The Association
Future Lectures
Awards
Presidential Lecture
Tony Iles Obituary
Association and Social Change
Farnham GS - 40 yrs.
CIRCULAR 983
The Lévy Catalogue
CD and Book Review
ROCKWATCH
Obituary - Willy Wright
Dalradian Guide Review
Report of April Lecture
Sand - a review
BACK COVER - September one-day
WARM CLIMATE Meeting
The GEOLOGISTS’ ASSOCIATION does not accept any responsibility for views and opinions expressed by individual authors in this magazine.

The Geologists’ Association

The Association, founded in 1858, exists to foster the progress and diffusion of the science of geology, and to encourage research and the development of new methods. It holds meetings for the reading of papers and the delivery of lectures, organises museum demonstrations, publishes Proceedings and Guides, and conducts field meetings.

Annual Subscriptions for 2009 are £40.00, Associates £30.00, Joint Members £58.00, Students £18.00.

For forms of Proposal for Membership and further information, apply to the Executive Secretary, The Geologists’ Association, Burlington House, Piccadilly, London W1J 0DU.

E-mail Geol.Assoc@btinternet.com
Telephone 020 7434 9298
Fax 020 7287 0280
Website: http://www.geologistsassociation.org.uk

President: David Bridgland
Executive Secretary: Sarah Stafford

CONTENTS

3. The Association
4. Future Lectures
5. Awards
6. Presidential Lecture
7. Tony Iles Obituary
8. Association and Social Change
11. CIRCULAR 983
15. The Lévy Catalogue
17. CD and Book Review
18. ROCKWATCH
20. Obit - Willy Wright
21. Dalradian Guide Review
22. Report of April Lecture
23. Sand - a review
BACK COVER - September one-day Meeting

Advertising Rates
Full Page £360 Half Page £190
Quarter Page £100
Other sizes by arrangement.

ADVERTISEMENTS

While precautions are taken to ensure the validity of advertisements the Association is not responsible for the items offered, for any loss arising or for their compliance with regulations.

© The Geologists’ Association.
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by means, without the prior permission in writing of the author and the Geologists’ Association.

Last Copy dates for the Circular & Magazine

March Issue January 14
June Issue April 22
September Issue July 22
December Issue October 21

Items should be submitted as soon as possible and not targeted on these dates. We welcome contributions from Members and others.

Curry Fund Dates for 2010

Applications to Committee
be received by Date
February 20 March 12
May 20 June 11
August 20 September 17
November 20 December 10

Cover picture:
Frosterley Marble showing abundant Dibunophyllum bipartitum found as a building stone in Dorchester - see page 8.

Message from the new President

It is a great honour to become President of the Association, having joined at the outset of my research in 1977, when I attended my first GA field trip – in Suffolk, run by the present Editor of the Proceedings, Jim Rose, in the company of Peter Allen and the late John Wymer. As I write I have just attended the latest GA field trip to be led by Jim, to Pleistocene sites in the vicinity of Castle Bytham, Lincolnshire. Such occasions are extremely valuable and enjoyable, and very much what the GA is all about, as a glance through some of the back numbers of the Proceedings will confirm. Of course as GA members you can now browse the back numbers on line, at Science Direct, right back to Volume 1, Issue 1 (1859), and can download articles as pdf files. Please note that these are searchable pdfs, not just images of the relevant pages. This is a tremendous resource and will greatly benefit those who wish to research the history of geology.

I would like to take this opportunity to thank my predecessor, Danielle Schreve, who has served as President these last two years and has done a very fine job. Thanks to her efforts, and those of the rest of Council and the GA staff, it seems to me that the Association is in very good shape. I am delighted to say that Danielle remains as Senior Vice President for the next year, and her experience will be of considerable benefit to me in the first half of my presidency. Like Danielle, my interests lie in the Quaternary; indeed, we have published together, including in the Proceedings, on topics such as the Thames terraces. Also like Danielle, I teach in a Geography Department, in my case at Durham University. I am, however, a geologist by training and have applied my general geological knowledge to the identification of the various rocks making up Quaternary gravels. Before I joined Durham I worked for the then Nature Conservancy Council (now Natural England) as part of the team conducting the Geological Conservation Review, eventually producing No. 7 in the GCR publication series, Quaternary of the Thames. I retain considerable interest in the conservation of geological sites, something to which I know that the GA has made important contributions and continue to have a strong commitment. I have just helped Danielle prepare sections at the Purfleet Thames
Message from the new President continued...

terrace SSSI for a TV programme to appear on Channel 4. You should watch out for this. The programme will be presented by Tony Robinson and Danielle will be presenting the site at Purfleet and another Thames SSSI at Hornchurch Railway Cutting, where the Anglian (glacial) till can be seen underlying the Boynt Hill Terrace of the Thames. It is unlikely that such sites would have been available to the programme makers had it not been for their SSSI status, which surely underlines the value of Earth Science conservation to the community as a whole.

Finally I want to remind you of the exciting meeting the GA is running in late summer (Thursday 9th September). Sponsored by Elsevier and the Department of Environment and Climate Change, it is entitled ‘Warm Climates: Linking the Past and Present’. There will be a broad sweep of topics, with various parts of the geological record represented; it will include palaeoclimate modelling, flora, fauna, deep ocean and sea-level records, all used to examine how past landscapes, biotas and environments responded and adapted to periods of exceptional warmth, thereby providing a context for understanding the likely impacts of modern anthropogenic global warming. Further details and information on how to book are given on the back page of this issue of the Magazine.

David Bridgland

Report from Council

This was the last Council before the AGM when new Councillors were elected and the President thanked those Councillors who were retiring for their commitment for the last three years (the length of tenure of Councillors). Council were saddened to hear of the death of Tony Iles, the Minutes Secretary for the last five years. The President remarked how much work Tony had put in for the Association and how much he would be missed. See the obituary on page 7. A number of Councillors attended his funeral. The death of Rhys Davies on 3rd May was also noted and Mrs Susan Brown explained how much he had done for the Association and the Curry Fund as Treasurer.

The President and Senior Vice President have met the Geological Society’s President to discuss the new GS Friends and items of mutual interest. The meeting was helpful and friendly. The Society agreed to distribute the Association’s leaflets at the Shell lectures on a more formal basis.

It was agreed that, in future, there would be an annual meetings between the Presidents.

The website is currently being upgraded and members’ comments would be incorporated in the new website.

The president thanked those who assisted in selecting the winners of the Curry Fund MSC prizes from what had been a very good entry.

The Treasurer reported that, on balance, there is no compelling reason to raise subscriptions immediately. The Council thus agreed unanimously not to raise subscriptions for 2011.

The in-coming President, Dr David Bridgland thanked Dr Danielle Schreve for her contribution to the Geologists’ Association over the last two years as did the Council members. Dr Schreve thanked the retiring Council members for their support.

John Crocker
General Secretary

Curry Fund Report

The Curry Fund Committee received eight new applications for its first meeting of the year, held in March.

David Pyle of the Earth Sciences department, University of Oxford, was awarded £1000 for posters and educational materials for his geology display at the Royal Society’s 350th Anniversary Summer Exhibition. This will be held at the Royal Festival Hall in London from 25th June to 4th July. The Exhibition is open to the public as well as pre-booked schools and will be a considerably larger exhibition than the Royal Society’s usual Summer Exhibition. £1,692 was awarded to GeoSuffolk for erection of stock-proof fencing to protect current and future plantings in Sutton Knoll Pliocene Forest extension. The GeoSuffolk group has been very active at this site and the forest is already taking on an interesting profile. As the Pliocene plantings mature, it is anticipated that the site will become a focus for encouraging other groups to consider similar projects in other areas of the country.

Lyne Regis Museum was awarded £950 towards the re-creation of “Durica Antiquior” for children and families under the guidance of a local artist during the autumn. “Durica Antiquior” is the famous water colour of Ancient Dorset painted by Henry de la Beche in 1830. The grant will also cover printing of posters for a new exhibition at the Museum, celebrating “Mary Anning & the Men of Science”. Keep an eye on the Museum’s web site for details of the exhibition. A request from Richard Moody for £460 for colour printing of plates for inclusion in a Geological Society Special Publication of HOGG meeting on “Dinosaurs and Other Extinct Saurians” was refused. Kathyrn Riddington successfully applied for a grant of £1000 for Cheshire RIGS towards printing and publication of geodiversity trail leaflets around Beeston Castle. The application from Westmorland Geological Society for £500 for purchasing digital equipment for visiting speakers was refused. Gloucestershire Geology Trust’s application for £1550 for producing a display for the Cheltenham Science Festival was refused. The Geologists’ Association requested £4065 for publication of the GA’s London Guide. Funding for the guides is via the annual subvention from the Curry Fund to the GA General Fund, and currently there is only £1,400 left from this year, so the reminder of the cost will be funded from the 2010-2011 subvention.

Guidance for applicants: an application form and closure dates for submissions to the Curry Fund for grants are available on the Association’s web site. We look forward to hearing from you.

Susan Brown
Curry Fund Secretary

Library Notes - SEE PAGE 23
Early bivalve evolution

Prof. John Cope
University of Cardiff

Friday 2 July 2010
Geological Society,
Burlington House,
Piccadilly, W1V 0JU
at 6.00 pm, tea at 5.30 pm.

Look at sections of marine rocks in any part of the Mesozoic and Tertiary and you will usually find that amongst the commonest fossils are bivalves. There are genera that range through large parts of the Mesozoic and, apart from groups like the oysters or the rudists, very little seems to be happening evolutionarily. But if you go to examine Lower Palaeozoic rocks you will be lucky to find bivalves and it is quite possible to spend a lifetime collecting in Cambrian or Ordovician rock and never find a bivalve.

