by Tuesday 18 November 2003.**

New members

GCG is pleased to welcome the following new members: **Mary Benterou**, Park Curator, Crater Lake National Park, Oregon; **Jenny Bevan**, Museum Curator, E de C Clarke Geological Museum, University of Western Australia; **James Lowe**, MA Museum Studies Student, University of Newcastle; and **R. Finch**, Collections Manager, University of Leeds.

Musical curators

Following the retirement of **Philip Powell** at the end of February, **Paul Jeffrey** from the Natural History Museum has been appointed Assistant Curator of Palaeontology at the Oxford University Museum of Natural History and took up his

post in May. **Phil Manning**, Keeper of Geology at the Yorkshire Museum has been appointed Development Manager at Bath Museum Service and takes up his post on 1 August.

Michael Eagar

We are sorry to record the passing, on 19 February, of Michael Eagar, formerly Keeper of Geology at the Manchester Museum. He was 83. He joined the Manchester Museum in 1945 and retired in 1987. From 1977 until his retirement he was also Deputy Director of the Manchester Museum. He is best known for his work on Carboniferous non-marine bivalves.

Newish publications

Meteorites. A journey through space and time by Alex Bevan and John De Laeter, 2002. Washington DC: Smithsonian Institution Press, 215pp. ISBN 1 58834 021 X

Coal geology by Larry Thomas, 2002. Chichester: John Wiley, ix + 384pp. ISBN 0 471 48531 4.

Mammoths, sabertooths and hominids. 65 million years of mammalian evolution in Europe by Jordi Agusti and Mauricio Anton, 2002. New York: Columbia University Press, x + 313pp. ISBN 0 231 11640 3

Conserving geodiversity

English Nature, the Quarry Products Association, and the Silica and Moulding Sands Association have produced a leaflet on the role of the minerals industry in conserving geodiversity. Copies of *Geodiversity and the minerals industry – conserving our geological heritage* are available free from English Nature's Enquiry Service on 01733 455100.

Books wanted

Clinton Burhouse is now collecting and dealing in geological, gemmological and mining books and he is willing to purchase whole collections (particularly 19th century) including duplicates. Contact him on tel 01484 655675 or fax 01484 460036.

Queensland moves

The Queensland Museum is moving and consolidating all its geology collections into a new facility at Hendra in NE Brisbane (not far from the airport). All geological staff are also in the process of moving to this new site. Collections will generally be unavailable for several months while this transition takes place but if there are urgent requests please contact one of the following. Email addresses remain unchanged. Dr Alex Cook tel + 61 7 3406 8345; Scott Hocknull tel + 61 7 3406 8346; Dr Peter Jell tel + 61 7 3406 8356; Kristen Spring and Geosciences Laboratory tel + 61 7 3406 8350 Queensland Museum annex, Geology & Palaeontology Collection, 122 Gerler Road, Hendra, Queensland 4011, fax + 61 7 3406 8355. Honorary research staff, Prof. Trevor Clifford, Dr Mary Dettmann, Dr

Sue Parfrey, Don McKenzie, Dr Sue Turner, and Dr Mary Wade are also now located at Hendra.

Preparation equipment available

Stuart Baldwin has the following two items which he would be happy to donate to any museum geology department or palaeontology lab in the UK or Ireland:

A Densply Cavitron ultrasonic dental probe. Purchased for about £700 some 40 years ago but not used much and still in good working order.

Just under 2lbs of Alvar 1570 made by Shawinigan Ltd. When dissolved in alcohol it was formerly used extensively in palaeontological preparation but has been unobtainable for many years.

These items preferably to be collected but can be posted if required - postage to be charged at cost. Stuart can be contacted at Baldwin's Scientific Books (geology/ palaeontology), 18 School Road, Wickham Bishops, Witham, Essex, CM8 3NU tel 01621 891526 fax: 01621 891522 email sbaldwin@fossilbooks.co.uk

Book reviewers wanted

A number of books have been received for review in the *Geological Curator*. If you would like to write a 500 word review of any the following publications, please contact Patrick Wyse Jackson who will send you the volume which you may keep.

Bassett, M.G. et al. (eds) 2001. *A future for fossils*. Cardiff: National Museums and Galleries of Wales.

Cole, G.A.J. 1998. *Memoir of localities of minerals of economic importance and metalliferous mines in Ireland*. Dublin: Mining Heritage Society of Ireland.

Condie, K.C. 1997. *Plate tectonics and crustal evolution*. Oxford: Butterworth Heinemann.

Cribb, S. and J. 1998. *Whisky on the Rocks: origins of the 'water of life'*. Nottingham: British Geological Survey.

Ensom, P. 1998. *Discover Dorset: Geology*. Wimbourne: Dovecote Press.

Lockley, M. 2000. *The Eternal Trail: a tracker looks at evolution*. Cambridge, MA: Perseus Publishing.

Lord, B. and Dexter Lord, G. 1998. *The manual of museum management*. London: The Stationary Office.

McGowan, C. 2001. *The Dragon Seekers*. Cambridge, MA: Perseus Publishing.

Stone, R. 2001. *Mammoth: the resurrection of an Ice Age giant*. Cambridge, MA: Perseus Publishing.

Thomas, B.A. and Cleal, C.J. 2000. *Invasion of the land*. Cardiff: National Museums and Galleries of Wales.

Wills, C. and Bada, J. 2000. *The spark of life: Darwin and the primeval soup*. Cambridge, MA: Perseus Publishing.

Wolfe, D.W. 2001. *Tales from the Underground*. Cambridge, MA: Perseus Publishing.

British Geological Survey *Earthwise* publications:

Aitkenhead, N. and Dennis, A. 1999. *Holiday Geology Guide: Peak District*.

Cox, B. and Powell, J. 1999. *Holiday Geology Guide: Scarborough and Whitby - the*

Jurassic Coast.
Gallois, R. 1999. *Holiday Geology Guide: Isle of Wight.*
Gallois, R. 2001. *Holiday Geology Guide: Stonehenge: the secrets in the stones.*
Goode, T. 1999. *Holiday Geology Guide: Cornish Pebbles.*
Robinson, E. and Litherland, M. 1999. *Holiday Geology Guide: Greenwich.*
Robinson, E. and Litherland. M., 1999. *Holiday Geology Guide: The Tower.*
Stone, P. 1999. *Holiday Geology Guide: Lake District Story.*

William Smith's Memoirs

Bath Royal Literary and Scientific Institution has reprinted John Phillips' *Memoirs of William Smith, LL.D.*, first published in 1844. The reprint, from an original copy in the collections of the BRLSI, was funded by subscription, and was launched in Bath on 7 June. This was the 250th anniversary of the Act of Parliament which led to the establishment of the British Museum, to which Smith sold his first stratigraphically arranged fossil collection. It is planned as the first in a series of limited edition reprints from the BRLSI Library.

Smith had strong connections with the Bath district, and was a truly original thinker in his day, but he only received proper recognition late in his life. The book outlines Smith's working life, firstly in the Bath area, and afterwards throughout the UK. He worked as a civil and water engineer, geologist, land and mineral surveyor, and cartographer.

In the early years of his career, from 1793, he was asked to survey routes for the Somerset Coal Canal, soon being appointed its surveyor, or sub-engineer and, because this had two separate "arms" in valleys a few miles apart, he was able to observe and compare the strata between them. He also noted that fossils, which otherwise looked similar, enabled him to separate and identify the strata, and translated this information onto original coloured stratigraphic maps.

His life is an extraordinary story that evolved through many phases. Dismissed by the Canal Company in 1799, he travelled all round Britain on commission, and gathered data towards his pioneering geological map of Britain, published in 1815. However, his dedication to geology had forced him into Bath-based debt, which culminated in the ignominy of a debtor's prison in 1819. After this, he retired to Yorkshire, and died in 1839. The 1830s saw vindication of his skills and ideas, ending in acclaim and endorsement, as the Father of English Geology

The original book has c.150 pages and was written by his nephew and assistant, John Phillips, by then an eminent geologist himself. The book concentrates on Smith's working life and, as the author notes, he had "purposely softened the darkest outlines of Mr Smith's private and personal fortunes". To complete the story of this remarkable man, the Institution has included additional material about his life and work, and to compile an integrated index for the first time. The leading authority on Smith is Professor Hugh Torrens who has written an introductory synopsis of William Smith's life for the book, including specific references to his early work. In addition, the Geological Society of London has allowed us to reprint

Hugh's' William Smith Lecture given to the Society in 2000. This is historically complementary to the *Memoirs*, but adds important extra details. The volume also contains a comprehensive index, with cross references by people, places and subjects across its complete contents, making the book a valuable reference tool to all geologists and historians of the science.

