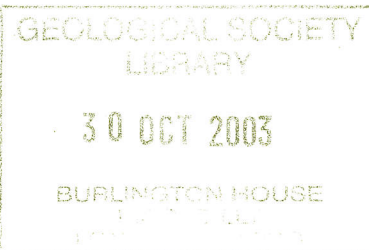
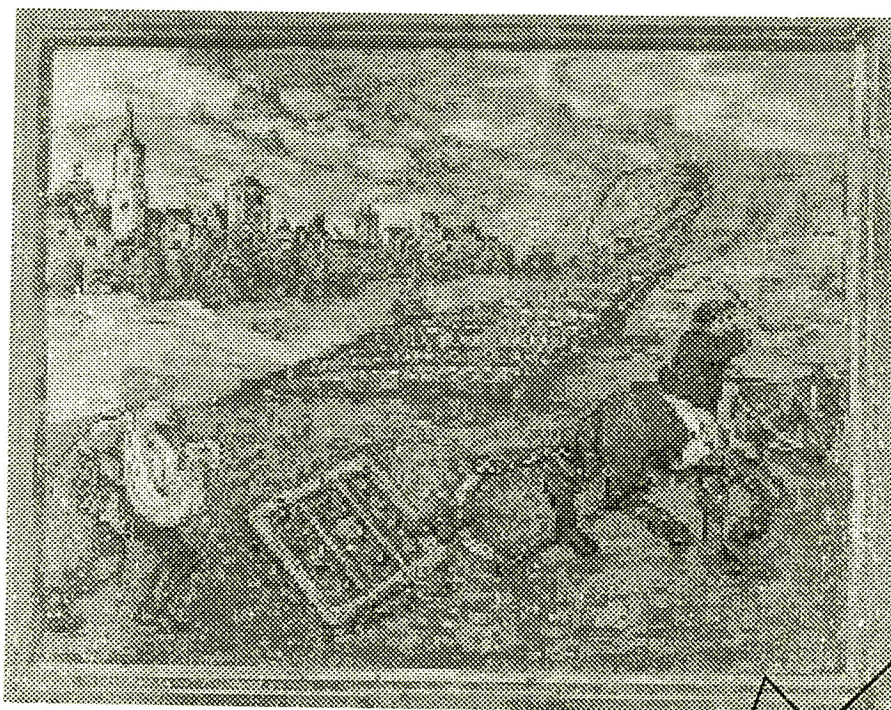


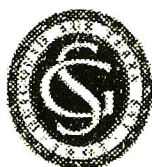
HOGG



Newsletter of the History of Geology Group of the Geological Society of London



Number 19
October 2003



Special Offer to
HOGG members.
"The Cruise of The
Betsy" by Hugh Miller,
Facsimilie reprint. See
offer on p. 4

Cover Illustration:

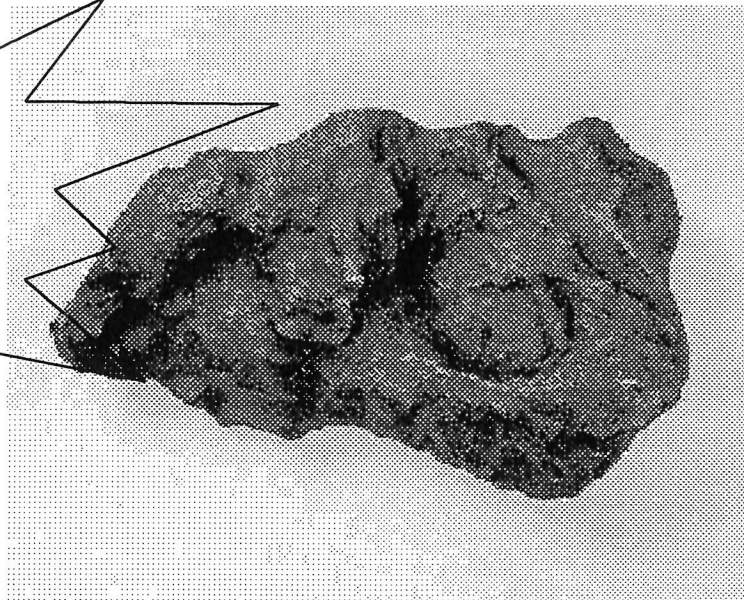
The illustration, from an unknown text, shows the fall and possible recovery of the Ensisheim meteorite which was seen to fall on 7th November 1492 - the same year that Columbus reached the New World. After a shepherd boy who saw the fall, raised the alarm, the town elders located the stone in a deep hole and set about recovering it. It isn't clear if this print is intended to show two workers tilling the soil as the stone plummets to Earth, or if this is a horse-drawn sled for its recovery. Originally estimated at over 200 pounds in weight, it was reduced in size by souvenir hunters until stopped by the town's mayor. The stone remained in the church at Ensisheim until the time of the French revolution when it was taken to nearby Colmar, and then by Napoleon to Paris. In more recent times, a substantial portion was returned to the Town Hall at Ensisheim, where it resides today in a glass sided mahogany chest on a pillar.

