

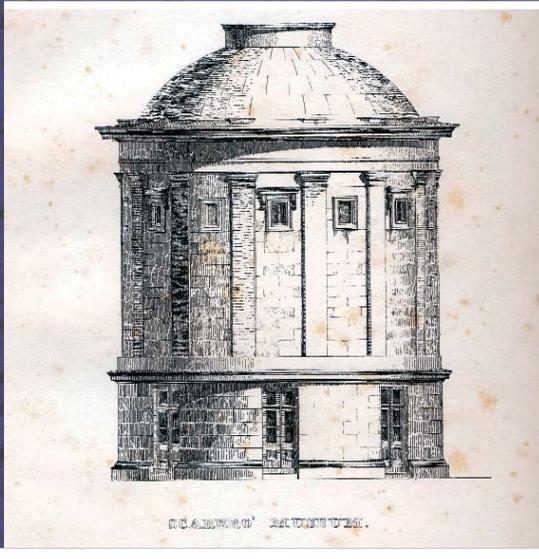


YORKSHIRE GEOLOGICAL SOCIETY

President: Professor Pete Rawson

WILLIAM SMITH & EARLY GEOLOGISTS ON THE YORKSHIRE COAST

A COMBINED INDOOR AND FIELD MEETING



16 - 17th OCTOBER 2004

SPEAKERS: SIMON KNELL, HUGH TORRENS and LORD DERWENT
MUSEUM GUIDE: WILL WATTS
FIELD LEADER: PETER ROBINSON

Paper Sponsored by

**INDEPENDENT PAPER
WAKEFIELD**

This meeting forms part of our normal meeting programme, but is also a contribution to the celebrations marking the 175th anniversary of the opening of the Rotunda Museum in Scarborough, designed under guidance of William Smith. It consists of an indoor meeting on Saturday afternoon, and an excursion on Sunday morning.

WILLIAM SMITH & EARLY GEOLOGISTS ON THE YORKSHIRE COAST

1400-1700 SATURDAY 16TH OCTOBER 2004

LECTURE THEATRE CG6, UNIVERSITY OF HULL,
SCARBOROUGH CAMPUS, FILEY ROAD, SCARBOROUGH.

The campus is on the south side of Scarborough, on the west side of Filey Road, which is the A165 coast road from Bridlington to Scarborough. Car parking is available on the campus.

1400-1410 **Introduction and Society announcements**
Professor Pete Rawson (University College London)

1410-1510 **William Smith and his geological advances as expressed through
his work in Yorkshire**
Professor Hugh Torrens (University of Keele)

1510-1545 **Tea and coffee**

1545-1600 **Proposed redevelopment of the Rotunda Museum**
Lord Derwent (Chair, Scarborough Museums Trust, Shadow Board of Trustees)

1600-1700 **Scarborough: 'the finest spot for a geologist that the whole earth contains'**
Dr Simon Knell (University of Leicester)

1000-1400 SUNDAY 17TH OCTOBER 2004

1000-1045 **Visit to the Rotunda Museum**
Mr Will Watts (Scarborough Museum)

1045-1400 **Field excursion: South Bay, Scarborough**
Mr Peter Robinson (YGS Council Member)

Attendees should meet outside the Rotunda Museum at 1000. The museum is at the seaward end of Valley Road. Departing from the museum at 1045, the field excursion will examine the Middle Jurassic fluvio-deltaic and shallow marine successions of the Ravenscar Group in nearby South Bay. It is suitable for interested beginners. Some of the exposures are in the intertidal zone and strong footwear is advisable.

Please inform Mr Will Watts (tel. 01723 232572; e-mail Will.Watts@scarborough.gov.uk) if you intend to join either or both of these Sunday events, **no later than 12th October**.

The Society would like to thank Independent Paper, Wakefield for sponsoring the paper for this publication, therefore allowing it to be produced in colour at no extra cost to the YGS.

