

CHARNIA

LEICESTER

LITERARY AND PHILOSOPHICAL
SOCIETY



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THE NEWSLETTER OF

SECTION C (GEOLOGY)

Leicester Literary and Philosophical Society

Geology Section (C)

Officers and Committee 2000/2001

Life President: Bob King,
The Oak,
Longdon.
TEWKESBURY.
Glos GL20 5SE

Chairman: John Martin,
Leicester Museum and Art Gallery,
New Walk,
LEICESTER LE1 6TD
0116 2554100
e-mail: martj002@leicester.gov.uk

Secretary: Joanne Norris,
c/o Department of Geology,
University of Leicester,
University Road,
LEICESTER LE1 7RH
0116 2855669
e-mail: as48@Leicester.ac.uk

Field Secretary: Dennis Gamble,
43 Somerset Avenue,
LEICESTER LE4 0JY
0116 2694350

Publicity Officer: Mark Evans,
Leicester Museum and Art Gallery,
New Walk,
LEICESTER LE1 6TD
0116 2473081
e-mail: evanm003@leicester.gov.uk

Committee: Paul Monk,
2 Rennes Close,
ASHBY-DE-LA-ZOUCH.
Leics LE65 2YD
01530 411563

Steve Temperley,
As for Vice-Chairman
0116 2523642
e-mail: st5@Leicester.ac.uk

Co-opted: Andrew Swift,
as for Vice-Chairman
0116 2523646
e-mail: as48@Leicester.ac.uk

Life Vice-President: Trevor Ford OBE,
21 Elizabeth Drive,
Oadby.
LEICESTER LE2 4RD
0116 2715265

Vice-Chairman: John Hudson,
Department of Geology,
University of Leicester,
University Road,
LEICESTER LE1 7RH
0116 2523939
e-mail: jdh4@Leicester.ac.uk

Treasurer: Doug Lazenbury,
39 Station Road,
Countesthorpe.
LEICESTER LE8 3TA
0116 2776407

'Charnia' Editor: Graham Stocks,
63 Barrow Road,
QUORN.
Leics LE12 8DH
01509 415186

Student representative: TBA

Mick Steele,
7 Frewin Drive,
SAPCOTE.
Leics LE9 4LF
01455 274144
e-mail: Michael.Steele@NUTTALLS.CO.UK

John Webster,
26 Lilac Close,
Burbage.
HINCKLEY.
Leics LE10 2TD
01455 238124

Sue Flude,
15 Cotes Road,
BARROW ON SOAR.
Leics LE12 8JP
01509 413522

Roy Clements,
as for Vice-Chairman
0116 2523800
e-mail: rgc@Leicester.ac.uk

EDITORIAL

I'm sure every member of Section 'C' will agree with the viewpoint that the geology section just keeps on getting better and better! Educative and entertaining certainly, with the added bonus of fulfilling a social function too. The talks and visits organised by your committee often set off trains of thought which either make hitherto unmade connections or spur further research into topics raised.

Following the visit to the University of Birmingham's Geology Museum last Summer I was surprised to learn that geology undergraduates at the university receive no formal teaching in comparative anatomy and that fossil exhibits are used for this purpose only by the Zoology Department! One wonders what kind of palaeontologists we'll see in the near future? Perhaps there's no call for them now! Here we have the great pity that goes with the decline of pure studies in favour of money-spinning applied studies.

Early in March this year yet another thought-provoking Vaughan College-based Saturday School brought attendees bang up to speed with global climate changes, past and present. Our new Chairman (third time around!) John Martin very ably convened the day's events. The Saturday Schools are perhaps quite unique in that researchers who wouldn't normally cross paths sit together and exchange ideas. One of the speakers, a specialist in proto-mammals, told the audience how heavily edited the television series 'Walking with Dinosaurs' was - to the point that the series had little serious scientific value. An omission I noted was that no mention was made of pluvial episodes. Fifty years ago, Frederick Zeuner was perhaps the first author to draw attention to the rapid terrestrial erosion and deposition which took place concurrently with glacial episodes. Where did all the water come from over such a short period to produce Karstic features, particularly around the Mediterranean during the last Ice Age? If any reader has access to the Web, they may like to view an on-line demo of palaeoclimate modelling at <http://www.gbhap.com/pastclimates/>