This remains the oldest known meteorite for which there is documentary evidence of its fall.

Editor: Peter Tandy, Department of Mineralogy, The Natural History Museum, Cromwell Road, London, SW7 5BD (tel: 020-7942-5076; fax 020-7942-5537; e-mail pt@nhm.ac.uk)

"Fireballs and stones from the sky"

The History of Meteoritics
from the early 18th century to
1920



A HOGG meeting to be held at The Natural History Museum, Cromwell Road,
London, on 3rd December 2003 from 9.30am
(Cromwell Road Entrance)

Programme

Introduction & coffee 10.00am

Overviews:

- 10.10 Ursula Marvin (USA) - The History of meteoritics - an overview: "Piloting through reefs and shoals"
11.10 Vladimir Jankovic - "Mineral Meteorology vs. Laboratory Atmospheres: the end of classical
meteors in the 19th century"

European Collections:

- 11.45 Sara Russell - The History of the Natural History Museum meteorite collection
12.20 Guy Consolmagno - The History of the Vatican meteorite collection

12.55-14.10 LUNCH (including HOGG Annual General Meeting)
LUNCH IS NOT PROVIDED

Scientific acceptance:

- 14.10 Robert Hutchison - The Wold Cottage fall of 1795 - the prime convincer in England
14.45 Matthieu Gounelle - "The L'Aigle fall 1803 and the Biot Report"

History of Classifications:

- 15.20 Richard Howarth - The work of Daubree (1814-1896) on classification

15.55-16.25 TEA

- 16.25 Ted Nield - The great irons: A visit to Hoba (found 1920) in the 21st century
17.00 Joe McCall - The recognition of meteorite cratering - beginnings.
17.35 Summary.



1740-1830 - 'Field Trip' to see a number of historical meteorites from the NHM collection

Cost (if pre-registered): £10 Fellows and non-fellows; £7.50 HOGG members, £5 Students
(Please make cheques payable to HOGG)

To attend this meeting, please register by **7th November 2003** with Dr Joe McCall (e-mail:

McCall@freenetname.co.uk) or by post to 44 Robert Franklin Way, South Cerny, Gloucestershire, GL7
5UD.

Future HOGG meetings...

Slate and Chalk

**This meeting has been
POSTPONED
due to unforeseen circumstances ***

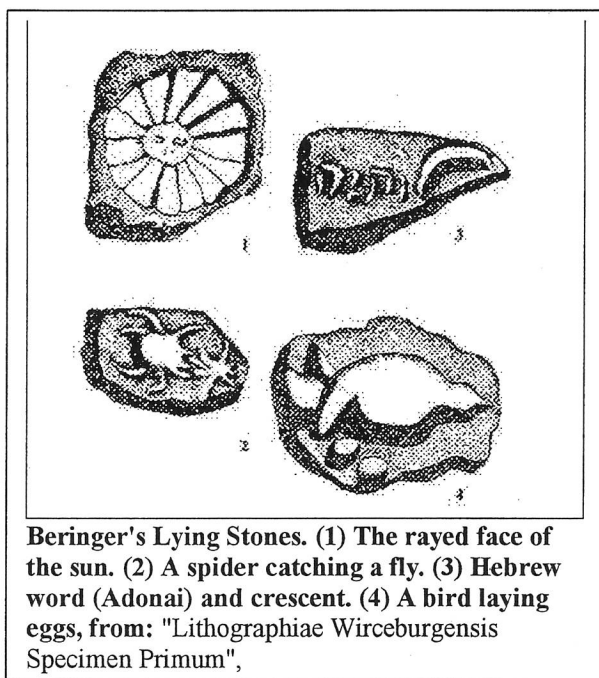
17th March 2004.

