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Circular 524



YORKSHIRE GEOLOGICAL SOCIETY

President: John Powell Ph.D.

FIELD MEETINGS FOR 2005



*Cauldron Snout
Photo: Dr T. Morse*

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NON MEMBERS WELCOME

YGS 2005

A WORD FROM THE PRESIDENT

A large audience attended the last of our Winter/Spring indoor meetings, held jointly with the EMGS at the BGS Keyworth on 18th March. The speakers, all from the BGS, focussed on the links between geology and climate, a subject area that we, as geologists, have always taken a long view of, bearing in mind the climatic fluctuations and related mass extinctions throughout the Earth's history.

Prof. Melanie Leng featured three new advances in the combined use of stable carbon isotopes and palynology to unravel palaeoatmospheric changes and environmental change. The carbon isotope trend from palynomorphs and organic material collected from the Early Permian rocks of Oman indicate increasing levels of carbon dioxide that may have triggered global warming of the southern hemisphere when the region lay close to the South Pole. This is supported by a sequential change in palynomorphs from 'cold' to 'warm' climate species. Closer to home, recent studies of Early Carboniferous ostracod biostratigraphy in Scotland, published in the Proceedings, provided the background for further studies on the oxygen and carbon isotope composition of biogenic and early cement carbonates that provide evidence for the earliest record of ostracods colonising non-marine environments. Finally, application of these multidisciplinary techniques to organic carbon preserved in Devonian Orcadian lacustrine sediments has revealed cyclical climatic fluctuations with periods of high rainfall resulting in a permanent water-body, while drier conditions resulted in a shallow ephemeral lake.

Dr John Rees expounded enthusiastically on recent BGS research in the field of gas hydrates, especially the potential of methane hydrate as a geohazard or a resource, the former arising from the potential release into the atmosphere of large amounts of methane as a consequence of destabilization of methane hydrate in the oceans, and the latter as a reservoir of organic carbon. Methane has about twenty times the warming potential of carbon dioxide as a greenhouse gas, and its release in past oceans has been attributed to the extinction event at the Paleocene-Eocene boundary. The consequence of destabilising methane hydrate in today's oceans, especially the polar regions, is profound.

Dr Jim Riding outlined the use of palynomorphs to determine the provenance and palaeogeography of Quaternary rivers and ice-sheets in Britain, also published recently in the PYGS. This powerful technique is providing new evidence on the palaeogeography of Plio-Pleistocene fluvial deposits and tills, including the Crag Group and the 'Anglian' tills of East Anglia. These tills and related outwash appear to have been deposited from ice-sheets that advanced across mainland Britain, and not from Scandinavia as had previously been thought. An interlude was provided by Dr Mike Howe, who outlined the scientific and historical importance of the BGS Collections, followed by a tour of the BGS Museum and the Core Store that featured in the recent Alan Titchmarsh BBC series.

Council is keen to encourage members to make more use of the Circular, through short articles on exciting and newsworthy regional and international geological topics that might not be suitable for more formal publication in the Proceedings. Suggestions include: records of new or temporary sections; new fossil or mineral finds; and photographs of geological features of interest. The Proceedings editors are also keen to accept more formal short communications for the PYGS. Details are outlined in an accompanying note from the Editors in this circular. We would also like to hear your views on a possible change in the calendar for the Annual Dinner and AGM from 2007, and on expanding both the number and location of meetings, especially in the summer period; these might include evening excursions; the geology of urban areas and an additional indoor meeting during these months. Finally, with all the longer days and hoped for good weather, join us on the field meetings this summer, starting with Yorkshire Geology Month in May (see Circular 523), and don't forget your cameras so that you can enter some of your photographs for the YGS Calendars this autumn.

John Powell

FIELD TRIP SAFETY ISSUES

1. The YGS takes the safety of its members extremely seriously. However, attendees of field meetings must also take responsibility for their own and other participants' safety. In order to ensure the safety of all participants the YGS reserves the right to limit or refuse attendance at field meetings.
2. You must declare to the field trip leader, at the start of the field trip, any disabilities or medical conditions that may affect your ability to safely attend a field meeting.
3. Inform the leader if you leave the meeting early.
4. The Leader is not expected to provide First Aid - ensure that you have adequate supplies for your own needs.
5. Wear appropriate clothing and footwear for the locality and time of year. Anticipate potential changes in weather conditions.
6. Children must be accompanied and supervised by a responsible adult at all times.
7. The Leader's decision is final on any matters relating to a field meeting.

THE RELATIONSHIP BETWEEN THE WHIN SILL AND THE GEOLOGICAL STRUCTURE OF UPPER TEESDALE

Leader: Trevor Morse

Meet: 10.00 on Sunday 22nd May 2005

Place: Hanging Shaw Picnic and Viewing Area (free), High Force (charge plus car parking fee), Low Force (Bowlee Picnic Area - free).

Members and their Guests to meet at the Hanging Shaw picnic and viewing area (grid reference NY 867 297), near Middleton in Teesdale for a 10 am start. This field trip has been organised for the beginner to informed amateur in mind.

It is the marriage of the Whin Sill with the River Tees that has created some of the most spectacular white water scenery of the English countryside. Through major faulting such as the Burtreeford Disturbance (fault) and the Teesdale Fault, the exposure of the Whin Sill is repeated several times within the valley of Upper Teesdale. In the upper section, the River Tees leaves the Cow Green Reservoir and cascades down almost the entire thickness of the Whin Sill (+60 metres) to form Cauldron Snout. Then within the middle section after crossing the Burtreeford Disturbance/fault (trending north / south, with a downthrow to the east) which can be implied at Hanging Shaw). The River Tees carves out a gorge through the Whin Sill in the Dine Holm area, before leaping into the plunge pool of High Force where the floor of the Sill can be seen. After leaving a small gorge downstream from High Force, the Whin Sill is repeated again for the third time. This has been caused by the Teesdale Fault again with a downthrow to the east, with the roof of the Sill forming the bed of the River Tees to form Low Force at the small hamlet of Bowlees (Wynch Bridge). From selected viewing points and the use of a local 1:25000 OS map, it is possible to determine the geological structure of the upper dale area (Cow Green to Middleton in Teesdale).