You may have gathered from previous Editorials that I find certain aspects of historical geology fascinating. On the subject of editing and censorship I recently noted that Darwin censored himself and held back on his evidence for the age of the Earth. Darwin carried out scientific observations on the rate of erosion in the Weald and arrived at an age of c.300 million years, which was greatly in excess of other estimates and wild propositions made by others at the time of the publication of the first edition of the 'Origin'. Browbeaten by professional geologists of the day, Darwin accepted the criticism that his estimate of the age of the Earth was a 'gross overestimate'. Such was the degree of criticism that Darwin withdrew his calculated estimate from the 'Origin' by the Third Edition. It's a bit like today when politicians reassure the public over some food or health scare without any firm evidence of there being no risk, even to the extent of suppressing evidence to the contrary.

The historic visage on this issue's front cover is that of Alfred Russel Wallace and an article about his connection both with Leicester and Darwin's theories can be found a few pages on in 'Charnia'. If all goes well for the Winter Programme, we should be hearing quite a bit more about Wallace...

CHAIRMAN'S REPORT FOR THE YEAR 1999/2000

It gives me much pleasure to report another very successful and progressive year for the Section. We've enjoyed excellent programmes again, which have been well supported, and the good work of the last few years has continued. In an idle moment recently I looked at some of the programmes offered by other geological societies and was pleasantly encouraged to see that we have one of the best offered anywhere. Our total of 14 indoor meetings during the autumn and winter is probably the equal of any in the country and I suspect exceeds most - and all this for a £5 basic subscription. How do we do it?

Last summer's excursion programme saw us exploring the geological column from the Silurian to the Eocene, in a series of six well-attended trips. Unfortunately the proposed trip to Derbyshire with Trevor Ford had to be cancelled due to difficulties with permissions. We started the excursion programme in May with a visit to quarries in the Lincolnshire Limestone around Ancaster, led by John Aram, who proved to be a knowledgeable and capable leader. The weekend excursion to the Isle of Wight in June was very successful, and as well as excellent geology we also appreciated the chance to socialise, and enjoy ourselves. Our leaders Martin Munt and David Martill, as well as uncannily resembling one another, were equally alike in their capabilities and first class leadership. The sunburn cases from the trip have mended well, I understand. We also had hot weather for our visit to Hicks Lodge opencast coal mine in July, led by committee member Paul Monk. Paul also gave us the benefit of his detailed local knowledge of the industrial archaeology of the Ashby de la Zouch area, and we looked at several sites which showed this. In August we hopped into a mini-van and drove across to the Welsh Borderland around Wenlock and Ludlow to examine Silurian sections. This trip was to have been led by Paul Smith from the Lapworth Museum at Birmingham, but a late change of plan meant I had to step in myself and attempt to remember that geology did in fact exist before the Mesozoic. This was the only wet trip of the summer, but was enjoyed by a large group nonetheless. Our annual pilgrimage to Blockley under Pete Blake's leadership duly took place in early September, and again a large gathering did their best to deplete the fossil content in the quarry. Finally, our museum visit this year saw us at the Lapworth Museum, which is attached to the Earth Sciences Dept at Birmingham University.

The winter programme proved to be diverse and enjoyable. I'm not going to review the programme, as I'm sure it is still fresh in the minds of most of you who were lucky enough to get along for the lectures, but I must say that the standard of the talks was consistently high, and enjoyed by large audiences. We also had a splendid Christmas meeting in the museum and a popular members evening in February. Our annual Saturday School in March, held in conjunction with the university's Department of Adult Education, was another notable success, attended by around 70 people. John Martin did a fine job as convenor and the topical theme of global warming was expertly discussed by the speakers. But I think you would agree that the top event of the last 12 months was our 150th anniversary, a momentous achievement for such a small society. To have enjoyed almost unbroken existence for so long argues for excellent leadership, a keen membership and attractive programmes - factors which are still very apparent today. All I can say is well done Section C!

