



NEWSLETTER NO.30 - DECEMBER 1981.

The  
Black  
Country  
Geological  
Society

Editorial.

It was always intended that the society should establish a comprehensive photographic collection, but action has not been possible until now because of pressure from other early activities, and the lack of suitable storage space.

A photographic collection will be useful in many ways, for general reference, displays, lecture support, and as an integral part of the site documentation scheme. Now that we have storage facilities in the Allied Centre, the conservation sub-committee would like to start the project. We would like all the photographs or duplicates that you would like to donate, of Black Country sites, general views, society field trips, and holiday snaps with a geological interest. Negatives and 35mm. transparencies will be particularly welcome.

Peter Parkes is co-ordinating the project, and can be contacted at 393 Wrens Nest Road, Dudley.  
Tel.Sedgley 75895.

A.C.

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Next Meeting.

December 7th. "The Geology of Antarctica."  
Lecture by Professor D.D.Hawkes, of Aston University.  
For 1982 programme, see next page.

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Meetings are held at the Allied Centre, Green Man Entry, Tower Street, Dudley, behind the Malt Shovel pub. Indoor meetings will commence at 8pm. with coffee and biscuits from 7.15. Field meetings will commence from outside the Allied Centre.

Non-members welcome.

The society does not provide personal accident cover for members or visitors on field trips. You are strongly urged to take out your own personal accident insurance to the level which you feel appropriate. Schools and other bodies attending field trips should arrange their own insurance as a matter of course.

*Chairman*  
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*Field Secretary*  
Anne Harrison B.Sc., M.B.,  
Ch. B., F.F.A.R.C.S.

## 1982 Programme

Jan.11th. The Development of Geology in Staffordshire and adjacent areas (1660-1820) Lecture by Dr.H.Torrens of Keele University.

Feb.1st. Informal Meeting.

Feb.7th. Field trip to the Abberley Hills. Leader Peter Oliver.

March 22nd. Annual General Meeting and Horizon film."The Drifting of the Continents."

April 5th. Informal meeting.

April 18th.Trip to Whitwell Dolomite works and Creswell Crags.

April 23rd-25th. Weekend trip to Dolgellau. Leader Mr.Graham Hall. Accommodation at Dolgellau Youth Hostel, cost less than £15 for accommodation and meals.

Programme: Friday, evening meal at 7 pm. followed by lecture and slides. Mr.Hall will make the final decision but hopes to include:- Ordovician volcanics including his recent research into the relationship between volcanic centres and plate tectonics; Caledonian mineralisation; Visit to a slate mine to see various cleavage structures; Cambrian sediments to see decompositional structures.

If you would like to come on this field trip please let Anne Harrison know as soon as possible. There are 20 places. Note Anne's change of address. 15, Duncombe Grove, Harborne, Birmingham 16.

May 10th. The Evolution of the Landscape of the West Midlands. Lecture by Dr.G.T.Warwick.

June 7th. Evening field trip.

June 21st. Evening field trip.

Jul. 12th. Informal meeting.

Jul.18th. Field trip to Derbyshire to see the Central Pennine Basin. Leader Peter Whitehead.

Sept.13th. Meteorites; Building Blocks for Planets. Lecture by Dr.John Ashworth of Aston University.

Oct.4th. Informal meeting.

Oct.10th. Joint field trip with Shropshire Geological Society, to sites of interest in Shropshire.

Nov. To be arranged.

Dec.6th. Glacial Deposits. Lecture by Mr.Edward Francis of Keele University.

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### Informal Meetings.

At present all our meetings are fully occupied with lectures or field trips. Members have only brief opportunities to get to know each other and discuss topics of mutual geological interest. Next year we are introducing a new type of meeting on Monday evenings. These meetings will be very informal. About half an hour will be spent discussing the next field trip. The rest of the evening will be free to allow members to get together.

It is hoped that those members who have collections of specimens will bring them to these meetings to show to others. Those who feel inspired may wish to construct a small display with explanations and diagrams to complement the specimens. By making arrangements informal, we would also like to encourage members to give short talks. These talks could last anything from 5 to 20 minutes. Being short and lacking the "image" of a lecture, they might be given by members who lack the courage, or who imagine they lack the qualifications, to give a lecture. If anyone would like to take up either of these suggestions, please let me know. I can then arrange for some advance publicity in the newsletter.

If you do not feel like talking or exhibiting, please come along anyway and enjoy a pleasant evening in the company of fellow geologists. If you have a specimen which you cannot identify, bring it with you and with a bit of luck someone will identify it for you. There will also be the opportunity to browse through the society's collection of books and maps.

A.H.

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Problems of a Programme Organiser.

