



Manchester Geological Association

President: Jane Michael BSc (Hons)

March 2016 Founded 1925

www.mangeolassoc.org.uk

**Saturday 12 March 2016 - The Broadhurst Lectures
This meeting is cancelled**

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Events Quick Reminder

Sunday 19 June	Upper Goyt to Shining Tor
Thursday 23 June	Penmaenmawr Dolerites
Wednesday 20 July	Mam Tor
Sunday 14 August	Halkyn Mountain - Joint trip with OUGS
Saturday 20 August	Edale Rocky Ramble

Details on back page

Who's Who in the MGA Officers

President: Jane Michael BSc (Hons)

Vice-President: Vacant

General Secretary: Sue Plumb BSc

Membership Secretary: Vacant

Treasurer: Niall Clarke MSc

Indoor Meetings Secretary: Vacant

Field Excursions Secretary: Penny Heyworth MPhil

Newsletter Editor: Lyn Relph BSc (Hons)

Webmaster: Peter Giles MSc

Other elected members of Council

Nicola Fowler BSc (Hons)

Jennifer Rhodes

Ex officio members of Council

The Immediate Past President, Manchester Geological Association: Dr Ray Burgess PhD

RIGS Representative: Chris Arkwright PhD

The Association's representative on the North West Geologist's editorial team: Peter del Strother MBE BSc CEng MIMechE
MBA MPhil

President of the Student Geological Societies of the University of Manchester

MGA Archivist: Derek Brumhead MBE

MGA email addresses

To contact our President: president@mangeolassoc.org.uk

To contact our Vice-President: vicepresident@mangeolassoc.org.uk

To contact our General Secretary: secretary@mangeolassoc.org.uk

For membership enquiries: membership@mangeolassoc.org.uk

For field visit enquiries: outdoors@mangeolassoc.org.uk

For indoor meeting enquiries: lectures@mangeolassoc.org.uk

For newsletter correspondence: newsletter@mangeolassoc.org.uk

For other enquiries: info@mangeolassoc.org.uk

Naming the Hirnantian Stage of the Ordovician.

.....by a former University of Manchester student and staff member! Can you help?

by Fred Owen

By an unusual set of coincidences I have come across original and interesting information about the naming of the uppermost Hirnantian Stage of the Ordovician. It is a short Stage of 1.9 million years duration, but it is extremely significant for its dramatic events involving a mass extinction, global climate change, extensive glaciation and sea level fall. Its fossil distribution is worldwide and was originally defined primarily by the Hirnantia fauna comprising brachiopods and trilobites. Today its' stratigraphy is primarily based on graptolites found in China and Scotland, although the Hirnantia fauna is still locally important where shallow shelf successions are found.

It was named after Cwm Hirnant, southwest of Bala in N Wales, by John Bevis Beeston Bancroft (Fig.1) in 1933. See photos. He was born in Northwich on 27 Aug 1897 and was one of three brothers, who all served in and survived WW1. Although seriously injured he later became an eminent palaeontologist. He researched the trilobite and brachiopod fauna of the Ordovician in and around South Shropshire, Cwm Hirnant (Fig. 2 Cwm Hirnant) and many other locations including Scandinavia.

My interest was further aroused when I found that Bevis Bancroft studied at Manchester University Geology Department in two, two year periods, the first during WW1 1914 –16 and the second from 1922 –24, gaining his MSc (by thesis) in Dec 1924. In 22 June 1922 he gained a BA at Trinity College, Cambridge. In 1923 he was admitted to the MSc course at Manchester by Professor O T Jones who (in a reference for a lectureship) described him as”....exceedingly keen and enthusiastic and has a genius for investigation”.

I am in contact with David Adams, a relative of Bevis, who has a wealth of original, catalogued correspondence (over 3000 documents) about all three Bancroft brothers. That relating to Bevis includes letters between many eminent geologists including O T Jones, S H Straw,



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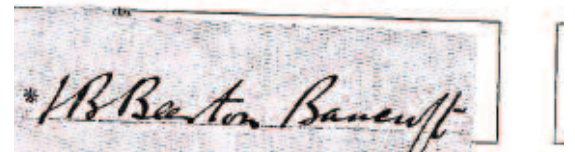


Fig. 1 John Bevis Beeston Bancroft.

