

## Society Proceedings, 1999

'The Yorkshire Geological Society' is a registered charity (No. 220014) whose objective is to promote and record the results of research in geology and its allied sciences, more especially in Yorkshire, by holding meetings for the reading of original papers and the delivery of public lectures and by field meetings.

The General Secretariat is at 19, Thorngate, Barnard Castle, DL12 8QB. The charity correspondent is at Church Garth, North Newbald, East Yorks, YO3 4SX. The Society's main agents are:

Bankers: Barclays Bank PLC, Sheffield City Office, S1 1NG  
 Investments: Charities Official Investment Fund, 2 Fore Street, London EC2Y 5AQ  
 Trustees: The serving members of Council  
 Examiner of Accounts: Mr P. Atkin (ACIB), North Cave, East Yorks.

The Society's governing document is the '*Rules of the Society*', last amended on 11th November 1995.

### 1. ANNUAL REPORT FOR 199

(Adopted at the Annual General Meeting, York,  
4<sup>th</sup> December, 1999)

#### 1.1. General Secretary's Report

*Annual General Meeting.* The Annual General Meeting was held in York on Saturday, 5<sup>th</sup> December, 1998. It has now become accepted tradition that all the officer's reports, with the exception of the Treasurer's, are incorporated within the General Secretary's Report. Individual reports will of course continue to be published in the *Proceedings*.

There being no postal nominations for Council, the new Officers and Council proposed by Council itself were elected to serve for 1999 as follows:

#### OFFICERS

President	Dr M. Romano
Vice-Presidents	Dr D. W. Holliday Dr W. J. Varker
General Secretary	Dr T. Morse
General Treasurer	Mr M. G. Alderidge
Programme Secretary	Dr R. Twitchett
Editors - <i>Proceedings</i>	Dr N. Aitkenhead Mr I. C. Burgess
Editor - <i>Circular</i>	Mr P. Kabrna
Conservation Committee Secretary	Mr A. Bowden

#### MEMBERS OF COUNCIL

Mr J. I. Chisholm	Mr M. Mitchell
Mr S. Holroyd	Dr R. Nicholson
Mr P. Kennett	Ms A. Quarterman
Mr A. L. Lee	Dr J. Rippon
Mr P. L. Manning	Ms P. Sweet
Dr D. McLean	Dr C. N. Waters

#### CO-OPTED MEMBER

Mr R. D. Myerscough

Dr D. W. Holliday then presented the John Phillips Medal to Dr Bernard Owens in acknowledgement of his distinguished contributions to the understanding, correlation and classification of the Upper Palaeozoic rocks, work that started in the north of England but now extends beyond the boundaries of Europe. In his reply, Dr Owens thanked the Society for this honour.

This was followed by the presentation by Dr Holliday of the Moore Medal which is awarded annually for the best undergraduate geological project from a student in the area covered by the Yorkshire Geological Society. This year the medal was awarded to Ms Elizabeth Hadley from Sunderland University, who gave a short address of thanks.

Dr Holliday then delivered the second of his two Presidential addresses entitled 'Palaeotemperature estimates, thermal modelling and depth of burial studies in northern and eastern England'.

The meeting was attended by 64 members and guests.

The Annual General Meeting was as usual followed by the Annual Dinner which was held at King's Manor, Exhibition Square, York. The special guest who replied on behalf of the guests was Mr W. J. Baird, President of the Edinburgh Geological Society.

*Membership.* At the end of November 1999 the membership comprised 640 Ordinary and Honorary members, 62 Associate Members, 24 Student Members, 98 Institutional Members and 1 Patron, a total of 825 members. This figure includes 31 new enrolments for 1999. The membership for 1999 shows an increase from the total of 816 reported by Dr T. Morse at last year's Annual General Meeting. Actions by the Council to the findings of the Questionnaire, and a low key membership drive throughout 1999, appear to have stopped the decline of the last two years. Further actions by our President, Dr M. Romano to formalize our list of representatives at local universities and museums, who will promote our Society and advertise the General Meetings, will hopefully continue to increase our membership. Also, many thanks to Sheila Rogers for her continued efforts with respect to our membership records.

