

Conserving Warwickshire's  
Geological Heritage

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cutting**

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cutting**

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**WGCG**

Hidden wonders  
in the landscape  
of Warwickshire

**Newsletter**  
**Autumn 2011 Issue Number 22**

*Mountsorrel  
field trip*

## From the Chair

The summer has seen an extended programme of field trips being run and, I'm pleased to say, being well supported by members and visitors. We experimented with two Saturday meetings – to Mountsorrel and to Wren's Nest at Dudley – both of which were reasonably well attended although whether they attracted members who are unable to join us for the Wednesday meetings is perhaps questionable.

September will be a transitional month when we continue with the Clwyd field weekend, based in Llangollen, followed by a Sunday visit to Kirtlington Quarry, Buckland's grave and the Oxford Natural History Museum on 2nd October. This leads in to our 21st Anniversary celebrations with a star-studded cast of speakers heading for Warwickshire over the winter (see end pages), the first being the eminent landscape historian, Dr Della Hooke who joins us on 21st September.

Since Easter, good, if sporadic, progress has been made on two important fronts – our application to the Charity Commission for charity status, outlined on the page opposite, and the investment of the proceeds from the legacy left to the Group by Rob Holloway. The sale of the second house was completed in August so that there is now a substantial sum of money to be invested, a task delegated to the Holding Trustees, David Coates, Jim Watts and Brian Ellis, appointed by the Management Committee.

For those who helped, it may seem a long time ago, but it was only the end of May when WGCG made its first foray into 'outreach' events. Starting with the Kenilworth Festival in May, we then had a presence at the Coventry Godiva Festival in July, quickly followed by another Museum event the same month. Everyone who took part – and that is more than 20 members – seems agreed that it was well worth the effort with a great deal of interest being shown in the Group exhibits. Hopefully, we can expand this programme for 2012 so ideas on suitable events would be very welcome. It would also be wonderful if one of our ever-helpful members would take on the task of organising the practicalities of next year's programme. Give me a call (01926-512531) if you would be willing to consider this challenge!

There's a lot to look forward to over the next few months so bring your friends along and show them that geology is not only fascinating but also very diverse!

**Ian Fenwick**



**WGCG**  
Hidden wonders  
in the landscape  
of Warwickshire

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## A Charity by October ..... hopefully!

You must think that the saga of the Group's application to be a charity will never end. However, the news is good. After much to-ing and fro-ing involving justification of our activities and clarification of several points, the Charity Commission came back to us in July to say that they would be 'happy to invite registration of the organisation as a charity'. But .... they asked for a reduction in our Objects from three to two, although the Trustees are satisfied that this will have no material effect on our activities. Rather than call yet another Special General Meeting, the Committee decided that this matter should be dealt with at the AGM and it will form part of the agenda for that meeting. All being well, we should officially be designated as a charity by the end of October.

## Out and About on our Local Sites

### No. 5: Rowington Canal Cutting (LGS 28)

Ian Fenwick

Many of our sites are best visited once the vegetation has died back and the rock face is better exposed. The canal section at Rowington (access at GR SP 2022 6901) is one such. If you consider a view from the opposite bank to be adequate, it is also one of the most accessible.

As members discovered when they visited Rowington church in the summer with Martyn Bradley, this was an important geological location in the nineteenth century when Rev. Peter Brodie was so active in his search for fossiliferous evidence from the Trias. The cutting provided him with a ready-made section through a key part of the Mercia Mudstone Group succession and can still yield a variety of evidence. However, as you will see from the photo., the lower part of the section has become covered in talus and heavily overgrown so much of the lower part of the sequence has been lost.



Beneath the talus bank are 12m of dark red silty mudstones belonging to the Sidmouth Mudstone Formation. This passes up into the very distinctive Arden Sandstone Formation, most of which is visible and is here some 6m thick. It consists of white to pale buff and red sandstones with green mudstones and siltstones. The sandstone beds often show ripple marks, current bedding and occasionally desiccation cracks, all suggestive of deposition in fairly shallow rivers with a seasonally variable discharge. Indeed, the rivers may have all but dried out during the dry season. In the past, the site has yielded significant fossils, notably fish including the type specimen of *Dictopyge superstes* (Egerton), but also fish spines and teeth, reptile footprints, bivalves, crustaceans, and derived plant material. Some of the fishes and bivalves were discovered by the Rev. Peter Brodie in the Shrewley-Rowington area and three were named after him. Trace fossils have also been found.