Gertrude Elles, W F Pugh, E S Cobbold, L Whitcomb, A Lamont etc also many institutions including Manchester Lit & Phil, Sedgwick Museum, Smithsonian Institute, Princeton University, United States National Museum etc. I have started working through these files with Keith Nicholls of the NWGA (who is doing a PhD at the University of Chester on the Hirnantia fauna) to see if there is sufficient material to make an interesting story about the life of a past student and staff member of our very own Geology Department. It is worthy of note that Bevis was around at the time of the foundation of the MGA in 1925!



Fig. 2 Cwm Hirnant. Photo courtesy Fred Owen

Seriously wounded in WW1, Bevis was nominated for the Croix de Guerre. It appears he served in 342 Siege Battery leaving Southampton for Le Havre on 29 May 1917. Having survived WW1 Bevis sadly drowned in Normandy while serving in the Royal Observer Corps in WW2 in 1944. There is an original letter of condolence to Bevis's mother Ann (nee Beeston) in the file signed by W Mansfield Cooper, Registrar at the University of Manchester, dated 1st April 1947.

If any MGA member or university alumni have any contacts or information that can add to the story I would be delighted to hear from you.

CORRECTION

In my report about the Lion Salt Works in the December Newsletter, on P6, my conversation was with Professor Chris Jackson. It has been corrected in the Newsletter on the website. I apologise for the error.
Fred Owen

The 2016 AGM Report

by Sue Plumb

The President, Dr Ray Burgess, reported that the MGA is in good health with a stable membership. Lectures and field trips are well attended and members very supportive. He felt that more could be done regarding joint events with other organisations as it will help the MGA to stay vibrant (the Council will look at this). His term of office as President has now ended so he thanked MGA members for their support including members of the Council and especially Jane Michael, the incoming President.

Jane Michael, the new President, could not attend the AGM as she was in New Zealand. She had recorded a video message to be played at the meeting. This was duly done, but was too quiet for everyone to hear, so Ray read out the text of Jane's message. Jane said that she was honoured to become President of the Manchester Geological Association and hoped she would do justice to the role. She thanked Dr Ray Burgess for being a super President and for carrying on for the next few weeks until she returns.

After the business of the AGM concluded, John Pollard said a few words about a new book titled *The Story of Alderley*, published by Manchester University Press.

The Presidential Address was then given by Dr Ray Burgess, titled 'Diamond Formation – Where, When and How?' This was a fascinating insight into the extreme conditions necessary for diamond formation.

Field Trip Preview

Photographs of the things you may expect to see on two of the field trips planned for this summer. I hope they will tempt you to come along.

Thursday 23 June Penmaenmawr Dolerites.



Fig. 1 View over the River Conway from the rhyolite quarry.

The photo in Fig.1 above was taken from a rhyolite quarry to the east of the probable location of the trip to look at the dolerites. In the near distance is a flat area of river sediments across which runs the A55 before it disappears into the tunnel. From this vantage point it is easy to see how vulnerable our infrastructure is to sea level rise! Across the river are a mixture of sedimentary rocks which include sandstones and limestone.

The photograph on the right (Fig. 2) shows the strange nodular rhyolite that is commonly found adjacent to ordinary flow banded rhyolite. It is not known how this texture formed, but it is thought to be a reaction with water.



Fig. 2 Nodular rhyolite.

Wednesday 20 July Mam Tor

This is a spectacular area not least because you can see the effects of geological processes that happen within a lifetime and have an effect on the local population; even in a relatively geologically stable country like the UK. The landslide has been steadily moving down slope for many years as can be seen from the very many attempts to maintain the road in a serviceable condition; a battle that the local authorities lost! Fig. 3 show Mam Tor and the top part of the landslide below which is the remains of the original road.

In this area many varied and interesting fossils are to be found as can be seen in Figs 4,5 and 6. There is also a small limestone quarry nearby with more fossils and some other unusual features, but I will leave some things for you to discover on the trip!



Fig. 3 Mam Tor



Fig. 4 Brachiopods



Fig. 5 *Bryozoan*



Fig. 6 Plant fragments.

Swamp Land: Brymbo 300 Million Years Ago

New exhibition of ancient fossil forest in Wales

The first exhibition dedicated to telling the story of the Brymbo Fossil Forest, which was discovered in 2004 on the Brymbo steelworks site, will open at Wrexham County Borough Museum and Archives on 30th January 2016.

The exhibition is spread over two galleries.

The star exhibit of 'Swamp Land Brymbo 300 Million Years Ago' is a two-metre high *Stigmaria* fossil that has a root span of four metres; this was rescued in pieces from a coal seam beneath the former steelworks site. This enormous fossil has been carefully conserved and re-assembled for display in a specially designed steel cradle.