It is with regret that I announce the deaths of the following members during 1999:

C. Downie  
 A. Herriott  
 Sir James Stubblefield  
 R. Williams  
 Dr R. T. R. Wingfield

*World Wide Web.* Much interest continues to be shown in our WWW pages. It is hoped that this medium will assist in generating a greater interest in the Society and, in turn, result in increased membership. Many thanks to Paul Kabrna for his

efforts in creating and updating the Society's WWW pages. The address is: <http://earth.leeds.ac.uk/ygs/ygswelc.htm>

*Sale of Publications.* The stock at the Yorkshire Museum has been further supplemented by the transfer of some Society's publications from the BGS Library. This stock continues to produce revenue to the Society's funds.

*Acknowledgements.* On behalf of the Council, I would like to take this opportunity to thank all those members of the Society and their guests who have supported the programme of meetings during 1999. The Council always welcomes comments on the programme and suggestions for future meetings.

Thanks are also expressed to those members of Council who are retiring: Mr Archie Lee after 4 years on Council which included serving on the Conservation Committee, organizing the BGS book offer and administering the book reviews; Ms Pauline Sweet after 4 years on Council which included serving on the Programme and Questionnaire committees, and ensuring that all members received a copy of the Questionnaire; Mr Murray Mitchell after 5 years on Council which included serving on the Finance Committee – this was his second term on Council; Dr Colin Waters after five years which included serving on the Publications Committee and acting as Publicity Officer for one year. All have contributed greatly to the successful and efficient running of the Society and it is hoped that they will all continue to be active members of the Society.

A big thank you is well deserved to all those who, over the last year, have supported and facilitated the smooth running of the Society, especially the local organizers, the speakers and leaders of field meetings. We must not forget Mrs Mavis May for the organization of the Annual Dinner which follows this meeting, and all those helpers and providers for the refreshments during the intervals at the General Meetings. Finally, I thank the authorities of the University College of Ripon and York for hosting our Annual General Meeting.

Trevor Morse

### 1.2. General Treasurer's Report

The full audited accounts for the year ended 31 August 1999, a brief summary of which appears below, were presented to and adopted by the Annual General Meeting.

#### SUMMARY OF ACCOUNTS

Year Ended 31 August, 1999

INCOME		EXPENDITURE	
Subscriptions & Covenants	£24,074	<i>Proceedings</i>	£32,616
Publication Sales	£172	Circulars	£4,043
Interest/Dividends	£3,377	Data Base	£1,500
Donations	£338	Meetings Expenses	£1,143
		Other Expenses	£1,233
	£27,961		£40,535
From Reserves	£12,574		
	£40,535		
ASSETS at 31.8.99	Cash allocated to:		
Investments at Valuation	Provision for <i>Proceedings</i>	£18,200	
£17,170 (Cost £10,364)	General Reserve	£14,253	
Cash at Building Soc./Banks			
£32,453		£32,453	
Total assets	£49,623		

Mike Allderidge

### 1.3. Programme Secretary's Report

*Indoor Meetings 1999 (161<sup>st</sup> Session).* As usual, the indoor meetings held this year have covered a broad range of interesting topics from the Palaeozoic colonization of the land, through to recent triumphs and disasters of engineering geology. These varied and successful meetings, held at Sheffield, Leeds, Durham, Manchester and Hull, were generally well attended.

Particular mention should be made of the October meeting on the early Palaeozoic history of the Isle of Man which took place at Manchester University. This is not a normal venue for the YGS, and was held as a joint meeting with the Manchester GA, whom we thank for their hospitality. The Isle of Man is clearly a 'hot topic' at the moment, and many new and exciting results were presented. The meeting also coincided nicely with the appearance of a Special Publication of the Geological Society, London (No. 160), which contains further results of this work. Special thanks should go to Dr Nigel Woodcock (Cambridge), not only for agreeing to talk himself but also for organising the meeting, thus making the Programme Secretary's job a lot easier!

A slight hiccup to the smooth running of the 1999 session occurred at Leeds in February. The meeting on British Dinosaurs was not as well attended as it should have been due to the loss of our Circulars by the Royal Mail. In addition, both slide projectors decided to malfunction at the same time during a talk by Dr Clive Trueman (Bristol University), who nevertheless soldiered on splendidly! The Programme Secretary apologizes to both the membership and the speakers, in particular Dr Trueman, for the inconvenience caused.

*Field Meetings 1999.* There was a total of five very successful field meetings during the summer. In particular, we had an opportunity to visit several places outside the traditional YGS region, including the Potteries and Norfolk. The latter was a residential trip, which was well organized and thoroughly enjoyed by all who attended.