The site was originally designated an SSSI, but this protection was removed, since when it has been one of our most important Local Sites. But it is obvious that some serious conservation work is necessary if the full splendour of this site is to be revealed.

# Mountsorrel

## Ordovician granodiorite and Pleistocene tills

Mike Howe

On Saturday 9th April 2011, the Group benefitted from some unusually good weather and the contacts between the leader, Ian Fenwick, and the Mountsorrel Railway. The Mountsorrel Railway Project is a charity established to reinstate the former quarry branch line between the Great Central Railway and Mountsorrel. The line allows access to Nunckley Hill Quarry, a small disused quarry in the Mountsorrel granodiorite; and the cutting back of an old cutting to allow access for longer rolling stock has exposed an excellent section showing the relationship between the Oadby and Thrussington tills.

The party assembled at the Wood Lane railway bridge near Rothley, and made its way, almost without misadventure, over the barbed wire and down to track level, where it inspected an exposure of till, before continuing to Nunckley Hill Quarry (see cover photo). Fresh ballast along the track bed (presumably from the nearby Buddon Wood Quarry) showed some nice examples of small inclusions of finer grained, darker, diorite within the granodiorite. Nunckley Hill Quarry is well overgrown, but still includes some good exposures in the granodiorite, which the party studied. The leader and several of the participants then commented on and explained aspects of the petrology, mineralogy and plate tectonic setting. Most of the outcrop was coarse grained, with discernable quartz, pink orthoclase (alkali) feldspar, plagioclase feldspar and some biotite and possibly hornblende. Isolated pieces of fine grained aplite were also found; these were probably late stage injections of magma after the initial intrusion had crystallised and cooled. The final stage of cooling was represented by hydrothermal mineralisation along cracks: copper and molybdenum mineralisation are known in the Mountsorrel area. The general tectonic setting was that of a subduction zone, with the closing of the Törnquist Sea in the late Ordovician, bringing together the plates of Baltica (Scandinavia) and Avalonia (England, Wales and parts of Europe).

The party then continued under the Wood Lane bridge, negotiating a sizeable flood with few casualties, and along to a freshly exposed cutting. This demonstrated the junction between two till units: a lower red till with typical Triassic quartz pebbles, ironstone nodules and coal fragments (the Thrussington Till, sourced from the Triassic and Carboniferous outcrops to the north west) and an upper brown till with flints, chalk and typical Jurassic pebbles (the Oadby Till, sourced from the Jurassic and Cretaceous rocks to the north east). The fact that the junction between the two units appeared to be planar suggested that the Thrussington Till must have been frozen at the time when the glacier depositing the Oadby Till moved over it. It is very rare to see the two tills in juxtaposition, and it provided plenty of opportunity to speculate on the ice sheet(s) responsible.

The party then returned to their cars. Unfortunately permission to visit the disused quarry in Mountsorrel (a SSSI) had not been forthcoming and so, after lunch, the party continued to hunt for *Teichichnus* trace fossils on Swithland Slate gravestones in a nearby churchyard. The discovery of *Teichichnus* in the Swithland Slate Formation demonstrated that the upper part of the Charnian Supergroup was of early Cambrian age, and not Precambrian as had previously been thought. *Teichichnus* is an infilled burrow, three examples of which are visible above the 2 on the right hand side of this gravestone, photographed on a previous trip to Newtown Linford Churchyard. Hours of fun may be had trying to locate it....



## Future Field Trips

### What?....When?....Where?

**David Coates**

Over the last few years the Group has arranged one or two weekend field trips each year for members, in addition to the regular summer evening excursions. Going away for two or three days lets us visit areas further from home of course, but it also gives us the time to get to grips with the geology of an area. For example, we have spent some trips working our way through time up a geological sequence or studying geological structures on a large scale.

The trips also have an important social function: they have let us get to know our fellow members better and allow new members to bed into the group. We always seem to do well in terms of tuition, either from our own in-house professionals or from local experts who have been happy to spend their time with us. All in all, most of us who have attended them have found them good fun and very educational. We've also been improbably lucky with the weather.

Accommodation has ranged from Youth Hostels (we once block-booked a small hostel in Wales solely for the Group, and did our own catering: that was fun, and no more than slightly stressful) to budget hotels. Weekend trips generally run from Friday to Sunday afternoon, although we have had a Saturday-Sunday trip last year and we have run over into a Monday on occasion.

