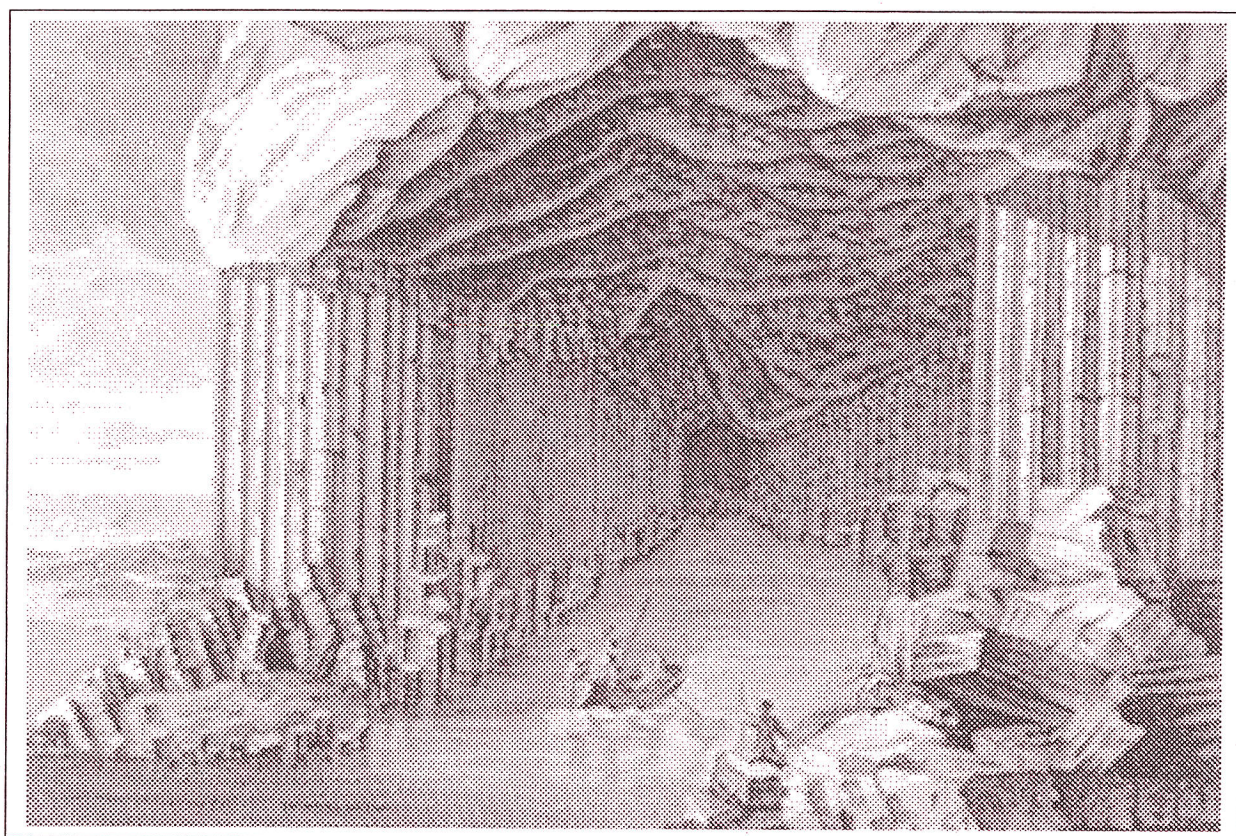


HOGG

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



Number 23
January 2005



Cover Illustration:

The illustration shows one of the most famous caves in the world – Fingal’s Cave on the Island of Staffa, and comes from **Pennant, Thomas (1726-1798), *Tour in Scotland, and Voyage to the Hebrides; MDCCLXXII. Chester: printed by John Monk, in 1774***
(Reproduced by kind permission of Linda Hall Library of Science, Engineering and Technology, Kansas, Missouri)

The first outsider to visit Staffa, and to take visual notice of its striking basalt formations was Sir Joseph Banks (1743-1820), in 1772. Banks had recently returned from Captain Cook’s first voyage, and after a disagreement with Cook, set off on his own expedition to Iceland, with stops in the Hebrides. Banks was particularly taken with a large basalt cavern that the locals called Fingal’s Cave. He had bought an artist along, who made drawings of the cave, of Staffa, and of other basalt formations nearby.