*Indoor and Field Meetings 2000 (162<sup>nd</sup> Session).* Next year will see a number of changes to the format of meetings both indoor and outdoor, partly as a response to answers received from the YGS Members' Questionnaire. For example, the indoor programme will include a 'hands-on' meeting at Leeds where members will get the chance to study hand specimens and thin sections as well as listen to lectures. The general theme of the field meetings will be 'Classic Yorkshire Geology' and will give members the chance to visit sites which have helped shape our science in the last 200 years.

Finally, I wish to thank the previous Programme Secretary, Dr John Rowe, for all his help in the past 12 months. Also, thanks to all our speakers, field trip leaders and local conveners for making the 1999 programme such a success.

Richard Twitchett

### 1.4. Publication Committee Secretary's Report

This year we have had a change in Production Editor at the Geological Society Publishing House and our thanks are due to David Ogden who, after efficiently supervising the final production stages of five successive parts of our journal the *Proceedings of the Yorkshire Geological Society*, passed the job on to Helen Knapp in January. Council members were pleased to meet Helen at the Council Meeting at Manchester

in October and were encouraged by her news that promotional work by the Publishing House seems to have halted the decline in numbers of Institutional Subscribers who take our journal.

Parts 3 and 4 of Volume 52 of our journal, were published on schedule in May and November this year. A total of 12 papers were included, plus a short catalogue of type and figured fossils at Clitheroe Castle Museum published in Part 3. Most of the other papers in that part are palaeontological, the exception being a paper by David Evans and Gary Kirby giving the most revealing results of their interpretation of seismic reflection and deep borehole data mostly derived from oil company explorations in Yorkshire and Lancashire. Part 4 includes a paper entitled 'Palaeotemperatures, thermal modelling and depth of burial studies in northern and eastern England' by Douglas Holliday, based on his 1998 Presidential Address, which also has important implications for the oil industry as well as students of geological history. Other included papers, on subjects ranging from dinosaur footprints to mine water pollution, reflect a diversity that is one of the hallmarks of our journal.

Iain Burgess, my co-Principal Editor, is giving up his office which he has held since 1989 during which time he has helped to prepare papers for publication in 22 Parts of the journal. Iain's work represents an invaluable contribution to the Society as well as an important contribution to geological science, and it is fitting that he is now one of our Vice-Presidents. Fortunately, in addition to his Vice-Presidential duties, Douglas Holliday agreed to be nominated as Principal Editor, and has now been duly elected. He has also expressed a willingness to take over my job of Publications Committee Secretary.

Again I'm glad to acknowledge all the hard voluntary work put in by our Scientific Editors and referees. One of the former, John Senior, has resigned after giving service to the Society over a remarkable number of years: as one of the Principal Editors in 1981-83, and ever since as a member of our panel of Scientific Editors for which John deserves our gratitude and good wishes.

Finally, Paul Kabrna is again to be thanked for his hard work in compiling and producing those essential organs of communication with our members, the Circulars, of which 7 (Nos 479-485) have been sent out this year. Members will have noticed the Circulars now contain book reviews because space has rarely been available for these in our journal. It is also gratifying to report that our other communications medium, the Society's web site, with its abstracts of papers, details of our programme and other information about the Society, is being increasingly accessed.

Neil Aitkenhead

### 1.5. Conservation Committee Secretary's Report

Most of the Conservation Committee's activity this year has centred around RIGS work. Alison Quarterman and the West Yorkshire RIGS Group organized the Northern RIGS Conference in June and are now working on site conservation and information. Richard Myerscough is forging ahead with Ryedale and Scarborough RIGS Group in identifying geo-educational sites. The committee was also represented at the 2<sup>nd</sup> National RIGS Conference, where the new national organization, UK RIGS, was set up.

I would like to thank the other members of the Conservation Committee for their help and support, in particular, Archie Lee, who is leaving the Committee this year.

Alistair Bowden

## 2. MEDAL PRESENTATIONS

(York, 4<sup>th</sup> December, 1999)

### 2.1. Presentation of the Sorby Medal by the President to

#### JOHN KENNETH WRIGHT Ph.D.

The Sorby Medal was established in 1960 by Professor William George Fearnside to be awarded not more frequently than biennially as 'an acknowledgement of either (i) distinguished contribution to geological knowledge of Yorkshire, or (ii) distinguished contribution to geological knowledge by a person associated with Yorkshire and the north of England by birth, training or locus of researches'.