After a seemingly insignificant early and mid Cambrian record when bivalves were minute and extraordinarily rare, they are yet unknown as fossils in the late Cambrian. They reappear in the early Ordovician, but only around the Gondwanan shores, where they are known from a handful of localities worldwide; in these few localities they are sometimes the dominant fossils. This is when the main evolutionary developments took place and discoveries over the past two decades have allowed us to track the principal evolutionary paths. By the end of the early Ordovician more than 20 families of bivalves existed and all the principal bivalve groups had appeared in a truly explosive evolutionary outburst. Later in the Ordovician bivalves became cosmopolitan, but were affected by the end-Ordovician glaciation.

Falcatodonta costata Cope
Early Ordovician,
Carmarthenshire

August - No Meeting

September - One-Day Meeting

WARM CLIMATES : LINKING THE PAST TO THE PRESENT
THURSDAY 9TH SEPTEMBER

Lecture Theatre of the Geological Society, Burlington House
Booking is Essential so please register your interest with Sarah Stafford at the GA office as soon as possible.

SEE FULL NOTICE ON BACK PAGE.

November Meeting - Festival of Geology

Friday November 5 - Meeting of Local Groups

Saturday 6 November The Festival of Geology at University College London
Local Groups Displays, Rock and mineral dealers, books, GA Enterprises, talks, Rockwatch etc, etc...

Sunday 7 November Field Trips - details to be announced in the next magazine
Awards and Prizes given at the AGM

The Foulerton Award presented by the President to Professor Bernard Leake for "work of merit connected with the Association"

The Halstead Medal given to Elizabeth Devon for "work of outstanding merit to further the objectives of the Association and to promote geology"

The President Danielle Schreve giving her Presidential address

The President presenting the Richardson Award to Colin Prosser for the best paper by a member in the PGA in 2009

The President presents the Ivor Tupper award to Emma Naden of Keele University “who demonstrates an outstanding academic excellence”

The President presenting the Curry Fund MSc awards for the best dissertations for 2010

Left: Karol Czanota, Royal Holloway, University of London, MSc Petroleum Geosciences
Tectonostratigraphic and structural history of the Western Exmouth Sub-basin, NW Shelf, Western Australia

Right: Nicholas Crumpton, University of Bristol, MSc Palaeobiology
A quantitative microwear analysis of insectivorous bats, with implications for the dietary preference of early mammals

James Cochrane, Cardiff University, MSc Applied Environmental Geology, was not able to attend the AGM to receive the prize
A geotechnical site investigation at the former iron ore wharf, Ferry Road Peninsula, Cardiff, for the proposed habitat mitigation site
Having spent a good deal of my undergraduate life crawling through the caves of the Mendip Hills I was very pleased not to have encountered some of their former inhabitants as described by Danielle Schreve. These ranged from giant bears to lions and early human cannibals. The caves have been the subject of research for over 150 years with one, exposed in a quarry at Westbury-sub-Mendip, containing a fauna dated at 500,000 BP with bones bearing straight cut marks indicating some of the earliest human activity in the British Isles. There are also many younger sites and here the story starts in the 19th century when two collectors, William Beard and the Rev. David Williams, began to take an interest in caves and their contents. The two were quite different in their approach with Beard being somewhat obsessive (he lived in "Bone Cottage") amassing a comprehensive, well labelled and representative amount of material. In contrast, Williams was a "cabinet" collector who paid little attention to location (his specimens were simply labelled "Wms"). Both collections were acquired by the Somerset Archaeological and Natural History Society (SANHS) and housed in Taunton Castle Museum in the care of William Bidgood who made many of the specimens available for description in early Palaeontological Society Monographs. After his death the collection underwent a long period of benign neglect with parts being left on display and the rest shuffled from place to place until someone ordered its disposal around 1970. Fortunately these orders were not fully carried out and A D Hallam is believed to have rescued much of the material, which was boxed and hidden in an old coal shed. The story fast forwards to the 1990s when Dennis Parsons rediscovered the collection and contacted Andrew Currant, Roger Jacobi, Danielle and others to see how much could be retrieved. With careful forensic analysis much of it was restored both physically and with regard to provenance and the manuscript catalogue now runs to over 10,000 entries.

The Carboniferous Limestone of the Mendips is important because it is one of the few areas of Palaeozoic limestones in England that lie well south of the limits of glaciation. These areas contain caves with deposits that extend over the last 500,000 years and include evidence of both glacial and inter-glacial periods that can be related to deep-sea cores. To illustrate this, Danielle took us on a tour of the caves and the fauna that had been collected. The first excavations were by Beard and Williams in 1828 in Hutton Cavern and they discovered abundant bone remains that indicated that many of the animals came in as complete carcases, including those of wolf (presumably denning in the cave) and horse. They also found a small number of mammoth teeth of the "Ilford-type mammoth" as well as remains of other carnivores and small mammals. Bovine remains are rare and since carnivores are poor indicators of environment there is little evidence of the prevailing conditions but the assemblage fits in with late Oxygen Isotope Stage (MIS) 7 which places it at an age of around 200,000 years BP when the environment was much like present day grassland. The contents of the nearby Bleadon Cave are around the same age and are renowned for the abundance of horse and red deer that make up 50% of the fauna. The assemblage points to a warm grassland environment and it may represent a lion's den. In marked contrast, Banwell Bone Cave shows evidence of cold conditions. It is located on land once owned by George Henry Law, Bishop of Bath and Wells, and contained so many bones that Beard stacked the more common ones around the edge of the cave to form decorative blocks. These formed the basis for a sort of theme park for the Biblical Deluge inspired by Law. The fauna is dominated by bison and reindeer but there are also the remains of a large bear closely similar to modern polar bears and wolves with very worn teeth suggesting they were primarily bone-eating scavengers. The fauna is assigned to late MIS5 with an age of around 100,000 BP. The last of these early caves is the Wookey Hole Hyena Den, part of which was lost during construction work associated with the paper mill. The cave is notable for the occurrence of Palaeolothic hand axes that were found in a well-stratified layer of cave earth that contain the remains of spotted hyenas and their prey, chiefly woolly rhinoceros, indicating rich grassland. They are dated at MIS 3 (Middle Devensian) but more recent work has revealed the presence of an earlier fauna that can be equated with that at Banwell Bone Cave.

Bringing us right up to date, Danielle described her excavations in Gully Cave in Ebbor Gorge. This was a "cave with a view" looking out over the tree-less plain of the Axe towards the Bristol Channel and would have been ideal for observing prey. The cave was almost completely inaccessible and initial excavations showed that there was no talus heap suggesting that the site was undisturbed. It has now been excavated to a depth of 2.5 m and over 5 tonnes has been wet sieved providing high-resolution material and yielding a rich fauna that suggests a cool climate. This includes occasional large mammals (wild horse and red deer) small mammals (mountain hare and voles) and abundant birds (falcon, partridge, thrush, finch and possibly an eagle owl) and even amphibians, fish and molluscs. Radiocarbon dating gives a Late glacial Interstadial age (14,000 years BP) for the material excavated to date, however, the floor of the cave has not yet been seen. Its location is interesting in being close to both Wookey Hole and Gough's Cave in Cheddar Gorge, home of Cheddar Man and his cannibalistic companions, and promises to throw new light onto the recent history of this important area.

Dave Greenwood.

An excellent article on the Beard and Williams collection by Andrew Currant is available at: http://www1.somerset.gov.uk/archives/hes/downloads/HES_150_Years_Chapt er_7.pdf
Tony Iles joined the Association in 1962 shortly after graduating with a degree in geology and physics from Queen Mary College and was a regular at our monthly meetings at Burlington House.

He was born in Clapham and was educated locally remaining a Londoner all his life. Like many of his contemporaries he opted to do his National Service, in The Prince of Wales Dragoon Guards, before going up to university.

At QMC he will be remembered as a keen mountaineer and photographer acting in the latter role on the 1960 London University Geological Expedition to Skidadalur (LUGES) in Northern Iceland before leading a second expedition to Midnordurland (LUGEM) in the same area the following year.

The object of both expeditions was to map basalt flows and relate these to the frequency of dykes at different stratigraphic horizons; work that ultimately provided some of the evidence for crustal extension at a mid-ocean ridge leading to the theory of plate tectonics.

Tony graduated in 1961, which was not a good year for geological employment, so he followed his other interest and joined Kodak where he became an expert in cinematography and occupied several senior technical posts.

He was awarded the Eastman Gold Medal in New York in 1999 by the Society of Motion Picture and Television Engineers and the Award of Merit by the British Kinematograph, Sound and Television Society in 2006. Tony returned to geology following his retirement in 1996 and served on Council as Minutes Secretary from 2002 onwards. He also played a part in producing the GA Magazine providing accounts of our monthly meetings, which he felt deserved a wider audience to members outside the London area.

Tony was a splendid companion in the field and will be remembered for his sense of humour, his enthusiasm and most of all for his courage in the face of adversity.

As was his last wish, following a long fight against prostate cancer, Tony died peacefully in his own home on 19 April 2010 surrounded by family and friends.

Dave Greenwood.

FIELD TRIPS - A PERSONAL VIEW

THE PROBLEMS
- The waves crash, the shingle rattles, rain pours down and the lightening flashes draw ever closer;
- Gales blow and scatter one’s notes and folk cannot hear
- The foreshore is slippery and we oldies fear for our bones
- There is always some dear soul who wanders off, stands behind the speaker or engages in a private conversation
- Participants have different interests and attention spans, especially when they have been on their feet for two hours
- The subject matter may of a difficult and complex nature
- Some demonstrations and explanations are best conducted in the lecture hall
- There has to be someone who pops up with a question on some divergent matter, or one which involves a lengthy digression (‘Can we discuss this afterwards please?’)
- Someone has to organise the meeting and find a leader willing to travel and give up a day, or week
- Do not forget the risk assessment or big brother will mark your card
- Who has not been on a bus which has to back half a mile, turn in a field or get stuck in a narrow Welsh bridge?