Thomas Pennant made his own tour of the Hebrides slightly later, and for his published account of his travels, Banks allowed him to use five of his drawings. We see here the engraving of Fingal’s Cave. Pennant also inserted in his text the complete description by Banks of his trip to Staffa and Fingal’s Cave. This was fortunate, because Banks never did get round to publishing his own account of his visit to the Hebrides.

(text by kind permission of William B. Ashworth, Jr.)

This print and text feature in an on-line exhibition entitled “Vulcan’s Forge and Fingal’s Cave”

To see the online exhibition go to:

http://www.lindahall.org/events_exhib/exhibit/exhibits/vulcan/index.shtml

To order a catalogue of the exhibition go to:

http://www.lindahall.org/events_exhib/exhibit/exhibits/vulcan/printed.shtml

(The next HOGG meeting in April will look at the History of Speleology and cave finds. See details on page 2.)

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HOGG Diary of Future Meetings

The HOGG Committee has set an ambitious provisional agenda of meetings for the future. More details will be given of each meeting nearer the date, but so far the provisional diary is:

2005

(November) "The Role of Women in the History of Geology"

2006

HOGG 'Open Meeting' (13 April)

Field trip to Scotland (Spring)

History of Geoconservation (20th January) (possibly with the Black Country Geol. Soc. in Dudley)

History of Micropalaeontology (or 2008)

(?June/July) a 'Buckland' meeting in Oxford

2007

Celebration of the bi-centenary of the Geological Society

2008

History of Igneous Petrology

Field trip to Liverpool (in conjunction the GA ?)

Other topics may include:

History of the Philosophy of Geology, the History of Mineralogy, something on Collections Lost and Found, and more on Hydrogeology

If members have any additional ideas for meetings (or field excursions) the Committee would be pleased to hear of them.

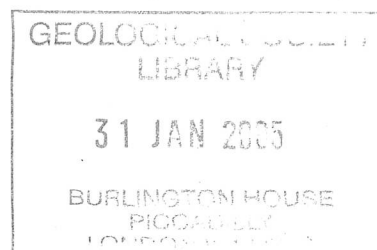
Geological Society of America – History of Geology Division

The December 2004 issue of the History of Geology Division newsletter is now posted in PDF (for printing a hardcopy) at <http://gsahist.org/v28n04/vol28n04_dec04.pdf> and in HTML (for online reading and active links) at <<http://gsahist.org/v28n04/v28n04.htm>>

You can also access the current newsletter and recent past issues by going to the Division website at <<http://gsahist.org/>>; the links to the current year's newsletters are in the center of the page, and previous issues can be accessed by clicking on "Archived Newsletters" on the left sidebar. The current issue has information on several new resources, a request for historical assistance with respect to a late-1800's/early 1900's Colombian geologist, news on a variety of upcoming meetings, a call for award nominations, and contact information for 2004-2005 Division officers

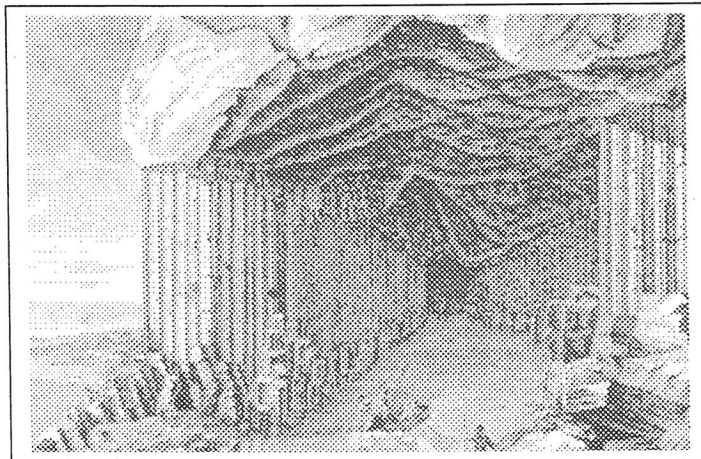
HOGG Mailing List Site

HOGG is thinking of setting up a mailing list site, and will be e-mailing members whose addresses we have regarding it. If we don't have an e-mail address for you, please let us have it. Please contact Anne O'Connor (Secretary) at: hoggsec@hotmail.com



The Next HOGG Meeting...

“From Earthly Bowels into Light”



History of Speleology and Cave Finds

Torquay 21st – 24th April 2005

The study of caves, their formation and their contents, has attracted the interest of a variety of researchers over the past few centuries. In the early years some speculated that the great bones and teeth found lying in caves belonged to dragons and that these cave deposits were clear evidence of Noah's flood. Kent's Cavern in Torquay provided a focus for nineteenth century exploration into Quaternary fauna and excavations at the nearby Brixham Cave were central to the human antiquity debate.