The Sorby Medallist this year is John Kenneth Wright, frequently referred to as J. K. Wright to distinguish him from other geological Wrights!

John was born and brought up in Scarborough (what better place for a geologist – the abode of William Smith from 1824). It was here that your fascination for the local geology, so well-displayed in the cliffs and foreshore of this rugged coastline, led you undertake your first degree in geology at Leeds University in 1962. You subsequently took the post of Curator in the Department of Geology at Chelsea College, and then returned to your roots and completed your Ph.D. at London University in 1978 on *Stratigraphical and palaeoenvironmental studies of the Callovian rocks in North Yorkshire and Cleveland*. It was during your time at Chelsea that you joined the Yorkshire Geological Society in 1971. Since 1985 you have held a post in the Department of Geology at Royal Holloway.

Your research areas are primarily on the ammonites and sediments of the Yorkshire Callovian. Your detailed work on the Middle Jurassic of the Yorkshire Basin revealed a number of unconformities within the sequence, and further allowed you to recognize over most of the basin three sedimentary cycles, with marine influences. Clearly wishing to extend your expertise into the Upper Jurassic you also investigated the Yorkshire Corallian sequence, improving our knowledge of the ammonites and proposing a refined stratigraphic subdivision.

You have established your reputation as a biostratigrapher and ammonite worker of the Jurassic rocks by being a co-author of the Geological Society publication in 1980 on the *Correlation of Middle and Upper Jurassic Rocks in the British Isles*, and as a member of the Jurassic Working Group of the Geological Society Stratigraphy Committee you are presently working with other colleagues on a new, revised edition. Your steady stream of publications, of which 8 have been published in our *Proceedings*, has given you an authoritative position in your chosen field of Jurassic stratigraphy and palaeontology.

Your knowledge of the Jurassic of the East Coast is considerable, as is testified by your contribution to half of the itineraries of the Geologists' Association Guide to *The Yorkshire Coast*. I speak from experience, and I am sure for others, when I say that your presence on field trips to the East Coast fills

leaders with unease in the fear that we have overlooked a critical exposure!

John Kenneth Wright you are without doubt a most worthy recipient of the Sorby Medal. It gives me great pleasure to present you with the Medal for 1999, on behalf of the Yorkshire Geological Society.

## 2.2. Presentation of the Fearnshides Prize by the President to

### ROBERT J G MORTIMER Ph.D.

The Fearnshides Prize was established in 1968 by Professor William George Fearnshides to be awarded; 'not more frequently than biennially to a person, under 30 years of age on the first of December in the year of the award, who has shown promise in geological research or the geological sciences and who is associated with the north of England by birth, training or locus of researches'.

Robert Mortimer, you spent your early formative years in the south of England where you went to school in Norwich, followed by studying for a degree in Mining Geology at Imperial College, London. You graduated with a first class Honours degree and your academic achievements were recognized by being awarded nine prizes during the 1988–91 period while at Imperial College. You then went to Reading where you completed a Ph.D. project on the *Biogeochemistry of Iron* in 1994.

You then moved north and have since held a Postdoctoral Research Fellowship in Marine and Environmental Geochemistry in Earth Sciences at the University of Leeds. You now live in Ilkley, West Yorkshire, with your wife and daughter (and I understand a second child is imminent). At Leeds you are responsible for the day-to-day running of the environmental geochemistry laboratory; as well as undertaking a wide range of undergraduate teaching, including field excursions to Malham, Ingleton and S. Yorkshire. Your research interests are in biogeochemistry of aquatic systems.

For your Ph.D. you used a novel multi-disciplinary approach to investigate the role of micro-organisms in the early diagenetic precipitation of siderite. Since going to Leeds you have developed the gel probe technique for measuring high resolution pore-water profiles. You have already published an impressive array of papers on a range of topics in environmental geochemistry. You have demonstrated an understanding of how modern processes relate to what we see in rocks. Your work typifies the best of modern environmental research, coupling traditional science skills with modern problems in an interdisciplinary manner. The award of the Fearnshides Prize is a recognition of your achievements to date.

Robert Mortimer, it gives me great pleasure to present you with the Fearnshides Prize for 1999, on behalf of the Yorkshire Geological Society.