The book is available from Book Orders, BRLSI, 16-18 Queen Square, Bath BA1 2HN, tel 01225 312084, fax 01225 442460, price £15.00 + postage and packing.

Fossil, mineral and gem shows 2003

2-3 August Kempton Park Racecourse, Sunbury on Thames, Middlesex
30-31 August Bath & West Showground, Shepton Mallet, Somerset
6-7 September Newton Abbot Racecourse, Newton Abbot, Devon
20-21 September Brighton Racecourse, Freshfield Road, Brighton
27-28 September Newmarket Racecourse, Newmarket, Suffolk.
18-19 October Cheltenham Racecourse, Prestbury Park, Cheltenham, Gloucester
25-26 October Hatfield House, Hatfield, Hertfordshire
1-2 November Kempton Park Racecourse, Sunbury on Thames, Middlesex
22-33 November Uttoxeter Racecourse, Uttoxeter, Staffordshire
Contact: The Exhibition Team, PO Box 72, Maidenhead SL6 7GB tel 01628 621697, fax 01628 680702, email info@rockngem.co.uk, www.Rockngem.co.uk

Redisplay in the Earth Sciences Department at University College, London

Students on the Museum Studies course at University College, London have recently completed new displays in the common room of the Earth Sciences Department at UCL. Regarded as the heart of the Department, the common room is used by students and staff, by prospective students on interview days, and by academic visitors. The aim of the project therefore was to reflect the wealth of the collections and the research of the Department, and to enhance the prestige of the Department.

A visitor evaluation of the existing displays, which were completed about ten years ago, revealed that they were seen as dull, formal, taxonomic and austere. They needed to be more colourful, bright and eye-catching.

Although the common room is open to a limited extent to the general public, the main users are the students of the Department. The language used in the new displays assumes no prior knowledge of geology and explains all geological terms used in the text. The about display will be in place for about five years, and promotional material will be distributed at the beginning of term.

The budget for the redisplay was £1000, and three sponsors, the Friends of UCL, the Mineralogical Society, and Lynx Information Systems Ltd provided an additional £800.

Demetra Potsika
Museum Studies Department, University College London

Landscape mysteries

Following the successful BBC2 series *Talking Landscapes*, this autumn (the exact dates are still to be decided by the BBC) Professor Aubrey Manning embarks on a set of eight new journeys in which he follows clues in the geology, natural history and archaeology of different parts of the British Isles in an attempt to solve mysteries arising in the landscape. This new series - *Landscape Mysteries* - is funded by the Open University, and so we are encouraging other organisations, (including our student society the OUGS), to organise field trips and/or museum visits to explore some of the geological topics covered in the programmes. Climate change and time (historical, archaeological and geological) are two recurrent themes, and many of the programmes have other aspects that could be followed up during trips.

Programme 1: In search of Irish Gold: Spectacular hoards of gold objects, now in the National Museum of Ireland in Dublin, show that Bronze Age people in Ireland were able to find large amounts of the precious metal. But in the Irish landscape today there's little sign of gold. So where did these prehistoric metalworkers find it? Aubrey Manning sets off across Ireland in search of a lost Irish El Dorado. By comparing the amount of silver impurity in the gold objects with that in the known deposits in the landscape, the source of the gold can be identified. Potential activities could include trips to museums with Celtic gold artefacts, Welsh/Irish/Scottish goldmine/gold localities, or gold-panning. Also possible is a visit to Leeds Department of Earth Sciences, including a lecture by Rob Chapman whose work features on the programme.

Programme 2: Figures in the Chalk: The enormous Chalk figures which are scattered through much of the landscape of southern England represent a puzzle. While the origins of some are well known, others are shrouded in mystery. In an attempt to discover the truth about who cut them, and why, Aubrey sets out to explore the history of the Chalk landscape through thousands of years of human settlement. By looking for layers of Chalk fragments that could have been washed down during construction, and dating the soil just underneath, the figures can be dated by a process called Optically Stimulated Luminescence. Possible activities include trips to Chalk localities, or visits to the Uffington White Horse or other Chalk figures.

Programme 3: Britain before the Ice: Aubrey attempts to journey back nearly 30,000 years, to a Britain before the last great ice sheets covered the country at the height of the ice age, and conjures up the landscape of this lost world. He begins at Paviland cave on the Gower coast in Wales, the site of an amazing discovery in the 19th century. Here the remains of a skeleton were surrounded by ancient artefacts: bone tools, beautifully crafted flints, marine shells and ivory. It turned out that the bones belonged to a young man who died around 29,000 years ago. There are plenty of opportunities with this one as it's about the last glaciation and human settlement. There could be trips to glacial landscapes and deposits (Norfolk coast, NW Cumbrian coast), plus the Gower coast that is featured in the programme.

Programme 4: Secrets of the flood: Between the south coast of England and the Isle of Wight lies the Solent, and here, at low tide, objects are coming to light which suggest communities once lived in a lost landscape that is now covered by the sea. Aubrey sets out to discover how this area became flooded. Mud cores from the sea bottom reveal when the water first started coming in: some 8000 years ago when the ice was melting after the last glaciation. But why should the flooding have continued after that? In Scotland, where the sea-level has *dropped* relative to the land, the land has moved upwards. Scotland is actually rising, also the result of the melting ice thousands of years ago. Antony Long from the Environment Research Centre explains the link with the Solent: Britain has effectively been tilting: as Scotland has risen up, the southern part of Britain has sunk down. Activities could include trips to raised beaches and 'recent' fossil forests - opportunities from the South of England to Scotland.

Programme 5: The Tower People of Shetland: On the Shetland Isles, on the far edge of Europe, a series of monumental stone towers, known as brochs, once dominated the landscape. Aubrey sets off to discover what sort of community built the broch towers and for what purpose. Aubrey works out how the ancient Shetlanders could have lived and even prospered. He finds evidence of a people who made good use of local resources such as soapstone, iron and copper. Using peat for fuel they seem to have been proficient metal workers. And bronze objects made from copper and tin suggest they were even trading, perhaps with Cornwall, to obtain the tin they needed. This may be a difficult one to follow up as it's so far away, but there is a climate change story here.

Programme 6: The Abandoned Marsh: On the Romney Marsh in Kent there are ruined churches in the middle of fields and tales of towns lost at sea. Aubrey sets out to find out what happened to these lost communities and why the Marsh is now one of the most deserted areas in the country. At the beginning of the 13th century the population of the marsh stood at an all time high. The waterlogged land was being drained and used for farming to cope with an expanding population. At the same time, vital ports - Hythe, New Romney, Rye and Winchelsea - grew up along the coast. But everything changed during the 13th century. First, violent storms breached the shingle barrier that protects the marsh, flooding large areas of the reclaimed land, and driving people away. The port of New Romney became silted up and Old Winchelsea was completely destroyed. Trips could be arranged to coastal localities to show how they have changed over time.

Programme 7: The Riddle of the Yorkshire Tracks: Strange markings in the rocks on the North Yorkshire coast are the starting point for an investigation into a forgotten story from Britain's industrial past. Aubrey discovers that at the beginning of the 17th century, long before the industrial revolution, the now deserted coastline south of Whitby was dominated by Britain's first chemical industry. In the 16th century, dyeing textiles permanently with vivid colours depended on the use of alum, but supplies from overseas became expensive and uncertain. A search in Britain - including places such as Alum Bay on the Isle of Wight - eventually ended in Yorkshire where the shales proved to be a rich source. The scale of the industry on

the Yorkshire coast was remarkable. The quarrying changed the landscape for many miles and the cliffs were dominated by the alum processing works. There's plenty of geology in this story in the Alum Shale and adjacent Jurassic formations, or trips to Whitby and Ravenscar.