If time permits we will visit Bowlee Picnic Area and view two quite distinctive Carboniferous cyclothem within the dene.

Safety: Stout footwear, waterproofs and warm clothing are recommended. There are no steep gradients and a maximum of 1 km of walking planned throughout the day.

It is advisable to bring a packed lunch, however, we should be at the High Force area for lunch for a limited amount of time (snacks available).

For further information contact Trevor Morse 01833 638893 or tjm4@tutor.open.ac.uk

**JOINT FIELD MEETING OF THE YORKSHIRE GEOLOGICAL SOCIETY &
WILLIAM PENGELLY CAVE STUDIES TRUST, CRESWELL CRAGS,
DERBYSHIRE/NOTTINGHAMSHIRE AND ANSTON STONES, SOUTH YORKSHIRE**

Leaders: Ian Wall, Creswell Crags Trust and Dr. Paul Bahn of Hull, independent cave art researcher, previously Department of Archaeology, Cambridge University

Saturday 18th June 2005: 10.30am to 4.30pm

Coordinator: Prof. Patrick Boylan (Yorkshire Geological Society and Pengelly Trust Council Member)

IMPORTANT NOTICES:

1. For safety reasons only small groups can be taken on the cave tours, so there has to be a limit of forty for this field meeting. Please reserve your place well in advance with Patrick Boylan (see below).
2. Also, though as usual there will be no charge by either society for this field meeting, those attending will be asked to make a donation of £10 on the day to the Creswell Crags Trust (an educational charity) to help with the expenses of their visit, including the special cave tours and use of equipment. (The caves are all “walk-in” and caving clothing or equipment are not needed, just “sensible” boots or shoes and a waterproof.)

FIELD MEETING THEMES:

1. Upper Permian, Cadeby Formation, about 285 years B.P.: near shore deposits of the Zechstein Sea including lime-rich sand dunes and reef deposits now changed into magnesian limestone;
2. Pleistocene cave formation cut through the limestone by glacial meltwater gorges exposing a considerable number of small caves;
3. Fossiliferous cave deposits from at least the Ipswichian (Last) Interglacial around 120,000 years ago;
4. One of the richest successions of Middle and Upper Palaeolithic archaeology in northern Europe, proving occupation during the last glaciation and Late Glacial by successively Neanderthals and then modern humans;
5. The internationally important cave art dating from around 12,000 years ago, discovered in 2003.

Meeting Point: The Creswell Crags Museum and Visitor Centre, Creswell, Notts. Grid Ref. SK538744. Creswell Crags are 5 miles from junction 30 of the M1. Leave the motorway by the A616/A619 eastwards - signposted Worksop - and at the first roundabout (about a quarter of a mile) take the A616: third exit, signposted Newark. Just after Creswell village (about 4 miles) turn left onto the B6042 (signposted Creswell Crags). Drive through the gorge past the lake, and the driveway to the Museum and Visitor Centre is signposted to the right. Alternatively, from the A1(M)/A1 drive through Worksop and take the A60 southwards in the direction of Mansfield, and turn right at the other end of the B6042 through the Creswell Crags gorge.

PROGRAMME:

- 10.30am** Meet at the Creswell Crags Museum and Visitor Centre - coffee/tea and introduction
- 11.00am** Leave for South Anston (Rotherham District - about six miles away) in shared cars. Park in the long lay-by on the north side of the A57 east of South Anston village, (between the rail way bridge and the stream at the bottom of the hill), Grid Ref. SK537827
- 11.15am** Anston Stones Wood (Magnesian Limestone, meltwater gorge and Dead Man's Cave: a rock shelter with human occupation of around 12,000 B.P.
- 12.45pm** Leave for Creswell Crags Visitor Centre car park and break for lunch (own arrangements)
- 1.30pm** Issue of hard hats and lights, and dividing into groups for cave visits of 45 minutes each to:

Robin Hood's Cave: A fossil hyena den, also occupied by Neanderthal people (presumably at different times!) around 50,000 years ago. Nearby, you can see Mother Grundy's Parlour (now excavated out). In the earliest late 19th century excavations this produced among other things a fossil mammal fauna characteristic of the warmest part of the Ipswichian Interglacial, around 120,000 years ago, including hippopotamus and straight-tusked elephant, directly comparable with Joint Mitnor Cave at Buckfastleigh.

Pin Hole Cave: Occupied from the Middle Devensian (Last) Glaciation from around 40,000 years B.P. as a cave hyena den and by human reindeer hunters. Then, during the Late Pleistocene around 12,000 - 13,000 years ago, there was intensive human occupation: this is the type locality for the British Upper Palaeolithic Creswellian flint culture. In one of the earliest 19th excavations here the first ever British example of Palaeolithic art was found: a remarkable engraving, clearly of a horse, carved on a fragment of bone, and dating from around 12,500 B.P.

Church Hole: The announcement last year of the discovery of nearly a hundred engraved cave art figures dating from around 12,000 years B.P. on the limestone ceiling of Church Hole created an international sensation. The carvings include images of deer, horses, bison, bear and birds. Authenticated by international experts on Palaeolithic art, Dr. Sergio Ripoll, from Spain's Open University, and Dr. Paul Bahn of Cambridge University, the discovery led the world's press to hail the cave as the "Sistine Chapel of the Ice Age" because the entire ceiling of the cave seems to be covered in art. Dr. Ripoll describes the images as masterpieces made by modifying the natural shapes in the limestone, by people who had a very good knowledge of the animals they hunted: "They had looked at them for many hours and knew their shapes very well. So they could represent them exactly on the walls of caves".