All trips take organising of course, and the task is to arrange trips that line up with members wishes and expectations. For the last couple of years the Education Committee has set up weekend trips in places that we have hoped members will enjoy and then advertised them to the Group. The weekends have been well attended, but have often been put together at quite short notice, involving a scramble to find suitable accommodation.

For the future, the committee would like to get more of a feel for what kind of excursions members would be interested in and to draw on your knowledge of places to help with the planning process. For 2012, we are thinking of arranging a trip to Dorset and also one to South Wales – one in May/June, the other in September, subject to availability of tutors and accommodation. Aberystwyth is being looked at for 2013. Other ideas in the pipeline are (in no particular order):

*Malham/ Craven country*

*Shropshire*

*E. Yorks and Lincolnshire*

*Lake District*

*Snowdonia*

*Galloway*

*Edinburgh and Lothian*

*South Downs/ Weald*

*Reading/Newbury*

*Castleton and the Dark Peak*

*Arran*

Obviously, short 2-3 day trips, need to be reasonably close to home – say up to 3 hours drive. More distant locations may need a long weekend (Friday morning to Monday evening) and the most remote would only be justified if we went for a full week. The point of this article then, is to seek feedback and information from members:

- Would you be interested in residential trips at all?
- What sort of accommodation do people prefer?
- For example, are people happy to share rooms to keep costs down, or use dormitory (YHA-style) accommodation if it is available?

*Note: it is often difficult to find bed and breakfast accommodation for large groups, particularly since we do not divide neatly into couples. Most B&Bs now seem to provide double-bedded rooms as standard, with relatively few twin-bedded rooms. On a shared-room basis, a two-night stay typically costs about £100 - £120 per person; booking single rooms would double this. Also, the party invariably ends up split between several B&B establishments. Ideal accommodation for a group like ours may be a field-study centre, Holiday Fellowship, university hall of residence or similar.*

- Are you happy to keep to the current format of Friday to Sunday, or would you consider excursions extending over a longer weekend or a week or more?
- Would you be interested in going to more remote locations, such as the Highlands, Hebrides, or even the continent? (Many of us enjoyed the one-week Colonsay trips run by Maurice Rogers several years ago, where some of us shared a rented house and managed our own catering).

We would hope to put together a rolling programme of potential trips running a few years into the future, giving ourselves time to gather necessary information and putting arrangements in place. To that end, if anyone is visiting any of the areas listed above, or anywhere else of geological interest, we would be grateful for any information you can obtain on for example:

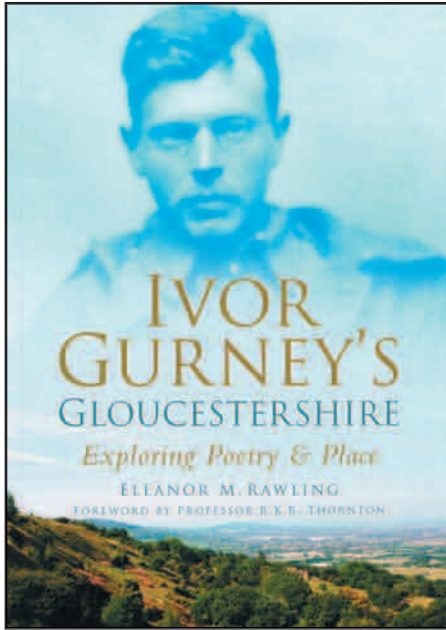
- Places to stay
- Places to eat
- Geological exposures
- Interesting local museums
- Names of local experts who might lead a trip for us

Experience has shown that it is often a lot easier to pick up this information locally than by spending long hours on the internet or phone! We'd like to get the feel of what kind of trips people like as quickly as possible, so please get in touch with your views and ideas. Either email me or phone me (details below) or grab me, John Crossling or any other member of the Education Committee at a group meeting. For the long term intelligence gathering, just feed in whatever information you have whenever you get it. It will all be useful.

**David Coates** Telephone: 07779 448170 Email: [djcoates@iee.org](mailto:djcoates@iee.org)

## A Different View

**Brian Ellis**



Most of us are familiar with a landscape on our doorstep – the sweep of the Cotswold scarp, the rolling plateau and its deep valleys, the high hills and the views of the Severn plain below with in the distance the outline of the Forest of Dean. This was the home territory of Ivor Gurney (1890 - 1937) the composer and poet. The meaning of this landscape for him, its geology and geography, its buildings, woods, farms, lanes and paths is told in an engaging new book by Eleanor Rawling:

*'Ivor Gurney's Gloucestershire: Exploring Poetry and Place'* published by The History Press.