"A gneiss story of true grit in marbled halls"

[* This meeting requires a convenor; please contact the Editor if you
would like to do it]

Geo-Fakes, Frauds and Hoaxes !

A meeting entitled **Geo-Fakes, Frauds and Hoaxes** will be held at the Geological Society, Burlington House, on 22nd October 2004



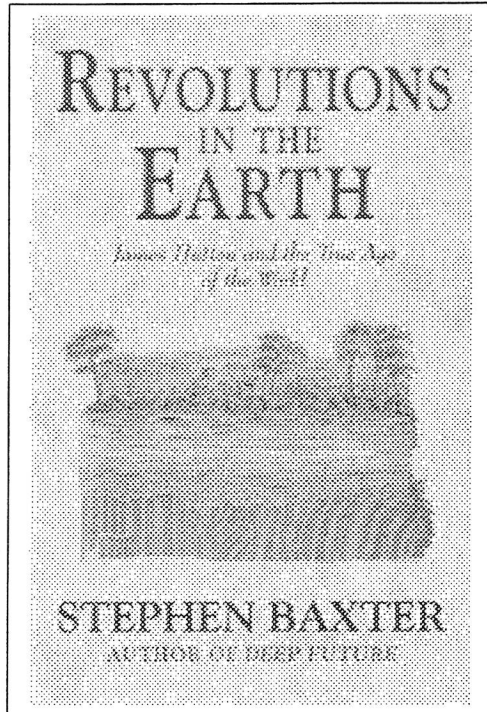
CALL FOR PAPERS

It is now 50 years since Piltdown Man was revealed to be a fraud. But while this is undoubtedly the most famous of all deceptions in the geological sciences, other fakes, frauds and hoaxes have also been perpetrated from time to time. Do you know of any? Would you like to reveal all?

If so, please contact the convenor, Dr Cherry Lewis, preferably by email to Cherry.lewis@bristol.ac.uk or by post to 35 Morgan Street, St Agnes, Bristol, BS2 9LG.

For your bookshelf....?

"Revolutions in the Earth. James Hutton and the True Age of the World" by Stephen Baxter. ISBN: 0297829750. Publisher: Weidenfeld & Nicolson, Limited, 2003. Price: £16.99.




In the 18th Century, the received wisdom following Bishop Ussher's careful biblical calculations, was that the Earth was just six thousand years old. James Hutton, a gentleman farmer with legal and medical training and a passion for rocks, knew that this could not be the case. Looking at the formation of irregular strata in the layers of the Earth he deduced that a much deeper abyss of time would be required for the landscape he saw to world of Enlightenment Scotland he set out to prove it. He could not have achieved this without his friends. Hutton's entourage in Edinburgh would turn out to be the leading thinkers of the age, including Erasmus Darwin, Adam Smith, James Watt, David Hume and Joseph Black. These brilliant thinkers would work together to develop the nascent science of geology but would also make spectacular advances in agriculture, economics, philosophy, chemistry, steam engines and military tactics.

Hutton's geological theory of the Earth would cause a profound religious debate as well as provoking decades of criticism. His revelation, however, was ultimately one of the most extraordinary and essential moments in scientific history - for without it, the work of the 19th century evolutionists would have had no context, and the labour of the dinosaur hunters would have been in vain. Hutton's discovery of deep time changed our view of humanity's place in the universe forever.

This is the little-known story of a man who fought hard against orthodox beliefs to prove the antiquity of the Earth and of the dedicated loyalty of an enlightened circle of friends.

(from the flyleaf)

"The Cruise of the *Betsey*, and Rambles of a Geologist", by Hugh Miller. ISBN 1 901 663 54X, pp576. Pub: National Museums of Scotland Enterprises Ltd, 2003. Facsimile reprint of Hugh Miller's notes recording his rambles around Scotland in the mid 1840s.



Special Offer to
HOGG members. See
enclosed Order Form.
Don't Delay!
Order before 31
December 2003

The Cruise of the Betsey is a forgotten classic of Scottish literature. Reprinted for the first time in a century, it is an ideal introduction to its author, Hugh Miller, a titan of Victorian Scotland - self taught stonemason, crusading newspaper editor, social critic, and proselyte for palaeontology.