Press release by Wrexham Museum.

The re-assembled *Stigmaria* (right)
(photograph courtesy of Wrexham Museum).

The photograph below shows the *Stigmaria* during excavation. Photograph courtesy of Peter Appleton, who was largely responsible for excavating the enormous fossil.



BOOK REVIEW

by John Pollard

The story of Alderley: Living with the Edge. A.J.N.W. Prag (editor), Published by Manchester University Press, 984pp., 65pls. 2016, £50 [prices vary].

ISBN-10: 0719091713

ISBN-13: 978-0719091711

The third and final report of the *Alderley Landscape Project (AELP)* (1997-2005) was published in January as an impressive A4 hardback titled 'The Alderley Story'; 984 pages, 270 illustrations in colour and black and white. It weighs 5lbs!

The AELP was a multidisciplinary study of the core area of the National Trust property on the Edge and the hinterland of Over Alderley, Nether Alderley and Alderley Edge village. This was headed by the National Trust, Manchester Museum and the University of Manchester. The project leader Dr A.J.N.W. Prag, formerly Keeper and Professor of Archaeology in the Manchester Museum, was joined by more than 30 researchers in geology, mineralogy, geomorphology, botany, ornithology, entomology, archaeology, mining history, human history, social history, archive history, local history and folklore. These experts contribute 31 chapters and 13 appendices to this comprehensive volume. It can, perhaps justly, claim to be the most complete account of the local landscape and the history of its community in this region!

The book has a Forward by Lord Stanley of Alderley whose family owned the Edge for over 400 years. Alan Garner, the famous local author, who wrote *The Weirdstone of Brisingamen* was born and educated in Alderley Edge. He contributes a personal perspective to the Introduction recalling the discovery of the Bronze Age wooden shovel and a hoard of Roman coins; these items led to the formulation of the AELP. Later in the volume he contributes a fascinating chapter analysing the Alderley legend of the sleeping knights under the Edge.

Part 2; 'The bedrock of the Edge' contains five chapters on the solid geology, landforms, mineralogy and geomorphology. These were written by MGA members David Thompson, Geoffrey Warrington, David Green and Richard Braithwaite. They contain excellent colour maps, photographs of minerals and the first illustration of the Triassic fossil clam shrimps (*Euestheria*), burrows, reptile footprints, together with animal and environmental reconstructions.

Part 3; The natural history of the Edge occupies six chapters, recording the meticulous survey of 20 'parcels' of land in the core area, much of which is a Site of Special Scientific Interest (SSSI). Herein are analysed the vegetation, tree cover and its history, birds, pond life and invertebrates with excellent colour photos of insects and spiders. In fact all animal life is here except mammals!

In Part 4 we move on to 'Human History – archaeology and underground' (5 chapters). Some of these chapters draw on the earlier AELP volume *Archaeology of Alderley Edge* by Timberlake and Prag (2005), the former of whom was the senior surveyor of AELP; he also contributes to other chapters. The history of mining on the Edge is covered from the Bronze Age to 1598 by Simon Timberlake and for the documented period, 1600 to 1920's when mining ceased, by Geoffrey Warrington. The importance of the work by the Derbyshire Caving Club in reopening, exploring and conserving the mines is reflected in two chapters by Nigel Dibben (DCC); also including the history of the quarries.

Part 5 'Human History – overground and social history' (chapters 19–28) moves on to the fascinating research into the history of Alderley Edge. The archives of the Stanley family have been meticulously studied and a detailed AELP archive established and digitised; this includes oral history from local inhabitants. Graffiti on local stone and wood, the Village, 'Cotentots' Victorian villas, the Stanley Estate and Nether Alderley Mill, all occupy discrete chapters. Historic track-ways and roads, recumbent and standing stones, and even the names of streets, houses and fields complete the social history perspective.

The final Part 6 'Looking back – looking forward', contains a most comprehensive review by the National Trust's Countryside Manager for Cheshire and the Wirral on the responsibilities, proposals and management plans for the conservation and public amenity of the Edge. Alan Garner returns to the folklore aspect of the Edge in his penultimate chapter while the Editor's final word stresses how much has been achieved by AELP and what new questions have been raised.

