



# THE BLACK COUNTRY GEOLOGICAL SOCIETY

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## Editorial

Many important geological exposures are in the process of disappearing or are threatened. This is only too clear following recent lectures and field trips and studies at Pouk Hill, Wren's Nest and other sites. The BCGS must take up the challenge by creating a positive working relationship with interested (or in some cases disinterested) bodies and also by being ever watchful.

The Health and Safety at Work Act has made life somewhat difficult for geologists visiting exposures on private land. It is in our own interests to be safety conscious during field work at all times. The Committee, therefore, is recommending, as a first step, that helmets are worn in quarries and at large outcrops. Helmets will be available for purchase at forthcoming meetings.

## Field Excursion to the Eastern Boundary Fault at the Walsall Inlier, Sunday 18 July 1976

About a dozen members met at the Royal Oak, Daw End, Walsall, to examine the geology of the Walsall area. Peter Whitehead acted as guide.

The first locality visited was the Daw End Railway cutting, which was studied from the Dales Lane Bridge, as permission to enter the cutting is virtually unobtainable. In the cutting, the Wenlock Shale is seen to dip west at about 10°, and is overlain by Lower Wenlock Limestone - several good 'crogballs' are exposed, these being interpreted as patch-reefs. This limestone has been quarried along its outcrop in Walsall, but the quarries, in most cases, are overgrown.

Along the cutting runs the Daw End Fault, which brings down the limestone by Bosty Lane, and here, in Linley Wood, old workings and crownings show the Nodular Beds overlain by Middle Coal Measure sandstone and

conglomerates. The underground workings are unsafe. The site is rapidly deteriorating, and it was felt that some action to conserve it should be made.

The party then drove to Barr Beacon. Fine views over the Black Country as far as Sedgley, with the Wrekin on the horizon, made this stop profitable alone, but the Permo-Triassic succession of the Barr Beacon ridge was also investigated. It has an eastward dip, and the sediments show a palaeocurrent from the south. The absence of Lower Mottled Sandstone from this side of the Coalfield implies that the Coalfield block acted as some kind of control on sedimentation during the Permo-Trias.

Having seen sites on both sides of the fault, the party then moved to a locality of great geological importance, as it lies exactly on the Eastern Boundary Fault: the Three Crowns Public House. A full investigation of this exposure proved a pleasurable way of spending lunchtime. The cars were left (wisely?) in the car park, and the party walked along the outcrop of the Barr Limestone, a few exposures of which still remain in the Hayhead Quarries. At the end of the quarries, the fault itself can only be traced by a change in soil and vegetation.

From Three Crowns, the party drove down Skip Lane, noting old coal pits in Halesowen Beds next to the fault, which indicates a throw of some 800 m. Finally, the party saw a small exposure of Upper Llandovery sandstone at the Aston University Sportsground in Birmingham Road. This outcrop is on a horst in the fault complex, and these are the oldest exposed beds in Walsall. A Cambrian basement was proved by borehole in 1937.

Hence, the Walsall area shows great geological variety, but is regrettably only exposed in a few good sites.

### Next Formal Meeting - Annual Social

This year, the 'get-together' of members will be on Thursday 18th November at the 'Old Mill', Windmill Street, Upper Gornal, Dudley. Come and enjoy a cosy, friendly evening with a superb buffet. Tickets £1.50 from Eileen Bakewell (Kingswinford 79589).

### Next Lecture - 9th December

Doug Bedson will lecture on 'The History of Tectonics', Dudley Library 7.45 p.m. Tea and biscuits at 7.15 p.m.

### Trip Through Dudley Canal Tunnel

On Sunday August 22nd, approximately 56 members and friends enjoyed a guided trip through Dudley Canal Tunnel. John Horton of the Canal Trust described the construction of the tunnel and the interesting features as they were reached.

The first 150 yards are the oldest part of the tunnel and leads to Skirts Hill Basin and then Castle Hill Basin. The latter is interesting geologically and can be reached by foot. There are 3 exits from the Basin, two forming the present tunnel and the other leading to the disused and blocked Wren's Nest Tunnel.

The main section of tunnel 2904 yards long cuts through a variety of rocks and the tunnel has been lined where the rocks are soft or unstable.

The first notable feature is Cathedral Arch which is the underground junction of canals leading to disused mines beneath Castle Hill.

Quarry Pit, one of the original constructional shafts has some beautiful oxide stained stalactite formations. Calcite formations are found throughout a large proportion of the tunnel in the form of "curtains" stained by iron oxide and calcite straws hanging from the roof.

The tunnel was started at various places along its course and the effects of this can be seen in the Basalt Cavern at 39 chains. This is an unlined section and shows the shot holes drilled from opposite directions. This is the only point from which both ends of the tunnel can be seen.

The southern end of the tunnel has been affected by mining subsidence resulting in "The Bulge" and "The Gaol" where a complete layer of brick had to be removed to allow boats through.