WILLIAM SMITH AND HIS GEOLOGICAL ADVANCES AS EXPRESSED THROUGH HIS WORK IN YORKSHIRE

Hugh Torrens

School of Earth Sciences, University of Keele

The lecture will deal first with Smith's early years, with special reference to his several visits made to Yorkshire, and the reasons behind them, before 1815, when his great Geological Map was published. This then contained a significant mistake in the correlation of Yorkshire's rocks with those that Smith had 'standardized' farther south near Bath, by misrepresenting the horizon of the Alum Shales at much too high a stratigraphical level. The important reasons for this previously misunderstood "error" will be examined. After Smith's release from prison in London in the autumn of 1819, he, and his newly geologically-apprenticed nephew John Phillips, became at first itinerant all over the north of England. But a short visit to Scarborough in 1817 had made Smith aware of the delights and geological potential of Scarborough and, after his mysterious wife showed serious signs of mental disturbance in 1819, he decided to try to settle there. His immediate contacts in this part of Yorkshire in the 1820's will be dealt with next in the lecture. These include his important part in the foundation of the Scarborough Rotunda Museum and his work at Hackness for Sir John Johnstone. His forgotten work while here as a trainer of geologists will also be described. His pupils included such later significant geologists as Roderick Impey Murchison and George Featherstonhaugh from America. Finally, Smith's part in that significantly Yorkshire advance in geology, involving the careful discrimination of fossil distributions within single lithostratigraphical units (as exemplified by the work in the 1830's of Louis Hunton and William Crawford Williamson) will also be outlined, as will Smith's death and its aftermath and its sad effect on his widow.

SCARBOROUGH: 'THE FINEST SPOT FOR A GEOLOGIST THAT THE WHOLE EARTH CONTAINS'

Dr Simon Knell

Department of Museum Studies, University of Leicester

November 1822 saw an explosion of museums across Yorkshire. It was the moment when England established its museum culture and that culture owed a great deal to the new science of geology. As lecturers, curators, advisers and fieldworkers, William Smith with his revolutionary ideas and John Phillips, his nephew and protégé, with his extraordinary communicative powers, catalysed museum, and geological, development. Whitby geologists, George Young and John Bird, had already begun the Yorkshire geological project but used ideas which were soon outmoded. William Buckland and his Oxford friends, William Conybeare and William Vernon (Harcourt), were also interested in resolving the county's geological questions. They and others knew of the geological potential of Castle Hill - but no one had realised that potential. In April 1824, Phillips wrote to tell his new friends in York that 'Scarborough Castle Hill is surely the finest spot for a geologist that the whole earth contains'; the previous November he had told them: 'The Scarborough Castle Hill may rival any hill or mountain upon earth in the extraordinary Section of Strata which it presents around its precipitous sides'. It was here that Phillips recognised the Kellaways Rock of Wiltshire which provided a key stratigraphical anchor which permitted the completion of the superposition of Smith's order of strata on northern England. In the course of this project, Phillips inherited Smith's geological project and famously produced a large geological section of the whole of the Yorkshire coast which he used in his lectures. This was copied onto the walls of the Scarborough Museum (though only a newer version can be seen today). It was also printed in Phillips' pioneering book on the geology of the Yorkshire coast (1829), which applied Smith's teachings brilliantly and finally proved to any doubters that Smith's ideas were correct. Phillips spent the rest of his life exploring and extending Smith's geological inventions and rose to the position of Oxford professor. This lecture, however, will concentrate on Yorkshire and explain that this geological breakthrough relied upon a whole raft of things that weren't so geological at all: museums, gift giving, civic pride, blood-ties, an emerging fossil trade, collector rivalries, patronage and so on, as well as the discovery of new fossil localities. It is a story of remarkable relationships between the towns of York, Whitby and Scarborough, and it explains why we have museums in these towns today.

A WORD FROM THE PRESIDENT

A lot has happened since our last printed circular appeared in May, including the circulation of our first two e-mail newsletters. At present only a small proportion of our membership has chosen to receive the newsletter, but we hope that many more of you will do so by sending your e-mail address to Keith Park (details on reverse of the circular). The newsletters were very effective in keeping in touch during the summer, and in updating information on the very successful summer field programme.

Council met in York in June, primarily to finalise and accept our Forward Plan for the next five years and to agree on a restructuring of Council committees to allow us to develop more effectively over the lifetime of the plan. The main components of the plan were then published on our website and in an e-mail circular, and are reproduced in this circular. We look forward to receiving your comments and suggestions, and would particularly welcome volunteers to sit on any of our committees.