The History of Geology Group in cooperation with the Devonshire Association (Geology Section), Pengelly Cave Studies Trust and Southwest Regional Group of the Geological Society is organising a two day conference on the history of speleology and cave finds in Torquay on Friday 22nd and Saturday 23rd April 2005. Scientific Presentations will be given on Friday 22nd at the Torquay Museum in Babbacombe Road, Torquay. On Saturday further presentations will be given in the morning at a joint session with the Devonshire Association. In the afternoon there will be a field visit to the Joint Mitnor Cave at Buckfastleigh and the day will conclude with an evening visit, reception and dinner at Kents Cavern. On Sunday morning visits will be arranged to local classic geological sites if there is any interest.

Any queries should be addressed to Professor J D Mather, 4 Crockernwell Court, Crockernwell, Exeter, Devon, EX6 6NA. Phone: 01647 24033, email: mather@jjgeology.demon.co.uk.

Details of the programme are given in the brochure with this newsletter

HOGG OPEN MEETING - SPEAKERS WANTED

HOGG is planning to hold an Open Meeting at Burlington House on **Thursday 13 April 2006**, where members, and others, can outline their current/recent research into the History of Geology. It is hoped to have 1 or more Keynote Speakers. Details in due course, but the offer to present a paper is already open. Contact Anthony Brook by email on anthony.brook2@btinternet.com

HOGG is best!... (Official)

Those who regularly read Geoscientist, may have seen in volume 14, no.12, a strange article berating GS members for their apathy in voting for Council officers. The author asks:

".... which specialist group do you think has the highest percentage turnout in elections? Could it be the mighty 2000-strong Engineering Group, with all its hardworking geologists who so often say they wish the Society were more applied in its outlook? Or could it be the Petroleum Group, with its alluring confidence and swagger? No. It's actually the **History of Geology Group** (emphasis added)..."

Sadly, she then spoils it a bit by divulging that "... the average HOGG member is a fair bit older than average..." (the average for the Society being 42, apparently).

Unfortunately for HOGG, I have to admit to helping to push that figure upwards, but I like to think that along with age comes at least a quantum of wisdom, and apparently, a lessening of apathy. Long may it be so.

Peter Tandy (via Tony Brook)

HOGG AGM, 22nd October 2004

The AGM for 2004 was held at lunchtime on 22 October, the day of the lively 'Geofakes' meeting at the Geological Society, London. All the committee members were present (apart from Alan Bowden, who sent his apologies), and there was also a good turn out from members. Many thanks to all who gave up part of their lunch-time. This was an important meeting which saw our new HOGG constitution passed by a unanimous show of hands from all present. A little background. Last year, we voted to back the committee's decision to opt for the status of an *affiliated* group. Our new constitution has been carefully crafted by Cherry Lewis (Chair) and discussed by the committee over the past year, so we now start the new year with a new constitution.

The committee has also changed a little. We are sad to lose the services of John Martin and Richard Howarth. John Martin's services have been immense, and they span HOGG's lifetime. Indeed, John was one of the founders who fought hard to establish the group ten years ago, without whom we would not be happily reading this newsletter today and looking forward to the HOGG events of 2005. Richard Howarth has also been an enthusiastic member of the committee, and we shall be sorry to see them both go. John Mather will be stepping into Richard's role as Vice Chairman, and we are delighted to welcome Patrick Boylan to the committee (an appointment which was passed by a show of hands). The longstanding efforts of Peter Tandy as Newsletter Editor also received warm congratulations at the meeting.

In 'Any other business', John Martin offered the committee his best wishes, and Cherry Lewis reminded the meeting of the great debt we owe to previous committees. Thanks were given to John Martin, John Fuller, Martin Rudwick and other early supporters of HOGG for all their work in establishing the group and steering it safely through initial opposition. It seems that the Geological Society has now finally

recognised that there is a great interest in the history of geology. The AGM formed a delightfully short part of the 'Geofakes' meeting, and later in the day John Martin and John Fuller were awarded Honorary Membership of HOGG and each presented with a book signed by the current committee in recognition of their efforts. The high spirits and engaging discussions during the course of this meeting which also marked HOGG's tenth anniversary, prove that HOGG has been finely served by its founders and is well on course for another splendid decade of exploration into the history of geology.

Anne O'Connor (HOGG Secretary)

"And then we were 10....."