- 4.00pm** Visit to Museum and Visitor Centre, with the possibility to see some of the research and reference collections.
- 4.30pm** End of programme

SPECIAL NOTICE: For safety reasons the cave visits are limited to groups of 15 including the guide and leaders. Therefore, a maximum of 40 participants can be accepted for this field meeting. Consequently, it will be necessary for those attending to inform the organisers in advance, and not less than three weeks beforehand (i.e. by Saturday 28th May 2005). However, as this is likely to be a very popular meeting, especially since there are only a few days of cave art visits for the general public each year, all 40 places may be reserved long before this date.

To reserve your place, please write or e-mail to: Patrick Boylan, 2A Compass Road, Leicester LE5 2HF
E-mail: P.Boylan@city.ac.uk

CARBONIFEROUS-TRIASSIC REDBEDS OF THE AREA AROUND CANONBIE

Leaders: Neil Jones, Doug Holliday and Andrew McMillan (British Geological Survey)
Saturday & Sunday July 16-17 2005

Red sandstones of Late Carboniferous, Early-Mid Permian and Early Triassic age are relatively well exposed in the area between Longtown (Cumbria) and Langholm (Dumfries and Galloway) in the border country between England and Scotland. Some of the sandstones are clearly fluvial in origin, others aeolian, whereas the origin of others is more problematical. This field excursion will compare and contrast the lithology and sedimentology of these commonly similar-looking sandstones, and consider some of the problems of lithostratigraphical subdivision and palaeoenvironmental origin that they pose.

July 16: The day will be spent looking at the excellent sections exposed in the River Esk at Canonbie. Principal consideration will be given to the exposures of Westphalian C-D red beds. These strata do not crop out elsewhere in the Northumberland-Solway Trough and, therefore, are of some palaeogeographical significance being the only remaining remnants of a once more extensive sheet of sediment that was removed during the Variscan Orogeny. An exposure of Permian dune sands at Dead Neuk will also be examined. We will meet, and cars can be parked, at Canonbie Public Hall [NY 3936 7649] at 10.00 am. Parking is also available on the left side of the road 100 m past the Cross Keys Hotel, Canonbie [NY 3920 7627].

July 17: We will meet at the Gretna Green Welcome Break Services at [NY 3058 6873] on the A74 (M) at 10.00 am. During the day we will examine quarry and natural exposures of the Sherwood Sandstone Group. The lower strata in the group (St Bees Sandstone Formation) are of fluvial origin, whereas mixed aeolian and fluvial facies can be demonstrated in the overlying Kirklington Sandstone Formation. As well as looking at the sedimentological and palaeoenvironmental features, some consideration will be given to the status of the Kirklington Formation and whether it can be justified as a formal lithostratigraphical unit.

Accommodation: Information on accommodation in the area can be obtained from the Dumfries Tourist Information Centre on 01387 253862. Alternatively the fieldtrip organizers can supply a list of hotels for the area.

Safety: Stout footwear, waterproofs and warm clothing are recommended. Wellingtons will be particularly useful on July 16. There are no steep gradients and a maximum of 2 km of walking per day. There will be some rough scrambling, especially on July 16. Hard hats may be necessary for part of the day on July 17th. The leaders will attempt to provide, but cannot guarantee these, so it would be of assistance if as many participants as possible brought their own.

Although it will be possible to obtain food and drink at local pubs, it is advisable to bring a packed lunch on both days.

Contact Neil Jones 0115-9363313 (nsj@bgs.ac.uk) or Doug Holliday (dwho@bgs.ac.uk)

THE GLACIAL EVOLUTION OF THE VALE OF YORK

Leaders: 2 or more from: Jon Ford, Tony Cooper, Holger Kessler, and Mike Hall (British Geological Survey)
Saturday 17th September 2005, 10am - 5.00pm

This field trip will look at the landforms and deposits associated with the last (Devensian) glaciation of the Vale of York. This event is recorded by a sequence of glacial and pro-glacial deposits formed as the Devensian ice-sheet progressed down the Vale of York and then wasted completely away by about 12,000 years ago. During the Devensian glaciation, the ice blocked and diverted the drainage down both sides of the ice-sheet. Ice in the North Sea also blocked the Humber gap and impounded a large pro-glacial lake in which significant flat-lying silt and mud deposits formed in front of the advancing Devensian ice. This lake and associated deposits was ploughed into by the ice-sheet, pushing up the Escrick Moraine onto which more material was deposited at the melting ice-margin. Subsequently, the ice-margin wasted back to re-establish itself at the York Moraine. More pro-glacial lake deposits were laid down between, and in front of, the moraines. When the ice retreated further, the Humber gap was re-opened, the glacial lakes drained and spreads of fluvio-aeolian sand were deposited over much of the Vale of York. The present rivers then incised to form the alluvial tracts and their flood plains.

The moraine and lake sequences will be examined, in numerous quarry and natural sections, the precise details of which will be handed out on the day.

Meeting place: Lay-by with small café to the west of the A19, 1.4km north of Escrick garage and just north of Deighton [SE627 447], 3.8km south of the A64 York by-pass. There is a shop and toilets at the Escrick garage and the café in the lay-by may be open. Meeting time 10.00am

Lunch etc: We have not arranged for lunch, and suggest that a packed lunch and drinks are brought.

Clothing & Safety: We will be visiting quarries that, at times, can be very muddy and wet. We suggest Wellingtons or stout waterproof boots. Please bring hard-hats if you intend working near quarry faces (we will carry a few spares for those that need them). The weather can be changeable in September and appropriate waterproofs and clothing for a day outside should be brought.