It tells how he explored and learnt the area in his youth, how he treasured the memory of it while in France during World War One and most painfully how he yearned for it during his long incarceration in an asylum from 1922 until his death in 1937.

The biography and the author's reflections on the poetry are intimately bound with descriptions of the area's geology and geography, especially using the descriptions in W. Dreghorn's book *'Geology Explained in the Severn Vale and Cotswolds'*. Rawling illustrates how Gurney's acutely developed sense of place and intimate knowledge of the Severn Vale, Gloucester and the Cotswolds to the east is reflected in his poetry. Here is his rendering of the Cotswold scarp slope:

*Wonderful falls makes Cotswold edge, it drops,  
From the roadway, or quarry or young beech copse,  
It gestures, and is below in a white flash,*

[The 'white flash' meaning the well-worn footpath.]

A river cliff (Wainlode Cliff) on the Severn is seen like this:

*If England, her spirit lives anywhere, anywhere,  
It is by Severn, by hawthorns and those grand willows...  
Earth heaves up there twice a hundred feet in clear air;  
And muddy clay falls sheer or scooped out of the shallows, ...*

While there is much lyrical topographical writing in the poetry there is also much which reveals what the landscape meant to Gurney. This is an extract from a poem (*The High Hills*) written while he was in the asylum:

*The high hills have a bitterness,  
Now they are not known  
And memory is a poor enough consolation,  
For the soul hopeless gone.  
Up in the air there beech tangles wildly in the wind  
That I can imagine  
But the speed, the swiftness walking into clarity,  
Like last year's briony are gone.*

The book ends with suggestions of routes for walks which may well have been taken by Gurney, reconstructed by the author from evidence in the poetry. These together with the clear text, photographs, maps and diagrams and extensive examples of Gurney's poetry reveal Eleanor Rawling's own love of the area and of Gurney's poetry but also encourage the reader to take a different view of a 'classic' English landscape.



*Crickley Hill*



*Devil's Table on Crickley Hill*

## Kenilworth Cutting progress

**Brian Ellis**

On 2nd of June Keith Butterworth and I had the fun of directing operations on our new Local Geological Site on the line of the new Sustrans cycle way with a digger and driver made available through the good offices of the County Council Rural Services and by courtesy of the contractors Airtay.

We made some progress in cutting back into the exposure to reveal more of the structure of the Kenilworth Sandstone outcrop and what looks like an overlying mudstone. The skill of the driver was impressive as he was able to remove debris, talus and some geology with great accuracy and delicacy.



The amount we could remove was limited by the potential instability above the site, by the risk of damaging the bedding planes at the top of the sandstone and by the reach of the digger. Since then, the base course of the cycleway has been laid and the finished surface will be rolled in before the route is opened at the end of September.

This leaves the final stage of detailed clearing to be done manually by another working party of volunteers. However the work already accomplished has revealed that this is a very worthwhile site with good opportunities for interpretation and display which should enhance the experience of people using the footpath and cycleway.

## Glacier movement

**Mike Allen**

I read with interest Brian Ellis' article on the subject of glacier "advance and retreat" (or should I say "waxing and waning" or even "growth and wastage"?). Such lines of evidence from old documents are a fascinating application of "mundane" historical records which helps to create connections between the natural world and the "human condition". Some years ago I was preparing a lesson on "how fast geological things happen" which included a diversion into physical geography and this very subject. From a somewhat eclectic and rather random series of sources I too arrived at the conclusion that there was considerable variation in both the growth and wastage rates of glacier ice.