## 2.3. Presentation of the Moore Medal by the President to

### ALICE ROSAMUND GRAHAM B.Sc.

The Moore Medal was established in 1988 by former students in honour of Professor and Mrs L. R. Moore to be awarded 'annually to the student from the north-eastern universities and colleges who is judged to have produced the best final year undergraduate project or dissertation'.

This year the competition was as keen as ever with six universities submitting their best final year undergraduate projects. As usual the standard was very high and it was clear that students had put considerable time and effort into producing their projects. Rather unusually, this year, the projects were more diverse and ranged from laboratory based projects to the more conventional field-based topics. Perhaps even more unusual was that a number of the nominees were from Joint Honours courses; students who, owing to course structure, spend less time studying geology than Single Honours geology students. Yet it is precisely one of these students that, in the unanimous verdict of the judges, was chosen as this year's medallist.

Alice Graham, who graduated from the University of Leeds, is this year's recipient of the Moore Medal in 1999. Your project was on *Palaeoenvironmental changes in the Carboniferous succession of northern County Clare*. During your seven weeks in the field you undertook to document and interpret the in-fill of a Namurian basin in western Ireland. Your field techniques, including logging and high-resolution mapping, were supplemented by petrographic work in the laboratory, enabling you to draw conclusions about the palaeodepositional environment of the basin sediments. In particular you presented a new interpretation of the so-called 'Fisherstreet Slide' – a 20 m thick slumped unit showing spectacular soft-sediment deformational features.

Your account was a very well-researched and well-presented comprehensive study, and you are undoubtedly a worthy recipient of this medal.

Alice Rosamund Graham, it gives me great pleasure to present you with the Moore Medal for 1999 on behalf of the Yorkshire Geological Society.

## 3. SOCIETY ACTIVITIES, 1999

### 3.1. Indoor Meetings

January 9<sup>th</sup>: Sheffield: General Meeting

#### Early terrestrial life

P. SELDON

Rustling in the undergrowth – animals in early terrestrial ecosystems.

D. EDWARDS

Early land plants.

S. BRADDY

Keeping track of Palaeozoic terrestrial arthropods: an ichnological insight into early life on land.

February 6<sup>th</sup>: Leeds: Public General Meeting

#### British dinosaurs

D. NORMAN

*Scelidosaurus*, the earliest complete dinosaur.

M. J. BENTON (read by C. TRUEMAN)

Origin of the dinosaurs: new work on *Scleromochlus* and *Thecodontosaurus*.

S. HUTT

Bringing them back dead! Dinosaurs and their environments from a digger's perspective.

M. WHYTE

Chasing dinosaurs across China.

March 6<sup>th</sup>: Durham: General Meeting

#### The break-up of Gondwanaland

B. STOREY

Microplates and mantle plumes during Gondwana break-up and dispersal.

D. HYAM

The Falkland Islands and their position within Gondwana.

B. TURNER

Tectonostratigraphic modelling of the Upper Karroo foreland basin: orogenic unloading versus thermally-induced Gondwana rifting.

*October 9<sup>th</sup>: Manchester: Joint General Meeting with Manchester Geological Association*

**The early Palaeozoic geological history of the Isle of Man**

D. QUIRK

The Isle of Man in its historical, regional and tectonic setting.

N. WOODCOCK

Stratigraphy and depositional history of the Manx and Dalby groups, Isle of Man.

G. POWER

Igneous and tectonometamorphic history of the Manx Group, Isle of Man.

*November 13<sup>th</sup>: Hull: General Meeting*

**Triumphs and disasters of engineering geology**

N. E. BUTCHER

The Penmanshiel rail tunnel disaster of 17<sup>th</sup> March 1997 and its aftermath.

D. NORBURY

Failures in or by engineering geology.

B. JONES

The second Severn crossing.

*December 4<sup>th</sup>: York: Annual General Meeting*

**Presidential Address**

M. ROMANO

Dinosaur behaviour: the answer lies in the tracks on the Yorkshire coast.

**3.2. Field Meetings**

*May 15–16<sup>th</sup>*

North Norfolk – residential trip.

Leaders: G. Samways and C. Bristow

*June 10<sup>th</sup>*

Middleton Mine.

Leader: J. Rippon

*June 20<sup>th</sup>*

Killhope lead mines.

Leader: B. Young

*July 18<sup>th</sup>*

Marsdenian delta systems west of Huddersfield.

Leaders: C. Waters and M. Brettle.

*September 4<sup>th</sup>*

Geology of the Potteries.

Leader: J. Rees.