Programme 8: The Terraces of Avalon: For many years one of the mysteries surrounding Glastonbury has been the origin of a series of stepped terraces on the tor. Were they part of a Neolithic worshipping ground, and are they a clue to the myths and legends which have long been linked to Glastonbury? Having established that the terraces could not have been formed by natural geological processes, Aubrey learns that some believe the terraces form a maze, created in Neolithic times. Aubrey investigates the Abbey more closely. It's known that the monks drained the flooded Somerset Levels to get more pasture and he concludes they probably cut the terraces on the tor to give strips of dry land for crops. Activities could include a trip to Glastonbury Tor and surrounding landforms (the Tor is an outlier) and Jurassic geology.

If any member of GCG would like to arrange a trip associated with one or more of the programmes, please contact Janet Sumner (j.sumner@open.ac.uk) here at the Open University. She has information not only about people who appear in the programmes, but also a list of those who provided useful information. Such folk have a range of backgrounds: history, archaeology and geology. If you do intend to plan a trip, Janet could contact these people to find out if they would be willing to help. She will also ensure that any trips are advertised on the Landscape Mysteries section of the Open2.net website (a BBC-OU site that will be advertised at the end of each programme).

Chris Wilson
Department of Earth Sciences, The Open University

Staff restructuring at The Manchester Museum

On 2 April 2003, the Council of the University of Manchester approved all the recommendations of the consultant who had been appointed to review the human resources of The Manchester Museum during 2002. Council's decision followed endorsement of the proposals last November by the Manchester Museum Committee and in March by the Deans and by University Senate. The decision concluded a time of great uncertainty for everyone in the Museum. Perhaps the most controversial of the changes heralded by this decision is the end of the long tradition of departmental keeperships at the Museum, as reported in *Coprolite* 40 (March 2003).

At the heart of the review lies an important debate about the distinctive role of a major university museum. This debate began in January 2002, when all the staff of the Museum, a number of senior academics from the University of Manchester and some community representatives reached a consensus on what would define a truly excellent and effective Manchester Museum. This was distilled into a vision of the future of the Museum, which included a commitment to:

- achieving a world-class reputation for its research, curatorial standards and the

range and quality of services provided to the general public.

- contributing 'added value' to the University, through the Museum's diverse public and academic activities, through academic partnerships

With this destination clarified and agreed, the consultant then took stock of the Museum now, comparing its current level of activity and standards with those explicit in the future vision. This revealed many strengths and a number of weaknesses. The recommended changes that flowed from this analysis are intended to address what the consultant termed 'road-blocks' that would stand in the way of the Museum's capacity to achieve the standards to which it and its main stakeholders aspired. Amongst the 'road-blocks' to be addressed were, first, an ill-defined senior management structure, second, a somewhat dysfunctional academic relationship between the Museum and the rest of the University, and third, the Museum's academic and curatorial under-achievement in relation to the standards of the higher education and museum sectors respectively.

Members of Museum staff will now work within one of three new divisions: Collections and Academic Development, Public Programmes and Academic Development, and Operations. The three divisional heads, together with the Director, will comprise the Museum's senior management team, thereby addressing the first issue. The second will be met in part through the creation of a Museum Academic Advisory Board, with senior University academic and Museum representation, and a remit to advise on and to monitor the development of the Museum's academic interface with the University. The third issue will involve the separation of the functions hitherto discharged by Keepers, whose role will be replaced by subject specialist Curators and Museum Academic Joint Appointments (MAJAs). There will be the same number of Curators as there are collections Keepers, and their role will be to manage, research and develop the collections to make them optimally useful and accessible as well as safeguarded, to meet at least the standards of Registration and to contribute to the Museum's learning programmes. Over the next five years, the Museum will work closely with University academic departments to create jointly-funded MAJA posts, whose world class research and HE teaching will be accountable within the academic unit, and whose academic expertise will inform collections development, and provide a scholarly underpinning for many other areas of the Museum's work.

Negotiations are continuing with existing Keepers to identify their individual futures either within the new structure or outside it. Those who cannot be appointed as either Curators or MAJAs will be offered either early retirement on enhanced terms or redeployment within the University. None will be made compulsorily redundant. The Director, Tristram Besterman, has paid tribute to the record of achievement of many of the Keepers, and has stressed that no fault or criticism is implied by the restructuring. The increasingly exacting standards expected in the higher education, museum and public sectors, have created a context in which former models of working can no longer deliver the necessary outcomes required of the Museum today.

The process of transition to the new structures will be managed carefully, and as

sensitively as possible. Tristram is very conscious of the risks and difficulties in managing such fundamental change. Nonetheless, the University, after seven months of deliberation, consultation and discussion and after taking into account the views of those who have lobbied tirelessly against the proposals, has resolved that theses changes provide the best way to ensure that the Museum plays a more highly valued role in the academic life of the University, that it manages its collections more effectively and that it continues to develop its services to the public.
Tristram Besterman, Manchester Museum

GCG's view of the staff restructuring at the Manchester Museum

Some time ago, when it became known that the Manchester Museum was moving towards a staffing restructuring, GCG became concerned for the long-term welfare of the geological collections. I wrote on behalf of the Group to several people in Manchester University outlining our concerns at the developments, and how they might affect the collections. Primarily GCG Committee was concerned at any downgrading of the curatorial cover afforded to the geological collections, and argued that replacement or downgrading of experienced geological Keepers would be detrimental.

The Manchester Museum has long been one of the premier university museums, and contains highly important collections. For example, the Carboniferous non-marine bivalve collections assembled by the late Michael Eagar are unsurpassed anywhere else in the world, while the palaeontological and mineral collections rank alongside some of the finest international collections. It had a fine Earth Science Collection Centre, opened in 1992 with a £250,000 grant from UFC, which boasted a state of the art storage facility where all the geological collections had been carefully curated to the highest modern standards. This facility and the level of care afforded to the collections was certainly amongst the best that I have seen. The geological gallery was redesigned and reopened to major acclaim, and has drawn a large number of visitors to the museum.

Alongside the staffing reorganisation, the Museum buildings have undergone refurbishment recently, and the geological collections have been in storage off-site in Buxton in Derbyshire for the past three years.

The responses I received indicated that the restructuring was to go ahead. Later it became known that the Keeper of Geology, Dr John Nudds (a former Chairman of the GCG) was to be redeployed within the university, and that Dr David Green, the Keeper of Mineralogy, was to be offered a curatorial position. How the management of the Manchester Museum came to the conclusion that John Nudds, a geological curator with nearly 25 years experience, both in Dublin and Manchester, was unsuitable for a curatorial position is difficult to understand. Once I heard this news I wrote again, in a personal capacity, to support John, and I outlined his many strengths and achievements as a geological curator. These are well-known to many of you; he is an acknowledged published expert on Lower Carboniferous corals, he oversaw the curation and arrangement of the geological collections in the new facility funded by the UFC, and was responsible for designing and implementing the

new geology gallery - a facility that was highly praised by the authorities when it opened.

The present situation is that the geological collections remain in storage in Derbyshire, and with the redeployment of John Nudds his considerable expertise of the geological collections will be lost. As we all know it takes a great deal of time to build up this experience, and any incoming curator will not be in a good position to get the collections back to their former level of curation for some time.

GCG urges the Manchester Museum authorities provide the best curatorial cover to the important geological collections under their care. Under the restructuring plan, we believe that this cover will be compromised; it is the opinion of GCG Committee that those best suited to care for the collections are John Nudds and David Green, the experienced incumbent Keepers. Both are able curators, provide educational outreach to the general public, carry out good quality research, provide academic teaching, and maintain high standards of excellence - all factors required under the rationale for the restructuring.

It is just hard to believe that staff who have loyally carried out their duties to a high standard for many years can be treated in such a way. If this is the future for university geological museums it is all rather sad and depressing.