The detailed Appendices are linked to the respective chapters, reptilian tracks and minerals, vegetation lists (including 35 species of brambles!), breeding birds and lists of insects (estimated to be about 5,600 species), 616 species of butterflies and moths. Also included is the history of the Alderley Beacon, the Hagg Cottages, which housed miners, (and were previously recorded in the second AELP archaeological volume *The Alderley Sandhills Project*, Casella and Croucher (2010)), John Evans the Church Quarry hermit, the National Trust Sites and Monument Record for the Edge (5 pages). The volume concludes with three glossaries, general, geological, mining and quarrying terms (25 pages), a reference list of 16 pages and a comprehensive index of 30 pages.

This book is truly a landmark in our knowledge and understanding of this popular natural feature and its environmental, historical and social contexts. It is a must for any lover the Edge or frequent visitor – above ground or below!

The price of £50 is not unreasonable for such a large and beautifully produced hardback and discounts of 20% may be available to members of such bodies as the National trust or orders received before March 31st 2016. Copies should be ordered directly from MUP website (<http://www.manchesteruniversitypress.co.uk>) or their distributors NBN orders@nbninternational.com (01752-202301).

Manchester: Making the Modern City

I am delighted to write and tell you about a forthcoming publication: *Manchester: Making the Modern City*. Written by leading experts on the history of the city with numerous insights and unexpected stories; this profusely illustrated book is essential for an understanding of what Manchester has been and what it can become. This book will be published in May 2016, to coincide with events marking Manchester as the European City of Science 2016.

We are offering the opportunity to purchase the special limited edition of this book, a beautifully produced, slip-cased copy, priced at £100. All subscribers to the limited edition will have their name, or the name of their organisation, printed inside all copies of the book (including the regular hardback and paperback editions, which will be widely sold to a global market).

Please note that the special edition is sold on a limited basis, to order your copy please contact Katherine Pulman.

Katherine Pulman | Books Marketing Manager
Liverpool University Press | 4 Cambridge Street, Liverpool L69 7ZU, UK
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A Building Stones Guide to Central Manchester

Third Edition (2014)

Four self-guided walks through the city centre

Now available to purchase at £6 per copy + £2.50 p&p, please email your requirements and details to lgga.info@gmail.com.

Other Society Events

BCGS <http://bcgs.info/pub/>

12 March, 10:30 Geoconservation Day - Barr Beacon, Pinfold Quarry
14 March, 7:00 AGM & The Minerals of North Wales
18 April, 7:30 Microfossils of the Wren's Nest
23 April, 10:30 Field Meeting - Churnet Valley
21 May, 10:30 Geoconservation Day - Portway Hill, Rowley.

Leeds GA <http://www.leedsga.org.uk/>

Saturday 2nd April 2016
Daytime field meeting Mineralisation at Alderley Edge and Wood Mine
Leader Anton Petho. Leicester University

Guided walks around the Geology Trail in Roundhay Park are held throughout the year. These walks, led by the geologist who created the trail, start from the Mansion House Visitors Centre at 1.30 PM on the following dates:

Saturday 14th May 2016
Wednesday 6th July 2016
Saturday 10th September 2016

North Staffordshire Group <http://www.esci.keele.ac.uk/nsgga/>

Thursday 10th March 2016 (Note 7:00pm start for AGM)
Dr Ian Stimpson (Keele University) Tales of Middle Earth
AGM and Chairman's Address.

Summer Field Programme 2016
NSGGA Weekend Field Trip : 13-15 May 2016
Anglesey - Leader: Dr Ian Stimpson.

NWGA <http://www.ampyx.org.uk/cdgc/rhaglen.html>

Wednesday April 6th 2016
Wales' Newest Dinosaur
Speaker: Cindy Howells

OUGS North West <http://ougs.org/events/index.php?branchcode=nwe>

19 Mar Bowland Basin Nr. Airton, N.Yorks
3 Apr New Mills Day Field Trip
22 -27 May East Lothian Four Day Trip
11 Jun N.Lakes Mungrisdale Day Field Trip
30 Jul Ingleton Waterfalls Day Field Trip Hilary Davies
16-19 Sept Shropshire Three Day Trip Dave Green
9 Oct Liverpool Building Stones Day Field Trip DIY Trip
6 Nov ? Heald Green. Winter Lectures Chris Arkwright TBC

York University

Postgraduate Open Day on University Campus. Saturday 23rd April, 10am – 12noon.
Our Postgraduate Open Day is an opportunity to find out about the Postgraduate Diploma in The Geology of Yorkshire and Northern England. Take part in a workshop lead by Dr Annette McGrath, our Associate Lecturer who will bring along some rocks and fossils from Northern England for you to explore. During the interactive session, Annette will present specific information regarding the modules on the programme and about the yearly residential course, which involves excursions to local geological sites. During refreshments we will gather altogether so you can meet the wider Lifelong Learning team and chat with current students on our PG Dip courses about their experiences. We can answer questions about anything from the Virtual Learning Environment, what it is like to study on a Distance Learning course, to the application form and how to apply.

