



NEWSLETTER NO. 113

OCTOBER 1995

The Black Country Geological Society

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

Leaders provide their services on a purely voluntary basis and may not be professionally qualified in this capacity.

The Society does not provide hard hats for use of members or visitors at field meetings. It is your responsibility to provide your own hard hat and other safety equipment (such as safety boots and goggles/glasses) and to use it when you feel it is necessary or when a site owner makes it a condition of entry.

Hammering is seldom necessary. It is the responsibility of the hammerer to ensure that other people are at a safe distance before doing so.

FUTURE PROGRAMME

Lecture meetings are held in the Banquet Room (Dudley Suite) at the Ward Arms Hotel, Birmingham Road, Dudley. Phone: (01384) 458070. 7.30 p.m. for 8 o'clock start.

MONDAY 9th OCTOBER. Lecture: "The geology of the Solar System" by Dr. Bob Owens (National Museum of Wales).

In recent years the study of geology has moved out into the Solar System and new discoveries are regularly being made. This lecture will survey the latest knowledge in this area and will concentrate on the Moon and the inner planets where there is now a great deal of information about landforms and geology. They have all been mapped, there are many pictures available, and a large amount of scientific data has been collected by the many probes that have visited them. Much is now known about their present state and their history. If time permits, Dr. Owens may go on to describe something of the outer planets.

DR. BOB OWENS is a palaeontologist by profession working at the National Museum of Wales in Cardiff. His interest in solar system geology is subsidiary to his main activity, but he is now a considerable authority in this exciting field.

Chairman
A. Cutler B.Sc., M.C.A.M.,
Dip.M., M.C.I.M.

Vice Chairman
G. J. Worton B.Sc., F.G.S.,
A.M.I.Geol., M.I.Env.Sci.

Hon. Treasurer
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Hon. Secretary
P.D. Shilston M.A., C.Eng.,
F.I.E.E., M.I. Mech.E.

MONDAY 30th OCTOBER. Lecture: "Geology in the Canaries - sun, sand and volcanoes." By Dr. John Stanley (Keele University).

Dr. Stanley writes: "The Canaries are better known for sunshine than for geology but as youthful volcanic islands they offer geology not available in the UK, are very accessible, cheap and more diverse than might be expected. An active volcanic region, the islands were formed when our own last major geological events were on the wane.

I will give a general background introduction to oceanic islands, and specifically the Canaries, and then home in on Lanzarote, Tenerife and Gran Canaria."

DR. STANLEY is Associate Director of Adult Education at Keele University. He graduated at Keele, went to Nottingham for his PhD on Silurian Brachiopods (including many from Wrens Nest !) and finally returned to Keele as the first scientist in the (new) Extramural department where he has been for the last 30 years. He became involved in Canary Island geology in 1988 when the first study tour from Keele was arranged.

SATURDAY 11th NOVEMBER. Birmingham University Dayschool 10.00 a.m. - 5.00 p.m. Volcanoes and Earthquakes. Lecturers: Dr. R. Ixer and Dr. W. Gaskarth. At Lapworth Museum, School of Earth Sciences, University of Birmingham, Edgbaston, Birmingham.

Fee £15 (concessions £10).

Details and booking:

Admissions Office
School of Continuing Studies
University of Birmingham
Edgbaston
Birmingham B15 2TT
phone: (0121) 414 5606/7/8

MONDAY 27th NOVEMBER. Lecture: "Thrust tectonics and piggyback basins in the western Spanish Pyrenees" by Dr. Jonathan Turner (Birmingham University).

The Pyrenees form a major feature in the structure of western Europe, giving rise to some really spectacular scenery. This lecture will describe some of the geology of the western Spanish Pyrenees, and will highlight important structural features of the area. In particular it will describe the occurrence of a series of sedimentary basins which were formed and then infilled during Eocene-Miocene (50 - 5 M years ago) These basins were also subjected to massive thrust movements which resulted in them being forced roughly on top of each other, giving a 'piggy-back' arrangement.

The lecture will also outline the geological structure and the relationship between the basins and the surrounding geology during sedimentation and in later times.

DR. JONATHAN TURNER has a major interest in structural geology and especially in the geological formation and development of basins. He worked for Shell Petroleum in Holland as a geophysicist for several years and is now in the School of Earth Sciences at Birmingham University. Currently his research areas are in northern Spain and Cardigan Bay in Wales.