Patrick Wyse Jackson, GCG Chairman

Earth Science Education Forum

The Earth Science Education Forum (England and Wales) was set up last year with the remit of monitoring Earth Science Education in England and Wales, identifying gaps in programmes, co-ordinating organisations to lobby Parliament and raising the profile of Earth Science education. Over the next year, the group intends to raise funds to support an education officer and to support joint ventures with societies that organise Earth Science education events. If you know of any large scale events that would be relevant to ESEF's mission then please contact either Professor Allan Rogers (Chairman and Political Advisor to the British Geological Survey) on allan.rogers@btinternet.com or David Bailey (Secretary) at British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, NG12 5GG, email: deba@bgs.ac.uk.

No Pain, No Gain: A personal view
The inaugural meeting of NatSCA at the Manchester Museum 7-8 April 2003

Well, in short, an excellent, even historic, meeting. After talking about it for a good few years now, we have a merged group of BCG and NSCG, achieved at the end of the day by unanimous vote. The prospects look exciting, so let's hope we hit the ground running and make an impact as early as possible.

But there *was* more to the meeting than that, of course. The talks were themed around the subject of the changes taking place in the museum world at the present time. It was encouraging that we were able to discuss what could be seen as a

threatening prospect with considerable optimism. I felt that there was generally a very positive air to the meeting, with an eye firmly on the opportunities before us.

The first day of the meeting was, of course, dominated by the AGMs and it would be easy to forget the two talks that were given in the morning. However, they were on two important topics.

The first, given by Tristram Besterman, was about the upheaval taking place at our host institution. I felt that much of specific importance was left unsaid, perhaps not surprisingly. Most people were probably interested in what was likely to happen to the people and the collections at the Museum. Tristram, however, was more concerned with the rationale behind the actions he was recommending, on top of which, of course, many decisions had yet to be taken. But some of the issues that were raised will have sounded very familiar to many there. The need to be more responsive both to the need for change and flexibility within the museum, and to the people who use the museum, its staff and its collections. Of course, many places have been through this already, and perhaps Manchester has, for various reasons, lagged a little behind.

The second talk was given by Steve Garland looking at regional changes, particularly the new hubs. As he himself pointed out, this might not seem to be relevant to many people, but beware! If the scheme is carried through to its planned end, there are very few places that will be left unaffected. If nothing else, it is likely to change the way funding flows through regional museum networks, and some places may also be expected to take on roles and tasks that they have not so far considered. What seems to be clearest is that nothing is very clear at this point in time, with many crucial decisions yet to be made. There will be some doubts that the scheme will work as its planners envisage, or that a large part of the museum community will receive any tangible benefits from it. But Steve pointed out a number of positive signs that have already emerged, centred very much around the fact that museums and curators within regions have had to communicate more and work together, a trend that will have to continue if he scheme is to work, and something which must be welcomed.

As far as natural sciences are concerned, both good points and weaknesses were revealed. There is potentially more funding available, and an emphasis on outcomes, partnerships and innovation, things which I believe we do well in natural sciences. However, it is clear that we tend to get left out of the "arts and culture" arena all too easily, and suffer from an image problem even within the museum sector. This is at odds with the popularity of natural sciences amongst the general public, and sets a challenge for the new group to work towards redressing this situation.

The second day was very much talk-based, with four talks in the morning and three in the afternoon. By and large, these looked more at the tactical aspects of changes taking place rather than the strategic, drawing mainly on people's experiences of specific projects or areas of activity. Having said that, the day as a whole was framed by two talks that were looking at the more general scene.

Velson Horie looked at the changes taking place within the conservation world, and it was interesting to hear what he was saying in the light of the prospects for what the new group might tackle and achieve. The history of conservation over the last twenty years has been of the recognition of a distinct field of endeavour, followed the attempts to gain broader recognition of this, culminating, in natural sciences, in the establishment of NSCG. However, too many small groups have been seen to be diluting their impact and groups have been merging to form ones more capable of promoting aims effectively. This does not detract from the achievement of NSCG in raising the profile of natural sciences conservation, and it is now the responsibility of the new group to build on this achievement and take forward the aims of the group in, we hope, a more effective way.

The present trend within conservation as a whole is to try and reshape the sector so as to give a more coherent and effective voice. So, there is a drive by the NCCR to set up a unified body, to generate a set of common standards, to promote better training within the sector and to respond better to the public and other users of the resources with which we are concerned. It seems to me that our situation in NatSCA mirrors this activity remarkably well, and I think we might use this as a focus for own support and promotion of the conservation of natural science collections.

The final talk of the day, from Rob Huxley, also reflected on our potential relationships, and look directly at the possible co-operation between SPNHC and ourselves. SPNHC could quite easily be regarded as a sister organisation in the US, and there are many areas of overlap between the two groups. However, geographical separation alone means that the two groups should not conflict. It does mean that we could benefit greatly from ongoing communication, exchange of experiences and ideas, and collaborative efforts, including publications and major meetings.

The other talks of the day drew on specific experiences, mostly from specific projects within certain institutions. The first was Donna Young's account of the collections moves at Liverpool Museum, a project on a scale that most us are unlikely to have to contemplate. However, one of Donna's comments was that the size of the project was a minor factor, and that any project needs to be well planned and executed. Her conclusions were to expect the unexpected, have contingency plans and expect extra costs to appear, and none of these relate directly to the scale of a task.

Chris Collin's talk was not about past experience but about one of his current projects, the development of a conservation strategy for the NHM. This task has come about as a result of needing to make NHM activities more efficient and cost-effective, to promote business continuity, to establish clear standards and to standardise conservation across the institution. It will be interesting to see how this develops, but of greatest interest to the rest of us will be certain things that Chris also alluded to. These are the aim to set standards that could be applied world-wide and then to outreach them to other institutions, and the aim to establish training schemes that could then be made available outside of the NHM. This may be the

kind of thing where NatSCA could collaborate with the NHM.

From Holland we heard Jan van Tol, from Naturalis in Leiden. Our groups have been watching the development of this exciting facility for some years now, and it was most interesting to hear Jan's views now that things have settled down rather. Most of us have watched enviously, seeing the sums of money that have been made available, but the fact is that a number of things he spoke about reinforced Donna's comments from earlier, about the need for good planning and things not turning out quite as expected. It seems clear that there are a number of things they would do differently if they had the chance. Nevertheless, he was keen to stress the fact that they felt they were in a much better position now than before they started.

After lunch, David Pinniger spoke to us about pest control techniques. This was by no means unfamiliar but I am in favour of repetition. It is all too easy for us, in our busy working lives, to overlook even some of the basic things and it does us no harm at all to be reminded of them. For instance, one of his messages was monitor, monitor, monitor, and checking and changing insect traps is one of those things that can get put off. Perhaps we should add a banner on our journal to say "now you've read this, go and check your traps". On top of that, it also put in our minds the idea of running training courses in this area.

Ollie Crimmen's talk stressed again the value of forward planning before setting off on a project. In this case it was the Darwin Centre Phase 1. Again, while it has clearly been an improvement overall, that doesn't mean the results have been perfect. Lab space is very much reduced, and environmental control has now been taken away from the collections managers. Functions which were formerly carried out in a single office are now separated. This has been mainly to meet current health and safety needs, but it has resulted in a considerable increase in time taken, as well as a great deal of moving around, a problem not just for the people but also, of course, for the specimens themselves. And some people are not so happy about being put on display along with their collections

The final part of the conference was a question and answer session, and the final question produced some suggestions as to what kind of things that the new group might think about tackling. These included looking at public awareness and raising the profile of museums, particularly what happens behind the scenes, developing our relationships with other bodies, drawing on the strengths of having curators and conservators together, improving our standing with national government and drawing in other disciplines. We will see over the coming months and years how well we have responded to the challenges now before us.

Steve Thompson
Museum of North Lincolnshire

GCG Seminar and field trip: Scottish geology collections and collectors
Inverness, Cromarty and Elgin 19-20 May 2003

The Moray Firth coast has long been famous for its fossils and its collectors amongst whom, of course, is Hugh Miller. This area has some classic sites, some of

which are still yielding important material which is housed not only in the local museums of Inverness and Elgin, but also in the national collections in Edinburgh and in the Hunterian Museum in Glasgow. This seminar will look at the history of collecting and collectors in this area, as well as give some insights into collecting at some other classic Scottish localities including the Midland Valley and Caithness. There will also be the opportunity to view the local collections and visit some of these nationally important sites.