The Diploma is aimed at anyone with an interest in Geology. Whether you are at a pivotal point in your career or simply desire to take your Geology interest to a new academic level, the course will stimulate and enhance your current knowledge of Geology and is suited to anyone with an enquiring and adventurous mind.

Alternatively attend our Online Chat Session 17th May.

Geological Association Trip

Saturday the 25 June

Wren's Nest National Nature Reserve at 60 years old, Dudley Museum and canal trip into the underground limestone caverns.

Leaders Colin Prosser and Graham Worton. This excursion includes a canal boat tour of the limestone caverns beneath Dudley, will take in the internationally famous Silurian stratigraphy, fossil faunas and geoconservation challenges and successes at Wren's Nest NNR on its 60th birthday. It will also provide the chance to find out about the current application to establish a Black Country UNESCO Global Geopark, and very importantly will include a visit to the amazing collections Silurian fossils at Dudley Museum. It is hoped that a good turnout of GA members on this trip will help to demonstrate the importance and value the GA and local geologists place on Dudley Museum which is currently under threat of closure. Apologies for the change of date and please note the revised charge of £10 which includes the underground canal boat tour.

Contact Sarah Stafford geol.assoc@btinternet.com

The North West Highlands UNESCO Global Geopark was the first in Scotland to be designated as a Global Geopark in 2004. The new designation of UNESCO Global Geoparks was ratified in Paris during November 2015 and now means we hold a similar status to World Heritage Sites. UNESCO Global Geoparks are set up to promote tourism, education and conservation in an area with globally important geological heritage. The North West Highlands Geopark is situated in the northwest corner of Scotland, it covers an area of 2000 sq. km and is home to just 2000 people.

We have two week long tours running in late Spring and early Autumn next year. Expert tuition by Geopark staff will help you to interpret the geology of this wild and remote highland landscape. The area has the lowest population density in Europe and exhibits unique geodiversity and biodiversity. As home of the oldest rocks in Europe, the first identified thrust fault and with evidence of the earliest life; the North West Highlands Geopark really is the "Cradle of Geology".

Full details of the tours and information on how to book can be found here :
<http://www.nwhgeopark.com/geotours-2016/>

If you would like to sign up to our newsletter please become our friend here:
<http://www.nwhgeopark.com/the-geopark/friends-of-the-geopark/>

Geological Association Publication

Arthur Smith Woodward – His Life and Influence on Modern Vertebrate Palaeontology
Edited by Z. Johanson, P.M. Barrett, M. Richter and M. Smith

Arthur Smith Woodward was the world's foremost expert on fossil fish. He was an unwitting victim of the Piltdown fraud, which overshadowed his many scientific contributions. This book highlights his main scientific achievements and their current relevance, and provides insights into his career as an international scientific leader.

Product Code: SP430. Series: GSL Special Publications. Publication Date: March 2016. 362 Pages.
Hardback ISBN: 978-1-86239-741-5 List Price: £110. GSL Fellow Price: £55. Other Society Price: £66

EVENTS

Saturday 12 March 2016 - The Broadhurst Lectures
This meeting is cancelled

Outdoor Events in 2016 Provisional details

Sunday 19 June

Location Upper Goyt to Shining Tor
Leader Paul Aplin
Contact Penny Heyworth outdoors@mangeolassoc.org.uk

Thursday 23 June

Location Penmaenmawr Dolerites
Leaders Peter del Strother and Jennifer Rhodes
Contact Penny Heyworth outdoors@mangeolassoc.org.uk

Wednesday 20 July

Location Mam Tor
Leader Cathy Hollis
Contact Penny Heyworth outdoors@mangeolassoc.org.uk

Sunday 14 August

Location Halkyn Mountain - Joint trip with OUGS
Leader Tba
Contact Penny Heyworth outdoors@mangeolassoc.org.uk

Saturday 20 August

Location Edale Rocky Ramble
Leader Jane Michael
Contact Penny Heyworth outdoors@mangeolassoc.org.uk