A classic of travel writing comparable to Cobbett's *Rural Rides*, it evokes the pleasures of Scotland's countryside, from the Hebridean islands of Eigg and Rum to Miller's native Cromarty, and from the Moray Firth to

Caithness and Orkney. But alongside the joys of discovering fossils, Miller bitterly condemned abusive lairds as the Clearances intensified. As the disruption of 1843 rent Kirk and society in twain, Miller's travels on 'Free Church Yacht' *Betsey* put him in the vanguard of the old Scottish struggle for religious liberty.

To give the modern reader full access to this nineteenth century classic, an introduction, notes and maps are provided, as well as recommendations on places to visit. (from the cover)

"The Curious Life of Robert Hooke. The Man Who Measured London" by Lisa Jardine, pub. Harper Collins, 2003. Price: £25.

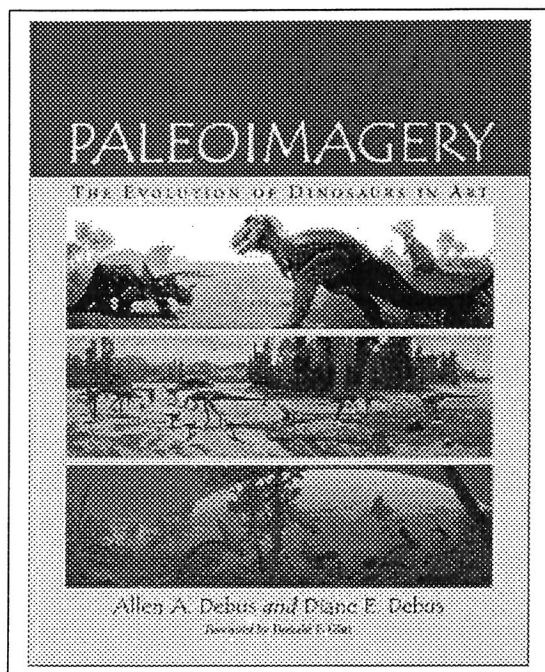
The brilliant, largely forgotten maverick Robert Hooke was an engineer, surveyor, architect and inventor who was appointed London's Chief Surveyor after the Great Fire of 1666. Throughout the 1670s he worked tirelessly with his intimate friend Christopher Wren to rebuild London. He was the first Curator of Experiments at the Royal Society, and author and illustrator of *Micrographia*, a lavishly illustrated volume of fascinating engravings of natural phenomena as seen under the new microscope. He designed an early balance-spring watch, was a virtuoso performer of public anatomical dissections of animals, and kept himself going with liberal doses of cannabis and poppy water (laudanum).

Hooke's personal diaries - as cryptically confessional as anything Pepys wrote - record a life rich with melodrama. He never married, but became indecorously close to his beloved niece, Grace. A dandy, boaster, insomniac and inveterate socialiser in London's most fashionable circles, Hooke's irascible temper proved fatal for his relationships with men of influence, most notable with Sir Isaac Newton, who after one violent row, wiped Hooke's name from the Royal Society records.

In this lively and absorbing biography illumination a major figure in the seventeenth-century intellectual and scientific revolution, Lisa Jardine at last does Hooke and his achievements justice.

(from publicity material)

Paleoimagery : the evolution of dinosaurs in art / Allen A. Debus and Diane E. Debus; Jefferson, N.C. : McFarland, 2002. ISBN 0786412224



Paleoimagery describes in words and with illustrations how artists' perceptions of dinosaurs and other extinct animals have been shaped and altered by fossil discoveries and by the evolving ideas of how these creatures lived.

There is a broad historical sweep to this work which does not focus solely on the fauna of North America. The authors discuss the contributions of Cuvier and Mantell, remind us of the difference between restoration and reconstruction, and do not overlook the importance of sculpture in shaping our views of the prehistoric world. A chapter is devoted to Hawkins's collaboration with Owen for the Crystal Palace models, and his plans for a Palaeozoic Museum sculptures in New York's Central Park, which sadly were never realised.