MONDAY 15th JANUARY 1996. Lecture: "The Great Dyke of Zimbabwe" by Dr. J.I. Langford (Birmingham University)

The Great Dyke is a major geological feature in Zimbabwe and it contains substantial mineral deposits, especially of chromite. Dr. Langford's lecture will first give an overview of the geology of Zimbabwe, followed by a more detailed account of the Dyke and its mineralisation, and then it will cover the mining of chromite with a description of mining methods.

The lecture will be illustrated by 'holiday' slides of the country as well as some taken of mines and their workings above and below ground.

DR. LANGFORD is Reader in Crystallography in the School of Physics and Space Research at Birmingham University. His involvement in the Zimbabwe project arose from his interest in crystallographic analysis of ore deposits; he is associated with the SAREC project, a Swedish-based activity to assist developing countries, in this case to develop Zimbabwe's chromite resources which are of particular value in the manufacture of stainless steel.

MONDAY 19th FEBRUARY. 7.45 p.m. Annual General Meeting followed at 8.00 p.m. by a lecture by Graham Hickman (Society member/British Petroleum).

MONDAY 18th MARCH. Lecture: by Dr. Addison (Wolverhampton University/St. Peters College Oxford).

APRIL - DATE TO BE ADVISED. Weekday visit to Winsford Salt Mine, Cheshire.

THURSDAY (note THURSDAY) 25th APRIL. Lecture: "Monitoring active volcanoes: procedures and prospects". By Dr. W. McGuire (centre for Volcanic Research Cheltenham & Dept of Geological Sciences UCL).

SUNDAY 19th MAY. Field meeting to Wirksworth, Derbyshire. Leader: Kate Ashcroft (Society member).

MONDAY 17th JUNE. Evening field meeting to Saltwells Nature Reserve. Leader: Alan Cutler (Society Chairman).

MONDAY 1st JULY. Evening field meeting to The Roaches, north Staffordshire. Leader: Don Steward (Stoke-on-Trent Museum).

SATURDAY 7th - FRIDAY 13th SEPTEMBER. British Association Annual Festival held for 1996 in Birmingham. Details available from BAAS Office:

Fortress House
23 Saville Row
London W1X 1AB
phone: 0171 494 3326

SUNDAY 29th SEPTEMBER. Field meeting to Alderley Edge, Cheshire, for Triassic strata and an underground visit to one of the copper mines. Leader: Tony Browne (Manchester Geological Association).

Editorial

In 1827, James Montgomery published his epic poem *The Pelican Island* which describes the building of a coral island and was often quoted in geological text-books of the day. It has a splendid description of reef-building and a very distinct moral, political and religious tone. Here is an extract

*Here, on a stony eminence, that stood
Girt with inferior ridges, at the point,
Where light and darkness meet in spectral gloom,
Midway between the height and depth of ocean,
Mark'd a whirlpool in the perpetual play,
As though the mountain were itself alive,
And catching prey on every side, with feelers
Countless as sunbeams, slight as gossamer:
Ere long transfigured, each fine film became
An independent creature, self employed
Yet but an agent in one common work,
The sum of all their individual labours.
Shapeless they seem'd, but endless shapes assumed;
Elongated like worms, they writhed and shrunk
Their tortuous bodies to grotesque dimensions;
Compressed like wedges, radiated like stars,
Branching like seaweed, whirled in dazzling rings;
Subtle and variable as flickering flames,
Sight could not trace their evanescent changes,
Nor comprehend their motions, till minute
And curious observations caught the clew
To this live labyrinth, where everyone,
By instinct taught, perform'd its little task;
-- To build its dwelling and its sepulchre.
From its own essence exquisitely modell'd;
There breed, and die, and leave progeny,
Still multiplied beyond the reach of numbers,
To frame new cells and tombs; then breed and die
As all their ancestors had done, - and rest,
Hermetically seal'd, each in its shrine,
A statue in this temple of oblivion!
Millions of millions thus, from age to age,
With simplest skill, and toil unweariable,
No moment and no movement unimproved,
Laid line on line, on terrace terrace spread,
To swell the heightening, brightening gradual mound,
By marvellous structure climbing tow'rds the day.
Each wrought alone, yet all together wrought,
Unconscious, not unworthy instruments,
By which a hand invisible was rearing
A new creation in the secret deep.
Omnipotence wrought in them, with them, by them;
Hence what omnipotence alone could do
Worms did. I saw the living pile ascend,*