Our newsletter *Charnia* goes from strength to strength under Graham Stocks editorship and we are comfortably filling the pages for three issues a year. In the near future we shall be 'getting on line' and having our own page on the Internet, something that Mick Steele is working on. Further exciting projects should see us embracing the new opportunities for spreading the word about Section C, and we aim to fully utilise the power of the media to help us. Finally, as I step down as your Chairman, let me express my thanks to all the Section officers, committee and lay members for all their help. And also let me say how much I've enjoyed working for such a nice bunch of people, I hope to be serving you again soon.

Andrew Swift

NEW MEMBERS

We have pleasure in welcoming the following new members who have joined the ranks of Section C in the last few weeks: Mr P. Allatson, Mr A. Briggs and Ms A. Graf, Mr J. Radley, Ms E. Smith, Mr J. and Ms D. Sowerby, Mr N. and Miss L. Walker, Mr and Mrs Welch and Mrs J. Williams. Welcome to all!

LEICESTER LITERARY AND PHILOSOPHICAL SOCIETY
SECTION C - GEOLOGY

SUMMER EXCURSION PROGRAMME 2000

MAY

Saturday 20th

Geology of the Scunthorpe area. Meet 10.30am at Scunthorpe Museum. Tour of museum a.m. followed by lunch locally. Afternoon at a British Steel site exposing the Lower Jurassic Frodingham Ironstone.
Leader: Steve Thompson (Scunthorpe Museum).

JUNE

Sunday 18th

Monsal Dale/Millers Dale, Derbyshire. Geological walk studying facies variations and boundaries in the Carboniferous Limestone. Please note that this trip is in the form of a 'guided walk' which is expected to be moderately strenuous.

Leader: Dr David Wright (Geology Dept., Leicester University).

Friday June 30th - Sunday July 2nd

Weekend excursion to the Lavernock/Sully area, near Penarth, South Wales. Based in Penarth. Mostly Upper Triassic - Lower Jurassic sequences.

Leader: Andrew Swift (Geology Dept., Leicester University).

JULY

Sunday 30th

Castle Cement quarries, Ketton. Outstanding Middle Jurassic sequence from the Lincolnshire Limestone to Kellaways Beds.

Leader: Professor John Hudson (Geology Dept., Leicester University).

AUGUST

Sunday 20th

Stewartby area, Bedfordshire. Pits in the Lower and Upper Oxford Clay (Middle-Upper Jurassic).

Leader: Chris Andrew (Bedford Museum).

SEPTEMBER

Sunday 10th

Bardon Hill Quarry, Coalville. Pre-Cambrian volcanics, intrusives, Triassic wadi fills. A visit to another locality near Whitwick is planned for the afternoon. This is a joint trip with the Warwickshire Conservation Group.
Leader: Dr John Carney (British Geological Survey).

Saturday 30th

The Natural History Museum, London. This should be a special day, because as well as seeing the exhibits on public display, we will be shown around behind the scenes by the chief palaeontologist in the Museum. In line with NHM policy, there will be a charge of £70 for the group, which will be strictly limited to 16 persons (around £4.50 a head, which is cheaper than paying at the door for admission). We plan to travel down as a group by discounted train travel. Early booking advised.

Host: Professor Steve Donovan (Keeper of Palaeontology, NHM).

Members will be circulated approximately 1 month before each excursion with details of each locality, how to get there, etc. A booking form will be attached. More information or queries - Dennis Gamble (0116 2694350) or Joanne Norris (0116 2855669).

FOR YOUR DIARY

Dates for the Winter Programme are:

2000: 27th September, 11th October, 25th October, 8th November, 22nd November and 6th December. The Christmas meeting will be on either 6th or 20th December

2001: 17th January, 31st January, 14th February, 28th February, 14th March and 28th March (AGM)

Our meetings have again been scheduled to avoid clashes with the Natural History Section programme.

ALFRED RUSSEL WALLACE (1823-1913)

Last year, a wonderful little book was published by the Natural History Museum about Wallace's work in the Amazon. The author, Sandra Knapp, briefly describes Wallace's connection with Leicester. He was in our city for only one year, but that short stay perhaps brought about a pivotal change in his career. Wallace had been appointed to the post of schoolmaster at the Collegiate School, teaching drawing and evening prep. The Leicester Library served Wallace well during his stay and it was during a visit to the library that he met another famous name: Henry Walter Bates. Bates was born in Leicester in 1825 and at that time he was avidly studying beetles. In 1861 Bates published his ideas on natural selection; work known today as Batesian mimicry.

