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## **Chairman's Message:**

Events in Japan last month we have reminded us that geological forces which we take for granted in their abstract forms - subduction, in this case - have catastrophic consequences for those who live in their locality. As Earth Scientists we should pause to reflect upon the enormous mortality that arose directly from the Sendai earthquake and subsequent tsunami, and the huge suffering of those who have lost their loved ones, their homes and their neighbourhoods.

Closer to home, I am happy to report that the Association's Autumn programme is now being populated, and will start to appear on the website as it is confirmed. It is most encouraging that we are able to move forward in this way, and I must express my appreciation of the effort being put in by the committee to make this possible. I can also report that we are continuing to co-operate with GeoScience Wales, and will be sharing information regarding our respective programmes of meetings in coming months. The 'Cluster' meetings are often on professional topics, but not exclusively so, and it is certainly worth considering attending. Last month there was a very interesting meeting on the subject of 'reconstructing' the continental crust off eastern Canada, where deep basins have created good hydrocarbon prospects during the process of separation between North America and Europe since Jurassic and Eocene times. It was particularly interesting to hear that

volcanic rocks do not feature in that area, unlike the western margin between Scotland and Faroe where extensive lava sequences now define the edge of the continent.

Please don't forget to sign-up for the forthcoming field meetings. These are a very good way to get to grips with the subject if you feel intimidated by technical-sounding meetings. There is always time for the leader (or other more experienced members of the party) to take questions and use the rock outcrops to explain principles which might remain obscure under classroom conditions. It is very difficult to think of a way that the Association could promote indoor meetings that could act as introductory tuition in the same way.

It is a great shame that the 'evening classes' of former years are no longer promoted in the traditional fashion, and extra-mural classes are folding even in the most enthusiastic locations. Later in the year there will be a reprise of a couple of field meeting ideas that failed to come to fruition due to force of weather or other difficulty, and I look forward to seeing you there.

***Jonathan Wilkins***

**New Welsh Assembly Government**  
**Offices at Llandudno Junction.**  
(By JW)



Last September, the new headquarters building in North Wales for the Welsh Assembly Government was completed and occupied for the first time. Occasionally, I glimpse it in the distance during my journey to and from work. From closer-up it is largely invisible, being on a shelf in the landscape, but atop a steep bank that prevents an easy view - and only a side elevation is available from the car parking area and security gate.

I had heard rumours that the building was of interesting construction, and local gossip suggested that a great deal of money had been spent on its unique architectural features - all factors that increased my interest in a closer look. My first approach was rebuffed most effectively and politely by the security official at the gatehouse, but I had seen enough from outside the fence to be intrigued.

Further enquiry put me in touch with the Communications Team, and through them I was granted special

access to the grassed area in front of the building and its landscaped pond, and permission was granted to photograph the outside of the building to illustrate the Newsletter of the NWGA. I am grateful for that permission and acknowledge the assistance given by staff at the WAG to make my visit possible. Why the interest, and what did I find?

The Senedd building in Cardiff is accessible on the waterfront, and much is made of its construction from Welsh, if not local, materials. Examples are the wide range of slates from different locations, and sandstones from Cwt-y-bugail Quarry near to Ffestiniog which form sculptural as well as structural elements. It is interesting that both this building project and the one at Llandudno Junction were able to specify the material from which they were constructed, and not end up mired, as was Hafod Eryri on Snowdon, in contractual issues and argument regarding the availability and suitability of stone sources, and whether EU tendering rules would be breached by insisting upon local stone. It is funny how stone from the same quarry can be called granite in one development and sandstone in another, but that's a digression. Apparently, 30,000 tons of slate were quarried for the Junction building, and six months employment guaranteed in the architectural department of Welsh Slate to produce it.

The Llandudno Junction office is clad throughout its three main 'galleries' in slate from Penrhyn Quarry - a total

of 2470 square metres - and is styled to be reminiscent of the galleries of a slate quarry in its completed form. What is very clever is the way that slates of a varied hue, albeit from the same source, have been used to describe strata on the faces of the building. The strata are horizontal, of course, which they might not be in nature, but they are carried throughout the site and give a pleasing unity. Another other factor is colour. While endless slate of a grey or bluish hue can be cold and drab, here the warm, heather-purple hue of Penrhyn is magnificently displayed, and the building is much more appealing as a result. Geologists will be familiar with the green veins, stripes and spots which result from the battle between the oxidation states of iron in slates, but I don't remember seeing a single one across the site, which shows that very high quality control must have been exercised. Instead, the purple is contrasted with a patina of green on copper alloy fittings and the *brises-soleil* (louvered sunshades over the windows), and blue-green tinted glass is used in the huge screens at the end of each of the 'galleries'.