*The mausoleum of its architects,
Still dying upwards as their labours closed:
Slime the material, but the slime was turn'd
To adamant, by their petrific touch;
Frail were their frames, ephemeral their lives,
Their masonry imperishable. All
Life's needful functions, food, exertion, rest,
By nice economy of providence
Were overruled to carry on the process,
Which out of water brought forth solid rock.*

*Compared with this amazing edifice,
Raised by the weakest creatures in existence,
What are the works of intellectual man?
Towers, temples, palaces and sepulchres;
Ideal images in sculptured forms,
Thoughts hewn in column, or in domes expanded,
Fancies through every maze of beauty shown;
Pride, gratitude, affection turn'd to marble,
In honour of the living or the dead;
What are they? - fine wrought miniatures of art,
Too exquisite to bear the weight of dew,
Which every morn lets fall in pearls upon them,
Till all their pomp sinks down in mouldering relics,
Yet in their ruin lovelier than in their prime!*

My mind was drawn to this poem when I read about the French Nuclear Explosions on Mururoa Atoll. There have been 124 underground tests at the site each leaving a vitrified cavity with radioactive walls within the underlying basaltic volcano. Cracks are spreading from each of these bubbles. After the detonation, test shafts are driven into the blast sites to verify the explosions. There are fears that the atoll may rupture with further testing when the atoll reaches a critical point and some oceanographers calculate that tidal waves could be generated. In an earlier explosion, it is claimed that a detonator stuck at 400 metres, and part of the atoll's side was blown off in the subsequent explosion.

Conservation Column

Our Chairman, Alan Cutler, has been appointed to Chair the Midland region of RIGS (Regionally Important Geological/Geomorphological Sites) groups. The Midland group comprises: Hereford and Worcester, Warwickshire, West Midlands, Staffordshire, Shropshire, Leicestershire and Rutland, and Nottinghamshire overlaps with the Northern region to cover Derbyshire.

Alan Cutler writes that their first meeting was held in Dudley and addressed matters concerning documentation, standards and funding. The group hopes to run on an informal basis. Its objectives are to channel matters of concern to the National Co-ordinator, Dr. Greg Carson, and into a National Forum so that problems can be dealt with on a National basis to give maximum protection to the RIGS sites, the second tier sites for geological conservation.

Colin Reid and Alan Cutler have held meetings with interested bodies about the future of the Tansey Green site where early conifers are preserved in layers of volcanic ash in a clay pit. The Council wish to incorporate the site into the Barrowhill (Oak Farm area) open space. Geology will have a high profile in the plans for this area and a development strategy is in place and will be made available to developers. The fossils will be hard to preserve but discussions have been held with Redland Brick, the operators of the quarry, to see how the geological features can be preserved when quarrying ceases and yet be incorporated into the Council's plans. This very important site is located where the proposed Dudley by-pass runs directly over it.

Classes and Courses

1. UNIVERSITY OF BIRMINGHAM - Day and evening classes.

Details and Booking: School of Continuing Studies
University of Birmingham
Edgbaston
Birmingham B15 2TT
phone: (0121) 414 5606/7/8

(a) Saturday 11th November. Birmingham University Dayschool 10.00 a.m. - 5.00 p.m. Volcanoes and earthquakes. Lecturers: Dr. R. Ixer and Dr. W. Gaskarth. At Lapworth Museum, School of Earth Sciences, University of Birmingham, Edgbaston, Birmingham. Fee £15 (concessions £10).

(b) Geology, structure and landscape in northern and western Britain. Lecturer: John Armitage. At Wolverhampton. 10 meetings, Tuesdays 7.30 -9.30 p.m. from 26th September. Fee £38 (£28 for concessions).

(c) Geology, minerals and man. Lecturer: John Armitage. At Stourbridge. 10 meetings, Tuesdays 7.30 - 9.30 p.m. from 9th January 1996. Fee £39 (£29 for concessions).

(d) Geology, minerals and man. Lecturer: John Armitage. At Wolverhampton. 10 meetings, Tuesdays 7.30 - 9.30 p.m. from 9th January 1996. Fee £39 (£29 for concessions).