In Wallace's autobiography, published in 1905, he states in Vol.1: 'If I had been asked before how many different kinds of beetles were to be found in any small district near the town, I should probably have guessed fifty or at outside a hundred, and thought that a very liberal allowance. But now I learnt that many hundreds could easily be collected, and that there were probably a thousand different kinds within ten miles of the town.'

Bates was Wallace's mentor and with help coerced from his pupils, Wallace collected locally. I wonder where those specimens are now? Were Wallace and Bates members of the Leicester Literary & Philosophical Society? Both Wallace and Bates were no more than amateur natural historians at this stage. It seems that their company was mutually beneficial in setting both out to their destinies. Eventually, Bates and Wallace set out on a great adventure together to the Amazon Basin from 1848 to 1852, when Wallace returned to England - Bates returned in 1862. Wallace's greatest contribution was to come during another foreign expedition, when he carried out exploratory collecting work in the Malay Archipelago during the years 1854 to 1862.

So why am I writing about Victorian naturalists who studied extant life-forms? Here's the answer: Darwin had been sitting on his unpublished 'Origins' manuscript for two decades, not daring to go into print, and it wasn't until Wallace sent him his notes from the Malay Archipelago that Darwin realised he'd be better publishing sooner rather than later. On receiving the letter from Wallace, Darwin exclaimed, "All my originality has been smashed!" adding that "...if Wallace had my M.S. sketch written out in 1842, he could not have made a better short extract!" One can speculate that if one scientist had not come up with a great theory, another one surely would at some later date. This was the case with Wallace and Darwin. Wallace's Malayan treatise contained the essence of Darwin's theory of the origin of species and natural selection, the seeds of which had been sown in the Amazon exploration and even noted down to a certain extent, though Wallace lost everything by shipwreck on his return home. We could speculate further and idly theorise what might have happened had Wallace never took up that teaching post here in Leicester and had never met Bates. Both Wallace and Darwin's ideas and were read before the Linnaean Society in 1858 and the 'Origin' was published in the following year.

Wallace was an interesting character: he came from a Welsh working-class background and was profoundly socialist in his political beliefs. He was an activist against wealth and organised religion. Consequently, Wallace's evolutionary theory revolved around the socialist idea that the environment rejected that which was unfit from the perspective of desirability, rather than from Darwin's perspective of evolution by natural selection through competition and reproductive fitness.