A retrospective look at HOGG & the Newsletter over 10 years

Back in November 1994, I can remember sitting at the rear of the auditorium in the Geological Society's Headquarters in Piccadilly, as a meeting progressed which would see the establishment of a new specialist group, one devoted to the History of Geology. My trepidation grew when my name was forwarded as a possible editor of the proposed group's newsletter, and it turned to rampant fear when it was decided on a vote that I would do it in preference to the only other volunteer. The group had been approved by Council in 1993, but now it was real, and I was part of its committee. Being naturally shy I wondered what on earth I was in for, and would I be able to cope. But I need not have worried, since inaugural Chairman (the late, and much missed) John Thackray of the BM(NH), whom I knew through my Museum work, would give superb guidance. Other members of that first committee were John Martin, John Fuller, Richard Howarth, Jim Secord, and Hugh Torrens. The first meeting in John's museum office set the tone, and I went away with some snippets of information and scant rules to see what could be done. My experience in producing newsletter was pretty limited and I rather hoped they did not expect me to be the next Robert Maxwell!

By January 1995, I produced the first newsletter, a simple 4 and-a-bit pages without any kind of illustration. It advertised the first meeting of the group, a short meeting at the BM(NH) in London combined with a field-trip to see the Waterhouse Hawkins dinosaurs at the Crystal Palace which had just been refurbished. Twenty people attended that meeting, and the next newsletter contained some pictures courtesy of Jim Secord, of members and dinosaurs. This edition also offered members a chance to attend our first meeting outside of London. This would be on the history of Earth Science Mapping, and be held in Oxford in October 1995. The meeting was a success with about 35 attendees, and included the first AGM of the new group, where Stuart Baldwin joined the group. The following year we held meetings at Burlington House in February on Geological Collectors and Collecting, and then in September another field-trip, to Bristol University, so see the Eyles and various other archives.

The group continued to expand and in 1997 celebrated 150 years of the Palaeontographical Society with a joint Pal-Soc/HOGG meeting in Cambridge, together with an evening dinner at Emmanuel College. There was also a very small field-trip to Kensal Green cemetery, led by Eric Robinson, where graves of famous geologists (including the newly found one of Henry de la Beche) could be seen. The AGM saw the retirement from the committee of Jim Secord and Richard Howarth, to be replaced by Martin Rudwick and Simon Knell. 1998 offered a field trip to Ludlow to follow in the footsteps of Murchison, which was a great success. Led by John Fuller, the small group also contained a newcomer to the world of historical geology, Cherry Lewis, anxious to meet some historical geologists prior to writing a book. The autumn meeting was a combined meeting on the theme of geological conservation. 1999 had meetings on the

history of mineral collection, and a trip to the BGS complex at Plumtree, near Nottingham, where the vast core-store caused eyes to be opened. Sadly, on 6th May 1999, Chairman John Thackray (and Hon. Geol.Soc. Archivist) passed away after a fight against cancer. It was a shock and he was (and still is) deeply missed

The year 2000 saw the 10th edition of the newsletter - so far so good and not a letter of complaint, so confidence was rising. It was also the year of preparations for the grandest HOGG meeting yet, the William Smith Millennium meeting "Celebrating the Age of the Earth". The convenor for this was Cherry Lewis, who, as the author of "The Dating Game", the story of geological age determination, was an obvious candidate to be asked to do it. Cherry was co-opted onto the committee and has been with us ever since, recently taking on the role of Chair of the group. The meeting was a huge success, and involved most of the great and good involved with geochronology from its inception, to a look deep into the future by The Astronomer Royal. Fame of the group was spreading as later in the year we were *invited* to organise a meeting 'away' in Dudley to celebrate 25 years of the Black Country Geological Society. This too was a most enjoyable meeting including a visit to the famous Wren's Nest, and a canal trip underground to the very spot where Murchison once lectured. Murchison no longer being available to repeat his missive, we settled for Hugh Torrens, who was no less impressive. The following year was the 150th anniversary of both the Royal School of Mines, and also that of the Geological Museum, London, and meetings were arranged to mark these. The HOGG meeting included a field-trip to the Albert Memorial (very petrological!). Later in the year there was an enjoyable meeting on the history of palaeobotany. The first task in 2002 was to advertise the meeting on the amateur in British geology, and, for later in the year a field-trip to the environs of Bath to celebrate the work of John Strachey (1671-1743) and William Smith (1769-1839). It was also the year in which it was suggested the newsletter gain a name, but despite putting it out to open competition and offering nothing less than historical geology immortality (what more can one want....?), only one suggestion was forthcoming. Eventually it was decided to stick with HOGG, but another suggestion, of having a coloured cover was taken up. Accordingly, issue 16 had a sulphur-yellow cover featuring Hugh Miller, to mark the International conference celebrating the bicentenary of his birth.