Numbers: Due to restricted parking, the number of attendees is limited to 20. During the trip, the course leaders would appreciate if vehicles could be shared.

Contact details: Jon Ford: email: jford@bgs.ac.uk, telephone 0115 9363036.

SHORT COMMUNICATIONS: PROCEEDINGS AND CIRCULAR/WEB SITE

Rapid publication of short papers is common amongst journals, particularly those published weekly, monthly or bi-monthly, as a way of disseminating information quickly on topical or contentious issues, exceptional new discoveries or major developments. Given its publication schedule, the adoption of such a publication strategy is not appropriate for the Proceedings. Nevertheless, as a way of encouraging the membership to make more use of the Proceedings, and for that matter the Society's other vehicles for publication, the Circular and web site, Council would welcome more short communications.

Short communications submitted to the *Proceedings* might include anything for which it would be worth having a permanent published record, for example descriptions of new and/or temporary exposures. Those intended for the *Circular* or *web site* could include more topical or newsworthy items, including brief reports of field meetings, new fossil/mineral occurrences, photographs of interesting geological features with a brief description or the work of RIGS groups.

Short communications to the *Proceedings* should not exceed two published pages, approximately 2,000 words (or equivalents including figures) and will be subject to the normal review and editorial procedures, although a Summary will not be necessary. Please send your contributions in the usual manner to the Editors (see 'Instructions to Authors' in the PYGS as a general guideline). For the A5 format of the *Circular* (and *web site*), contributions should be 300-400 words, but can include colour photographs and figures (as can the web site); these will also be subject to editorial review. These items should be sent to the Circular Editor in the first instance (see back page of the Circular for details).

Stewart Molyneux, Principal Editor PYGS

Keith Park, YGS Circular Editor

Patrick Boylan, YGS Web Editor

NEW MEMBER

Mr John Marriott , MPhil, BSc

3 Franklyn Road, Brockwell, Chesterfield, Derbyshire S40 4AY

ANNUAL GENERAL MEETING & ANNUAL DINNER (from 2007)

For a number of years the Council of the Society has noted and discussed the slow decline in attendance to between 50 and 70 members, including their guests, at the AGM and especially the Annual Dinner, held during the first week in December. A possible reason behind the decline might be the time of the year, which relates to an increase in the tourist trade, lack of car parking spaces, and difficulty in finding overnight accommodation in York.

Council is, therefore, considering the possibility of holding both events either 1 month earlier (November) or 1 month later (January). However, this would require a change in Society Rules. If there were to be strong feedback from members for a change of date, Council favours a January date because November would not allow sufficient time to organise speakers, medallists and their guests, especially after the long summer break. Any change would not be introduced until 2007, because the venues are booked two years in advance.

Council is interested in the views of the membership with respect to the above considerations and would be grateful for your comments via the General Secretary's Email tjm4@tutor.open.ac.uk or post, see back of Circular.

AN INVITATION TO ACT AS A SOCIETY LINK PERSON

At the recent meeting of the External Affairs Committee, the consensus of the committee relating to the above was that, as a general rule, and unless formally assigned by YGS Council, it was inappropriate that the Society should be formally represented in the management/governance of other Earth science organisations. However, Council encourages members of the Society to participate in relevant local geological and related organisations, and invites, where appropriate, short reports or a summary of activities of other societies to be included in the Circular.

If you, as a YGS member, and with your other organisation's agreement, would like to act as a Society Link Person, please contact Trevor Morse, General Secretary via Email tjm4@tutor.open.ac.uk or post, see back of Circular for address.

YGS COUNCIL MEMBERS



Doug Holliday, Editor

After graduating (1963) and gaining a PhD (1967) at Cambridge University, I joined the Leeds Office of the Geological Survey (then IGS) in 1966, transferring to Keyworth (Nottingham) in 1979. Throughout my time with BGS, my principal research interests have been in the Carboniferous and Permo-Triassic of northern England, but I have also been involved either directly, or as manager, with numerous research and applied projects on rocks of other ages (Precambrian to Recent) in other parts of Britain and overseas. As well as contributing to

numerous sheet memoirs, I was a part-author of the accounts describing the Brough under Stainmore, Bellingham, Newcastle and West Cumbria districts. I also described Jurassic (Purbeck) gypsum-anhydrite rocks in Sussex, and was a part author of the Geological Society of London Special Report 'Geophysical logs in British Stratigraphy'. Applied projects include regional and/or national studies on geothermal energy, hydrocarbon exploration and resources, concealed coalfields, mineral exploration and radioactive waste disposal/storage. My principal investigations abroad include the PhD study of the Bashkirian (Namurian and Westphalian) evaporites and carbonates in central Spitsbergen (1963-6), mapping Cretaceous and Tertiary rocks in eastern Jamaica (1969-71), and hydrocarbon exploration and resource evaluation in the Cretaceous and Tertiary of Bangladesh (1985-6). Other applied projects have taken me for short periods to Thailand, Malaysia, Indonesia, Philippines and China.

I joined the Yorkshire Geological Society in 1963. I was President in the years 1998-99, also Editor in the early 1970s and joint Principal Editor again since retiring from BGS in 1999. Recently, I have been one of the editorial team for the Society's Occasional Publication 7, 'Carboniferous Hydrocarbon Geology: the southern North Sea and surrounding onshore areas', and I am a junior author of the Permian Chapter of the forthcoming book 'The Geology of England and Wales' to be published by the Geological Society of London.