"Green" features (*sensu lato*) are many, but for geologists the main ones relate to water. Rainwater collected from the roof is used after UV sterilisation for toilets, urinals and window-cleaning, while runoff is directed to the attenuation pond which makes the water feature in front of the building. This doubles as a cold reservoir for air-conditioning in

summer. You might also see in the picture that the attenuation pond has a very pretty beach constructed from rounded boulders and graded cobbles, but I don't know if this has anything beyond a decorative purpose, and there is no information regarding their origin on or off the site.

A non-geological feature of interest is the very handsome and evocative bronze sculpture on the grass by the Narrow Lane entrance - Welsh Mountain Pony by Sally Matthews.

All-in-all this is an impressive development with great geological resonance, and it will be interesting to see how it is viewed towards the end of its 60 year designed life-span.

### **Reviews of events:**

The Herdman Symposium – University of Liverpool 19<sup>th</sup> February 2011 – “Geoscience Frontiers”.

A Personal View from an amateur geologist

The first speaker to catch my attention was Dr Michael Russell (a Research Scientist at the Jet Propulsion Laboratory, California). His talk was about the emergence of life, and I found it fascinating, not that I understood all of the chemistry, but sufficient to follow his line of argument. Not for him the violent electrical discharges of the famous experiment which produced organic molecules from a mixture of gases

and water vapour in a sealed jar. But the gentle and 'minding my own business' activity of groups of simple chemicals that found themselves occupying the pore spaces of alkaline deposits above hydro-thermal vents. These chemicals, due to the 'proton gradient' across the alkaline walls which separated them from the carbonic oceans, carried out the reduction of atmospheric CO<sub>2</sub> and, to cut a long story short, eventually led to the production of the organic molecules which were / still are? thought to have arrived only from space.

Another talk that struck a responsive chord was the one by Professor James Jackson FRS of the University of Cambridge, about the geological history of continents and oceans. It followed very closely the Open University course I had done the previous year, and of course I followed every word.

A really interesting talk was then given by a Professor John Underhill of the University of Edinburgh on locating Odysseus' homeland. Having never read any of the ancient Greek stories however, did not prove to be a problem, much to my relief! But what a fascinating world of the application of modern day science was revealed! Because one of his main sponsors was an oil giant, initially he had met with some appreciable resistance to his work, but when the locals discovered his real motives they proved very helpful, even taking him round to see various other artefacts/structures dating from those distant times.

Finally a talk on the Iceland eruptions, but my hearing is not improving as I get older, and I found his Icelandic accent difficult to understand at times, but some good geology and photos.

A most stimulating and interesting day. I shall certainly be making a point of attending again next year!

Frank Buxton

**NWGA**  
**Geological Miscellany:**  
**Wednesday 9<sup>th</sup> March**

After a warm welcome from Julian, with a roaring fire in the drawing room; the assembled group of nearly 30 were treated to a very enjoyable evening upstairs. Despite the talks running late (very nearly 10PM) no one left early, and everyone learnt a lot.

Thanks are due to all who spoke and contributed to a very lively evening's entertainment:

Julian Bridges - Suevite and moldavite from Nördlinger Ries impact crater

Cathy O'Brien - Jurassic Plesiosaur? gastrolith from the Oxford Clay

Derek Jones - Halite from Winsford halite mine

Keith Nicholls - Trace fossils from Llangranog

Arthur Clarke - Trek to Nepal

Mike Bethell - 3D slickensides for identification (ongoing)

Jonathan Wilkins - Climate change in ancient wood and UV fluorescence demo of willemite / franklinite.

### **NWGA**

#### **“Kiruna – The mine that moved a town” Wednesday 13<sup>th</sup> April**

15 members enjoyed a fascinating talk from the Environment Agency’s Steve Parkinson on the mining operations at the Swedish Kiruna Iron Ore mine.

Mining is by sub-level stoping, and the consequent controlled collapse of the hanging wall now threatens part of the nearby town. The solution to this problem is not, as we would expect in the UK, limiting of the mining operations, but a programme of social engineering, reminiscent of politics in the style of the former Soviet Bloc. This involves systematic demolition and rebuilding of much of the existing town and associated infrastructure.

Geologically the ore body (magnetite) is a dipping feature associated with the apparently concordant contact between extrusive? rhyolites and trachytes, and underlying porphyritic syenites. In addition to the iron minerals present the site is also known to produce a number of increasingly commercially important rare earth metals.