From 2003, it was decided to issue 3 newsletters a year, meaning that there would be a smaller interval between meeting announcements and reports. It was also the first (and so far only!) time colour entered the newsletter, with a series of pictures from the Bath field trip. Another first was the attempt to organise an open members meeting, rather than one with any specified theme, though this was forced following the decision to cancel a meeting on the history of geophysics when, astonishingly, no speakers could be found! It met with only partial success, perhaps due to short notice. Later in the year was a meeting on the history of meteoritics held in the Natural History Museum, which was much more successful.

And so we reached our tenth year, with another hastily arranged meeting on "Sussex Pioneers", which though poorly attended was actually very good, followed later in the year, by the most recent "Geofakes, Frauds and Hoaxes" meeting.

For my own part, it has been an interesting 10 years, which, though I might today groan when newsletter time comes round, has been most enjoyable. I have met some interesting people, who have taught me much, and been proud to be part of a grand team, which has achieved much. I would like to thank those people who have served on committee, for driving forward the group. For my part in that group, I am also proud to be able to say that I have managed to issue every single newsletter on time (well, more-or

less, and I hope I'm not tempting fate). It doesn't really seem like 10 years (but the calendar if not the increasingly grey beard, tells me 'tis so), and, I look forward to being able to do so into the future for as long as I am needed, am able or am willing!

Peter Tandy

“Geofakes, Frauds and Hoaxes”: A report of the HOGG meeting held on 22nd October 2004

The first speaker, in this section on fakes, was **Dr Peter Forey** from the NHM, who spoke about fakery in the fossil fish world. Numbers of specimens are now well documented but the practice is quite old. Often it consists of harmless finessing of otherwise imperfect specimens, but increasingly it stretches to blatant attempts at complete modelling for financial gain. Peter showed several examples which consist of portions of two or even three different *species*, carefully grafted together. In some cases this was obvious as the repetition of dorsal and ventral fins is a clear giveaway.

Amazingly, there are no recorded examples of fakery being used in the description of a new species, so there is no bias to scientific conclusions as a result. A more insidious example from modern times is the attempt at subterfuge by retouching of digital images in order to fake the provenance. Peter related one particular example involving the coelacanth, where it could be shown that the same specimen had been 'found' in to different places at two different times!

Following Peter was **Dr Andrew Ross**, also of the NHM, who looked at amber fakes. Amber is today highly prized when it contains animals, and the more exotic they are, the greater the reward. However, large creatures, like lizards, are rarely caught in amber, as they have the power to escape, so examples containing them are likely to be fakes.

Andrew also showed examples of compounds used to simulate amber; these include glass (but this is readily distinguished by its cold feel), casein resin (derived from milk), celluloid (flammable!), phenolic resin and modern plastics. Following the overviews, Andy then showed a particular example from the late 19th century of a common housefly in amber which he had discovered to be fake in 1993 (the year of the film Jurassic Park!).

Dr Dave Williams of GeoEd Ltd, had a different outlook on fossil fakes, since he makes them! Most people ask the question “is it real”, and often it isn't because replicas are easier to use than either expensive originals, or originals which are truly unique, or because replicas are needed in quantity for teaching. Other models have gained importance recently in modern museum displays, and TV programmes where ‘reconstructions’ of events are needed. Alas, some of these replicas are passed off as the real thing and then become fakes.

Julian Jocelyn spoke briefly on the life and work of James Ballantyne Hannay, who is better known for his supposed synthesis of diamond in the late 1800's. It was much later shown that these diamonds are natural despite Hannay's claims. Much of his other work in the field of chemistry must be treated with the same skepticism.

In the second session, devoted to frauds, **Prof. Martin Rudwick** (University of Cambridge) looked at trust and mistrust in geology's heroic age. In the early part of the 19th century and just before, the savants of earth sciences joined with the ‘fossilists’ in the extraction of important specimens. The savants (later “geologists”) had wealth and expertise to interpret things, but not the time to collect; the fossilists had the time and

were willing if the reward was sufficient. This relationship worked until the fossilists decided to supply exactly what their customers wanted, even if it meant enhancement or even creation of specimens.