Peter C. Robinson, YGS Council Member

Finding fossils on the Yorkshire Lias whilst being educated at the Graham Sea-Training School brought the ambition of Peter's father for his second son to enter the Merchant Navy to an end, and eventually led Peter to the post of technician in the Department of Geology at Hull in 1957 and in the Geology Department of Sheffield University in 1962.

Peter first became a member of the YGS in 1958, but then let his membership lapse whilst at College of Education. After teacher training at Hull, Peter rejoined the YGS in 1966 and taught geology and other science subjects in Sheffield, at Scorton near Richmond and in North Devon.

Whilst teaching in North Devon, Peter's interest in relationships between botany and geology led him to botanical consultancy work on the sand dune system of Braunton Borrows for English Nature's south-west team. During his time in Devon he also gained an Open University degree in Earth and Natural Sciences.

After taking early retirement from teaching in 1988, Peter returned to the Scarborough area of Yorkshire and once more began to take an active part in the geology of the Yorkshire Coast and the YGS. He was elected to Council in December 2001 and feels very privileged to serve the Society, which has given so much to him as a member in the last thirty nine years.



Patrick Boylan, Web Editor

Born in Hull, Patrick Boylan was brought up on the Holderness coast south of Withernsea, so it was not surprising that he became fascinated by Quaternary geology, joining the Hull Geological Society while still at school and the YGS while still in his teens. After reading geography and geology at Hull University followed by teacher training, he taught in Hull before becoming Keeper of Geology and Natural History at the Hull Museums in 1964.

His museum career took him to directorships in Exeter, Leicester and Leicestershire, the centenary presidency of the UK's Museums Association, 14 year teaching and supervising "mid-career" arts and museums professionals on postgraduate and PhD advanced cultural management programmes at City University London, and six years as Vice-President of the UNESCO-based International Council of Museums (ICOM). In 2004 he retired from City University with the title of Professor Emeritus, and was elected as one of ICOM's fourteen Honorary Members.

Alongside his curatorial, local government, and academic management career, Patrick Boylan's research has ranged over a wide range of subjects, his almost 200 publications including studies of Quaternary geology, fossil mammals and the history of geology (the three subjects being combined in his 1984 Leicester University PhD).

John Knight, YGS Council Member

My decision to undertake geology at university was a change of direction, in part driven by an interest then in caving, and resulted in the rather unusual combination of a Joint Hons degree in Geology and Botany, from the University of Aston. This led to acceptance for a Ph.D. degree at the University of Sheffield, working on the palaeobotany and stratigraphy of the Sabero Coalfield in NW Spain. As with most postgraduates in the Sheffield Department, under Leslie Moore, I joined the Yorkshire Geological Society in 1969 and have continued my membership since that date. Concurrent with completion of my Ph.D., I became employed by a Spanish mining company and later returned to UK to work for the, then, National Coal Board Opencast Executive in Northumberland. In 1982, I moved to join an international mining consultancy, and over an 18 year period spent long overseas assignments in Central Africa and Asia, initially on coal exploration, and later in numerous countries on a wide range of coal, base metal and industrial mineral assignments. In 1999 I moved to UK Coal plc, to run an initiative for international consultancy, which was of only 3 years duration, reflecting the decline of the UK coal industry, but led into my current role of working within a consultancy for training and competence assurance management in the petroleum industry. Notwithstanding the broader hydrocarbon-related objectives of my current post, I am engaged on a number of mining related roles, of which the major commitment is on secondment as Environmental Permitting Manager to a major gold project in Romania. I am currently Chairman of the External Affairs Committee of YGS. I believe that the long term future of our society lies in it becoming the focus of professional, voluntary and amateur interests in the earth sciences in our area of Northern England. I maintain a long-term active research interest in palaeobotany of the Upper Carboniferous and the Carboniferous stratigraphy of the Iberian Peninsula.



Stewart Molyneux, Principal Editor

I graduated from the University of Sheffield in 1975, and was awarded a PhD in 1982 for research on the palynology and biostratigraphy of the Lower Ordovician Manx Group, Isle of Man, supervised by Professor Charles Downie. I joined the Palaeontology Unit of the Geological Survey's Leeds Office in January 1979, moving to Keyworth in 1984. I was appointed initially to work on offshore Mesozoic projects, but soon became heavily involved in providing biostratigraphical support to onshore mapping of Lower Palaeozoic successions, especially in North Wales and the Lake District through the 1980s and early 1990s. More recently my palynological expertise has also been largely deployed overseas, working mainly on Lower Palaeozoic samples from North Africa and the Middle East. I first served on YGS Council in the early 1990s, and have been on the Editorial Board of the Proceedings since 1991, and Principal Editor since 2003. I was also an editor of the Journal of the Geological Society from 1992-1996, and have an editorial role within BGS as an editor of memoirs and sheet explanations.



Noel Worley, YGS Council Member

I am a Yorkshireman by birth and graduated from the University of Sheffield in 1973 and went on to study Pennine style mineralisation in Derbyshire under Trevor Ford at Leicester for my PhD.

After a brief spell in the aggregates industry I worked in the gypsum industry in the UK and Europe for 28 years holding a variety of positions associated with geology mining and management of mineral resources. My main interests surround evaporites, mining, and history of geology.

I now live in Nottinghamshire and work as Minerals and Estates Manager for British Gypsum based at East Leake where I am responsible for all geological affairs, land, and town and country planning matters.



Camilla Nichol, Programme Secretary

Camilla is the Curator of Geology at the Yorkshire Museum. She previously worked at the Hunterian Museum at the University of Glasgow, where she was an assistant curator working with the natural science and medical collections for five years. Prior to that she worked for a museum based on the Shale Oil industry in Scotland, the Scottish Football Museum and Kelvingrove Museum in Glasgow. She took her degree in geology at Edinburgh University and has since maintained particular interests in gemmology, mineralogy, decorative stones and geological curation. She also serves on the committee of the Geological Curators' Group and has also served on that of the Scottish branch of the Gemmological Association.