Our appeals for help in recent circulars have produced volunteers for the vacant positions of **Programme Secretary** and **Treasurer**.

Camilla Nichol is now taking over the vacant role of **Programme Secretary**, and is also a new recruit to our Society. Camilla is the newly appointed Curator of Geology at the Yorkshire Museum in York. She joined the museum from the Hunterian Museum at the University of Glasgow, where for 5 years she was an assistant curator working on the natural science and medical collections. Prior to that she worked for short periods in a museum on the Shale Oil industry in Scotland, the Scottish Football Museum and Kelvingrove Museum in Glasgow. Camilla graduated in geology at Edinburgh and has since maintained particular interests in gemmology, mineralogy, decorative stones and geological curation. She serves on the committee of the Geological Curators' Group and has also served on that of the Scottish branch of the Gemmological Association.

Will Watts, a current Council member, has volunteered to become **Treasurer** after our AGM in December, when our long-serving current Treasurer, Mike Allderidge, will take a well-earned rest! Will is a Leeds geology graduate who is now based in Scarborough, working in the Scarborough Museums & Gallery Service where he is the Dinosaur Coast Project Officer. Among his responsibilities are the management of all financial undertakings of the project, including staff salaries, equipment purchase and expenditure on marketing. Will notes that "I am not only governed by Local Authority financial regulations but also by Heritage Lottery Fund guidelines which in many cases are stricter"! He also has experience of fund-raising, which will become an important aspect of our Society's future development.

We are delighted to welcome Camilla and Will to their new roles.

Pete Rawson

THE 5-YEAR FORWARD PLAN

Council has now adopted a 5-year Forward Plan to cover the interval to 2009, having recognised that, as for so many societies of its kind, membership numbers have been falling while the overall age of the membership has increased. Membership numbers as at the end of November each year are published in our Annual Reports. The figures for the last 7 years (1997-2003) show a progressive decline in overall membership, from 867 in 1997 to 761 in 2003, a fall of 12.3%. The number of ordinary members declined by 10.3% over the same period. New enrolments over that time average only 33 per annum. This in turn has affected our income, about 74% of which is spent on our *Proceedings*, a professional journal that is well-known nationally and internationally. The challenge is to reverse these trends, by offering existing and new members a better and more varied service, thus making membership of our Society more attractive. The time is opportune, for there is an increasing public interest in the Earth sciences and in geoconservation. The main components of our plan are:

HISTORY

Founded in 1837 as the 'Geological and Polytechnic Society of the West Riding of Yorkshire', the Yorkshire Geological Society has published a professional journal, now the *Proceedings of the Yorkshire Geological Society*, since the beginning. It has always welcomed both professional and amateur members. The Society has been a registered charity since 1963.

VISION

'The Society for the promotion and encouragement of the understanding of geology and related Earth sciences, especially in the north of England'.

AIMS

The Society promotes the understanding of geology through a wide range of activities, including lectures, conferences, field meetings and publications. During the period 2004-2009 the Society aims to:

- *Promote more widely both geological research and the appreciation and understanding of the geology of the north of England amongst members of the scientific community, the public, local and regional public bodies, and the private sector.*

Actions will include: strengthening links with other bodies; advertising our meetings and other activities more widely; putting on geological walks and lectures on publicly accessible properties and at local festivals.

- *Sustain its high profile within the scientific community through holding scientific meetings, conferences and publishing peer-reviewed papers and other outputs in the Proceedings, occasional and other publications.*

Actions will include: improving the scope and quality of scientific meetings; increasing the number and quality of publications; raising the 'impact factor' of the Proceedings; holding at least one major scientific meeting during the period 2004-2009.

- *Develop an improved range of membership benefits and activities that would embrace the interests of the whole Earth science community, both professional and amateur, and thus attract more members, especially from this latter community.*

Actions will include: designing some field meetings for amateurs/young people, including 'training' meetings; varying the locations of indoor meetings more; holding more joint meetings with other societies; negotiating free access to local museums; commissioning review articles for the Proceedings that would better engage the wider membership.