The book has many things to recommend it. The illustrations are selected from the early Victorian period right up to the present, so the reader will find examples ranging from Martin's restorations depicting life and death struggles (1830s) (evoking Tennyson's "dragons of the prime, that tare each other in their slime") to a sculpture by Trcic (1996) showing small dromaeosaurs attacking a larger herbivore. British readers may remember Neave Parker's almost photographic restorations of dinosaurs (memorably a series of postcards for The Natural History Museum in the 1950s and 1960s), here represented by two views of Cretaceous life. It is clear, though, that the authors' favourite "paleoartist" is Charles Knight, who produced images of Tyrannosaurus and Triceratops for the Field Museum that have been reproduced many times, and a startlingly dynamic illustration from 1897 of two fighting Laelaps, which could have come from Desmond's "The Hot Blooded Dinosaurs" of 1975, or even from "Jurassic Park".

Having mentioned Jurassic Park, it should be said that there is just one still from a dinosaur film, namely "The Lost World" (1925). A book that discusses popular as well as more scientific representations of past life might have been expected to include a few more examples from films. Another surprising omission from a book with a strong historical treatment is De la Beche's "Duria Antiquior", which although mentioned in the text, is not illustrated. However, perhaps what is most missing from the work is the use of any colour, except for the cover illustrations.

Nonetheless, this book, with its ample notes and bibliography would be appreciated by anyone interested in the history and development of dinosaur illustration.

Michael Bowen
Sept 2003

"The Man who Found Time"; James Hutton and the Discovery of Earth's Antiquity", by Jack Repcheck, Perseus Publishing, 2003.

There are four men whose contributions helped free science from the straightjacket of theology. Three of the four - Nicolas Copernicus, Galileo Galilei, and Charles Darwin - are widely known and heralded for their breakthroughs. The fourth James Hutton has never received the same recognition, yet he profoundly changed the understanding of the earth and its dynamic forces. Hutton proved that the earth was likely millions of years old rather than the biblically determined six thousand, and that it was continuously being shaped by myriad everyday forces rather than one cataclysmic event.

In this expertly crafted narrative, Jack Repcheck tells the remarkable story of this Scottish gentleman farmer, and how his simple observations on a small tract of land led him to a controversial - some would say heretical - theory. Yet it was Hutton's work that ultimately made Darwin's theory of evolution possible: Man simply could not have evolved from apes, or apes from more distant ancestors, in a mere six thousand years.

The Man who Found Time is also the Story of Scotland and the Scottish Enlightenment, which brought together some of the greatest thinkers of the age - from David Hume and Adam Smith to James Watt and Erasmus Darwin. Through an intricate network of informal salons and social clubs, these "natural philosophers" created a rich intellectual milieu that served as an incubator for Hutton's nascent ideas, helping transform them into a robust and coherent theory.

Finally this is the story about the power of the written word. Jack Repcheck himself a champion of books argues that Hutton's work was almost lost to history because he was unable to describe his findings in graceful and readable prose. Unlike Darwin's *Origin of The Species*, Hutton's one and only book was impenetrable.

An enlightening, engaging narrative about a little known man and the science he established, *The Man Who Found Time* is ultimately a parable about the power of books to shape the history of ideas
(from the inside cover)

A Long-awaited Hooke Memorial

I was present at the Tercentenary Conference on Robert Hooke, at the Royal Society. After the end of the Papers given, the Dean of Westminster who was present announced that Hooke would belatedly have his name added to the many distinguished names commemorated in Westminster Abbey. These include only a small number of geologists: we know of only John Woodward, William Buckland and Charles Darwin. Now the name of Robert Hooke will be added to these.

It was as long ago as 1935 that A.P. Rossiter wrote a paper entitled: "The First English Geologist; Robert Hooke." This was even then a very belated recognition of Hooke's early contributions to our science: Steno is more usually credited with being our Founding Father. It is certainly time that this omission was corrected. It is time that he was recognised as the true Founder of Geological Science.

Richard Wilding

RESTORING ROBERT HOOKE.

Richard Wilding.