Teresa Graham, YGS Council Member

Teresa left school at the age of 16 and worked as an office administrator for 22 years, rising to Business Support Manager. After four years part time study, she finished work to concentrate full time on completing her BSc (Hons) in Geosciences with the Open University. This should be complete by the end of 2005.

Future plans are to study for an MSc in Geochemistry at Leeds University starting September 2006 for one year, to be followed by a PhD. In the 11 month gap between finishing the BSc (Hons) and starting the MSc Teresa plans to gain a certificate in Maths.

Teresa is new to the Council this year and is a member of the External Affairs Committee and RIGS Sub-committee.

Martin Whyte, YGS Council Member

I joined the Society in 1987 and have recently rejoined the Council. Geology took me under its spell while I was an undergraduate in St Andrews and I went on to do a Ph.D. in Edinburgh on the palaeoecology of a Carboniferous marine mudstone. I then had the great good fortune to be appointed by Professor Michael House in Hull to work with him on shell growth in bivalves. From the outset, when I spent twenty-four hours collecting cockles from a small boat in Poole Harbour, working for him was both challenging and stimulating. Thanks to his encouragement and support the three years that I spent in Hull were very formative ones. They continue to influence all aspects of my work in geology and in particular my enthusiasm for Yorkshire geology. From Hull I moved to a post in Sheffield University, where I still work, though as a result of the vicissitudes of the last decade, I am now in the Geography Department. My continuing research interests are in palaeoecology, trace fossils and biomineralization including the study of dinosaur eggs. Many members will have attended the field meetings that Mike Romano and I have led for the YGS based on our joint work on the Yorkshire dinosaur footprints.



ARE YOU GOING ON A FIELD TRIP?

As you will have noticed if you are reading this the field-meeting season is upon us. Don't forget if you are attending field meetings, to take your camera with you, so that you can submit your pictures to the YGS Calendar Competition and have an excellent chance of winning one of the 12 coveted places in this sell out product. Helpful tips for taking photographs were published in circular 522. Remember you can also pre-order your YGS calendar for 2006 and avoid the disappointment of missing out on this limited edition publication. As they say in the best advertisements "send no money" but let the Circular Editor (details on the back page) know of your interest, and the cost will be confirmed to you shortly.

SUMMER E-MAIL?

If you want any news or views passing on during the summer please request this information in an e-mail from the Circular Editor, we are not allowed to use your personal e-mails to forward information without you doing so. If you do not have e-mail facilities send the Circular Editor your name and address and a copy will be posted to you.

T-SHIRTS & BOOKS

If you want to look the part or want something to read during those quiet times on fieldtrips you may attend this summer you can purchase YGS t-shirts and Northumbrian Rocks and Landscapes by using the enclosed forms. These items also make excellent gifts if you already have them yourself.

BOOK REVIEWS

Please note, reviews of books and publications reflect the view of the individual reviewer and in no way necessarily reflect the view of Council or the Society as a whole.

A GEOLOGICAL WALK AROUND BRADGATE PARK AND SWITHLAND WOOD, AND A GEOLOGICAL WALK AROUND CLIFFE HILL QUARRY.

Published by the British Geological Survey on behalf of the Office of the Deputy Prime Minister and the Minerals Industry Research Organisation. 31 pages & 27 pages.

These new guides written by Annette McGrath of the National Forest have been produced in conjunction with the British Geological Survey, Leicestershire County Council, Minerals Industry Research Organisation, Office of the Deputy Prime Minister, the Wildlife Trust for the Leicestershire and Midland Quarry Products Limited. The leaflets are printed in full colour at A5 size in attractive soft covers and include many photographs and numerous clear diagrams and maps.

The guides are aimed to appeal to a wide range of interest. Both are based upon walks around parks, quarries, and nature reserves in the area. The larger is based upon a 7 km circular walk in the ancient deer park of Bradgate Park providing an excellent illustration showing the relationship between geology and the landscape. There is also a good range of notes on the many other points of general interest such as the village of Markfield and the ruins of Bradgate House, the home of the ill-fated Lady Jane Grey.

The landscape of Charnwood Forest largely owes its form and character to the erosion and exhumation of a buried Triassic desert topography. This pretty countryside forms some of the highest ground in the English Midlands and is but a short distance from the nearby commercial and industrial cities and towns of the East Midlands. It consequently attracts many visitors providing a valuable amenity for walkers, and lovers of the landscape.

Both guides commence by explanation of the geology of the Charnian Supergroup with description of the Caledonian igneous intrusions, mountain building, and Ediacaran fossils for which the area is world famous. Informative colour illustrations are well used to show how the different types of volcanic rock were deposited and have come to be in their present-day position in terms of a geological history. This is more clearly described in the Cliffe Hill leaflet; the Bradgate Park leaflet having suffered from more enthusiastic editing and consequently a loss of valuable detail.

The Bradgate leaflet more than makes up for this shortcoming with superb annotated colour photographs that explain geological features in the landscape and some of the more interesting smaller scale structures such as the relationship between cleavage and bedding in the tuffs. Unfortunately, the explanation of the photomicrograph of the diorite (Markfieldite) not as clearly explained as in the Cliffe Hill leaflet. The development of a clearly visible slaty cleavage in many of the rocks is consistently referred to without any explanation concerning how it may have formed. An especially important omission bearing in mind the importance of the commercial use of slate extracted from Swithland Woods. This section also appears to contain an editorial error concerning the estimate of only 1,000 tonnes of total production from these quarries.

A useful 1:25 000 OS map is used in both leaflets to show the route of the walks, and each of the localities is clearly numbered and cross-referenced in the accompanying text. It is a pity therefore, that the geological map has been reproduced at such a frustratingly small size.