THE BENEFITS AND JOYS
- Being shown how to describe a rock face and question its features
- Apply one’s personal experience and knowledge
- Meet the experts and enjoy their guidance
- Discover and explore: new places, recent research, changing concepts and fresh aspects of geology e.g. a recent visit by the Dorset Group to Ham Hill in Somerset introduced the party to bioclastic limestones, sedimentary structures, the extrusion theory of the formation of gulls and cambering, the problems of working Ham Hill Stone, evidence for dextral faulting and the wrenching of Somerset, reactivation of Variscan structures, synsedimentary tectonics and crustal extension, a mysterious pebble bed, the scarpland landforms of South Somerset and lastly, but not least, a conservation warning (District Council and County Council systems failure). These are all aspects which the participants can follow up.
- Meet other people, make new friends and enjoy their company and a pub lunch
- Get out for the day

PERSONAL NOTE
When I look back at my teaching career perhaps the most useful thing I tried to do was stimulate an interest and enthusiasm. And what do former pupils remember of my lessons? A well aimed blackboard rubber, a liquid lunch at the pub in Montacute, tea on the lawn at 2 Yeovil Road, and leading them up the mudslides and backscars on the cliffs at Charmouth. Times be changing! Field work is more difficult or done on a computer; Health and Safety requires assessments and prohibits various activities. Blackboard rubbers are a definite no-no.

Hugh Prudden
Somerset Geology Group
The Association and Social Change

Not long after the foundation of our Association, we became involved in a national campaign seeking to secure a Saturday half-day holiday for office and shop workers in their working week. It was a drive hoping to allow the fulfillment of one of our prime aims as an Association - the conducting of field excursions as an essential step for the interested amateur becoming a geologist. A social historian of the mid 19th century describes the scene in London once the legislation achieved the release, with city workers rushing to the railway stations on Saturday afternoons to join others in excursions deep into the weald or the Chilterns to get to grips with the rocks. Working quarries, new cuts for roads or extensions of the railway systems were part of the objective, but otherwise it was simply to walk the familiar landscape of the outer suburbs of London.

Healthy exercise was combined with that other stated purpose of the Association - collecting. This was of great satisfaction to that campaigning committee which had won that half day release who commended the Association for its field working activities (Green, 1989,p.19). In 1872, they published a list of field clubs from their office at 100 Fleet Street, EC, adding details of prizes which had been offered "For the competition of Field Naturalists", with this preamble: "The tendency to field recreation for Natural History purposes on the Saturday afternoon has perhaps been more marked within the past twelve months than in any previous year [1871] and the bearing of this fact upon the further extension of the Saturday half-holiday to departments of the press where it is still badly needed, is one which the Committee have not been slow to notice. With the conviction that this newer aspect of Saturday afternoon would favourably commend the half-holiday in quarters where it has yet to confer its advantages, it was resolved that steps be taken to encourage weekly Natural History excursions on the afternoon in question. Representation were accordingly made to several eminent friends of the Saturday Half - holidays in London who had been pleased on previous occasions to render important services to the movement. The responses to these representations was a most generous one; the object was fully appreciated, and the Committee have now the pleasure of being the medium of a number of prizes, which are offered for the competition of the field-naturalists and microscopists of London."

Hidden within this long-winded statement is the fact that by their campaign the Committee had profited from several important backers who revealed themselves in the competitions mentioned. There were three separate categories to the competition; botanic, microscopist, and finally, geological. The botanical prizes were donated by the Duchess of Sutherland to the extent of ten guineas, divided into three prizes: "£5 5s for the best collection of Mosses (including the Hepaticae) obtained within twenty miles of London. £3 3s for the second best collection £2 2s for the third."

The microscopists also shared ten guineas, provided by the Countess of Ducie, and involved three prizes: "£3 3s for the best List of the Ponds and other aquatic resorts for the Microscopist within twenty miles of London £2 2s for the second best £5 5s for the best List of the Ponds and other aquatic resorts within twenty miles of London."

Finally, there was a ten guinea prize from the Marquis of Westminster for geologists, comprising: "£3 3s for the best List of OPEN GEOLOGICAL SECTIONS and EXPOSURES of the Strata of the London district. £2 2s for the second best £5 5s for the best List of OPEN GEOLOGICAL SECTIONS and EXPOSURES of the Strata of the London district.

From one of our members - Alan Holliday

I led a geological walk around Dorchester based on the DGAG ‘Walk in Coast and Country Geology’-walks published by one of our prime aims as an Association (now available as a CD from the DGAG). As a result of information from a friend who lives in Dorchester he drew my attention to some Frosterley Marble in St Mary’s church in Edward Road, Dorchester. North Pennines AONB have produced a leaflet on the stone. It is very handsome with abundant Dibunophyllum bipartitum. One of the group of the walk said he has seen in in Truro Cathedral. The leaflet supplied by North Pennines AONB records that it has been used in Bombay (Mumbai) Cathedral!

The variety of building stones used in Dorchester is much less than in Weymouth (leaflet available from me on receiving an AS S.A.E.) with greater use of Portland and Purbeck Stone from the Ridgeway Quarries as well as some Ham Stone and Bath Stone in Dorchester. Weymouth’s shop fronts have many examples of foreign rocks including various types of granite as well as larvikite, phyllite, schist and serpentinite to name but a few.

Eric Robinson

*Editor’s Comment
In spite of the very large sums offered for these prizes, ten guineas would now be equivalent of about £500, there seems to be no reference to the winners in the press of the time.
Farnham Geological Society Celebrates its 40th Anniversary

This year Farnham Geological Society celebrates its 40th Anniversary on June 26th with an open day, to be held at the Maltings in Farnham, Surrey. The theme is climate change with talks from three eminent specialists - Susan Marriott, Professor of Earth & Environmental Sciences, University of Bedfordshire, Luton, (Late Silurian and early Devonian climates as revealed by the Old Red Sandstone of South Wales); Malcolm Hart, Professor of Micropalaeontology, University of Plymouth, Devon (Was the Cretaceous greenhouse world always so warm?) and Danielle Schreve, President of the Geologists' Association and Reader in Physical Geography, Royal Holloway College, Surrey (Quaternary climate change and fossil mammals: evolution, environment and extinction). This programme of talks will be followed by a short field trip on the nearby Hogs Back, examining the effects of climate on local geology and landscape.

Full details about the open day are available on the Society's website (www.farnhamgeosoc.org.uk).

The Beginnings

The Farnham Geological Society was officially established on 1st January, 1971, as a separate entity to, but in some ways a successor of, the popular courses on geology run by the Council for Extra-Mural Studies at the University of London. These courses were well attended, had excellent lecturers and ran numerous field trips. One popular venue was the Coxbridge sandpit at Wrecklesham with exposures of the Folkestone Beds/Gault Clay junction and this is where, in 1969, a few individuals suggested that a Farnham Geological Society might be formed, independent of the extra-mural study courses.

The Inaugural Meeting was held on Monday 6th April 1970 in the Council Hut, South Street, Farnham and the first field meeting was held on Sunday 12th July 1970 when 12 members met at Burrington Coombe in the Mendips.

Lectures were on such varied subjects as continental drift, gemstones, the expanding Earth and Icelandic geology.

Other activities included wine, cheese & rock, wine & fossil, and slide parties as well as social gatherings around Christmas time. Other field visits were made to Coxbridge sandpit, Seale chalk quarry, Lyme Regis, Isle of Wight, Ringstead Bay, Portland Island, Church Stretton. One early member, an intrepid rockhound, always carried a 7 lb sledgehammer in his quest for chalcedony nodules.

At the end of the first year the membership was 27 but this has grown through the years and currently stands at over 100 members, a mixture of professional, amateur and enthusiast geologists. FGS is now a member of the Geologists' Association - one of 17 Local Groups. The Society produced a newsletter in the autumn of 1970 - this was "optimistically numbered one". The optimism was well founded and the newsletter continues to this day.

The intervening years

During these years meetings have covered all aspects of geology: from palaeontology, stratigraphy and fossil extinctions, to igneous, metamorphic and structural processes, and to environmental and planetary topics. The range of field trip locations has also expanded from local to more distant parts of the UK - Scotland, Wales, Lake District, Devon and Cornwall and to foreign parts including USA, France, Italy, Ireland, Austria, Hungary, Portugal, Greece, Germany.

The Society has made interesting finds - dinosaur bones in the form of an ichthyosaurus tail were found by society members during a field trip near Whitby, which was donated to Bristol Museum where it is still housed today. On a very early trip to Coxbridge Sandpit (Farnham) a fish was found in an ironstone nodule by one of the members' children, it proved to be a new species and was named after the family. It too is in a museum.

1974 - Early days and a Field Trip to Pembrokeshire - More photos are on the website
Field trips, which have always been such an important part of life at the FGS, have taken place to celebrate the milestones. Some of these are recalled below by one member: “In 1981 FGS went to Italy to celebrate its 10th Anniversary. This field trip, led by one member, was to see the volcanoes of Southern Italy and Sicily. He pointed out the unconformity in Southern Lipari, described in his doctorate. The unconformity represents a crucial event in the history of the recent acid volcanism on Lipari, as it defines two periods of pyroclastic eruptions - each associated with viscous dome intrusions - the unconformity occurring due to the uplift and deformation of the earlier pyroclastics by the rising dome lava prior to the deposition of pyroclastics belonging to the second phase of acid volcanism.”

The FGS has continued to celebrate its important dates - the 20th Anniversary with a trip to the Auvergne in 1990; the 25th in 1996, with a trip to Yellowstone and Canyon Lands, Western USA; the 30th in 1999, to see the Total Solar Eclipse in Hungary (this included Germany for the Solnhofen limestone and the Nördlingen Crater (believed to be of meteoritic origin), and Austria where we panned for emeralds); and the 35th Anniversary to Languedoc.

This year FGS field trips have already been to Charnwood Forest to examine the Precambrian volcanics and Madeira to examine modern ones.