In a recently published biography by Lisa Jardine, the author has produced what she believes to be a mislaid portrait of the seventeenth century scientist, Robert Hooke. This portrait was found in the Natural History Museum, and appears to have been mislabelled as a portrait of botanist John Ray. Her arguments in favour of redesignating this picture are almost irresistible. I for one would certainly accept the validity of her reasoning. ("The Curious Life of Robert Hooke: the Man who measured London" by Lisa Jardine (HarperCollins 2003))

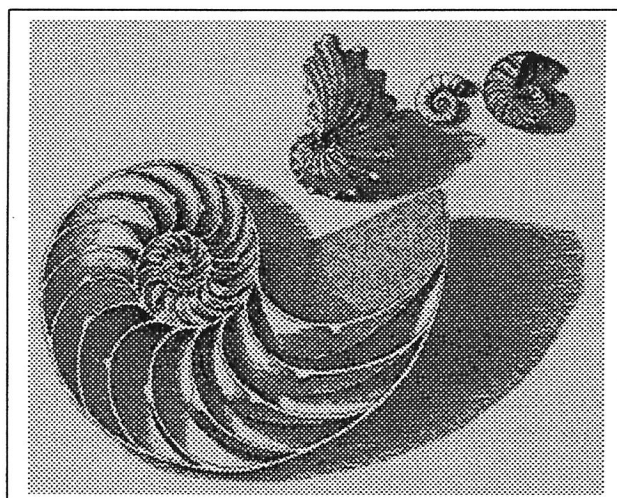
Apart from this portrait, the reputation of Hooke certainly needs restoration. His comparative obscurity, since his death, is very much undeserved. Much of his work has added to the reputations of others. He was the first to prove the Tower and Towneley hypothesis, that later became known as "Boyle's Law", for he built the improved air pump for Boyle that enabled the proof to be demonstrated.. He was the first to invent a pocket watch that used a spring balance wheel; but Christian Huygens is usually credited with the invention. He was the first to track a comet in 1665 and to predict when it would return. Edmund Halley, who is usually credited with the discovery of the periodicity of comets was only nine years old at the time. He was also, as described in a 1935 paper by A. P. Rossiter, "The First English Geologist." But he was also the first ever true geologist. His work preceded that of Steno, usually credited with being the founder of our science.

At a Conference devoted to Hooke, held at the Royal Society on the 7th and 8th July this year, a series of papers enlarged our understanding of Hooke's scientific work and career. Dr. Ellen Tan Drake, probably our best contemporary guide to Hooke's pioneering work on the Earth Sciences read a paper on "Hooke's ideas on the terraqueous globe and a theory of evolution"; ideas that were centuries ahead of their time. His "Discourses on Earthquakes" were published posthumously in 1705, but his ideas had been given over a more than 30 year period from 1664 to 1699. Steno's earliest geological treatise, *Dissection of a shark's head* was, was published in 1667, and his better known, *Prodromus* in 1669, Hooke contributed much to basic concepts on the processes of sedimentation, consolidation, erosion and denudation. He had much to say on petrification, volcanic eruptions and earthquakes, biologic evolution, polar wandering,

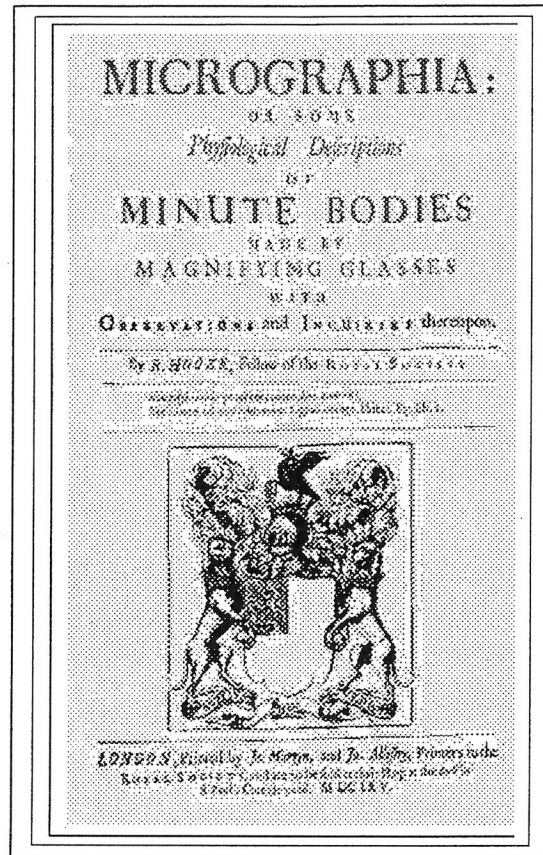
the oblate spheroid shape of the earth and gravitation . Most of his ideas here were much in advance of his contemporaries. In 1665, after three years in an unpaid position, he became Curator of Experiments to the new Royal Society, and Professor of Geometry at Gresham College..