(e) Geology of the British Isles. Lecturer: Susan Beale. At Winterbourne, Birmingham University. 20 meetings including field trips. Thursdays 10.30 a.m. - 12.30 p.m. from 28th September 1995. Fee £76 (56 for concessions).

1. UNIVERSITY OF BRISTOL - Residential study tours.

Details and booking: University of Bristol
Dept for Continuing Education
8 - 10 Berkeley Square
Bristol BS8 1HH
phone: (0117) 9287172

- (a) Geology in Tenerife. January 1996.
- (b) Geology and scenery in Crete. April 1996.
- (c) Geology of Jersey. 13-17 May 1996
- (d) Geology of the Derbyshire Peak District around Castleton.
Weekend 25-26 May 1996.
- (e) Granite and slate in north Cornwall. Weekend 8-9 June 1996.
- (f) Geology in north-west Scotland, based at Ullapool. 30 June - 5 July 1996.
- (g) Geology and scenery of Santorini. 8-15 September 1996.

3. GEOLOGISTS ASSOCIATION - Overseas tours.

These tours are planned to the theme of 'Geology is Fun' - not too heavy, plenty of the spectacular, with wildlife and history included; they use good hotels but schedules give plenty of time in the Great Outdoors.

Details and booking: Dr. Tony Waltham
Civil Engineering Dept.
Trent University
Nottingham NG1 4BU
phone: (0115) 941 8418 ext 2133

- (a) Alaska and the Yukon. 18th August - 8th September 1996. 21 days. £2700.
Visiting Inside Passage, Glacier Bay, Klondike, Denali, Kenai, Brooks Falls, Katmai etc.
- (b) Jordan and Syria. 6th - 17th April 1997. 12 days £1450.
Visiting Palmyra, Dead Sea, Wadi Rum, Petra etc.
- (c) Western USA. August 1997. 21 days £1750.
Visiting Yellowstone, Canyonlands, Monument Valley etc.

Items in Brief

- 1. Interested in Opals?
Paul is inundated with copies of Opal News which arrived unsolicited from America!
- 2. The British Geological Survey are publishing a series called 'Popular Publications'.
The first is entitled 'Discovering Geology, Fossil Focus: Ammonites'. Aimed at the general public and educational market, they claim it could be subtitled: All you ever

wanted to know about ammonites: What are they? How did they live? How can they be used in Geology? They have an A3 format, on card, printed in colour, laminated and folded twice. Price £1.95 (postage and packing 50p) available from the Sales Desk, B.G.S. Keyworth, Nottingham NG12 5GG.

3. News from Dudley Museum. The 'Monsters of the Deep' exhibition has had 70,000 visitors and is being retained. The large Crinoid slab at the entrance to the geological gallery has been sent for preservation work. It will take two or three months for the conservation work on it to be completed .
4. Welcome to new member.
John Clifford - Wolverhampton.

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THIS MONTH'S PUZZLE

Find the geological term which is an anagram of each of the following words :-

- | | |
|-----------------|-----------------|
| 1. Parcel | 2. Skater |
| 3. Lament | 4. Master |
| 5. Pathos | 6. Remote |
| 7. Grouse | 8. Insert |
| 9. Result | 10. Cocaine |
| 11. Citadel | 12. Caterer |
| 13. Marline | 14. Aimless |
| 15. Trainer | 16. Tertian |
| 17. Artiste | 18. Picture |
| 19. Destiny | 20. Gardenia |
| 21. Formulae | 22. Clothier |
| 23. Intended | 24. Neurosis |
| 25. Milestone | 26. Triteness |
| 27. Antimonial | 28. Indiscreet |
| 29. Neotropical | 30. Typographer |
| 31. Introduce | 32. Course |
| 33. Endive | 34. Sliver |
| 35. Creative | 36. Platen |
- by "Tamia"

Answers to August's crossword

ACROSS

1. Rock
3. Arete
6. Silts
8. Ria
10. Ah Ah
11. Each
13. Abrade
17. Cretin
20. Asia
21. Tuff
22. Ice
23. Trees
25. Nappe
26. Hags

DOWN

2. Oil
4. Roches
5. Earth
6. Serac
7. Sand
9. Ash
12. Core
14. Axis
15. Snows
16. Path Up
18. Rift
19. Seif
20. A Tern
24. Erg