Notwithstanding these little quibbles these guides has been thoughtfully compiled and their appeal lies in a practical approach and excellent use of illustrations. They will be most appreciated by those with a general interest in geology and achieve their aim extremely well.

Noel Worley

GEOLOGICAL SCENERY AND HISTORY - A WALK IN YEWDALE, NE OF CONISTON.

Murray Mitchell, Cumbria RIGS.

A5 32pp Price £3.00 + 50p p+p. www.cumbriarigs.org

What a pleasant way to spend a Sunday afternoon and what an enchanting little walk! This guide thoroughly covers its chosen subject of the history and geology of Yewdale. Even though the day we happened to do the walk was grey and damp, route finding and the locations in the book were easy to find.

I liked the idea of overlaying the route onto a geological map so you can relate to where you are in relation to the Windermere Supergroup and whether the rocks of the area are the Brathay Formation or Stockdale Group.

The historical facts were interesting and more than entertained two kids that became bored with geology during the 7km hike. As the author comments, car parking can be expensive in Coniston; luckily there is a small, but isolated, parking spot near Yew Tree Farm at the half way point of the walk which allows the walk to be picked up at a convenient point in the book.

If I have any criticisms they are small. It would help if the route finding instructions were in italic to distinguish them from the general background information while navigating. One small omission is that Yewdale Beck was inadvertently missed off early copies of this guide, but by use of an OS map this can easily be located. Overall, for the price of a couple of drinks in a pub, you can be out enjoying the beauty of The Lakes.

Keith Park

SECRET WORLDS: SPAR BOXES OF THE NORTH PENNINES.

Ian Forbes. Killhope, the North of England Lead Mining Museum. 2004. 88pp.

ISBN 0-902178-21-0. Price £4-50

The Northern Pennine Orefield of the Alston Block can justly claim worldwide celebrity in many fields of earth science. As one of Britain's longest worked orefields, it has played a fundamental role in developing concepts in mineralising processes, has yielded some of the world's finest examples of several minerals, including four species first discovered here, and has been an innovative centre for mining and smelting technology. In 2003 it became Great Britain's first European Geopark.

One of a number of much less well-known, and almost unique, aspects of this area is the subject of this fascinating book. Spar boxes are the product of an unusual folk craft developed by North Pennine miners

during the latter years of the 19th century. It seems to have been a craft confined to the North Pennines, west Cumbria and the Isle of Man. As many lead miners were avid collectors of 'bonny bits', the making of spar boxes, cabinets lined with crystals of minerals collected from the mines, provided a focus for their collecting. Whereas many were no doubt created purely for decoration, a strongly competitive tradition developed with spar boxes figuring prominently in local shows, including the 'Grand Mineral and Geological Exhibition' held in St John's Chapel Town Hall on Christmas Eve 1887. Although once comparatively common features in many a Weardale cottage, spar boxes have in recent years suffered the fate of becoming 'collectible', and have been eagerly snapped up by dealers, leaving few in their native territory. Fortunately, Killhope Lead Mining Museum holds a magnificent collection of these boxes which is now on permanent display.

Ian Forbes' book offers a superb compilation of background information on this unusual craft and provides a wonderful companion to the Killhope exhibition. The book explores the sources of specimens and the practices of the collectors before going on to examine the development of spar box making as a local craft. Fascinating details of the most significant shows, and profiles of some of the more prominent 19th century spar box makers are followed by a section on modern spar box makers who are keeping the tradition alive. The author's enthusiasm for, and knowledge of, his subject are plain throughout the text. Colour photographs of spar boxes from the Killhope collection, together with other illustrations including documents and personalities, abound. Unfortunately, the author has not been best served by the book's designer. Numerous extracts from letters and other documents, which enliven the text, are reproduced in such a pale grey type that reading them is often difficult. Having said that, the book, and the spar box exhibition, are highly recommended to anyone with an interest in any aspect of this beautiful part of Northern England.

Brian Young

NORTHUMBERLAND (with Alston Moor): Angus Lunn, Collins New Naturalist series,
2004 ISBN 0-00718483-2 £25 paperback, (or £40 for hardback version)

This long running and admirable series was begun in the 1950s with a volume on Butterflies and it has continued since building up into a comprehensive overview of British Natural History. The series is aimed at informed naturalists whose knowledge of science can range from basic to sophisticated, and authors are chosen for their ability to write sound science in an approachable way. Angus Lunn is a native of Northumberland and a biogeographer, who until early retirement worked at the university of Newcastle-upon-Tyne. He has served as a naturalist in his home county and now lives in the North Pennines. The book follows the format of other 'regional' titles in the series, with chapters covering the history of scientific research, the pre-Quaternary geology, the ice ages, climate and soils, ecology and flora and fauna. These are then followed by chapters on specific habitats, most notably the coast and Kielder Forest with its contentious habitat of lake and coniferous forest. As is now de rigueur for this series, a chapter on the conservation issues affecting Northumberland is included.

The text is illustrated by maps, tables charts and black and white photos (of variable quality it has to be said - perhaps they could have been printed at a larger size) and a collection of excellent colour plates making full use of Northumberland photographers such as Allan Potts and John Steele. Although this book is unashamedly scientific and does not eschew scientific nomenclature, Dr Lunn often defines the terms as he goes along,

writing in an easy going style but full of interest and information. His work is accurate, rigorous and well researched with a good bibliography.