The last 10 chains of the tunnel were rebuilt in the 19th century because of mining subsidence. This is also the driest part of the tunnel because water drains through the tunnel to disused mine workings below.

During the two hour trip, members were given an opportunity to 'leg' the boat and several people including children took up the offer and managed to propel the boat for a short distance.

At the end of the trip, members were given the opportunity to purchase booklets and souvenirs. If anybody else would like copies of the Dudley Tunnel booklet, please contact the Hon. Secretary.

### The Black Country Geologist

A number of publication problems have held up the appearance of The Society's Journal. Every effort will be made to produce it as soon as possible.

### Mucklow Hill Exposure

It is hoped that as soon as the recording at Pouk Hill is complete, more time can be spent at the Mucklow Hill exposure. The latter is proving to be extremely significant with much debate about the form of the junction between the Etruria Marl and the Halesowen Beds. All excavations in the area must be carefully monitored, and these and existing exposures mapped.

It is hoped to fix a field trip date in the near future.

### Conserving Shropshire's Geology

The Society was pleased to welcome Dr. Toghill on September 23rd who started his lecture by defining the word conservation as: Active intervention to A) Make sites last longer, or B) To preserve a site for ever.

With the use of some excellent slides, Dr. Toghill in his role as a member of the Shropshire Conservation Trust showed how he was actively involved in both types of conservation.

Using grants made available by the Nature Conservancy, the Trust has been able to erect signs and fences at various sites within Shropshire. The signs are used to good purpose and include information about the history of the site, access and restricted areas. These signs have been very effective and have helped to prevent further "student erosion" at sites which are famous and consequently attract a lot of attention.

Sites well known for their sedimentary structures also have signs and these display an extra line "No Hammering Please". Again these have been effective.

The Trust, with the aid of a Palaeontological Society Grant have purchased an old quarry. of new exposures and closed old ones. The new exposures have been made available for research and it is hoped that students and teachers of geology will respect them.

Dr. Toghill outlined the policy of the Trust in making new sites available especially those which may be affected by quarrying. He also mentioned the work of the Forestry Commission who, during the last 6 months have cleared the quarries along the Wigmore Road at Ludlow. The Nature Conservancy with the Shropshire Conservation Trust are currently writing a trail guide to these exposures. However, a totally new solution will be needed for the exposure at Ludford Bridge in Ludlow where the Ludlow Bone Bed is exposed!

During his lecture, Dr. Toghill mentioned the work of some American friends who have been collecting samples of bentonite clay for radiometric dating. A recent test gave a date of 453 million years for a bentonite in Ordovician Strata close to its junction with Silurian Strata. Dr Toghill has found various bands of bentonite clay in the Silurian Rocks of Shropshire. This leads to the possible conclusion that there was volcanic activity in Silurian times on a much larger scale than was thought previously.

Dr. Toghill's lecture provided a useful guide to the way in which the Society might direct its own thoughts and some ideas as to the methods which can be used in recording, research and conservation.

## Pouk Hill

The recording of sections at Pouk Hill is nearing completion. A final field trip was fixed for the morning of Sunday 31st October. This may be our last chance to see the excellent exposures of dolerite before they are buried beneath the waste of a thousand homes.

## Programme 1977

January 6th. "The Geological Survey . Sheet 167- Dudley and Bridgnorth". An informal discussion. Dudley Library 7.15 p.m.

January 16th. Field Trip. A. Cutler B.Sc. "The Western Boundary Fault". Meet Dudley Library 9.45 a.m. Bring a packed lunch.

February 17th. Lecture. Colin Knipe B.Sc.F.G.S. "Faults and Folds of the S. Staffs Coalfield". Dudley Library, 7.45 p.m. Tea & biscuits 7.15 p.m.

March 10th. Annual General Meeting, Dudley Library.

March 20th or 27th. ~~Local Field Trip - The Pleistocene Glaciation.~~ *When Next?*

April 21st. Film Night - Dudley Library.

May 12th. Informal Meeting - Dudley Library.

May 22nd. Field Trip - W.J. Norton F.G.S. "The Ludlow Anticline".

June 9th. Informal Meeting - Dudley Library.

June 18th. Field Trip - P. Whitehead - Castleton Area.

July 7th. Informal Meeting - Dudley Library.

July 10th or 17th. Aust Cliff & Severn - Field Trip.

August 4th. Informal Meeting - Dudley Library.

August 14th. Field Trip to the Cotswolds.

September 4th. Field trip (morning only). Birch Coppice Opencast.

September 22nd. Lecture - T. Pettigrew, formerly British Antarctic Survey now with Sunderland Museum.

October 6th. Informal Meeting - Dudley Library.

October 9th or 16th. ~~Possible Field Trip to Charnwood Forest.~~

November 17th. Social Evening.

December 8th. Members Evening - Dudley Library.

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