One name which is readily associated with fossil frauds is that of Johann Beringer, who was the subject of the talk by **Dr Paul Taylor** and **Ms Ann Lum** (both of the NHM). Beringer was Chief Physician to the Prince Bishop of Wurzburg, and was the author of a remarkable work, *Lithographiae Wirceburgensis*, in 1726. It showed 2000 'iconoliths' (as he called them) supposedly derived from the formations at Mt Eibelstadt in Franconia, Germany. These items showed images of exotica such as spiders in webs, birds with eggs, copulating frogs, stellar objects and Hebrew writing. Although it was suggested to him that they were recent carvings meant to deceive, he dismissed the idea, and assumed they were something special. Soon after publication of his book, he changed his mind, and took proceedings against two colleagues who had perpetrated the fraud. Although he won his case, and the perpetrators were exiled from Wurzburg, Beringer was ridiculed and his iconoliths became known as 'lying stones', and his name forever associated with not recognizing them for what they were. Many examples survive in the museum at Wurzburg, and Dr Taylor showed examples, along with plates from Beringer's book.

Fakes and frauds in the fossil (and mineral) world are well known today, but fakes of meteorites are very rare. **Professor Joe McCall** spoke about the Orgueil meteorite which fell in 1864 in France. Following collection, samples of this meteorite were sent across Europe, but two specimens were kept in Montauban, sealed in a glass jar. No-one noticed until 1961 that the samples contained seeds of a plant from the south of France, as well as coal fragments, and that the typical meteorite fusion crust (from its entry into Earth's atmosphere, was replaced by gum! Since it was not discovered until so late, the hoax misfired. It came to light when researchers found 'organised elements' on a microscopic scale in other samples of Orgueil, and wanted to look at the Montauban samples. These organized elements possibly represent bacteria, but this is not proof of extra terrestrial life. Orgueil belongs to a class of meteorites which are very rare (only 5 are known), and may have originated from a comet.

The first talk of the afternoon session was given by **Rev. Michael Roberts** who looked at the problems of the teaching of creationism (specifically Young Earth Creationism, YEC), supposedly alongside Darwinism, at a school in Gateshead. This was first disclosed in 2002, though later denied by none other than the Prime Minister. It goes back not to the Christian works of people like Ussher and Wilberforce, but to Ellen White, a 7th Day Adventist, and George McCready Price, author of (amongst many others) *Illogical Geology* (on flood geology). YEC came to the fore in 1961 following the publication in the USA of "Genesis Flood", which reached the UK in 1968. In the 1980s the movement heretofore confined to the evangelical church, moved into education. It is now increasingly presented in the UK. Under the guise of teaching both evolution & creation, the movement gains ground but it actually teaches its own brand of science and a parody of evolution, including geology. Refuting the science is easy, but YEC has also a moral dimension which includes in "evolution" (or perhaps "evilution"?) such things as drugs, pornography and homosexuality, giving it wide appeal in certain quarters.

Moving on, **Michael Howgate** looked at the unlikely story of Miocene Man. For long it had been recognised that if hominid remains could be found in strata such as the Miocene, the geological evolution of man could be stretched. In 1803 some skeletons arrived at the Admiralty in London, from the island of Guadeloupe, and were passed to the British Museum. The curator of the time, Charles Koenig, looked at them and

described them as human skeletons preserved in beach rock. In 1816 "The Evangelist" magazine ran an article introducing "Guadeloupe Man" as evidence of the Biblical flood. Nine years later, Cuvier showed it to be a modern hominid. There the story stood until 1983 when an Australian creationist journal published an article on human fossils from Noah's flood. Their thesis was that the Guadeloupe skeleton had been found in Miocene limestone, and accused the NHM London of a massive cover-up. A pamphlet was published on "Miocene Man" and a letter campaign against the Museum started. Despite the publication of an article by the Museum's Head of Anthropology, in the creationists own journal, the campaign continued. The sediments also contained modern flints and dog bones, but this was ignored by the creationists, who insisted the latter were wolf bones, but failed to say how these wolves got to Guadeloupe. As a result, 2 people created a group called APE (Association of Preservation of Evolution) to challenge creationist ideas. Because it was estimated the creationists see themselves as Davids against Goliaths, the constitution of APE said it should only have at any time 2 members. These members had to attend 2 meetings a year (so there could be no 'armchair' members!). Meetings with creationists are sought, where APE members can ask technical questions (to which there is no adequate answer usually). The 'battle' continues.....