The chapter on Pre-Quaternary geology is short and to the point. There is no detailed stratigraphic column (there is a simplified coloured geological map based on Robson) and little on the controlling structures or faulting. The sections covered are the Cheviot volcanics, the Carboniferous, the Whin Sill and the coastline (sic). A short paragraph despatches the North Pennine Orefield, though aspects of the solid geology are referred to throughout the book. Dr Lunn draws much on the standard geological text on the region - Robson's *Geology of North east England* - and papers by Tony Johnson and Kingsley Dunham clearly have had their influence. The chapter on glacial Northumberland is comparatively more thorough perhaps because arguably its influence on the landscapes and wildlife is the greater too.

But these are just quibbles, because to be fair, the book is about the natural history of Northumberland and geologists have their own sources from which to draw information and as Dr Lunn rightly says, rocks make habitats by their influence on soils and vegetation, so the geology is definitely the servant here!

Together with the recently published volume on Lakeland, the whole of Northern England (except for Yorkshire) is now comprehensively covered by two of the New Naturalist series. Northumberland is essential reading for anyone for whom Northumberland is more than simply a place to live. If like me, other geologists share a more than superficial interest in the present day environments and wildlife of the region in which they work or live, then this particular volume in the Collins New Naturalists will be a welcome addition to their bookshelves. It is, quite simply, a very worthy vade-mecum. You should get a copy.

Stephen Mott

CAINOZOIC GEOLOGY AND LANDSCAPE EVOLUTION IN NORTH-EAST SCOTLAND

memoir for the drift editions of selected 1:50000 maps (with CD-ROM)

J.W.MERRITT, C.R.AUTON, E.R.CONNELL, A.M.HALL, J.D.PEACOCK

Memoir of the British Geological Survey: BGS Edinburgh 2003 ISBN 0 85 272463 2 Price code GX

7500 years ago, a tsunami hit the north-east coast of Scotland. I made this discovery while reading this memoir just as the tragic events of the Indonesian tsunami were unfolding. The Moray Firth event was caused, it seems, by a submarine landslide on the shelf edge fan in the northern North Sea, at a time of climate warming. The principle of uniformitarianism would suggest that what happened in the past may repeat in the future, but that is not the purpose of the book nor this review! Nonetheless, it does show how any form of research in the earth sciences is important, even if it might not appear to be so to the uninformed outsider.

This memoir follows the tried and tested format of other memoirs: - i.e. two columns per page, fairly small font and a mixture of coloured maps, photos and diagrams. Some of the photos are grid-referenced, but none are annotated and this means that sometimes a confusing explanation is given in the notes. With advances in computerised/digital printing, it would be nice to see photos labelled up with arrows, markers or other picture editing tools to explain them.

Being a 'drift' memoir, the solid geology receives little more than a perfunctory review, and is followed by chapters on Applied geology; landscape evolution; weathering and soil deposits of the Paleogene and Neogene; the quaternary Period; the Quaternary deposits; geomorphological features; Quaternary lithostratigraphy and correlation; ending with a number of appendices, which are on a CD-ROM. I found I could not access these on my copy, and I do have a downloaded recent version of Adobe. Now this may well be my lack of experience with BGS CD-ROMs, but perhaps more complete instructions could be provided on Start-up. The book is well referenced and indexed.

Having had reason to visit the Moray coast in November 2004, I was able to look up features I had myself observed, but this aside, the book is a very complete survey and not dull. The maps and figures are excellent and the quality of the photos are good. The book would probably not appeal to the generally interested reader, but it might be a useful reference book for those who regularly undertake field excursions in the region to look at the geomorphology and Ice Age deposits.

It is hard to think how the BGS might make its Memoirs more 'user-friendly'. They represent a methodology with which professional geologists are familiar and come to expect, but the systematic chronological approach is rather dry for the general or non-specialist reader. Perhaps a condensed or abridged version could be brought out as a popular guide to the geomorphology of the area, or may be the thinking which went behind the superb Northern Ireland volume could be applied to the more specific Memoirs in future.

Stephen Mott

CORRESPONDING SOCIETIES AND YORKSHIRE GEOLOGY MONTH

As we have so much information to go into the Fieldtrip circular, some of which has been held over from previous issues, it has been decided that leave out the Corresponding Societies section and for the sake of fairness, rather than list all the Yorkshire Geology Month activities - of which there are many - we would provide the internet link to the web page, which is <http://more.at/yorkshiregeology>. As usual Corresponding Societies details are listed on the YGS web page at <http://www.yorksgeolsoc.org.uk/> We are sure that with the large number of events listed on the above links and the YGS fieldtrips you will find plenty to occupy your summer. Remember to bring back a photo for the YGS calendar and why not write up a report of the trip for publication in a future issue of the circular?

MISPLACED ITEM?

Did you leave a coat in a YGS member's car during the Scunthorpe trip last year? If you did the member is getting weary of looking after it. This is your last chance to reclaim your property. If you do not contact the Circular Editor by the end of May your coat or soon to be former coat will be disposed of. Ladies can rest easy as it was a male that left it.

SUBMISSION OF PAPERS

Manuscripts for publication in the Proceedings should be submitted to *'The Editors, Proceedings of the Yorkshire Geological Society, Geological Society Publishing House, Unit 7, Brassmill Lane Enterprise Centre, Brassmill Lane, BATH, BA1 3JN'*. Typescripts should be prepared using the updated instructions for authors given on the inside back cover of the latest issue (Volume 55 Part 2, November 2004).

Publication of manuscripts may be expected in the next, or next but one part, following acceptance. The proceedings will be abstracted and/or indexed in, *GeoArchive, GeoRef, Geobase, Geological Abstracts and Mineralogical Abstracts, Research Alert and Science Citation Index Expanded (SCIE)*.

COPY FOR CIRCULAR

The next indoor meeting will be held on 8th October 2005. Open Questions in East Yorkshire geology: 100 years after Lamplugh, University of Hull.

Copy deadline for Circular 525 is the 12th September 2005.

Copy deadline for Circular 526 is the 10th October 2005.

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