Dear Madam Editor,

The B.C.G.S. was reborn in 1975. In terms of membership, the society has been very successful. However the increasing number of members has not been reflected by increasing attendance at meetings. About six members attend nearly every meeting, but some other members attend only one or two meetings per year. Last year was difficult for many people because the weekday meeting night changed from Thursday to Monday. This year the committee hoped that attendance would improve more than it has. One explanation could be that the programme we provide does not interest some of our members. If this is so, we would welcome any suggestions for lectures or field trips.

Transport is a problem for some people, especially for the Sunday trips. If more people attended we could provide a coach. It takes forty people to make the hire of a coach financially sensible. However, I am very willing to try to arrange a lift for any members who have difficulty arranging their own transport.

If you have any comments, suggestions or criticisms, please tell me or any member of the committee.

Yours worried,  
Anne Harrison.  
(Field Secretary)

July 27th.1981.

Evening field trip to the water supply site at Ounty John Lane, Stourbridge.

This well attended field trip was arranged at short notice because of its topical nature and the availability of engineering staff to show us round the private farm land area.

The Severn-Trent Water Authority has an artificial recharge system in the Bunter Sandstone aquifer on the western edge of Stourbridge. The system is capable of supplying ten times the needs of Stourbridge, a great deal more cheaply than by using dams and reservoirs. The water comes via the aqueduct from Trimpley, and would otherwise be lost to the sea. The aqueduct has been tapped, a treatment works set up, and five boreholes drilled into pebble beds to 162 metres. Colloids and silts are filtered so that the works are not clogged. Occasional backward pumping clears the filters of the sediments, which are then settled out.

We were shown the rotary rig which was in current use, and the percussion rig alongside which put grout down the eccentric annulus. It was necessary to fill in support for the steel lining tube so that it should not slide down, and this had presented unique engineering problems because of the unusual vertical precision required by the pump below, a tolerance of 1 in 300.

The geophysicist showed us borehole logging and the correlation of results. Different sorts of sondes were lowered to measure (1) water flow, (2) a geiger counter for potassium salts with high gamma activity, indicative of marls, (3) resistivity - a low resistivity means more water and a good storage rock. The pebble beds are not good because of the cementing present,

(4) conductivity, greater meaning purer water.

At borehole E we were shown various drilling bits, rigs, and the dip probe where the light currently came on at 58 metres. Most of us had never seen such equipment at close range, especially on high ground and etched dramatically against a beautiful sunset. Drilling is only allowed on hedgerow sites, which restricts locations considerably. The bores are lubricated either by water or by thixotropic mud containing bentonite. Recharge is into a shallow syncline. The total scheme costs £2million, but the newest reservoir would cost ten times that.

Time flew by on a most interesting and instructive evening of practical economic geology.

S.P.

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September 14th 1981.

The Ice Ages and Modern Beetles; Their Climatic and Environmental Implications. Lecture by Mr. Keith Moseley.

The new autumn programme opened with a most interesting and well illustrated lecture by Mr. Keith Moseley of Birmingham University. As a follow up to his February 1979 lecture, Mr. Moseley dealt briefly with a description of the Quaternary period, and the last two million years, and the economic importance of its unconsolidated deposits. Many problems have been caused by these sands and gravels for civil and structural engineers during the construction of roads and bridges. Only full geophysical surveys can ensure that all aspects of the deposits can be located.

For 100 years geologists have struggled to understand the climatic implications of Ice Ages. Their initial evidence was in erratics, ice wedge casts, terraced gravels, and raised beaches. Lithostratigraphy by fossils was extremely difficult as they were terrestrial and have mostly been destroyed, although a few animal fossils have survived such as Irish deer and the teeth of Arctic lemmings.

A better understanding was gained from the study of plant fossils, especially seeds which survived best. Pollen and spores give a good indication of environment but have the disadvantage that they could have been blown hundreds of miles to their area of deposition.

Keith Moseley now came to his speciality, insects. An insect has six legs and three parts, head, thorax and abdomen, and some have wings. From the Ice Ages the heads of caterpillars have survived as have bugs with hard protective cases, flies, mosquitoes and ants with tough jaws. The best insect fossil of all to survive is the beetle. All parts are found and colour also survives. Since most species of beetle have not evolved during the last two million years, by comparing them with living species their present environment and climatic conditions can be projected back. Beetles are sensitive to temperature change and move across the Earth with changing climatic conditions and are thus accurate indicators of past climates.

The species *Aphodius holdereri*, now found only in Tibet at altitudes of over 10,000 feet, existed in Britain 30,000 years ago, as did species now found only in the northern tundra.

Mr. Moseley described how insect fossils can be separated from plants, and illustrated

'an embarrassment of riches' obtained from one sample. Most were disseminated, but can be recognised by their parts, colour and sutures. Mr. Moseley has a vocabulary of 250 beetles, and his supervisor has 1000.