With an invitation such as this who could resist the temptation to stray northwards and join in? So it was on a showery Sunday that the Liverpool GCG contingent assembled at Lime Street Station and boarded the first of three trains that would transport us to sunny Inverness. One attempts Sunday rail travel with a strong sense of trepidation, particularly if it involves Virgin trains. However, on this occasion the journey was a delight, with Virgin actually running ahead of schedule enabling a ten-minute exercise break to be taken on the platform of Oxenholme station! The rail route to Inverness must be one of the most beautiful in the British Isles passing through spectacular scenery and its associated geology – the structure of Scotland unravelling before our eyes as we passed over the Southern Uplands Fault into the Midland Valley, then over the Highland Boundary Fault into the metamorphic Caledonides and finally views down towards the Great Glen Fault.

On Monday 19 May ten GCG members met up at the Inverness Museum and Art Gallery. Personnel were divided up between cars and then we set off for Cromarty in superb weather.

Cromarty is a town situated on the northernmost tip of the Black Isle, a peninsula lying between the Beauly and Cromarty Firths to the north of Inverness. The town was an important trading and manufacturing centre but its fortunes declined in the early part of the 19th century as it was bypassed by the new railways and suffered a slump in trade. This gradual fossilising of the town has, today, preserved an important 18th and early 19th century vernacular architectural heritage, made rather incongruous by the sight of late 20th century Semi-Submersible and Jack-Up Oil rigs temporarily moored in the Cromarty Firth. However, the Firth's link with modern oil exploration and petroleum geology provides a link to the past since it was the birthplace of Hugh Miller in October 1802. Miller, too, was aware of stratigraphy and the search for local economic raw materials. The technologies may change but the search for economic wealth is still one of the driving forces of geology.

The Cromarty field visit was lead by Mike Taylor of National Museums Scotland. Mike provided a general introduction to the town and then took us on an excursion around the classic Miller sights. First stop, after the icehouse, was the foreshore where Miller found Old Red Sandstone fish remains in the autumn of 1830. The 'Fish beds' site is a protected SSSI but members of the group found two calcareous concretions amongst the argillaceous shale, one of which contained fragmentary fish remains, (the nodules were left on the foreshore!). These beds formed part of a classic Middle ORS sequence of varied subaerial, fluvial and lacustrine deposits reflecting the changing boundaries of Lake Orcadie. Access and visibility of the 'Fish beds' varies according to the state of the tide. Today the beds are much depleted

from Miller's time although even he was to remark upon the nature of geotourism having an adverse effect upon the exposure.

Leaving the beach we trekked up to the Coalheugh well, an artesian chalybeate spring resulting from failed coal prospecting in the 1690s. The spring water tasted fine with none of the slightly bitter aftertaste that such mineral waters often have. From this point, Mike gave us a quick view of the geology from the ORS argillaceous shales of the 'Fish Beds' on the beach, to occasional bedded plant remains in the stream section leading from the well. On the flat field between the present beach and the well, raised beach sands were visible in temporary excavations carried out in 2002. Behind the raised beach level is the old coastline cut back into a thick cover of Quaternary deposits. From the well we then made our way up to the Miller monument, a most imposing sight. After posing for a group photograph a closer inspection was made of the monument itself. It was erected by public subscription in 1859 following Miller's death at Portobello in 1856. The statue sculptor was Handyside Ritchie. It shows Miller dressed in traditional lowland garb with an overblanket slung over his shoulder. At his feet is carved a representation of *Pterichthyodes milleri*. There is erosion apparent to Miller's Face and shoulders possibly caused by perching seagulls.

The tour continued with a visit to the Old Graveyard. Here Mike showed us an example of Hugh Miller's work as a stonemason, the scalloped edges to the grave slab being a Miller trademark. A short stop to examine the historic East Church (the Millers' family Kirk) and we then proceeded to the real place of pilgrimage – Hugh Miller's cottage. Miller's great-great-grandfather John Fiddes built the thatched cottage in 1711 using prize money gained whilst serving as a sailor on the Spanish Main. The cottage sits end on to the coast, a protection against winter storms and minimises the effects of potential flooding. This is a common pattern of building amongst small low-lying coastal towns and villages. The small windows of the cottage are a further protection from the elements and seriously limit the amount of daylight that can enter the cottage. It is remarkable how Miller managed to prepare and analyse his specimens so accurately, given the gloomy conditions under which he must have worked for much of the time. An architectural feature of the cottage is the interior 'hanging lum', a chimney canopy made of wattle and daub used for smoking fish. This is probably the only surviving unaltered feature of its type in existence today. The cottage garden contains a sundial on a stone plinth carved by Miller. Adjacent to the cottage is Miller House, built by Miller's father about 1800. Hugh Miller later lived here with his wife Lydia whilst he was employed as an accountant by the Commercial Bank in Cromarty.

There was so much to see in and around Cromarty that a whole day would not have exhausted the area. However, time was pressing on and, after a quick pub lunch, we returned to Inverness Museum for the afternoon papers. Mike Taylor (National Museums of Scotland) was first on the floor with an elegant exposition of 'Hugh Miller, fossil discoverer and collector'. This helped to put the morning's Cromarty visit into perspective. Hugh Miller (1802-1856) wrote about his collecting days during the 1820-1830's. He had no local contacts, working entirely on his own. It is apparent that Miller's writing and specimens provide a clear insight into the

practices of a careful and energetic collector who collected specimens in all sorts of condition and was prepared to analytically reconstruct the fossils. Miller was an outstanding literary writer who put forward his ideas from a sober analysis to a poetic vision of deep time, although always in touch with the evidence from the actual specimen or landscape.

At the age of 18 he started to collect Jurassic fossils from Eathie and Old Red Sandstone fish as a hobby whilst working as a stonemason during the summer months. He found his first specimen of *Diplacanthus* in 1830 and *Pterichthyodes milleri* in 1834. During the winter months Miller attempted to earn his living as a literary writer. In 1839 he moved to Edinburgh and took up the position as editor of the 'Witness' in 1840. Working as a paper editor left Miller with little time for collecting and he relished the time spent on his holiday periods for collecting forays. One result of this was the eventual publication of 'Cruise of the Betsey' in which he described the work of his friend the Rev. John Swanson. During this period Miller became interested in Quaternary geology and collected in bulk. As editor of the 'Witness' he had access to a wider literary and scientific audience for his scientific ideas.

Miller adopted microscopy in his work during an age of development when the microscope evolved from a gentleman's toy to a research tool. He was not a technological pioneer but absorbed the use of new technology to help further his own understanding and interpretation. As a result, he commissioned the Edinburgh lapidiary George Sanderson to cut sections of fossil fish and plant material for him.

Miller was comfortable with writing about and discussing both Science and Religion and, after his suicide in December 1856 at Portobello; his widow sold his collection to Edinburgh where it formed one of the museum's core collections.

Following on from Mike, Nigel Trewin (University of Aberdeen) spoke on the 'Achanarras fossil fish-an international museum currency!' This excellent talk deepened our understanding of the fish that inhabited Lake Orcadie and revealed recent research into fish distribution and mass mortality cycles.

The Achanarras site is a Caithness quarry that has yielded considerably sought after specimens of Devonian fish. Nigel entered a plea for opening up the site for further collection so that several outstanding questions could be resolved regarding fish distribution, species abundance and life histories. Opening up the site for active collection and research would prevent the poaching of specimens and consequent driving up of prices that were to be observed in dealers markets as evidence to back up his plea. He cited the case of controlled Green River collection in Wyoming where three excavation sites were used to supply the market site and the rest of the region was tightly conserved. Both collectors and researchers benefited from this arrangement. This plea would no doubt be of interest to the forthcoming Scunthorpe meeting theme 'Is Collecting Dead?'