The objective of the Society is “to promote interest in geology and its allied sciences” and this is done mainly through Meetings and Field Trips. Through the hard work of the Meetings and Field Trip Secretaries, the membership has grown to its current strength. Most members come from Surrey, Hampshire, Berkshire, Sussex, Dorset and Middlesex but Associate Members come from as far afield as Hereford, Milton Keynes, Brecon, Nuneaton.

The Meetings and Field Trips remain the core strengths of the Society and the variety and quality of the lectures and field trips are exemplified by this year’s programmes: with talks on - Antarctica, SE Asia and Thailand, Carboniferous Coal Forests, Cloning a Mammoth, the Santorini Supervolcano, Mineral Collecting and Geology & Disease; and further field trips to the Isle of Portland, Poxwell Pericline & Ringstead Bay, Dorset, Pas de Calais and Pinhay, Beer & Seaton.

The collection of geological specimens like the newsletter thrives and has grown through the years. The current newsletter is published together with much other information, including copies of many of the historical newsletters, on the Society’s website: (www.farnhamgeosoc.org.uk).

Liz Aston

DON’T FORGET TO SIGN UP FOR THE EXCITING ONE-DAY MEETING ON WARM CLIMATES - LINKING THE PAST AND PRESENT

SEE THE BACK COVER FOR FULL DETAILS
FIELD MEETINGS IN 2010

We are hoping to arrange additional fossil collecting opportunities during the year. There may not be time to advertise these in the Circular if you would like details when they become available contact Sarah Stafford at the GA office.

PLEASE ALSO REFER TO OUR WEB SITE (http://www.geologists.org.uk/events_fieldtrips.html) FOR CHANGES TO THE PROGRAMME AND FOR FINALISED DATES.

THE GAULT CLAY OF FOLKESTONE - JOINT MEETING WITH THE PALAEOLOGY ASSOCIATION
Leader: Professor Andy Gale
Saturday June 5 2010

This meeting celebrates the forthcoming publication of the Palaeontological Association’s book ‘Fossils of the Gault Clay’. 

Equipment: Ask Sarah in the GA office.
Cost and booking: Numbers will be limited. Register with Sarah Stafford at the GA office sending an administration fee of £5 to confirm your place.

THE GEOLOGY ALONG THE MIMRAM VALLEY AND THE CHILTERNs AROUND HITCHIN
Leader: Mike Howgate
Sunday 13th June 2010 10:30

In the morning we will be looking at the evidence for the Anglian Ice margin including Kames and fluvo-glacial deposits, the diversion of the Mimram by the ice sheet and wells feeding the local watercress industry. In the afternoon we will look for the source of the Mimram, then ascend Deacon Hill for the view and visit Pirton church to see gigantic ammonites and hear the story of the missing fossil fish.

Equipment: There will be four to five miles of walking including two quite steep climbs so boots are essential together with clothing appropriate to the weather conditions.

Cost & booking: Numbers will be limited to 20. Register with Sarah Stafford at the GA office sending an administration fee of £5 to confirm your place.

WEALDEN EXCURSION
Leaders: Pete Austen, Richard Agar, Dr Ed Jarzembowski and Geoff Toye
July 10 (tbc) 2010

This trip continues the popular annual excursion to working pits in the Weald Clay of south-east England, where the GA has already participated in some superb fossil finds. The venue(s) will be confirmed later so as to take advantage of conditions at the time. Numbers may be limited.

Equipment: You must have suitable footwear, a high visibility jacket and hard hat.

Cost & booking: Further details will be available from Sarah Stafford at the GA office. Register with Sarah sending an administration fee of £5 per person to confirm your place.

WRABNESS AND HARWICH
Leaders: Graham Ward and Bill George
Saturday 4th September 2010

We will examine the lithology of the London Clay at Wrabness including seams of altered volcanic ash and then move on to collect fossil sharks’ teeth from the foreshore at Harwich. It will be possible to collect participants from Wrabness station (09.18 train from London Liverpool Street arriving 10.35). Trains from Harwich Town are about one per hour, on the hour back to London.

Equipment: Boots, waterproofs and a packed lunch.

PUBLIC LIABILITY INSURANCE for field meetings is provided but personal accident cover remains the responsibility of the participant. Further details are available on request from the GA office.

SAFETY is taken very seriously. Should you be unsure about either the risks involved or your ability to participate, you must seek advice from the GA office before booking. Please make sure that you study the risk assessment prepared for GA field meetings and that you have all the safety equipment specified. You must declare, at the time of booking, any disabilities or medical conditions that may affect your ability to attend a field meeting safely. You may be asked to provide further information on any prescription drugs etc that you may use whilst attending a field meeting. In order to ensure the safety of all participants, the GA reserves the right to limit or refuse attendance at field meetings.

EMERGENCY CONTACT: If you are lost or late for the start of a meeting, an emergency contact is available during UK field meetings by calling the GA mobile phone (07724 133290). PLEASE NOTE THIS NEW NUMBER. The mobile phone will only be switched on just before and during field meetings. For routine enquiries please call the GA office on the usual number.

TRAVEL REGULATIONS are observed. The GA acts as a retail agent for ATOL holders in respect of air flights included in field meetings. All flights are ATOL protected by the Civil Aviation Authority (see GA Circular No. 942, October 2000 for further details). Field meetings of more than 24 hours duration or including accommodation are subject to the Package Travel Regulations 1992. The information provided does not constitute a brochure under these Regulations.
This field meeting will take place in August 2010 and arrangements are complete.

THAILAND
Leader: Dr Mike Ridd
All arrangements are in hand for this field meeting in November-December 2010. However, the UK Foreign Office is still recommending against visiting the country in view of the social unrest, and the meeting will not go ahead until the FCO warning has been lifted.

FRANCE An introduction to its geology
Leader: Dr Paul Oliver
7th April – 19th April 2011
This circular geological tour by coach, starting at Cherbouerg and finishing at St. Malo, includes the Jurassic successions of Normandy, the spectacular volcanic Chaines des Pays in the Massif Centrale, the Triassic meteorite impact crater at Rochechouart near Limoges and finally, the metamorphic terrains and Palaeozoic successions of Brittany.

The tour will introduce a wide variety of sedimentary, igneous and metamorphic rocks ranging from Precambrian to Quaternary in age. The walking involved will be easy to moderate.

Cost and booking
Aiming at 20 - 30 participants, the tour cost expected to be about £950-00 per person depending on numbers. Expressions of interest welcome - please register with Sarah Stafford at the GA Office.

JAPAN
Leaders: Dr Francis Hirsch, Dr Mike Ridd, Mrs Mikiko Ridd
Plans are progressing well for this field meeting in November 2011. It will commence in Kyoto and make its way across the island of Honshu to the Japan Sea and then back across Honshu, the Inland Sea and the island of Tokushima, before taking the bullet train to Mount Fuji and finally Tokyo.

GEOLOGISTS’ ASSOCIATION LOCAL GROUPS
Cambridgeshire Geology Club
Contact - Alan Murphy on 07768 821385
Email: cambs.geology.club@hotmail.co.uk
Dorset Local Group
Contact: Doreen Smith 01300 320811
www.dorsetgeologistsassociation.com
Essex Group
June 2 A Stereoid - Professor Hilary Downes. September 1 Carbonate Sedimentation - Dr John Hill.

OVERSEAS FIELD TRIPS 2010
COPENHAGEN MUSEUM VISIT
Organised by David Bone, Alan Lord, Roger Dixon
Sat. 23rd October - Mon. 25th October 2010
This trip is now full but wait listing enquiries welcome.

FURTHER AFIELD
NORTHERN GERMANY
Leaders: Prof. Volker Wilde and Prof. Alan Lord
This field meeting will take place in August

Horsham Geological Field Club June 9 Zeolites and other Minerals of Northern Ireland - Dr Norman Mules. July 14 Field trip: Leighton Buzzard Gravel Pit - Peter Forey. September 8 The Last World of the Arctic - Dr Bob Spencer. Contact Mrs Gill Woodhatch 01403 250371

Hull Geological Society July 4 Field meeting: Hellawell Beck in the North York Moors - Paul Hildreth. August 28 Roadshow at Hornsea Museum - Stuart Jones. September 11 Field meeting: Whithby and Whitby Museum with a fish and chips lunch - Paul Hildreth. October 2 Field meeting: Hildenley Quarries and Bows Hill Quarry - Richard McPherson. Contact Mike Horne 01482 346784 Email: mike@hornen28.freeserve.co.uk website http://go.to/hullgeosc

The Jurassic Coast Details are available on the web site at www.jurassiccoast.com.

Leicester Literary & Philosophical Society (Geology) June 4-6 Field meeting to Isle of Wight - Dr Dave Martill. June 22 Evening meeting to Tilton Railway Cutting, Tilton, Leics - Dr Roy Clements. July 3 Field meeting: Bardon Hill Quarry - Dr Frank Ince. August 14 Field meeting: Ancaster Lincs - John Aram. September 4 Field meeting: Must Farm nr Bradley Fen - Cliff Nicklin. Contact Andrew Swift 0116 2833127 Email: swifta@digit-image.co.uk


Liverpool Geological Society June 12 Field meeting: Charnwood Forest - Maurice Handley. July 23 The tiled tracery reunion - Chris Hunt. Contact: Joe Cranley 0151 426 1324 or email Igs.joe@cranley@hotmail.com


Mid Wales Minerals, Fossils and Geology Club Contact Bill Bagley 01686 412679.

Newbury Geological Study Group Our Field Meetings season runs from October to July, but providing you with the individual dates of our Field Meetings does not tie in very well with the copy dates for the GA Magazine. Consequently the absolute earliest we could get any individual Field Meeting entries published would be for next season in the December 2010 Magazine issue. Therefore I feel sure you will understand why a standard entry, worded as above, in the Affiliated Societies listings per each Magazine would suit us best. Meetings normally meets on the third Sunday of the month.