The fraud of Martinne de Bertereau was the subject looked at by **Martina Kohl-Ebert**. The use of diving rods to find water sources had been known for aeons. This was the method claimed by Martinne de Bertereau (died ca.1643) to find water in the French town of Chateau-Thierry. Martinne had married Jean de Chastelet, an alchemist and mining engineer in 1610. By 1625 he was prospecting for mineral ore in France, accompanied by German miners, and by 1634 he had become inspector general of French mines. He died in 1645, in the Bastille, Paris. Martinne claimed to have made the discovery of water by using diving rods, but it had actually been discovered by a woman stranded in the town with her children. She had been astute enough to notice the yellowish deposits in the brook flowing through the town, and had alerted the town's officials. Martinne wrote two pamphlets in 1647 on mining, which contained an introduction to the art of finding water and assessing its quality and quantity. Simple things like observing water vapour rising humid meadows, and looking for water-indicating plants was a good way. Leaving an upturned oiled vessel overnight, or some sheeps wool which would take up water, were also effective. Martinne also published methods to assay any water found. She asked is it 'aggressive' to metals?, after boiling is there a residue?, how quickly would it boil peas or beans?, and is the water clear and pure? Sadly, she hid her ability behind pseudo-scientific methods and only recently has been recognized as one of the founders of the science of hydrogeology.

Continuing the theme of meteoric water, **John Mather** spoke on the mystique of cold groundwater. Pagan people saw signs of Gods in natural phenomena, and shallow wells and springs were venerated. Many were adopted by the early church, and were dedicated to saints such as Saint Ann, patron saint of cripples. To some extent the practice survives as we still have wishing wells and well dressing ceremonies. A study in 1893 listed some 44 holy wells in England. Holywell was recorded 33 times as a place name, and Lady St Mary well 29 times. Holy wells were suppressed at the time of the Reformation as they were associated with a Catholic past. But it was impossible to enforce and by the time of Elizabeth I not only drinking, but bathing in wells was allowed. Thus was the 'spa' born, and was strong by the late 17th century. Spa resorts grew up where wealthy patrons could gather and 'take the waters'. Some resorts like that at Tonbridge Wells became large with assembly rooms, gardens and a full social programme. Their object was to provide a genial environment for the enjoyment of bad health. The water quality at Tonbridge

Wells was close to that of rainwater, but quite acid! That at the more famous Malvern was good quality and drinkable. Spas declined from the mid 19th century until 'hydropathy' or water cures injected new life into them. Methods varied but it largely involved immersing or dousing parts of the body in water or wrapping parts in wet cloths. Malvern grew after Dr James Wilson bought the 'cure' to the town in 1842. It was a harsh regime but was nonetheless enjoyed by famous patrons like Lord Tennyson, Charles Darwin and Florence Nightingale. Spas finally succumbed when orthodox medicine ousted water cures after the formation of the NHS in 1945. Many spas are now conference centres. Fashions in water continue today with the advent of bottled water, but it isn't new. Examination of the contents shows that the water is not really different from that provided by the public water companies. In the UK, most is untreated groundwater with a pH of about 7 (neutral), and the passage through different rocks is said to give different tastes. But its mystical powers owes more to the efforts of entrepreneurs, and patrons continue to be duped, as they have been for 5 centuries!

Following a tea break, **Patrick Boylan** was the first of three speakers on Piltdown Man. Piltdown Man was very similar to the finding of remains at Moulin Quignon, near Abbeville, France in 1863. The site was just above the town on the 100' river terrace. The find was preceded by the finding, from the 1820s, of hand axes by Bouchier de Perthes, a customs man and local archaeologist. No one believed the find and he was ignored by the scientific community. Three leading British investigators looked at the axes and pronounced them authentic, though these views were not accepted by the French. By 1863 there was turmoil – Lyell was skeptical about the finds and produced a book the "Antiquity of Man" discussing them and other aspects. Then de Perthes found a jaw in the gravels, and a joint expedition under H. Milne-Edwards was mounted. The jaw was found to have been artificially coloured, the teeth cross sections showed fresh dentine and the hand axes were fakes. There was no evidence that de Perthes was involved in the hoax. By the time Piltdown Man came along, the techniques used at Moulin Quignon were better established, but there were no investigations of a similar nature, and the Piltdown hoax was not exposed for forty years. Scientific tests looking at nitrogen in organic material had been available since 1822, and the fluorine content of bone was known since 1844. The conclusion is that museum curatorship concepts created an atmosphere in which objects like Piltdown Man were looked upon as sacred relics which could not be defiled by scientific methods, and not as scientific specimens. The question then is, are we still just as gullible in the face of any contemporary frauds or myths?