- *Improve the way the Society is managed and how it communicates with its members, and implement recommendations agreed by Council on behalf of its members.*

Actions to improve the management of our Society will include: improving our Committee structure to meet the needs of this plan; encouraging non-Council Members of the Society to join Council Committees/Working Groups where they can offer appropriate expertise/interest; recording who attends meetings to provide us with data on what geographic areas we draw from for particular meetings, and more accurate attendance numbers. Actions to improve communication with members will include: expanding the Circular to include field meeting reports, news and correspondence; using the Circular and Website to keep our membership informed of Council membership and activities; introducing an e-mail circular, to be posted by snail mail to those who ask; ensuring that name badges are worn by Council Members at all meetings to make themselves more accessible to the members attending.

- *Improve the financial position of the Society in order to achieve the vision of the Society.*

Actions will include: increasing membership numbers; producing more field guides and other saleable products (T-shirts, calendar etc); selling products at every meeting; seeking sponsorship for particular products/events.

[Some of these actions are already being implemented].

RESOURCES

The resources (people, time, money, etc.) needed to deliver this action plan include: a strengthened and more effective committee/working group structure for Council; improved continuity between presidents; an increased income: an honorary press officer.

OVERALL TARGETS OVER THE 5 YEAR PERIOD

Our overall target is to complete the specific actions that we have pinpointed, in order to:

- Improve our services to both members and the general public.
- Increase our Ordinary Members numbers by at least 20%, i.e. approximately 120 new members, and our Associate Member numbers by at least 40%, i.e. approximately 30 new members, thereby increasing our annual subscription income by at least £4000.
- Raise funds to republish some of our out of print publications, such as the Yorkshire Rocks and Landscape field guide.
- Attract high quality papers to our Proceedings and increase the number of published pages per annum.

ANNUAL DINNER

The annual dinner will be held on Saturday 4th December 2004 at 6.00 pm for 6.30 pm after the AGM. As usual, it will be at the King's Manor, York University. The cost of the tickets will be £18.00 and should be booked with, and cheques made payable to Dr Trevor Morse; for address & telephone number, see back of Circular. Please tell Trevor at the time of booking if you wish to have a vegetarian meal or have other dietary needs. Dress is smart informal and guests are welcome to the dinner. Hope to see you there. The menu will be available in the November Circular.

FIELD TRIPS

DINOSAUR TRACKS FROM THE MIDDLE JURASSIC ROCKS OF YORKSHIRE

Leaders: Mike Romano & Martin Whyte, University of Sheffield

Date: Saturday, 24th July 2004

The pleasant weather forecasted and perhaps the prospect, or guarantee, of finding dinosaur tracks, resulted in a very good turnout of approximately 45 participants. Encouragingly, the party was a good mixture of keen amateurs, enthusiastic children and knowledgeable professional geologists.

The party made its way north from the Sea Life Centre (N. Scarborough) along the Cleveland Way to Scalby Bay where, by way of a challenging footpath, finally saw the party safe and sound on the beach. The day was spent working the beach northwards, looking for and finding an array of dinosaur prints. As promised, a selection of tridactyl and sauropod prints were found which, by the end of the excursion, most people believed were genuine. Perhaps most of those present will remember the highlights: large sauropod tracks over 1 m in length, trackways of tridactyl prints made by small (1 m high) bipedal dinosaurs, and an 11 m long trackway made by a large (1.6 m hip height) plant-eating bipedal dinosaur. This last example, known as the 'Jackson Bay trackway', was made famous by three of the present party who first discovered and recorded the prints: Cyril Ivens, Alan Staniforth and John Wright. There was also plenty to occupy the general geologist. Plants that may have been trace fossils, controversial diagenetic fabrics and unusual and, at times, puzzling, sedimentary structures - all provided plenty of opportunity for lively debates.

The excursion ended towards the northern end of Scalby Bay at a locality known to the leaders as 'Footprint Corner'. Fortunately it did not let us down, and all the party were able to leave having memories of numerous and varied dinosaur tracks.

GLACIAL ERRATICS OF HOLDERNESS

Leader: Mike Horne

Date: Sunday, 8th August 2004

Eight people attended (most for the morning only) and we adjusted the plans for the day because of this (and the fact that the tide on the coast was not at its best).

The day was spent in two gravel pits at Keyingham owned by Stephen Whitaker who showed us around. In both pits we were able to collect glacial erratics and modern shells from the Kelsey Hill Gravels. We also saw and discussed the origin of a variety of very localised sedimentary and landscape features. It was totally fascinating and confusing at the same time.