#### **Dates for your Diary:**

**Field Meeting Saturday 7<sup>th</sup> May  
11.00 – 16.00 approx, Area Around  
Moel Faban, Rachub, Gwynedd.  
Upper Cambrian strata**

Leader: Anthony Heeley chairman  
Gwynedd RIGS

#### **ITINERARY DESCRIPTION**

To examine good exposures of the whole of the Upper Cambrian strata.

Excellent view points for the glaciated landscape of the Carneddau and Glyder ranges. Interesting erratics on the south flank derived from volcanics of Llewelyn Group and some enigmas. Then north east to the head of the intriguing Quaternary feature of Bwlch ym Mhwll-le and the nearby sites of prehistoric habitation. Then possibly going a little further along to the SE flank of Llefyn and Gyrn to examine the intrusive microgranites.

#### **TERRAIN DESCRIPTION:-**

Elevation gained on walk is roughly 200 m over a distance of 1 - 2 km,

moderate gradients in part over short distances. An easy walk it can be accomplished in 2 hours - to complete the geology and scenery 5 hours should be sufficient. Sturdy boots and normal walking gear would be appropriate. Bring a packed lunch.

CONTACT:-  
Cathy O'Brien

**Sunday 15<sup>th</sup> May – Geomon**

**Guided Walk: Cemaes Bay.**

Starts at 10:00AM, 3 hrs Duration.  
Cost £5 – booking through Geomon at 01248 810287

**Saturday 4<sup>th</sup> June – Geomon**

**Guided Walk: Lligwy to Meolfre.**

Starts at 10:00AM, 3 hrs Duration.  
Cost £5 – booking through Geomon at 01407 832555

**Saturday 11<sup>th</sup> June, 2011**

**Cambrian Quarry, Gwernymynydd (AM), and Rhydymwyn war time facility (PM) (Joint Meeting with NEWRIGS)**

The quarry allows visitors to see the Halkyn Formation superbly exposed. For those with an interest in former mining operations a short visit underground will be possible (please bring torch, hard hat and overalls). Please also note that some of the quarry floor is extremely uneven – sturdy footwear is essential. Prior booking is essential.

In the afternoon arrangements have been made to visit the Rhydymwyn Field Studies Centre to see outcrop of the Holywell Shales, and some

peri-glacial and alluvial features in the Alyn Valley. Lunch will be taken between 1:30PM and 2:00PM in the Field Studies Centre (Bring a packed lunch, or drop in at the Antelope or the Royal Oak as you pass!). This part of the day's activities will be lead by Stephen G Brown.

Contact Keith Nicholls

**Sunday 19<sup>th</sup> June – Geomon**

**Guided Walk: Rhoscolyn**

Starts at 10:00AM, 3 hrs Duration.  
Cost £5 – booking through Geomon at 01407 832555

**Saturday 2<sup>nd</sup> July – Geomon**

**Guided Walk: Newborough Forest**

Starts at 10:00AM, 5 hrs Duration.  
Cost £5 plus £3 parking fee – booking through Geomon at 01407 832555

**Sunday 17<sup>th</sup> July – Geomon**

**Guided Walk: Cemaes Bay to Llanpadraig**

Starts at 09:45AM, 3 1/4 hrs Duration.  
Cost £5 – booking through Geomon at 01407 832555

**Friday 9<sup>th</sup> and Saturday 10<sup>th</sup>**

**September - Geologist's Association Meeting: Geoconservation for Science and Society – an agenda for the 21<sup>st</sup> Century, Worcester**

One day conference followed by field excursion to Wren's Nest NNR and other sites. Conference cost £20 for GA members, £30 for others. Registration – by e-mail to Sarah Stafford at: [geol.assoc@btinternet.com](mailto:geol.assoc@btinternet.com)

### **Web News**

Readers, particularly anyone with interests in the geology of the English Midlands, may well find it worthwhile checking out the following web site launched under the banner of the Museums, Libraries and Archives Council.

<http://geologymatters.org.uk/>

### **Social Network Media**

Follow the links below to hit on the Association's new Facebook and LinkedIn pages. These are intended to be interactive networking media, in no way replacements for either the "Ampyx" website or this Newsletter – just another tool in the box to allow us to keep in touch with one another.

<http://www.facebook.com/group.php?gid=124728527538749>

<http://www.linkedin.com/groups?mostPopular=&gid=3031675>

Finally a note of thanks to John Booth, Managing Director of

**geotechnics**

in Chester who has agreed to fund colour reproduction of our Newsletter for the foreseeable future.

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