The last Ice Age disappeared from Europe 10,000 years ago and we are now living in a warmer interglacial period. It has been warmer in Britain than at present, as shown by beetle fossils found on Rannoch Moor which now live in Italy.

Several glacial and interglacial periods have been recently discovered as a result of studying beetle fossils, which plants could not identify as they were unable to keep pace with sudden climatic changes. These changes have occurred without the involvement of man, but now man is interfering with the climate. He heats up the atmosphere by burning fossil fuels, cools it down by screening the sun with carbon dust and alters it by destroying tropical forests. Carbon dioxide emitted since the industrial revolution traps heat from the sun in the lower atmosphere. There is no balance between all these unnatural events, and even more rapid and severe changes in the climate could be accelerated by them with devastating results.

Mr. Moseley concluded the lecture with a warning that another Ice Age could be imminent and its effects almost immediate. He was warmly thanked by his audience who were all impressed by his infectious enthusiasm.

C.M.

#### Guided Walks Programme - 1981.

The programme of geological guided walks run by the society together with the Countryside Commission had another

successful season. Three venues were featured, Doulton's Claypit, Cotwall End, and Wrens Nest, with four walks organised from each, from June to September. Public interest in all the walks was high, and attendance totalled 567 adults and children. This is nearly double that for last year. Our thanks are offered to those society members who assisted with the walks, and also to Mr. Colin Knipe and his staff who ran the Wrens Nest walks for us.

P.S.

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#### Items for Christmas.

Cards. A new Christmas card has been produced for members this year. The scene depicted is the visit of the British Association to Castle Hill, Dudley in 1894. The cards make an unusual and stylish change from the stereotyped variety all too common these days. So be original and help to promote the society at the same time. You can buy a dozen cards with envelopes at the special offer price of £2. Details on another page.

#### The Black Country Geologist.

The society's new journal must be the bargain of the year! If you still have not obtained your copy, perhaps some member of the family might treat you. It's not so much a stocking filler as a rucksack filler, and is just the thing for those wintry days that defeat even the most stalwart geologist.

It really is a limited edition. We would like to think that every member has one before they go externally, so if you cannot get to the next meeting or feel disinclined to pay the 40 pence postage, reserve a copy from Paul Shilston now. (021-459-3603) Price £1.50.

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Welcome to New Members.

Mrs. L.C. Sykes, Edgbaston.  
Mr. A.V. Collings, Edgbaston.  
Mrs. C. Reeves, Sutton Coldfield.  
Mrs. A.M. Tennant, Worcester.

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Letter to the Editor.

Dear Editor,

We would like to congratulate Margaret Oliver on her report published in the last two newsletters (28 & 29). There was obviously a tremendous amount of work involved, firstly in collecting the soil samples and then in analysing them. Margaret's report was beautifully written and made a difficult subject seem easy. The BCGS is honoured to have a member who has shaken the precepts of the Soil Survey. We hope that the next phase of Margaret's work is successful and look forward to reading about it in a future news letter.

Yours sincerely,

Anne and George Harrison.

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Thank you, Anne and George. Many other members and at least one visiting leader have been heard by me to comment favourably upon Margaret's work, so there must be much interest. I agree about the writing, since in the interests of space economy, I automatically look for unnecessary words, but in Margaret's script, every word 'worked'.

Editor.

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Weekend Courses.

Geology of the Dorset Coast.  
May 15-16. Based Swanage. £5.  
Dept. Extra Mural Studies.  
University of Birmingham, PO  
Box 363, B15 2TT.

Mines of the Peak District.  
March 5-7. £46. Peak National  
Park Study Centre, Losehill Hall,  
Castleton, S30 2WB.

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Editor Sheila Pitts, 3, Siskin Rd  
Pedmore, Stourbridge, DY9 7HU.

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BLACK COUNTRY GEOLOGICAL SOCIETY  
1981 CHRISTMAS CARDS.

The 1981 Christmas Card depicts a contemporary print of the Dudley Gathering - the visit of the British Association for the Advancement of Science, to the limestone caverns of Castle Hill, Dudley in 1849.

The illustration is reproduced in its original black and white form on top quality board, size 8" x 6".

The price for a Special Offer Dozen including envelopes is £2.00.

Single cards may be purchased at 20p each. Further discounts available for quantities of 50 or more; details on request.

We still have some of the 1980 cards available which depict a pen and ink sketch of the Seven Sisters at Wrens Nest, Dudley. Prices as for the 1981 cards.

The cards will be available from mid-November and will be on sale at the Social and the December meeting. Alternatively, they may be obtained by post from :

Alan Cutler,  
21 Primrose Hill,  
WORDSLEY.  
Stourbridge,  
West Midlands.  
Telephone : Brierley Hill 77865

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B.C.G.S. Christmas Cards.

Order Form.

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Cheque Enclosed For £ .....