NEW MEMBERS

We would like to welcome the following new members:

Dr Matthew D Jones, Plymouth

Dr Colin D GINGER, Skipton

Mr Robert A Davenport, Ilkley

Miss Jane Morris, Haxby

Mr Thomas W Berry, Haworth

Mr Neil J Smith, Gateshead

Dr Edward M Lee, York

Miss Rachel Dixon, Leeds

Mr Philip Atkinson, Pickering

Mrs Heather Milner, Malton

Mr Iain M Cairns, Leeds

Dr Tim Pearce, Powys

Mr Stephen McCulloch, Middlesbrough

Mr Richard P Maddra, Bradford

YGS WEB SITE

Patrick Boylan, our Web Editor, has been busy working on the YGS web site, building on the already excellent work of his predecessor Paul Kabrna. The site features a new web-links page, which has a lot of additional information about the geology of our region, local, national and international organisations, and about geological topics in general. I am sure Patrick would be pleased to hear from you if you have a link that could be added to the site. Please take a minute to have a look at www.yorksgeolsoc.org.uk. Again I am sure Patrick would like to have your comments and ideas.

E-MAIL CIRCULAR

The summer saw the introduction of the e-mail Circular, which provided another method of communication between members and indeed Council and members. There was no negative feedback to the electronic Circular, with positive comments of 'great' and 'more societies ought to follow suit'.

I apologise in advance to members of the YGS who are registered for the e-mail Circular and have seen some of Circular 518 already, but we have to let everyone know the important details of the society. To those that aren't registered do so now - remember log in or miss out! To register send Keith Park an e-mail with your details asking to be included and it will be done, if you don't have a computer but would like to be kept up to date just send your details in the post to the Circular Editor and you will be sent a hard copy of the electronic Circular.

CALENDAR COMPETITION

One final reminder. If you have pictures you intend to send in for the calendar competition, now would be a good time to let the Circular Editor have them as the closing date is fast approaching.

HELP REQUIRED

A member of the Society would be grateful for any information relating to F.W. Branson and B.A. Burrell for cataloguing and biographical reasons; they were members of the Society during the early 1900s. Especially first names, obituaries, portraits and any other biographical information, to be sent to the General Secretary, via **email** or post, see back of Circular.

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.

**The North Pennines Area of Outstanding Natural Beauty - A Geodiversity Audit and Action Plan, 2004-09.
131 pages, published March 2004**

The North Pennines was designated an Area of Outstanding Natural Beauty in 1988 and is the second largest in England and Wales, becoming a European Geopark in June 2003. Published by the North Pennines AONB partnership in close association with the British Geological Survey, this book is far better than the uninspiring title would initially suggest.

The presentation is extremely attractive with an informative, well-written text that is accessible to non-geologists as well as Earth scientists. It is lavishly illustrated with nearly 70 high quality, glossy photographs and a clear locality map on the inside front cover complements a geological map of the area. The colours used for this and also for the diagrammatic cross-section are easily distinguished from each other - this is an important consideration that is not always taken into account. The glossary is useful, as is the concise explanation of the geological evolution of the area and bibliography containing more than 60 references. It is refreshing to find a mention of ostracods in the text, however fleeting, since this fossil group is not often mentioned in field guides or many textbooks.

The principal aim of the geodiversity action plan is “*to guide the conservation and interpretation of the geological features of this world-renowned area for the study of Earth science*”. The text rightly makes the point that “*at the heart of the area’s geodiversity is the succession of rocks, which together comprise and characterise the North Pennines. In the following pages, deposits of particular geological ages, together with intrusive igneous rocks, metamorphic rocks, mineral veins and geological structures are reviewed separately*”. This structured discussion of the lithostratigraphical succession is particularly well done, with a list of geological SSSI and RIGS sites for each stage and formation. Other categories deal with impact on the landscape and biodiversity, economic use and threats. The Quaternary deposits are very well explained with the ubiquitous diagram to show the maximum extent of ice in the British Isles during the Devensian. This is further enhanced by a detailed consideration of karst features and landforms. In the North Pennines AONB the latter contribute important evidence to an understanding of the Quaternary evolution of Northern England.