The Achanarras site is situated in an area of cyclic lacasturine deposits of a mid-Devonian Orcadian lake. Further south, the sediments are of a more pluvial nature and evidence can be seen of lake transgressions over former alluvial plains

(High Stands). The fish originated in marine conditions and then migrated into the lake environment. Shallow water near the lake margins provided the most suitable environment for the fish. However; as they died their carcasses were transported and deposited in deeper water. Within the lake sediments there is evidence of Milankovitch type cyclicity with distinct laminated sequences. Detailed lithological mapping should help to more accurately identify the cycles. Fish abundance records can be matched to certain laminae and it is seen that mass mortality horizons appear to exist every 10 laminae (years). The overall thickness of the beds at Achanarras equate to approximately 4,000 years of sedimentation. The middle parts of the sequence seem to have had the highest diversity of fish. The fish were in an active state of decomposition when they reached the lake floor. The head usually decaying and partially detaching first. *Pterichthyodes* appeared to have been an indigenous inhabitant of the lake with all stages of the life cycle present whereas *Coccosteus* only appeared in the lake as mature adults. The causes of mortality cycles could be varied, such as heat, reduction in oxygen levels, algal blooms, storm stirring of sediment and salinity changes.

A change of subject then ensued with Jon Watt, our host in Inverness, providing an overview of the relatively small geological collections held in the museum and their past history. Perhaps this talk reminded us how important GCG is in trying to safeguard the collections held in smaller institutions from the ravages of changing policy decisions, fashion and directions.

The earliest date for Inverness Museum's collections was 1827. However, only partial documentation records remain, the mixed collection of objects and most original records having been lost. Existing collections contain material from Miller, Murchison and Horne. A catalogue exists from 1917 and Steve Mann in 1980 attempted to collate the existing collection and relate any extant material back to both the 1827 and 1917 lists. The first museum collection was established by the Northern Institute, which closed in 1840. A new School of Art and Museum was established in 1881 and John Horne donated a substantial collection of rocks from the North West Highlands resulting from his survey work. In 1907 the museum changed emphasis with the collection policy concentrating on Jacobite material.

Hugh Anderson, General Secretary of the Northern Institute, received a box of rocks from Hugh Miller in 1834. The original number of specimens is unknown. However, six specimens survive today that may be attributed, on the basis of labels, to either Hugh Miller or his son. This proved to be a point of discussion during the tour of collections.

Baroness Angela Georgina Burdett-Coutts (1814-1906) was a philanthropist who donated a small cabinet of 257 mineral specimens in 1880. This is a collection of small mineral specimens and polished slabs which may have represented a seconds or exchange collection. 63 specimens still survive from the donation.

Members of the Inverness Scientific Society and Field Club supported the museum and made donations of material, notable amongst them are: John Horne (1848-1928) who was President of the Inverness Scientific Society and Field Club. He donated 65 rock specimens that were collected in the NW Highlands. Fifty-six of

these specimens can still be accounted for. Thomas Davidson (T.D.) Wallace (1841-1926) was a founder member of the Inverness Field Club and an honorary curator of the Inverness museum. He donated a large collection of minerals and ORS fish. Charles McLeod (18?-1919) was curator of the museum from 1917-1919. His collection included 192 mineral and fossil specimens.

Related to the talk was the fate of another collection, that of Karl Giesseki's. His specimens were captured during the Napoleonic War, with 120 items being incorporated in the Broudie collection. This collection was moved to Inverness in the early 1990s whilst Nairn Museum was being upgraded and has since been returned to Nairn.

Following his talk and a short tea break, Jon then took us on a quick tour of the gallery and stores. Several fine specimens of Orcadian fish were displayed in the gallery whilst the small stores area contained the remainder of the geology collections. Jon selected a few trays of specimens for comment from the assembled GCG members and discussion soon ensued between Jon, Nigel Trewin and Mike Taylor concerning the provenance of some of Hugh Miller's specimens. More research is required to sort out the detailed provenance of some of the items as it is suspected that they may have been collected by Hugh Miller's son (H. Miller Jr.), a geologist in his own right who worked for the Geological Survey.

Following the collections tour the assembled party then dispersed to their respective hotels, in our case a two mile walk away along the banks of the River Ness and then re-assembled for the traditional evening meal at a suitable restaurant and hostelry. A great evening followed catching up on GCG gossip, exploring the imaginary culinary delights of preparing and eating Orcadian fish, antiquarian geology books and maps and more Miller tales all to a background of traditional live music and real ale. Just the way pubs ought to be.

The following day we all met up outside Inverness Museum only to find the slip road blocked by a delivery lorry. Finding places to park cars during the Inverness rush hour is no mean feat and we eventually sorted ourselves out for the pleasant drive to Elgin.

Neil Clark (Hunterian Museum) started the day's proceedings with a fascinating talk on the recent discoveries of Scottish dinosaur finds.In recent years fragmentary Scottish dinosaur remains have been collected from the Trotternish Peninsula on the Isle of Skye. Prior to the modern discoveries a single dinosaurian fragment was preserved in Elgin. The first true dinosaur bone fragment was found by sedimentologists Julian Andrews and John Henderson and published in 1984. In 1982 a dinosaurian footprint was found on Skye, possibly an iguanodontid. 1992 marked another bone discovery with a fragment found by Mathius Metz. This appeared to be the end of the tibia of a carnosaur and was described by Benton, Martill and Taylor in 1995. The specimen was subsequently donated to the Royal Scottish Museum. Later, a letter from Dugald Ross notified of a bone fragment found by BP exploration geologists in 1993. Another fragment was also found by Jan Wolfe and Chris Mitchell. It was soon realised that these fragments belonged to the same bone so a publicity drive was launched to try to recover any missing

pieces. The missing mid section of bone was eVentually sent in anonymously. The whole bone appears to be the tibia or femur of a sauropod, possibly *Cetiosaurus*, now nicknamed 'Dougie the dinosaur' after its original notifier Dugald Ross.

The first dinosaur trackway was found on a storm beach in 1996 and took a week to recover. This was probably made by Ornithopod dinosaurs and is of Mid Jurassic Age. Further footprints have since been found at An Corrin in Staffin Bay.

From 1996-2001 two tail bones have been found by David Morgan and, in Bearreraig Bay, a bone found by Colin Aiken may be that of an ankylosaurid dinosaur, the earliest known.

Most of the dinosaur remains are from Bathonian fluvial delta deposits. Scottish dinosaur remains have been found by a variety of people ranging from research scientists, amateur collectors, museum staff, exploration geologists, hoteliers and merchant bankers.

From the Jurassic we travelled back in time to the Carboniferous with Jeff Liston's (Hunterian Museum) talk entitled 'Coal, Ash and the Will of the Dead'. Jeff gave an excellent account of the establishment of the Glasgow University Botany School and the early days of Palaeobotany within the department. The earliest accounts of Carboniferous plant remains in the Midland valley probably originate with the Rev. David Ure who first mentioned the occurrence of fossil plants (equisetum, fern and bark impressions) in his *History of Rutherglen and East Kilbride* 1793.

During the early part of the nineteenth century advances in the use of microscopy aided botanical research. In 1830 Joseph Jackson Lister developed the achromatic compound microscope lens and in 1831 Henry Witham develops the use of thin sections of fossil plant remains drawing upon and publicising the work done by William Nicol. His work provided an impetus for palaeobotanical studies in Britain. However, many of the pioneering developments were taking place on the continent. In 1851 Wilhelm Freiderich Benedict Hofmeister uses the improvements in microscopy to resolving problems in the relationships between Gymnosperms, mosses and ferns.

An 1875 English translation of a palaeobotanical work by Julius von Sachs in Wurzburg inspired a young Frederick Orpen Bower. In 1877 Bower spent eight weeks with von Sachs in his laboratory. Aware of the importance of continental developments in palaeobotany Bower then studied under Anton de Bas at Strasbourg. Bower developed the slightly eccentric personal trait of only ever being photographed in profile, which was rather unusual in typical Victorian formal group photographs.