Norfolk Mineral & Lapidary Society Meetings at St Georges Church Hall Churchfield Green, Norwich. 19.30hrs every first Tuesday of the Month except August. Contact clansdell@btinternet.com

North Eastern Geological Society June 19 Field meeting: The Durham Permian in Sunderland and South Shields - Maurice Tucker. July 10 or 11 Field meeting: Ingleton Glens Walk and Graven Fault - Gordon Little. www.northeast-geolosc.50megs.com Email: mavisgp@btinternet.com or 01207 545907 www.dur.ac.uk/g.r.foulger/NEGS.html

Open University Geological Society Events - listed on http://ougs.org, or contact Christine Arkwright events@ougs.org 01772 335316 Membership - contact Stuart Bull membership@ougs.org 01244 676865

Reading Geological Society June 7 Evening Ramble Marlow - D. Riley July 5 Research Topic Student from Royal Holloway. August 2 Evening Ramble - Dr. B. Skilleter de Britowe Contact Christine Hooper for lectures 0118 9471597 email: christine.hooper@talktalk.net Contact David Ward - for field trips 01344 483563

Royal Geological Society of Cornwall June 9 Members evening where specimens can be brought for identification and swapping or others. July 14 The Great Flat Lode and 3 Dimensional model of South Crofty Mine - Dr Keith Russ. August 25 Mineral Planning by the Cornwall Council - Tim Warne. September 8 Cornish mining landscapes worldwide - Barry Gamble.

The Russell Society Email Frank Ince ince78@btopenworld.com Contact: Dr Andrew Carpenter on 0118 4544490 email: carpenters@btinternet.com


Sidcup Lapidary and Mineral Society Meets every Monday evening at Sidcup Arts Centre. Contact Audrey Tampling 020 8303 9610 Email: Atampling@aol.com.

Southampton Mineral and Fossil Society September 5 Hampshire Mineral & Fossil Show - time: 10:00 to 16:30 Venue: Lyndhurst Community Centre, High St., Lyndhurst, Hants. Admission: Adults £1, accompanied children under 14 and Rockwatch members free. Contact: Gary Morse, 01489 787300 Email: smfs@mineral.screaming.net Web site: http://members.lycos.co.uk/SMFS/sfmsgshow.htm

Contact Gary Morse 01489 787300.

Stamford and District Geological Society July 14 "Loke: How Much does it Hold Water?" A look at the post glacial effects on the Midlands' landscape - Dr. Martyn Bradley. July 17 Bradley Fen. Perhaps a last chance to look for Jurassic fossils in this pit which usually produces some interesting finds.

August 6 Field meeting: Kirby on Bain sand and Gravel pit - John Aram. Contact: Bill Learoyd on 01780 752915 email: billlearoyd@oao.com, cliffnicklin@oalo.com; Ussher Society Contact Clive Nicholas 01392 271761.

Warwickshire Geological Conservation Group March 24 Speaker to be confirmed Contact: Chris Hodgson 01926 511097. Contact Martyn Bradley 01926 428835. Email: martyn.bradley@warwick.ac.uk. www.wgcg.co.uk

West Lapidary and Mineral Society June 2 Evening Ramble - Dr. B. Skilleter de Britowe. July 25 Field meeting: Copper Mines Valley - Mark Simpson and Peter Fleming. August 15 Field meeting: Capernwray - Mike Balderston and Peter Thomas. September 12 Field meeting: Monister Slate Mine and Borrowdale Valley Glacial features - Dr R Smith. Contact Brian Kettle email: mr.briankettle@tiscali.co.uk

The Woolhope Naturalists’ Field Club June 19 Aust Cliff and Manor Farm - Simon Carpenter. July 24 Field trip: Martley area - Dr Paul Olver. August 7 Field trip: Kington area - Moira Jenkins. September 4/5 Weekend in Abergavenny - Dr Bill Fitches. Contact Sue Hay on 01432 357138 or svh.gab-bros@btinternet.com

Yorkshire Geological Society June 12 -13: Weekend field meeting in Teesdale: new ideas on mineralization in Teesdale - Brian Young. July North Field meeting: North Yorkshire: Teesdale - Brian Young. Contact Sue Hay on 01432 357138 or svh.gab-bros@btinternet.com

Yorkshire Geological Society June 12 -13: Weekend field meeting in Teesdale: new ideas on mineralization in Teesdale - Brian Young. July North Field meeting: North Yorkshire: Teesdale - Brian Young. Contact Sue Hay on 01432 357138 or svh.gab-bros@btinternet.com

Yorkshire Geological Society June 12 -13: Weekend field meeting in Teesdale: new ideas on mineralization in Teesdale - Brian Young. July North Field meeting: North Yorkshire: Teesdale - Brian Young. Contact Sue Hay on 01432 357138 or svh.gab-bros@btinternet.com
The Lévy Catalogue:

One of the most prominent mineral dealers in London, if not in Britain, in the 19th century was John Henry Heuland (1778-1856) (1). His uncle, Adolarius Jacob Forster (1739-1806) (2) was also a prominent mineral dealer having offices in Europe and Russia. When Forster died, he left his fine personal collection to Heuland, who continued to add to it. In 1820 the collection (which was only part of the total stock of Heuland) was sold to Charles Hampden Turner. Heuland and Turner agreed that an elaborate catalogue of the (7215 specimen) collection should be published, classified according to the system of Haüy and illustrated by an atlas of crystal drawings. They chose Armand Lévy (3) to make this catalogue. Lévy was not a mineralogist but a mathematician. However he must have learnt a lot of mineralogy during the 12 years it took him to produce this catalogue. From the introduction to volume 1 of the catalogue by Heuland, translated from the French, one can see the frustration and problems that occurred during its preparation.

"The Late Mr Jacob Forster formed, over the course of forty years, a very beautiful collection of minerals, in general of the two to three-inch format, which was continued from 1806 until 1820 by Mr Henry Heuland, and enriched by him with the most invaluable pieces. This collection was sold, in 1820, to Mr Charles Hampden Turner, and it was decided that a "Catalogue raisonné" would be published. Preparation of the catalogue was entrusted to Mr Armand Lévy who, at that time, was residing in London. In giving this task to Mr Lévy, Mr Heuland did not believe it necessary to have a formal contract with him: he simply accounted to him a sum of so much per month but soon regretted this lack of foresight and precaution. After seven years, Mr Lévy, providing assurances that the drawings were finished, as well as the tables containing measurements of the angles of the crystals, proposed to have the work printed in Brussels, where he was to form a partnership with one of his friends, and where the printing would be less expensive than in England. Mr Heuland accepted the proposal, and agreed to pay more than 100 pounds sterling (note that £1 in 1827 was worth at least £800 in present day money based on average earnings!) so that Mr Lévy could relocate himself to Belgium. This was in June 1827. Immediately upon arriving in Brussels, he went to work (printing the catalogue in French), and Mr Wahlen, the printer, and Mr Pletinckx, the lithographer, each began to work on the project; meanwhile. Mr Lévy drew 15 pounds sterling per month from Mr Heuland to supervise the printing of the text and the plates. This operation began in August 1827, but in November 1828 Mr Lévy, after having received more than two thousand pounds sterling in emoluments, without regard for his commitment and despite the proper representations of Mr Heuland, abandoned his work and the enterprise to take a professorship in Liege, a professorship which would not have prevented him from continuing to supervise the printing of the work in his spare time. But it was not to happen, and nothing was done from this time until 1832, when political events and changes caused the return of Mr Lévy to France. This professor then promised sincerely to finish the plates, but it was always only promises, and he did not complete anything. However, so that the great sum of money already devoted to the execution of this work would not be lost, Mr Heuland availed himself of the friendship and the extreme kindness of Mr Henry James Brooke, who, with his son, Doctor Charles Brooke, found a young man in London Mr E. Brookes, whom they charged with completing this work. This young man, with the help of their instructions, managed to carry out the drawings of the thirty-four plates which remained to be made, and as well as Mr Lévy could have done himself. If this work, which contains descriptions and figures of the crystals of a great number of very rare substances and many new varieties of form, is finally finished, it is not without grief as you have just seen"

The compilation stands as one of the most elaborate and technically detailed catalogues of any mineral collection. During its preparation Lévy described a number of new species based on specimens in the collection, including forsterite, babingtonite, brochantite, roselite brookite, herschelite, phillipsite and beudantite.

I came upon this catalogue whilst, with a colleague, as a volunteer at the Natural History Museum, we were trying to assign descriptions and location of unknown minerals from the Ludlam collection. These minerals had little white labels with numbers on them which we eventually found were associated with the Lévy catalogue.

All three volumes of the catalogue are separated into sections, so that volume 1 contains information on calcite, aragonite, dolomite,...,flourite...,baryte etc, and each section starts at number 1 so that one has to find the correct section in the catalogue before it is possible to try to identify the mineral.
The description of each mineral in the three volumes of the catalogue is given in great detail so that it is possible to recognize what the mineral is and where it was found (see figure 1).

Each section of the catalogue has a chemical analysis of the mineral and it is surprising how comprehensive the analysis is (see figure 2). Crystallographical information on each of the minerals is comprehensive and crystal forms are described, albeit idealized (see figure 3 for an example). A book of 83 plates each containing 16 drawings of mineral forms accompanies the three volumes, unfortunately it doesn’t seem to be available on the web.

The description of each mineral in the three volumes of the catalogue is given in great detail so that it is possible to recognize what the mineral is and where it was found (see figure 1).

Each section of the catalogue has a chemical analysis of the mineral and it is surprising how comprehensive the analysis is (see figure 2). Crystallographical information on each of the minerals is comprehensive and crystal forms are described, albeit idealized (see figure 3 for an example). A book of 83 plates each containing 16 drawings of mineral forms accompanies the three volumes, unfortunately it doesn’t seem to be available on the web.

The Lévy catalogue is an enormous tour-de-force which cost an incredibly large sum and was only made possible by the wealth of Heuland. I recommend members, if they have the chance, to look at it.