I personally would have liked to see more mention of zone fossils with perhaps photographs of some of the representative species, but this is very minor point. Their lack certainly does not detract from this publication. Another very trivial detail is the fact that a few of the species names in the text appear to have lost their italics.

An interesting section was about the development of geological science and how the area, as one of the earliest worked and economically most important of metal-bearing orefields in Britain, played an important role. The book discusses the two types of geological models in the AONB. These were the various wooden models produced in the 19th century by Thomas Sopwith to illustrate key structures encountered during mineral exploration and mining and the mine models produced in the 1960s and 1970s by the British Steel Corporation.

Particularly useful is the list and brief discussions of sites that are being recommended for interpretation - Part 3 (“Exploring and celebrating our Geological Heritage”). The Geodiversity Audit and Action Plan itself (section 4) is presented in tabular form and I would have been lost without the full-page example of how to interpret the headings. Each of the eleven objectives is discussed in turn with a list of actions - the work that is to take place to meet that particular objective and each action is assigned a priority. The last section ends with tables to show the conservation and interpretation of 94 North Pennines Geological Sites (NPGS) with a priority ranking for their conservation and interpretation.

In summary then, although a great deal of work remains to be done, this publication admirably reflects the importance of the North Pennines as both an Outstanding Area of Natural Beauty and Britain's first European Geopark. It is highly recommended and is essential reading for anyone with an interest in this region.

Dr R. S. Pyne

The Geology of Northern Ireland - Our natural foundation.

2004 Mitchell, W.I. (ed) 2nd Edition. Geological Survey of Northern Ireland, Belfast. 180 x 260mm 318 pages. ISBN: 0-85272-454-3. Price £10

Any geologist visiting Ballintoy Harbour, Co Antrim, and seeing for the first time the dark Tertiary (sorry- Palaeogene) igneous rocks facing the white Cretaceous Chalk across the narrow harbour entrance can be left in no doubt that Northern Ireland is a spectacular place for geology.

The Second Edition of the Regional Guide is a completely new one, and it is very welcome. The rather dry prose associated in the past with the Regional Geology guides has gone, the illustrations are clear and good use is made of colour, especially by co-ordinating and standardising its use for tables, maps and figures within chapters so that cross-referencing and following the text is made easier. There are colour photos too, and some are absolutely stunning in clarity and detail (p.66) whereas a few of the others are disappointingly less so, but all serve to illustrate the text well and are sensibly cross-referenced. The use of bold type is helpful and not excessive, drawing the reader to the important salient points in each chapter. I thoroughly approved of linking the colour of the page margins to the Rock Record, printed in the inside front cover. The footers too remind the reader of the chapter's content.

The book is presented in the well tried format of others in the BGS Regional Geology series: starting with the overview of the region, here using the terrane models for the Lower Palaeozoic rocks, followed by a separate chapter on each System from the Devonian beginning with an up-to-date review of the global tectonic context in each case. The book ends with chapters on geophysics, hydrogeology, minerals, oil and gas and geohazards. Grid references are included (hooray!) and the formerly somewhat turgid way of referencing academic papers has given way to the use of numerical subscripts. Indexing is adequate - one could always argue for more - and the volume is well researched, neatly edited and easy to use.

The book sets a benchmark; if this standard of production can be achieved for £10 using the latest computer and publishing software, including (presumably) some digital photography then we must now insist on such standards being reached elsewhere. It needs to be the model for all future geology publications.

Three small quibbles: would it not have been possible to include the word Tertiary somewhere in the text about the Palaeogene to reassure those of us brought up on the BTVP that nothing drastic has been omitted? Secondly, in the spirit of greater political co-operation between the Province and the Republic, it seems a pity that the book does not include a description of the metamorphic basement as it appears in Co Donegal, part of the same terrane. And thirdly, perhaps we could have expected a page of *bona fide* website addresses relevant to the material covered in the volume!

The book claims to have wide appeal and I think it achieves that aim, though a non-geologist might find a glossary of some use. It is quite the best general geology book on a given area that I have seen for a long time and I shall certainly use it on any further visits to the Province. And if you haven't seen the dramatic geology of the North Antrim coast than I would get out there with a copy of this volume in your hands!

Stephen Mott, M.Sc., B.Sc.