Later, Bower opened the Glasgow University Botany building in 1901. His assistants were David Thomas Gywnne Vaughan (1894-1909) with William Henry Lang (1896-1907). Together they worked on developing the collections, although they were more used to dealing with living rather than fossil plant material.

Robert Kidston was an ex-banker of independent financial means. He was dedicated to the study of fossil plants and his reputation was such that in 1886 the British Museum asked him to produce a catalogue of their fossil plant collection. Kidston

collaborated with Gwynne Vaughan on ferns (5 vols), much of the work being done in Kidston's Stirling home. Mackie discovered ORS plant material in 1912 (Rhynie Chert Flora) and Kidston talked to Lang about collaborative work on the fauna as a tribute to Gywnne Vaughan who died suddenly at the age of 40. One of the first of the new Rhynie species to be named was *Rhynia gwynne-vaughanii.* Gywnne Vaughan's collection of 2,290 slides was left to the Botany department. In 1921 Kidston was called back to the BGS to do a 10 vol. work on British Carboniferous Floras. He died in Wales in 1924.

Within a month of Kidston's death, Bower retired and Lang went to work at Manchester University. Drummond was appointed to a caretaker Regius Professorship to maintain the morphological traditions of the Botany School. Under the Kidston bequest, the BGS received the hand specimens, 3,481 slides were donated to the Hunterian and his library to Glasgow University Botany Building. The laboratory apparatus was left to Lang.

John Walton was the next appointment to the professorship (1930-1963). He was a tireless worker who developed peel and mounting techniques that are still in use today. He was instrumental in furthering the development of the collections and safeguarded the Kidston and Gwynne Vaughan slide collections for posterity.

A fire in the Botany building in 2001 resulted in the almost total loss of the Kidston library. Only the facade of the building remained. Fortunately the Kidston slide collection was moved out prior to the fire and saved. Both the Gwynne Vaughan and Kidston slide collections now exist side by side as requested in the original bequest of Kidston.

From palaeobotany a change of emphasis was provided by Bob Davidson (University of Aberdeen) who spoke about 'Fossil Collecting in the Midland Valley, 1859 to the present day'. The Dundee - Montrose area has an acanthodian fish fauna (the Forfar Lake). The early history of collecting in the area has been well documented. Early work was lead by Louis Agassiz and his influence was paramount until 1845. Agassiz employed an illustrator, Dingle, until 1847. Dingle subsequently worked with several other authors, including James Powrie, until 1861.

In 1857 Hugh Mitchell, a church minister, was on his way to a baptism and stopped off at a new quarry site. He found three species of fossil fish, which so excited him that he dashed off home and forgot about the baptismal proceedings. The fish were were illustrated by Dingle and presented at the 1859 British Association Meeting. Two of these specimens were eventually named after Mitchell, *Pteraspis mitchelli* and *Acanthodus mitchelli.* James Powrie, Mitchell's friend, made a collection that contained many type and figured specimens. He originally purchased a large part of the collection belonging to Patrick Duff of Elgin. In 1863 he found a new quarry site and recovered 20 fish within three hours. Powrie wrote 15 papers on the Dundee-Montrose area.

Powrie was affected by an alleged scandal involving his elder son, Tom, who was sent to Sri Lanka soon afterwards. As a possible result, by 1870, Powrie's

contributions became cruder in execution with the plates probably executed by Powrie himself. The family scandal involving his son caused Powrie to retire from active public life and he died in 1895.

Further collections of fish fauna were made during the 20th century by Dr William Graham Smith, Professor Fred Stewart, and Stan Wood, and in the 1960s, Dr Charles Waterston of the Royal Scottish Museum discovered a new locality at Haysten Hill. At Whitehouse Den Scottish Natural Heritage initiated a dig to accommodate the landowners request for deregulation of the site. The site was sold to a landfill operator who began to excavate, and in doing so a fossil fish bed 1 metre thick plus one of Powrie's clay bands at the top. This may have been Powrie's original natural outcrop.

Following the more formal talks Susan Bennett, Curator of Elgin Museum, then gave us a short tour of the collections displayed in the gallery. I have often read about the Elgin finds but never seen the actual specimens and it was well worth the trip. The recent discovery of the Dicynodont skull in Clashach Quarry was particularly exciting to those of us from Liverpool. The skull mould was scanned using medical CT and MRI scanners in Glasgow, resulting in a 3D laser-prototype rendering. The skull was found and collected for Elgin Museum by Bill George of the Moray Stone Cutters.

Vertebrate remains in our local Anisian sandstones are unknown although the trackways made by Pseudosuchians (*Chirotherium*) and Rhynchosaurs are well documented. Perhaps, as a result of this visit we have ideas for new ways of examining our local 'desert' sandstones to search for the elusive vertebrate remains. At the time of GCG's visit the stores and exhibition space were being revamped and I look forward to visiting again in the future to see how the exhibition space has been redeveloped.

After a quick stop for lunch we departed for the field excursion to Clashach Quarry led by Neil Clark and Nigel Trewin where we were to view the Upper Permian track ways in the Upper Hopeman Sandstone formation.

Over the last 150 years quarrymen and amateur geologists have found the remains of pre-dinosaur reptiles and their tracks in the sandstones of the Elgin area. At the entry to the site an amphitheatre of tracks has been laid out so that the angle of solar illumination could be used to best advantage in viewing the tracks throughout the day. A number of tracks, representing a full range of sizes and morphotypes were available for inspection. The amphitheatre arrangement was the result of work conducted by the Moray Stone Cutters, in association with Scottish National Heritage and various Scottish museums. The central slabs were placed at the same inclination and orientation as they were prior to being lifted.

We then descended down the track into the Clashach Quarry SSSI. This is a working quarry run by the Moray Stone Cutters who are very sympathetic to the recovery of many of the recently found tracks. Some of the tracks exhibit what appear to be tail-drags suggesting that there were more than one species wandering northwards across the dunes. In 1997, a skull of a dicynodont was

discovered in the western end of the quarry. It was preserved in much the same way as the material found at Cuttie's Hillock Quarries closer to Elgin. This skull is the only body fossil found from the Upper Hopeman Sandstone formation (apart from an indeterminate bone found in to 1800's) and dates the rock to the topmost Permian.

After Neil had spent some time familiarising us with the lay out of the quarry we spent some time searching for trackways amongst the loose blocks lying on the quarry floor. Several tracks were located although only a couple of samples were small enough to collect. In addition to tracks, we were able to collect some fine specimens of goethite and sandstone.

Later, Nigel took us down the track away from the quarry to view a coastal exposure that showed some interesting dune features. The sandstones in the quarry have been studied sedimentologically and are thought by Clemens to be the remains of star dunes, although not all agree with this interpretation. To me, the dune feature pointed out appeared to be of a barchan type, similar to those we observe in our local Anisian sandstones.

After a glorious afternoon spent geologising in the Upper Permian to the accompaniment of low flying Tornado Jets landing at nearby RAF Lossiemouth, the group dispersed to make their respective journeys south. The Liverpool contingent spent a further night in Inverness sampling the delights of the local hostelries before the long rail trek home.

This was a wonderful seminar and one of the best GCG outings for many years. Behind every successful field trip lies an immense amount of organisation and our thanks must be extended to all those who worked tirelessly to make this Inverness excursion so rewarding and enjoyable.

Alan J Bowden, Curator of Earth Sciences
National Museums Liverpool

Forthcoming GCG seminars and workshops

Thursday 4 September 2003 ***PLEASE NOTE CHANGE OF DATE***
Department of Palaeontology, Natural History Museum, London.
GCG Workshop: The curation and conservation of micropalaeontological materials.