John Crocker

References:
1. Biography of Henry Heuland can be found on www.minrec.org/labels.asp?colid=932
2. Biography of Jacob Forster can be found on http://www.minrec.org/labels.asp?colid=726
3. Biography of Armand Lévy can be found on www.annales.org/archives/x/armandlevy.html
4. Volume 1: http://books.google.co.uk/books?id=VGgEAAAAQAAJ&pg=PP14&dq=heuland+turner+collection+levy+volume#v=onepage&q&f=false
   Volume 2: http://books.google.co.uk/books?id=dGgEAAAAQAAJ&pg=PP9&lpg=PP9&dq=heuland+turner+collection+levy&source=bl&ots=60cx1eps0p&sig=9evF1xvbf4iKggpfDu_8tvKGY&hl=en&ei=VTOmSquFI9yfjAfD07yzDg&sa=X&oi=book_result&ct=result&resnum=10&v=onepage&q&f=false
   Volume 3: http://books.google.co.uk/books?id=dWgEAAAAQAAJ&pg=PR8&dq=heuland+turner+collection+levy+tome+troisieme#v=onepage&q&f=false

Note: If you try to find the Lévy catalogue on a search engine such as Google you will often only get one of the three volumes. The long web address shows why this is.
**CD Review**

**The Purbeck Limestone Group.**
Virtual geology field trips to Purbeck limestone quarries in South Dorset.


A CD illustrating a number of virtual geology field trips to the Purbeck limestone quarries in south Dorset is a "not to be missed" bargain. The CD was part of a 3 year project funded by the Heritage Lottery Fund to support farming, stone working and outdoor education on the Isle of Purbeck. The project was undertaken in partnership with Dorset’s Important Geological Sites Group (DIGS), whose aim in producing the CD was to provide safe physical and intellectual access to the geology of the Isle of Purbeck through virtual field trips.

The CD is very user friendly. It covers 5 quarries on the Isle of Purbeck and 1 to the west of Dorchester. There’s a good introduction with some excellent photographs of the landscape and many buildings of the local stone, exhibiting a definite “local distinctiveness”. Then follows a section on the quarrying of Purbeck limestone. This covers its history from Roman times to the present. The 6 quarries each have their own section with location maps, lithological logs, simple geological maps, some definitions of terms used and excellent photographs throughout of the quarries and relevant fossils. Good use is also made of photographs of present day environments that are thought to be similar to the palaeo-environments existing when these sediments were laid down. The concluding section shows how palaeo-environments during the late Jurassic and early Cretaceous on the Isle of Purbeck can be determined from information gathered from the virtual field geology of the quarries.

This CD will be of benefit to teachers of "A" level geology and geography, students and any groups or individuals who wish to know about the geology of the Isle of Purbeck. I think it will also be of interest to anyone who has a curiosity about the development of landscape, of people, culture and uses of local natural resources. It will help to raise awareness of how the links between these things reflect the geodiversity underpins biodiversity and to develop a recognition of how important the world beneath our feet is to our everyday lives.

Perhaps my one quibble is the lack of a scale on many of the photographs. This would have been very helpful to all users, not only those new to the subject. But, that apart, don’t let this bargain slip through your fingers. Get your copy now!

Susan Brown

**BOOK REVIEW**

**FROM BRANDON TO BUNGAY**
An exploration of the landscape history and geology of the Little Ouse and Waveney Rivers by Richard West, published by Suffolk Naturalists’ Society.

In central East Anglia, a flat stretch of terrace at Lopham Ford crosses a major east-west valley and forms the watershed between the Waveney River (which flows east into the North sea) and the Little Ouse River (which flows west to the Wash). How did it form? This intrigued Richard West as a student in the 1950’s, and he returned again in 2002 to try and solve the problem.

Inevitably, the solution to this problem required investigation of a much wider region, encompassing a survey area of some 80 x 20km from Brandon in the west to Bungay in the east. West’s survey, both on the ground and in the literature, involved a detailed study of geology, stratigraphy, sediments, periglacial features, peat-land origins, landscape features and palaeolithic archaeology, and included much energetic auguring!! No laboratory work was undertaken, although extensive use was made published laboratory analyses.

As one studies West’s book, details emerge of the history and evolution of the Little Ouse and Waveney valleys over some 230,000 years. A lake formed during the Wolstonian cold stage in the Little Ouse river valley, blocked by ice in the Fenland Basin; this lake overflowed east into the Waveney river valley, and ceased to flow when the Fenland ice melted.

Numerous maps and aerial photographs enable the walker to find, see and appreciate the distribution and significance of the geomorphology, heath-land and fenland, river terrace sediments, areas of peat and alluvium, and periglacial soil patterns. A surprising number (for a low-amplitude agricultural and heath-land topography) of quarry outcrops provide details of fluval and lacustrine deposits, terrace gravels, and glacial deposits such as solifluction gravels and outwash deposits (with imbricated flints) from the Anglian outwash train; there are clear examples of cryoturbation. These features provide a rare insight into the evolution of the area and the dramatic effects that climatic changes have wrought, both the active effects of cold climate, and the results of a temperate climate recorded by the lake and peat deposits of the meres and wetlands.

Dr Graham M Williams
ROCKWATCH NEWS

Our Spring events began with Science Week, a joint event with the BGS at Keyworth. We had almost a thousand local school children visiting during the week, enjoying a variety of geological activities. The Family Day at the end of that week, was, once again, a highly successful day. I’m delighted to report that we had Rockwatch families helping us and many members visited us during the day. It’s always nice to catch up with members at public events such as this. Our most recent public event was a Family Day at Haslemere Museum during the Easter holidays. We had a steady stream of families, some even having travelled down from London, to enjoy the day. Our activities included Jurassic “dinoramas” and fossil plaster casting - easily the most popular of our activities at public days.

We had a brilliant field trip to Shorncote Quarry in the Cotswold Water Park led by Neville Hollingworth. Lots of fossils were found, including bivalves such as Pholadomya, Pleuromya, Ctenostreon; brachiopods Microthyridina and Obovothyris; echinoids like Nucleolites and Acrosalenia; a number of gastropod internal molds; ammonites such as Clydoniceras and Kepplerites, a beautiful section of juvenile mammoth tusk and a tooth of a Red Deer - not a bad haul! The youngsters were thrilled with their finds and Neville was so enthusiastic that he gave some wonderful fossils to the youngsters with the three best finds of the day.

Roger Dixon and colleagues for GeoSuffolk led a splendid trip to St Andrew’s Church in Alderton. This was as an excellent example of building materials used in Suffolk churches and demonstrated to the group aspects of local distinctiveness. We then moved on for a picnic lunch at Buckanay Pit near Bawdsey and had a wonderful afternoon collecting fossils from the Red Crag including Glycimeris glycermis, Turritella, shark teeth, Neptunia contraria, and a range of gastropods. A “field trip with a difference” was led by Martyn Bradley, who took us on a train journey from London to
Leamington Spa, a journey covering some 200 million years of geological history in 2 hours! The group followed the journey on geological maps and identified relevant fossils from Martyn’s collection as we travelled through geological time. After our picnic lunch at Leamington, we sampled the waters, unanimously declared to be awful, too salty, then set off on a geological walk around the town, guided by Martyn and a new Geology and Building Stones Guide (partly funded by the GA Curry Fund). Excursions like this encourage our members to think of geology in its widest sense and it helps them to realise that, however fascinating, geology isn’t only about fossil collecting!

We have lots of exciting trips organised for the summer months, but if any of our local groups would like to be more involved with Rockwatch and want to run field trips in their areas, do get in touch with me and we’ll put it in our programme.

As ever, we are indebted to all those who already help and support Rockwatch. You are a splendid group of people and we could not offer such an amazingly interesting and diverse range of excursions without your generous help and support. Thank you all.

Susan Brown
Chairman
C. W. Wright (Claud to his contemporaries, Willy to everyone else), who died on February 15, 2010 at the age of 93, was one of our ‘amateur’ Presidents, serving between 1956 and 1958, yet his reputation as a palaeontologist was an international one. He was that most English of things: an amateur naturalist who was a world authority in more than one field while at the same time pursuing a demanding professional career, in his case in the Civil Service.

Wright’s interests in natural history began in childhood as a schoolboy, exploring with his younger brother E. V. Wright (Ted) the country around their home in North Ferriby, on the north bank of the Humber. The family were great collectors, and an early interest in butterflies soon gave way to fossils, at first from the local Boulder clay, but later from the Yorkshire coast and then Dorset. The earliest entry in the Wright’s fossil catalogue dated from 1931, and records fossils collected in 1929 from the Coral Rag of North Brimston, Yorkshire, Lower Greensand fossils from Bargate, Surrey, and the Upper Chalk of Danes Dyke, Yorkshire (the collection, in all some 25,537 specimens now resides in the Natural History Museum in London).

Willy’s first contact with a serious scientist came, at the age of five, when the celebrated zoologist Sir Arthur D’Arcy Thomson stayed at the Wright’s family home during the 1922 meeting of the British Association for the Advancement of Science. Both parties were deeply impressed.

The Headmaster of Bramcote Preparatory School in Scarborough allowed the young Wright to collect beetles outside the boundary of the cricket pitch, rather than play, which he loathed. The move to Charterhouse School in Surrey in the early 1930’s corresponded to the construction of the nearby Guildford Bypass through the Chalk ridge of the Hog’s Back. The Wright brothers were allowed out from school to collect fossils, at first from the local Boulder clay, but later from the Yorkshire coast and then Dorset. The earliest entry in the Wright’s fossil catalogue dated from 1931, and records fossils collected in 1929 from the Coral Rag of North Brimston, Yorkshire, Lower Greensand fossils from Bargate, Surrey, and the Upper Chalk of Danes Dyke, Yorkshire (the collection, in all some 25,537 specimens now resides in the Natural History Museum in London).