Geology of the Ringwood district. A brief explanation of the geological map.

1:50,000 Sheet 314 Ringwood (England and Wales). Barton, C.M. Hopson, P.M. Newell, P.M. and Roysse, K.R. 2003. ISBN 0-85272-464-0. Price £9.00

The authors have presented a very readable geological account of Sheet 314 the Ringwood district (BGS).

The Ringwood district takes in the area of the beautiful chalkland landscape west of the River Avon to the sandy heathland of the New Forest National Park in the east. The booklet (A5 format) runs to 34 pages and comprises of three chapters, an information source, and an up-to-date reference section. Illustrations are in colour and of high quality.

The inside cover provides a very concise geological succession summary at outcrop within the district and requires study before further reading.

Chapter 1 gives a brief and clear introduction to the tectonic structure and geological evolution of the Wessex Basin of which the Ringwood district forms part. A clear coloured cross section, derived mainly from borehole data, illustrates the overall structure of the region.

Chapter 2 commences with a stratigraphical description of the concealed geology, followed by very informative short detailed descriptions of the Cretaceous, Palaeocene and Quaternary sediments exposed in the district. A notable feature is the ample number of outcrop grid references provided. Not content with lithological descriptions the authors further provide sedimentological, palaeoenvironmental, palaeontological and informative geophysical comment. Chapter 2 concludes with an account of the structure of the area, again with grid references of outcrop.

The applied geology of Chapter 3 deals with hydrology, bulk minerals, brick clay and lime and marl (again ample grid references provided). Geotechnical considerations deal with flooding, ground heave, mass movement, slope stability, natural radon emissions and conservation sites. An excellent table relating ground conditions associated with the main geological units and their relevance to construction conclude Chapter 3.

The booklet concludes with an excellent information source section providing details on geological, geophysical, geochemical, hydrological and mineral maps. Technical reports relevant to the district and web sites are included.

The booklet, which is admirably produced, is a very good read and should be of interest to both professional and amateur geologists.

Tom Sloan

YORKSHIRE GEOLOGY MONTH - MAY 2005

The simple aim of this 'Yorkshire Geology Month' is to ask geologists, geology groups and people with interests related to geology to run one or more local geological events for the public in Yorkshire and the surrounding areas in May (or early June) 2005. If you or your organisation/company are interested in taking part please contact Mike Horne initially or visit <http://www.horne28.freeserve.co.uk/ygm.htm> for further details. It is also hoped that as a result of the month's activities an informal network of Yorkshire geologists will be created and those taking part will be invited to a 'gathering' during the month.

e-mail - m.j.horne@hull.ac.uk or write to 28 Salisbury Street, Hull, HU5 3HA.

CORRESPONDING SOCIETIES

Contact society representatives for the latest information.

CRAVEN & PENDLE GEOLOGICAL SOCIETY

Yvonne James. Tel: 01282 813 772 or www.cpgs.org.uk

Life in the Precambrian - Evidence from Down Under

Speaker: John Nudds Ph.D., University of Manchester

Friday, 19th November

Members Slides and Christmas Jacob's Join

Friday, 10th December

CUMBERLAND GEOLOGICAL SOCIETY

Nigel Courtman. Tel: 01229 861 478 or www.cumberland-geol-soc.org.uk

The Remote Sensing & Field Measurements of Active Volcanos

Speaker: Prof. Harry Pinkerton, University of Lancaster
Newton Rigg Campus, Penrith

27th October

The Burgess Shale Fossil Fauna: New Light on the Mysteries of Evolution

Speaker: Prof. Simon Conway Morris, University of Cambridge
Westlakes Institute, Whitehaven. This is a public lecture and
it is necessary to book a seat. Contact Wendy McBain 01946 514112 or
email: wendy.mcbain@westlakes.ac.uk

10th November

EAST MIDLANDS GEOLOGICAL SOCIETY

John Wolf e-mail sec@cmgs.org.uk or www.emgs.org.uk

Recent Geoarchaeological Work in the Trent Valley

Speaker: Dr. Chris Salisbury, Nottingham

Saturday, 16th October

The Building Stones of Northamptonshire

Speaker: Dr. Diana Sutherland, Honorary Visiting Fellow,
University of Leicester

Saturday, 13th November

HUDDERSFIELD GEOLOGY GROUP

Julie Earnshaw (Secretary). Telephone: 01484 311 662 or e-mail: earniehome@ntlworld.com