This one day workshop will cover aspects of micropalaeontological curation with the focus on the collections in the Micropalaeontology Division at the Natural History Museum. The NHM's microfossil collection is particularly strong in Foraminifera and many of the examples used will come from this part of the collection. The collections are also very strong in ostracods and palynomorphs with smaller collections of Radiolaria and conodonts. In the last 10 years the division has received several large collections such as the Former BP Collection and the Aberystwyth University Microfossil Collection that cover most microfossil groups. The day will start with a tour of the collections led by curators responsible for the curation of those particular parts of the collection. Following lunch, particular aspects of micropalaeontological curation will be covered such as documentation,

storage and loans. Microfossil image capture will also be demonstrated and a short presentation given by a member of the Palaeontology Conservation Unit on the conservation of micropalaeontological material.
Meeting fee: £20.00 (includes lunch).
Please complete the form on the centre pages and return it, with payment, to Giles Miller at The Department of Palaeontology, The Natural History Museum, Cromwell Road, London SW7 5BD **by Monday 4 August.**

22-23 September 2003 North Lincolnshire Museum, Scunthorpe
GCG Seminar and Fieldtrip: Is Collecting Dead?
Following on from the Ethics conference, this seminar will investigate the ways that museums are acquiring geological specimens today. How is collecting actually undertaken in this country and how much is actually done? Are we active enough? Do curators have any time to collect and if not, is this limiting the development of collections...in effect are collections, particularly in local museums, stagnating? What material is being offered for sale and are museums still receiving significant donations? Are there good communication channels between museums about material being offered on the market? What are our individual collecting policies and practices and are these co-ordinated and working on a local/regional/national basis? Can GCG help to develop better communication?

Monday 23 September
1100 Coffee & registration
1130 Welcome
1135 North Lincs right now: Steve Thompson, North Lincolnshire Museum
1200 The Jurassic of Warwickshire - recent collecting initiatives: Jon Radley, Warwickshire Museum.
1225 Expanding the petrology collections at the National Museum of Wales: Helen Kerbey & Jana Horak, National Museum of Wales.
1250 Speaker to be confirmed
1315 Lunch (provided)
1415 Collecting policies and other issues: Robin McDermott, Yorkshire Museums, Libraries and Archives Council.
1440 Collecting in archaeology: Kevin Leahy, North Lincolnshire Museum
1505 Speaker to be confirmed
1530 Collectors of Oz: Sue Turner, Queensland Museum, Australia.
1600 Discussion followed by coffee and a look around.

Tuesday 24 September
This field meeting offers the opportunity to collect Frodingham Ironstone material and look at projects being undertaken collaboratively in the region by the Museum Service, the local authorities, the Lincolnshire Wildlife Trust and the local RIGS group. The morning session will run from 0900-1215. Lunch will be at a local pub (payable on the day) and the afternoon session will run until about 1530/1600.
Meeting Fee : £10.00

Please compete the form on the centre pages and return it with the meeting fee to:

Steve Thompson, North Lincolnshire Museum, Oswald Road, Scunthorpe, North Lincolnshire, DN15 7BD tel 01724 843533 fax 01724 270474 e-mail Steve.Thompson@northlincs.gov.uk **by Monday 1 September**

24-26 October 2003
Overseas Study Visit : Wonderful Wonderful Copenhagen!
Visit to the Geological Museum, University of Copenhagen, where we intend to spend one day looking behind the scenes with staff, and the second day looking at the exhibits. There may also be the possibility of visiting other geological institutions in the area and, if there is sufficient interest, doing some field work.

The Geological Museum opened in 1772 as the Universitetets Nye Naturaltheater (The New Natural Theatre of the University) and contains specimens which have been in museum collections for more than 300 years. When it was first formed it was the only geological institution in Denmark and it has been the parent body for the Geological Surveys of Denmark (1888) and Greenland (1946) and the four geological teaching institutes (1967), which were later joined to form the Geological Institute, University of Copenhagen (1991). Today the Geological Museum acts as a centre for Danish geology with special national responsibilities for keeping public records. The Museum consists of six major collections representing the branches of geology, a library (which also serves the Geological Institute and the Danish Lithosphere Centre) and an archive. The collections contain approximately 8 million specimens, which have been accumulated through the years from over 30 large collections, including royal, public and private collections together with material collected by the staff or obtained by donation, purchase or exchange. To find out more about the Museum visit their web site at www.nathimus.ku.dk/geomus/welcome.htm

Ros Gourgey will be organising accommodation and transport so please contact her to register your interest tel 01371 810832, email ami_air-exel@msn.com

Visit organiser : Steve McLean, Hancock Museum, Barras Bridge, Newcastle upon Tyne, NE2 4PT. Tel: (0191) 222 6765; Fax: (0191) 222 6753; e-mail: s.g.mclean@ncl.ac.uk

9-10 December 2003 Ludlow Museum Resource Centre and Secret Hills Visitor Centre, Craven Arms
GCG Seminar and 30th AGM
Contact: Daniel Lockett, Ludlow Museum, Castle Street, Ludlow, Shropshire, SY8 1AS tel 01584 873857 (813666 after April) fax 01584 546763 e-mail Daniel.Lockett@shropshire-cc.gov.uk

Other meetings

14-18 July 2003 Department of Geology, Trinity College, Dublin, Ireland
INHIGEO International Commission on the History of Geological Sciences 28th Symposium: Geological travellers
The programme will comprise 4 days of talks and poster sessions on the theme of Geological travellers. The symposium language will be English. The optional

post-symposium field trip will take place between Saturday 19th – Saturday 26th July 2003 and will involve an anticlockwise circumnavigation around Ireland during which some classic areas of Irish geology will be examined. A number of these sites hold particular significance in the history of geology. Sites to be visited may include the Giant's Causeway in north east Ireland; the Donegal granite upon which much of the debate of the granite controversy of the 1950s was debated, Cregg Castle the ancestral home of the celebrated mineralogist and chemist Richard Kirwan; the Burren in County Clare a site of exceptional beauty in karstic limestones; Cashel, Co. Tipperary - an important early Christian site; the River Blackwater valley where J.B. Jukes examined the nature of Tertiary river drainage patterns; and Hook Head in the southeast corner of the country where Captain Thomas Austin described wonderful Lower Carboniferous crinoids. The trip will be led by Patrick Wyse Jackson and will be joined by Gordon Herries Davies for part of the trip.
Estimated costs are: Registration fee: c.€380, Accompanying members: €100. Accommodation: c. €58 per night. Field trip: €500 per person.

Further details are available on the Web site: www.tcd.ie/Geology/ or from the convenor, Dr Patrick N Wyse Jackson, Department of Geology, Trinity College, Dublin 2, Ireland tel 353 1 6081477 fax 353 1 6711199 e-mail wysjcknp@tcd.ie.

10-14 August 2003 Calgary, Alberta, Canada
GeoSciEd IV
This meeting aims to support colleagues across the world who are involved in Earth science education from elementary to university/college levels and beyond, through a variety of presentations, workshops and field visits. There will be opportunities to share expertise and experiences, for personal development and for networking with other geoscience educators from around the world. Consult the web site www.geoscied.org for further details.
Contact: Chris King, Senior Science Education Lecturer: Earth science, Director of the Earth Science Education Unit, ' Haleside ', 65 Hale Road, Hale, Altrincham, Cheshire, WA15 9HP, UK tel + 44 161 929 0063, email cjhking@btinternet.com

12-14 September 2003 Manchester University and Manchester Museum
Earth Science Teachers' Association Annual Conference
Contact: Dr Paul Selden, ESTA Conference Convenor, Department of Earth Sciences, University of Manchester, Manchester M13 9PL tel 0161 275 3296 email Paul.Selden@man.ac.uk

17-21 September 2003 Oxford University Museum of Natural History
51st Symposium of vertebrate palaeontology and comparative anatomy and 11th Symposium of palaeontological preparation and conservation.
Contact: Tom Kemp, University Museum, Parks Road, Oxford OX1 3PW email tom.kemp@oum.ox.ac.uk

24-26 September 2003 Centre Alexandre Koyré, Muséum National d'Histoire Naturelle, Université Paris I-Sorbonne

Correspondence and the history of biology (18th-20th centuries)
Contact: Nicholas Robin & Josquin Debaz, Laboratoire de cryptagamie, Muséum National d'Histoire Naturelle, 12 rue Buffon, 75005 Paris, France email corresponances@voila.fr

6-8 October 2003 Brighton Centre, Brighton
Museums Association Conference and Exhibition
Contact: Conference Office, Museums Association, 24 Calvin Street, London E1 6NW tel 020 7426 6940 fax 020 7426 6961

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