The first publication on fossils by the teenage schoolboy brothers dates from 1932. Wright went up to Christ Church, Oxford in 1936, where he read Greats (Classics), graduating in 1939. This year saw the brothers first publication in our Proceedings, on the geology of the Guildford-Godalming bypass road, with appendices by the authorities of the day: L. R. Cox on bivalves, and W. J. Arkell on the derived Oxford Clay ammonites the Wrights had found in the Bargate Beds.

The Wrights had encountered Arkell, international authority on the Jurassic Period, at Oxford in 1937. He had been preparing the manuscript of the Geological Survey memoir on the Geology of the Country around Weymouth, Swanage, Corfe, and Lulworth, and, recognising their expert knowledge of the Cretaceous of the area, invited them to write the appropriate chapters- an extraordinary undertaking for two undergraduates with no formal training in geology.

By 1939 Willy Wright had already published 20 articles. He entered the Civil Service, and joined the War Office as Assistant Principal Secretary a fortnight after war broke out. A busy career followed: 1940, Private, Essex Regiment; 1942, Second Lieutenant, King’s Royal Rifles; 1942-1945, War Office, rising to GS02 (Major); 1944, Principal, War Office; 1951, Principal, Ministry of Defence; 1961-1968, Assistant Secretary; 1968-1971, Assistant Under-Secretary of State. In 1971 he transferred to the Department of Education as Deputy Secretary. In this position his career and his hobbies converged. Between 1971 and 1973 he chaired the Committee on Provincial Museums and Art Galleries. The Wright Report, as the subsequent publication became known, led to the establishment of the Museums and Galleries Commission, and the renaissance of provincial museums nationwide.

Throughout his career, Wright continued to publish and research in his spare time. Collaborating with Arkell, he contributed to the section on Cretaceous ammonites to the Ammonoidea volume of the Treatise on Invertebrate Palaeontology in 1957, and, with W. K. Spencer, to the Asterozoans for the Echinodermata 3 volume of the same work in 1966. Throughout this period, he authored (both with and without brother Ted) numerous contributions to our Proceedings, including accounts of the Lower Greensand of the Farnham District, the Chalk of the Yorkshire Wolds, (echinoids, starfish, crabs,) and field excursion reports, the first of these, to the Guildford and Godalming Bypass, in 1944. There were also contributions to our Associations Guides, to the Isle of Wight, and to the Yorkshire coast.

The Wrights’ home in Phillimore Gardens in London became a mecca for palaeontologists from across the world. It was also the scene of Association visits to view the fossil collections, and for tea; we first met on one such occasion in the early 60’s.

Retirement to Seabourough in Dorset in 1977 gave time for further research, in Oxford as a Research Fellow of Wolfson College, and in London as a Research Associate of the Natural History Museum. The Oxford link gave me the opportunity to work with Willy on ammonites from across the world, and produce monographs on the ammonites of the English Chalk. Collaboration with Andrew Smith at the Natural History Museum resulted in the ongoing monograph on British Cretaceous sea urchins. Willy Wright’s last publication appeared in 2003. In all he was the author of over 150 papers, monographs, and treatises.

His contributions were recognised by numerous awards, including the Lyell Fund of the Geological Society of London in 1947, the Foulerton Award of our Association in 1955, the R. H. Worth Prize of the Geological Society of London in 1958, and the Stamford Raffles Prize of the Zoological Society of London in 1961. He received Honorary Doctorates from the Universities of Uppsala (1977) and Hull (1987), the Prestwich Medal of the Geological Society of London in 1987, and the Strimple Award of the Paleontological Society (USA) in 1989.

Fifteen genera or species of fossil bear his name: ammonites, starfish, a brachiopod, snail, and crab.

His wife Alison (née Readman), a noted psephologist, predeceased him on 4 December 2003. He is survived by four daughters and a son.


Jim Kennedy
Southwest Highlands takes a journey letters, and then into a series of num-
sible hill slopes and streams. Advice is
based on the road network plus acces-
car will be used, the excursions being

tions. Some of the locations in the

The introduction closes with a section
so on the need to use a microscope.

The guide is divided into four sec-
tions: an introduction and three long
traverses, which cover respectively the
Southwest Highlands, the Central
Highlands and the Banff Coast.

Starting with a brief statement on the
Daldrian Superdeep in the context of
Scottish geology, the introduction sum-
marises the lithostratigraphy of the
Gramiap, Appin, Argyll and Southern
Highland Groups, which in broad terms
record the progression from shallow-
water shelf deposition to fault-bounded
basins and then to deep oceanic condi-
tions with turbidites and basic volcanic-
ity. The next part deals with structure
and metamorphism and begins with a
sentence which will gladden the hearts
of structural geologists: "This guide
concentrates unashamedly on the
observation of small-scale structures -
mostly folds and their associated cleav-
ages". For those less familiar with this
branch of the subject, the principles of
using small-scale features to deduce
larger structure and the terminology
employed are explained using text and
diagrams (figures 6 and 7), whilst
words with precise meaning, such as
vergence and antiform, are printed in
bold type and defined in a glossary.

Unfortunately, figure 7c has been
drawn inaccurately with respect to the
first cleavage. A section on metamor-
phism refers to the classical Barrovian
and Buchan zones and illustrates the
features of pre-, syn- and post-tecton-
ic mineral growth relative to deforma-
tional phases, with a cautionary provi-
sion on the need to use a microscope.
The introduction closes with a section
on travel, accommodation and attrac-
tions. Some of the locations in the
guide can be reached using train or bus
services, but the presumption is that a
car will be used, the excursions being
based on the road network plus acces-
sible hill slopes and streams. Advice is
given on suitable bases and where to
find information.

The traverses are subdivided into a
number of excursions, designated by
letters, and then into a series of num-
bered locations. Traverse I: The
Southwest Highlands takes a journey
from the south end of Loch Lomond
along the A82 to Crialtach, thence to
Ballachulish and along the west coast
to Kerrera. Geologically it cuts across
the Daldrian from its southern edge,
the Highland Boundary Fault, to its
northern boundary, the Great Glen
Fault, passing from the inverted limb
of the SE-verging Tay nappe to the NW-
verging folds of the Loch Leven area.

Many of it is depicted on the cross-sca-
tion of figure 10, which is itself com-
plementary to the extremely useful fig-
ure 4, where most of the excursions in
the guide are positioned on a gener-
ised cross-section of the Daldrian.

Traverse I is sub-divided into 10 excu-
sions, dealing with, for example, both
shores of Loch Lomond, Tyndrum, Glen
Orchy, Glen Coe, Cui Bay, Onich, Loch
Leven, Benderloch and Kerrera. Traverse II: The Central Highlands
starts on the A9 from Perth, diverts to
Little Glen Shee, Dunkeld and Rotmell,
then runs west past Loch Tay to Ben
Lawers and Glen Lyon. These excurs-
sions begin at the downward-facing
nose of the Tay Nappe at the Highland
Border and cross the inverted limb
(‘Flare Belt’). There are three excursions
deal with the Loch Tay Fault, the 'steep belt' in the Schiehallion area and a
complex section of the A9 road
along Glen Garry. Traverse III: The
Banff Coast is a 20km section from
Cullen to east of Macduff which crosses
the major D1 Boyndie Syncline. Some
tentative correlations are made with
formations and structures in Traverses I and II. The section displays excep-
tionally good exposures of a wide
range of Daldrian lithologies, including
the Macduff Boulder Bed of glacial ori-
gin, and is particularly interesting for
the variety of porphyroblastic minerals
belonging to both the regional meta-
morphic Barrovian zones and silliman-
ite, cordierite and andalusite of the
Buchan zones.

Each excursion begins with a helpful
introductory statement, summarising
the main features of that outing, plac-
ing it in the broader context of
Daldrian structure with cross-refer-
ences to other excursions and noting
where relevant, the variations in struc-
tural style, attitude, sedimentology and
metamorphism to be encountered.

These are accompanied by numer-
ous further grid references,
mintion of toilets and refreshment
places and notes on road and stream
safety.

Once at the locality, the reader is
given precise instructions (e.g. 'small
exposures in the bushes at the SW end
of the cutting') followed by a detailed
description of the rock types and struc-
tures and their relevance, with the
addition in some cases of a photo-
graph. Emphasis is placed on the
structures, noting the attitudes of bed-
ding and cleavage and the style, ver-
gence and ages of folds in order to
position them within the overall pic-
ture. Generally there is sufficient in-
formation for the reader to construct a
progressive cross-section. Sedimentology is also described with
care, not only because of the impor-
tance of way-up criteria such as graded
and cross-bedding for structural inter-
pretation, but because bed thickness,
mineralogy and sedimentary structures
indicate conditions of deposition.

Similar detailed attention is devoted to
the growth of metamorphic minerals
and the nature of veins.

The 202-page guide is A5 in size,
printed on sturdy paper and ring-
bound, enabling it to be folded with
covers back-to-back leaving any page
in view. The text is clearly written,
concise and very readable, with just a
terminological lapses such as
plunging 'shallowly' instead of 'gently'.

It is supported by 26 maps, at various
scales, 39 photographs, 10 cross-
sections and 11 line drawings, all of
which are well labelled, though with a
few errors. Consistently different line pat-
terns for the axial plane traces of D1,
D2 etc. folds would have been helpful.

Some of the schematic drawings, e.g.
figures 45 and 56, are difficult to follow
and might have been better with vari-
ying line widths and placed in block dia-
agrams to indicate viewing angle. That
apart, this excellent guide is surely
designed to become a constant com-
paign for those wishing to share the
evident pleasure of its author in under-
standing and enjoying the geology of
the Daldrian.