HULL GEOLOGICAL SOCIETY

Mike Horne. Tel: 01482 346 784 (after 7.30 pm)
or e-mail: m.j.horne@hull.ac.uk or www.go.to/hullgeolsoc

Pick Your Own Microfossils

Leader: Mike Horne

Day-school at Hull University, booking required

Saturday, 9th October

Glacial Landforms and Processes

Joint afternoon meeting with the Yorkshire Geological Society at the University of Hull

Saturday, 6th November

Geological Wanderings Around the World

Speaker: Barrie Heaton

Thursday 18th November

LANCASHIRE GROUP OF THE GEOLOGISTS' ASSOCIATION

Norman Catlow. Tel: 01772 727 577 or e-mail: norman@catlow4736.freeseve.co.uk

LEEDS GEOLOGICAL ASSOCIATION - 130th ANNIVERSARY PROGRAMME 2004

Anthea Brigstocke (General Secretary). Tel: 01904 626 013.

E-mail: abrigstocke@hotmail.com or www.leedsgeolassoc.freeseve.co.uk

Coal in Yorkshire: The Last Fifty Years

Speaker: Dr. Ivor Brown, former Minerals Officer, West Yorkshire

21st October

The Antiquity of Human Behaviour

Speaker: Dr. Laura Bishop, John Moores University, Liverpool

11th November

LEICESTER LITERARY & PHILOSOPHICAL SOCIETY

Chairman: Andrew Swift. Tel: 0116 252 3646 or e-mail: as48@le.ac.uk

Mantle Plumes and Volcanoes

Speaker: Prof. Andy Saunders, Dept of Geology, University of Leicester

Wednesday, 6th October

Letters From America: Fossil Excavations in Utah, USA

Speaker: Sue Beardmore, ex-Utah Museum of Natural History, USA

Wednesday, 20th October

Underground Secrets

Speaker: Prof. Ian Fairchild, School of Geography,
Earth and Environmental Sciences, University of Birmingham

Wednesday, 3rd November

MANCHESTER GEOLOGICAL ASSOCIATION

Jane Michael. Tel: 0161 366 0595, e-mail: jammyjane@aol.com or www.mangeolassoc.org.uk

River Basin Studies

Wednesday, 13th October

Speaker: Mr John Saunders, United Utilities.

Joint Meeting with Geographical Association in the Mansfield Cooper Building. Start: 6.30pm

Life in the Precambrian - Evidence from Down Under

Wednesday, 17th November

Speaker: Dr. John Nudds, University of Manchester

NORTH EASTERN GEOLOGICAL SOCIETY

Frank Trowbridge. Tel: 01642 582 786, e-mail: frank.trowbridge@care4free.net or www.northeast-geolsoc.50megs.com

The Lower Thames Terrace Sequence: A record of Milankovich Climate Fluctuation and Early Human Occupation of Southern Britain

15th October

Speaker: Dr. David Bridgland

Investigating NE England Geology Using New Digital Fieldwork and Visualisation Methods

19th November

Speaker: Dr. Ken McCaffrey. Joint meeting with the Russell Society.

WESTMORLAND GEOLOGICAL SOCIETY

Mrs P. M. Wilson. Tel: 01539 533 198 or www.wgso.fsnet.co.uk

History of the Scarfell Caldera Volcano: A Dramatization

Wednesday, 20th October

Speaker: Dr. Peter Kokelaar.

Drying Out of the Mediterranean:

Wednesday 17th November

A Six Million Year Story of Climate and Tectonics

Speaker: Dr. Rob Butler, University of Leeds

YORKSHIRE REGIONAL GROUP OF THE GEOLOGICAL SOCIETY

Isla Smail. Tel: 0113 242 8498, e-mail: isla.smail@arup.com

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 1, May 2004).

Publication of manuscripts may be expected in the next, or next but one part, following acceptance. As a result of the change in publishing arrangements 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

Copy deadline for Circular 519 is the 16th October. The next indoor meeting will be held on the 6th November 2004 at the University of Hull. Title: Glacial Landforms.

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