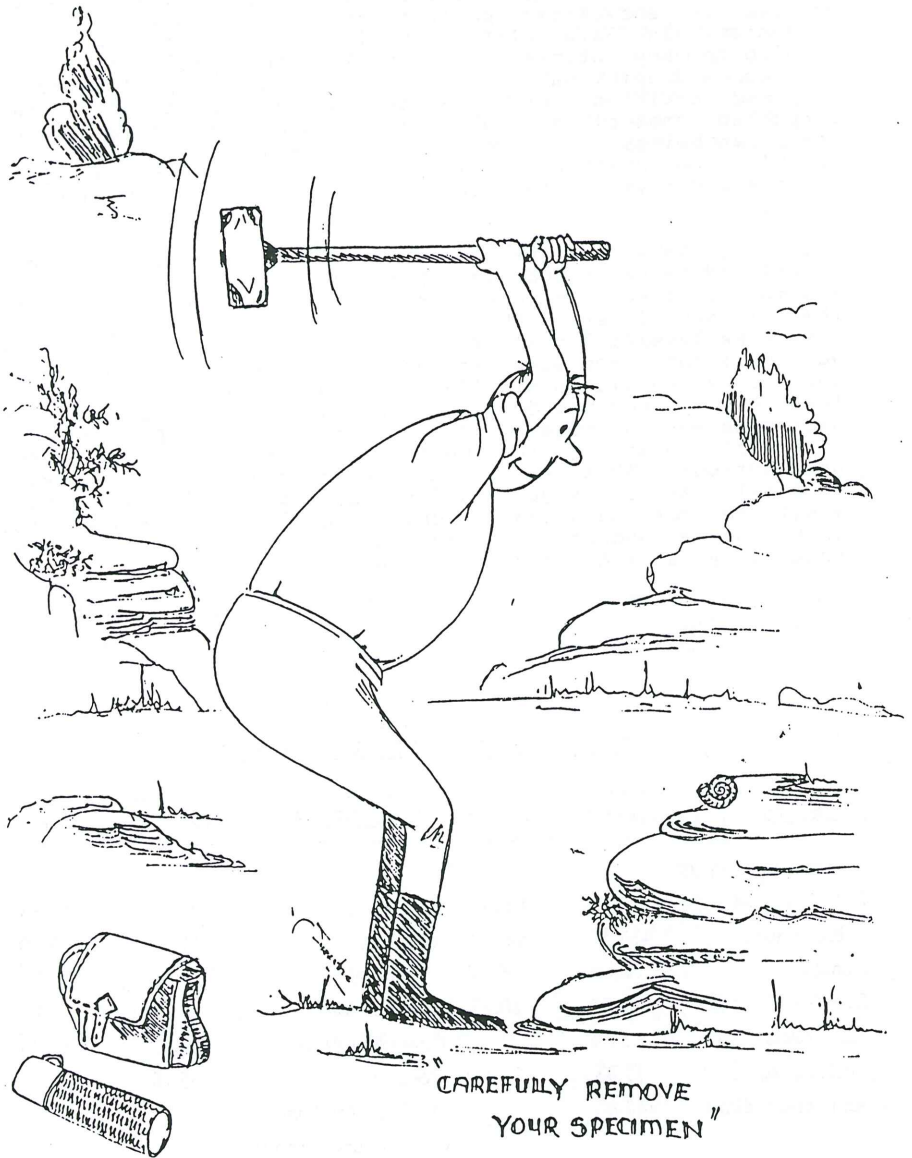
Wallace, Darwin, Huxley and Lyell were all involved to varying degrees in socialism, philanthropy, anti-slavery and even communism. In later life, socialism not having showed signs of leading to any utopia, the disillusioned Wallace turned to seances and spiritualism. This led to Wallace publishing a book in 1903 entitled 'Man's Place in the Universe'. Here, he purported that all of evolution was focused on preparing an Eden for human beings - rather like Teilhard de Chardin's 'Omega Point'. The American, Mark Twain, couldn't resist having a poke at this and a year later published the spoof 'Was the World Made for Man?'

Today we know Wallace for his contribution to the concept of floral and faunal boundaries demarcating biogeographical realms and for his theory of speciation, known as the Wallace Process or the Wallace Effect. Should we perhaps be recognising the Darwin-Wallace/Wallace-Darwin Theory of Evolution? What if Wallace's notes had survived the transatlantic crossing in 1852 and he had published his 'On the Tendency of Varieties to Depart Indefinitely from the Original Type' six years earlier? Darwin had been working more or less in secret on his 'Origins' and was afraid of upsetting the Church and of being scientifically presumptuous. What would have been the outcome if Darwin had publically aired his germinating theory of evolution after his visit to the Galapagos Archipelago in 1835? History records unselfish collaboration between Darwin and Wallace, though the true story isn't quite that simple...

Graham Stocks

STATEMENT OF ACCOUNTS AS OF 22/3/2000

RECEIPTS	1999/00	1998/99	EXPENDITURE	1999/00	1998/99
Cash in hand	27.79				
Bldg Soc.	474.27	502.06	Insurance	74.40	69.33
Subscriptions	432.50	467.00	Speakers	211.94	203.80
Donations	2.00	5.00	Stationary	7.55	13.95
Bldg Soc. interest	5.53	10.27	Photocopies		1.15
Sale of hats	3.00		Charnia printing	60.01	56.05
Coffee sales	11.43	31.43	Postage	55.10	105.80
Anniversary dinner	940.00		Anniversary dinner		
			Caterers	846.00	
			Wine	114.27	
			Sundries	16.95	977.22
			Cash balance	19.62	
			Bldg Soc Bal	490.68	510.50
				510.50	502.06
	1896.52	952.14		1896.52	952.14



"CAREFULLY REMOVE
YOUR SPECIMEN"