Paul Garrard
The April Lecture April
Dr Phil Wilby

British Geological Survey,
Preserving the unpreservable: a lost world rediscovered at Christian Malford, Wiltshire

There has been a trend in recent years for researchers to ignore anything that has not been published in the present century. Fortunately, this fashion was ignored by Dr Wilby and his colleagues at the universities of Leicester and Plymouth who set about finding the lost Jurassic Lagerstätte at Christian Malford. Before giving us details of his find he reviewed the processes of fossilisation in general. The fossil record is heavily biased against soft-bodied creatures and the record of animal life is further complicated by the disarticulation and damage of hard parts during fossilisation. The probably soft anatomy of fossil organisms with familiar body plans (eg vertebrates) can usually be inferred but it becomes more difficult to infer the further one goes back in geological time until we are faced with fossils with no obvious modern equivalent (eg the Ediacaran biota). For example, without exceptionally well preserved biotas, such as the Burgess Shale we would be missing significant evidence of early life. Dr Wilby outlined the mechanisms of soft tissue replication by early diagenetic minerals such as pyrite, quartz and apatite. Pyrite is excellent in preserving the gross outline, but rarely preserving details; quartz often suffers from the disadvantage of being prone to later overgrowth; and only phosphatisation regularly preserves subcellular details. For example the gills of phosphatised fish from the Santana Formation of Brazil provide precision to one micron, which in some cases was better than “fresh” fish from the local supermarket!

The story at Christian Malford began in the 1840s when the railway engineers working on the main line of the Great West Railway had a problem with the balance between “cut” and “fill” and had to resort to using borrow pits to construct a long embankment across the swampy ground of the Avon valley west of Swindon. At least one of these pits had revealed fossils in the Lower Oxford Clay (now Peterborough Member) in an exceptional state of preservation and these were soon in great demand by museums around the world and attracted the attention of leading scientists (eg Richard Owen).

Unfortunately, from the point of view of modern analytical research, most of these specimens had been heavily prepared and usually consisted of one excellent fossil on a clean scraped slab frequently covered in resin. This limited the possibility of any research into associated fauna or the use of modern geochemistry and progress could only be made if new material could be found. However none of the early authors had recorded the exact location and the only clue was that the pits had been in the Oxford Clay by the railway somewhere near Christian Malford.

Fortunately Oxford Clay is well constrained by ammonite zones and a further piece of evidence was provided by the association of the zonal fossil Kosmoceras phaenium with many of the 19th century specimens. As a result, the BGS, with the support of the Curry Fund, drilled a series of ten boreholes parallel with the line of the railway and the last of these positively identified the right horizon. The site was then investigated by means of a large trial pit some 6 m deep covering 32 m2 that had provided around 240 t of material in the form of large lumps excavated by a digger. An “archaeological” style excavation proved impracticable due to the presence of petroleum gases and an inflow of water that defeated the largest pump in the southwest. The soft bodied material recovered was phosphatised and included not only squid-like coleoids but also fish and crustaceans in an amazing state of preservation. Even details such as the structure of the veins on the external surface of a coleid’s ink-sac are preserved. There was also an interesting association between individual coleids, often of the same species, that had been fossilised in close contact with each other. One explanation for this is perhaps some form of mating behaviour. However, the presence of other associations between different species and even different classes or animals (eg fish and coleoids) more likely indicates the former presence a predator trap. The paucity of benthic fauna suggests that there may have been some form of stratification in the Oxford Clay sea with an anoxic zone at the base of the water column, perhaps with occasional overturn resulting in the mass mortality of the pelagic fauna. These dead and dying individuals in turn attracted other predators that themselves became caught up in the predator trap. Much of this was still speculation and more work is underway on the details of the material including investigation of the significance of stololiths that occurred in unusually large numbers. The deposit at Christian Malford is not quite unique; there is another locality nearby at Ashton Keynes at the same horizon which yields similar preservation, and two others are known at different horizons in the Oxford Clay, but the occurrence is certainly rare because the clay has been heavily worked for brick-making along its entire outcrop. However, geochemical investigation of the borehole cores had provided valuable information that showed that there was a positive association between the phosphorus concentration and total organic carbon (TOC), and a negative one with silicon that suggests an organic source for the mineralisation. This in turn has led to a mechanism for locating other phosphatised biotas in the geological column.

Note the site was completely backfilled after the excavation and is on private land.

David Greenwood
**Book Review**

**SAND - A Journey through Science and the Imagination by Michael Welland.**


This amazing book about sand truly does take the reader on a journey through science and the imagination. Welland not only has a keen eye for his subject, but a gift for organising his material. Not only is he a geologist with a passion for his subject, but he's clearly a highly competent author, undaunted by writing such a wide-ranging book. The reader's interest is claimed on the first page and held until the last.

Welland weaves together the geology, physics and chemistry of sand and then draws in art, history, imagination, myths and stories of the great desert explorers, to present one of the most engaging narratives about such a seemingly simple subject that I have read in a long time.

The story is essentially one of scale, beginning with individual sand grains, looking at their behaviour in the natural world and their tribal affinity. He compares their behaviour with that of other granular materials. He looks at local distinctiveness and properties of sand grains. The chemical composition of sand gives clues as to its provenance. We see how modern sands can be used to unlock the secrets held in ancient sands and how they can be used to determine ancient depositional environments - the history of deep time.

We learn of the vicissitudes of sand, it nature, the seductive, sensual and oft-times fickle qualities it displays. Welland takes us on a journey, a voyeur following a sand grain, if you like. We follow it as it breaks off from a rock and falls into a river on its passage down to the sea. The effects of water, wind and ice on a sand grain, on billions of sand grains, and their impact on the landscape as they journey ever onwards, makes fascinating reading. And all the while, Welland seamlessly weaves art, history, imagination and mythology, as well as scientific information, into the narrative. We see how crucial the journeys of sand grains are to our understanding of the way our planet works and we can learn much of how to, and how not, to manage our environment from this. There's much, too, about deserts, their roles, their composition and the behaviour of their sediments.

The practical uses and importance of sand to modern life is not neglected, in manufacturing from concrete to glass to silicon chips and even to toothpaste, is explained. And he doesn't forget jewellery. Many semi-precious jewels are silicon dioxide. In fact, the reader is taken on an amazing encyclopaedic journey from A to Z, illustrating the ubiquity of “Sand in Our Lives”.

Not just content with considering sand on Planet Earth, Welland ventures to consider sand on other planets in our solar system at the end of the book, giving much food for thought. There is a comprehensive list of sources and further reading for those wishing to explore this amazing mineral in greater depth.

I am embarrassed to admit that this book sat on my bookshelf for some months before my curiosity got the better of me and I started to read it! But once begun, I found it hard to put down. It was a sheer joy to read, interesting, amazing and full of fascinating information. I urge you to go out and buy it, you won't be disappointed. And now I'm off to the beach to share some of the secrets and magic of sand with my grandchildren, who, I suspect, already know much about its magic!

**Susan Brown**

---

**Library Notes**

So far this year requests from you for information on your various destinations has not been too problematic although a request for central China revealed something of a 'black hole' in our holdings. To fill the gap we have obtained the 'Geological Map of China' (8 sheets) at a scale of 1:2,500,000 published in 2004, together with a 430p book edited by Cheng Yuqi (2000) entitled Concise Regional Geology of China. Both were rather expensive at over £100,00 each and perhaps not giving the sort of detail that might be hoped for whilst navigating the Yangtse, but at least any area you may visit will have a broad geological context. It must be noted that Province map sets are often more than 2/3 times more expensive where they are available.

Nearer to home we have received a copy of BGS England & Wales Sheet 207, Bedrock and Superficial Deposits for Ipswich. The sheet is actually dated 2006 and the accompanying text 2007. The geological column has been expanded in detail since the 1990 edition. Fourteen Quaternary units are differentiated (7 originally); Norwich and Red Crags are separated and placed in the Pliocene; while more detail (from boreholes) is given for lower formations and shown in expanded cross-sections. However you might want the earlier edition for figure 1: 'Chalk Surface Contours'. The later version includes a simplified bedrock map at 1:200,000.

The listing of maps that I mentioned in the last notes has been proceeding apace. Working alphabetically by country the listing has got as far as Uganda. However some countries, for which we have large holdings, have at present only a general entry which will be expanded later as will material on less accessible shelves! Of course this listing is not set in stone and will be subject to constant modification as new material is added. It is hoped to make this more generally available in the future.

**Elaine Bimpson**

Librarian
THE GEOLOGISTS' ASSOCIATION
ONE-DAY MEETING 2010

WARM CLIMATES: LINKING THE PAST AND PRESENT

Organisers: Dr Danielle Schreve and Dr Ian Candy
Department of Geography, Royal Holloway, University of London.

In the face of current concerns over climate change and greenhouse gas emissions, our geological record can offer important lessons concerning the impacts of past global warming on the environment and their relevance to today’s trends.

This one-day Scientific Meeting of the Geologists’ Association, sponsored by Elsevier and the Department of Environment and Climate Change focuses on periods in Earth’s history when the climate was warmer than today, taking in a broad chronological sweep from over 300 million years ago to the present day.

A series of invited lectures will examine how we measure and model the evidence for elevated temperatures, drawing on a range of data including flora, fauna, ice-sheet, deep ocean and sea level records, and examining how past landscapes and environments responded and adapted to these periods of exceptional warmth.

Confirmed keynote speakers include:
Professor Mike Benton (University of Bristol), Professor Margaret Collinson (Royal Holloway, University of London), Dr Alan Haywood (University of Leeds), Dr Greg Price (University of Plymouth), Dr Ian Candy (Royal Holloway, University of London) and Professor Paul Valdes (University of Bristol).

Date: Thursday 9th September 2010

Venue: Lecture theatre of the Geological Society of London, Burlington House
Time: 9.30am registration for 10.00am start

Price: £17 per person for GA members, £20 for non-members, to include abstract book, lunch and all refreshments. Please make cheques payable to ‘Geologists’ Association’ and mark them on the reverse ‘GA Warm Climates’

Booking is essential so please register your interest with Sarah Stafford in the GA office as soon as possible (020 7434 9298, geol.assoc@btinternet.com). We look forward to seeing you at what promises to be an excellent meeting!