Many at that time believed that fossils, like minerals, and called then “figured stones”, were formed either by some “plastic power” within the Earth, or if of organic origin were the products of “Noah’s Flood”. Only Steno and Hooke suggested otherwise. It was, after all, not long before this time that Archbishop Ussher , by the best methods of contemporary scholarship had shown that the Earth was created in 4004 B.C.

Hooke had been born at Freshwater on the Isle of Wight in 1635, and was clever enough to make his own observations of terrestrial processes from the landscapes with which he grew up. The cliff shores near his birthplace provided even after he grew up, opportunities to make observations and collect specimens, including fossils, such as the ammonites he later drew with such precision. Tan Drake, in her paper, reproduced Hooke’s page of ammonite illustrations, drawings that have always been praised for their great accuracy.



This Conference brought together many useful papers illustrating the great breadth of work that was produced by Hooke in his lifetime. Jim Bennett and Steve Joseph emphasised Hooke’s great understanding of the importance to science of precision instruments. His *Micrographia*, published in 1665, showed what could be achieved by the dedicated application of an instrument, the Microscope; in this case one of his own creation. Yet other optical instruments, such as the telescope occupied much of his attention. He developed a wave theory of light and his own explanation of colour. He improved upon current designs of quadrants and sextants. His work as an astronomer were very well covered in papers by Hideto Nakajima, Allan Chapman and Jaroslaw Wlodarczyk. Again he demonstrated his love of precision in his observations. This Conference, Jardine’s biography, and an earlier one by Stephen Inwood, last year, have all helped to show that the tercentenary of Hooke’s death has produced a great deal of scholarship relating to the scientist and his pioneering work. Yet he had his darker



side: his quarrels with other scientists, such as Hevelius, Oldenburg, Huygens, Flamsteed and Newton are well documented. Even so, he had some long lasting friendships: with Boyle, Halley, Wren, John Aubrey, John Evelyn and others. It was after the Great Fire of London in 1666 that his cooperation with Sir Christopher Wren had its most profitable period. He was the City representative on the Rebuilding Commission and Wren was the Court appointee. He literally measured London, pegging out the plots for rebuilding, and worked very closely with Wren on the city churches; so closely in fact that it is often difficult to separate their individual contributions; to know which are Wren churches and which were designed by Hooke. Hooke almost certainly designed the Monument, and contributed much to the design of St. Paul's. The Hooke 2003 Conference covered much of his architectural work, including his design of the "Bedlam" (Bethlehem) Hospital at Moorfields. He was certainly, amongst his other talents a very great architect.

If he has been denigrated, over several years by Newton admirers, he suffered much both during his lifetime and later, in other ways. He died in 1703, in his Gresham College rooms, and was buried with due respect at St. Helen's Church in Bishopsgate. His grave was dug up in the 19th. Century, removed and is now lost. But it was in our own time that he received what can be regarded as his greatest blow. The Church where he was buried had a Commemorative stained glass window illustrating some of the church's "Worthies", including a portrait of Hooke. This was destroyed by an IRA bombing of this part of the City's Financial District in April, 1992. Only plain glass replaces what was a useful Hooke Memorial. The Church appears to be quite oblivious to the need for a replacement.

Leeds Geological Association needs a speaker.....

The Leeds Geological Association was founded in 1874 and the programme for next year, our 130th anniversary year, is to be a celebration. I am looking for a speaker for our January 2004 meeting, when we would like to have a talk related to geology in the 1870's. Possibilities that come to mind include the geological controversies and unsolved problems of the day and how they developed; contrasting the state of geology then and now; prominent geologists of the time.

We would be most grateful if you could suggest a potential speaker or speakers in this general area. We are hoping to arrange for "geological maps and mapping" and "the ascent of man" to be the topics at separate meetings so these would not need to figure prominently in January [but if you know anyone keen to talk about either of these, I should be interested to know.]