Glacier (Region)	Altitude (at base)	Latitude (approx.)	“Movement” (growth or retreat)	“Geo-Rate” (+ / -)
<b>Briksdalsbreen</b> (Norway) <i>(Jostedal Ice Cap - opposite the Nigardsbreen mentioned in article i.e. western side of ice cap)</i>	c.1000m	62° N	530m retreat (1800 to 1920) 510m retreat (1920 to 2004)	-4.4 m/yr -6.1 m/yr
<b>Engabreen</b> <i>(Norway: Svartisen Ice Cap - further north, but at lower altitude, almost to sea level)</i>	<100m	67° N	150m retreat (2000 to 2006)	-25 m/yr
<b>Rhone</b> (Swiss Alps)	c.2000m	46.5° N	3km retreat (1802 to 2005) <i>(but range -2.5 to -47 m/yr!)</i>	-14.8 m/yr
<b>Upsala</b> Patagonia  <i>(Described as highly unstable.... with much variation between E. and W. parts)</i>	c.250m	50° S	400m advance (1968 to 1978) 2100m retreat (1981 to 1984) 1200m retreat (1990 to 1993)	+40 m/yr -700 m/yr -400 m/yr
<b>Perito Moreno</b> Patagonia  <i>(Described as unusually highly stable for perhaps the last 1000 years) (* * thereafter it appears to have fluctuated only slightly, but because this alternately opens and closes off an arm of Lago Argentine, severe flooding can result when the blockage is breached on retreat or by “damburst”)</i>	c.200m	50.5° S	750m advance (1900 to 1917**)	+44 m/yr
<b>Hassanabad</b> (Batura Group, Karakoram)	c.5000m	36.5° N	9.5km advance in a few months (1900) 6.4km retreat (c.1900 to 1950) 3950m advance (1950 to 1980)	c. +20,000 m/yr!! -128 m/yr +132 m/yr

If these statistics aren't enough for you, then it might also be worth noting the decline of the Kilimanjaro Ice Field. This has diminished in area from 12.5 sq. miles in 1889 to just 1.5 sq. miles in 2003, through a process of sublimation... and not, apparently, anything to do with global warming. (This is perhaps supported by a sharp reduction in the rate of decline as can be determined from the intermediate figures of 7.5 sq.ml. in 1912 and 4.3 sq.ml. in 1953).

Another dimension to the discussion is the “flowrate”. the speed at which the ice physically moves downhill. This can also vary considerably from place to place. Data I have come across shows a range from (at least) 360 m/yr (? slow - in the Antarctic) to 7000 m/yr (? very fast - in Greenland), and, of course, speeds vary across the ice front; for instance the Perito Moreno glacier flows at only 45 cm/day at the edges, but at 170 cm/day in the centre.

Quite what all this data tells us is up to interpretation, no doubt. To me it suggests that many factors control the detail of ice development and destruction and begs the question just how it all interacts with the global climate issue. As for what carries our planet into, or out of, an “Ice Age” that is a question more complex still!

# WGCG Evening meetings 2011 - 2012

- 21st September 2011 - Dr. Della Hooke** (Birmingham University)  
*Warwickshire's Historical Landscape: The relevance of geology & soils*  
(To be held at the Senior Citizens Club, Southbank Road, Kenilworth)
- 19th October 2011 - AGM followed by Jim Passmore**  
*Early Geologists & Geological Maps*  
(To be held at the Senior Citizens Club, Southbank Road, Kenilworth)
- 16th November 2011 - Professor Jim Rose** (University of London)  
*The Bytham River Story*  
(To be held at the Cheshire Science Centre - Lecture Theatre,  
Warwick School, Myton Road, Warwick)
- 21st December 2011 - Christmas Social & Members displays etc.**  
(To be held at the Senior Citizens Club, Southbank Road, Kenilworth)
- 18th January 2012 - Professor Ian Stewart** (University of Warwick) -  
*A mathematician looks at Geology and Landscape*  
(To be held at the Senior Citizens Club, Southbank Road, Kenilworth)
- 15th February 2012 - Professor Chris Stringer** (Natural History Museum)  
*The "Ancient Human Occupation of Britain" project*  
(See: [www.ahobproject.org](http://www.ahobproject.org))  
(To be held at The Studio, Royal Spa Centre, Newbold Terrace, Leamington Spa)
- 21st March 2012 - Roy Starkey** (Russell Society)  
*The mineralogy of Scotland, a personal view*  
(To be held at the Senior Citizens Club, Southbank Road, Kenilworth)
- 18th April 2012 - Dr. Howard Falcon-Lang** (University of London) -  
*Coal Forests and Climate Change*  
(Venue to be advised)

*Shortly before each lecture details will be sent out by email together with a map showing the location of the venue.*

## **Arrangements for the unexpected cancellation of meetings:**

An email will be sent to all members, and phone calls to those not on line.

**The WGCG mobile phone will be answered on the day.**

**The number to ring is 0752 7204184**