Our meetings are held in the University of Leeds at 7 pm on Thursday evenings and because of the University timetable, our January meeting will have to be on Thursday **29 January 2004**, although if need be I might get away with moving it to 2 Feb. In anticipation, thank you for your assistance.

Jeremy Freeman.

Worth a visit?.....

Historical Geology at East Midlands Geological Society

SATURDAY 13th DECEMBER 2003 18.00hrs

HUGH TORRENS will be speaking on 'WILLIAM SMITH AND THE SEARCH FOR RAW MATERIALS 1800-1820'.

This lecture will first draw attention to what Smith called himself during his several careers. He first described himself as a land surveyor and drainer in his 1801 Prospectus but as an engineer and mineralogist in his first book (1806). His use of the latter word then only reveals the lack of use of the term 'geology' before the foundation of the Geological Society of London (1807). The lecture next discusses Smith's several careers and tries especially to shed new light on his work as a mineral prospector, of which he can be regarded as one of the true pioneers. The term he used for this, from John Farey (1808), was 'mineral surveyor' which was how he described himself in the prospectus to his great Map of the strata of England and Wales (1815) and his most important book *Strata Identified* (1816-19).

Some of the mineral prospects with which Smith was involved are next described. These can be divided into those which used his stratigraphic science in positive searches for new coal (the main mineral he sought) and others in which his new stratigraphic knowledge could equally demonstrate that many coal searches being made elsewhere were simply doomed to fail. These latter attempts, which were frequent, were always made in lithologies which resembled, but were not in, the Coal Measures. Smith was the first to show how unfortunate the British stratigraphic column was in abounding in these similar lithologies (Lias, Oxford, Kimmeridge, Wealden clays etc.). Equally unfortunately, but now for Smith, many of the founding fathers of the Geological Society were unconvinced of either the reality or utility of Smith's discoveries. Its leaders at first did not believe he had uncovered anything of significance and then simply stole much of it.

SATURDAY 3rd APRIL 2004 18.30hrs

CLARE DUDMAN will be speaking on 'THE LIFE AND WORK OF ALFRED WEGENER'

The theory of Continental Drift, one of the most important revolutionary ideas of the twentieth century, is well known, but the extraordinary life of its chief proponent, Alfred Wegener, remains much more obscure. Apart from defending his theory from widespread ridicule, Alfred Wegener was a versatile scientist, developing theories in other scientific fields which were subsequently also accepted. But during his life time, he was more famous as an Arctic explorer and aeronaut. He was almost fatally wounded in the First World War and died heroically on the Greenland ice sheet in 1930 aged just 50.

This illustrated talk will be a journey through his life with particular emphasis on the development of his theory of continental drift and his struggle for its acceptance. The speaker will use both Wegener's and her own photographs which she took as she followed in his footsteps as research for her novel based on his life: Wegener's Jigsaw.

For other talks see the East Midlands Geological Society website www.emgs.org.uk

Membership fees

Dear HOGG Member,

Please be advised that your contribution to the Newsletter for 2004 is now due

THE FEE IS £10.00

- a) To help us save scant resources *please* complete the standing order form (attached) and **send it to the Treasurer**, Bill George (address below). **DO NOT SEND IT TO THE BANK.**
- b) If you already pay by standing order, please amend it if necessary to reflect the correct amount (£10) payable since 2001
- c) If you feel unable to pay by standing order, *please* make your cheque for £10 payable to HOGG and send it to the Treasurer; Bill George, 11 Sterry Road, Barking Essex IG11 9SJ



*History
Of
Geology
Group*

Banker's Standing Order for HOGG Members

(This notice cancels any previous standing order arrangements)

To: The Manager:

(Insert the name of your bank below and the address of the branch where you keep your account)

1. Name of your bank :

2. Postal address of your branch :
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3. Your Bank Account Number:
.....

4. Sort Code Number (this is ESSENTIAL):

5. Instruction to your bank manager:

Please pay by Standing Order on the above named account, in favour of the History of Geology Group of the Geological Society (Girobank Account no. 4 665 9406, Sort Code 72-00-01) the sum of **Ten Pounds** annually beginning on January 1st 2002, and annually thereafter until terminated by me in writing.

6. Your name: (please use capitals) :

7. Your personal mailing address, and postcode, for Newsletter delivery:.
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