Anthony Brook examined the Piltdown fraud in relation to the influential Sussex County Magazine, in existence from December 1926 until July 1956, and also, in contrast, the publications of the prestigious Sussex Archaeological Society (SAS). Whilst the former contains several pieces on Piltdown, the latter studiously avoided it, except in its minor publications. The Sussex County Magazine even featured geologists on its Front Cover: Arthur Smith Woodward (Feb. 1935) and Edward Martin (June 1937), who was General Secretary of The Southeastern Union of Scientific Societies for many years. In 1943, a year before his death, Martin contributed 'The Earliest Men in Sussex' to the Magazine, affirming his belief in Piltdown Man. In 1955, the penultimate year for this Magazine, there was a lengthy article by Mabel Kenward, daughter of the tenant of Barkham Manor, by the side of whose driveway the infamous skull was found by Charles Dawson in 1911. A young lady at the time, and the last surviving witness to these historic events, her memoirs covered the ground, but, alas, revealed nothing new. Her opinions of Dawson and Smith-Woodward were apt: why she failed to ask a solitary stranger at the gravel diggings who he was, we shall never know. Later that year, she wrote about

'Chipper', the uncanny gander who developed a strangely-protective attitude towards Charles Dawson and followed him everywhere: a case of malimprinting. By contrast, the SAS did its best to ignore Piltdown and Charles Dawson, mainly due to the overpowering influence of Louis Salzman, who held Dawson and all his works in utter disdain, mainly due to the chasm in their class. In the SAS Newsletter of April 1980 appeared 'An Echo of Piltdown', in which Albert Dudeney, an aged retired blacksmith, related the story, told to him by his mother, of Nicholas Hollingdale, an ostler at the Bull Inn, Newick, whose brother was far more of a primate than he was. The death of this simian sibling presented the problem of disposing of the body, and Dudeney strongly intimated that it was secretly buried at Piltdown. Only a fragment of human cranium was ever found, so where was the rest of the skeleton, if it was Nicholas Hollingdale's simian brother? More likely, this old country blacksmith was playing a further hoax upon the credulous, an ingenious 'hoax squared'. An effective hoax needs to be firmly grounded in reality, and also fulfil deep-seated expectations. The other palaeoanthropological find in Sussex was Boxgrove Man, which has rock-solid Context and Provenance, unlike Piltdown Man, which was the creation of Dawson's social ambitions.

The final talk in the Piltdown trilogy was given by Professor **Chris Stringer** who reminded people that last year was the 50th anniversary of the exposure of the hoax. In 1907, a German discovery acted as a trigger for the hoax. Charles Dawson claimed to have found bones at the Piltdown site from 1909 onwards, and he visited Arthur Smith Woodward in 1912 before excavations began at the site. Fragments of skull, other bones and some artifacts were found. Smith Woodward made a reconstruction of the hominid but gave it a small brain. Sir Arthur Keith, [perhaps the most eminent surgeon of his day] made a separate reconstruction and gave it a modern brain, but used a jaw from Heidelberg man. In 1913 a find of a tooth almost exactly matched his prediction in its size. The final significant find was of a large slab of elephant bone which had been crudely carved and from its shape was dubbed the 'cricket bat' – and what better for an Englishman to have than a cricket bat! In 1915, Charles Dawson had written to Smith Woodward about the finding of a molar from rakings of gravel, but sadly he died in 1916 without saying just where it had been found. Smith Woodward asked his widow but she was unable to help, and the actual site was never discovered. It was not until 1953 that the exposure happened, after Joe Weiner from South Africa became suspicious. He was able to procure an orang utan jaw and doctor it in exactly the same way to show how possible it would have been. Following this, Kenneth Oakley from the BM(NH) started to question who might be responsible. It was known that Dawson was involved in several other frauds involving archaeological items, But more recent evidence suggests that Martin Hinton, an Assistant Keeper of Zoology at the BM(NH) might have been involved. A number of stained and cut bones and teeth were found in a suitcase of his belongings at the museum after his death. There is some evidence that Hinton knew there was something wrong and so planted the most ridiculous item in the form of a cricket bat, to end the hoax. But to his amazement it became the most important bone found. The question then is raised, did Dawson begin to suspect that someone was 'salting' the site with objects he did not put there? It currently remains unanswered.

Following a short discussion, **John Fuller** then offered a different view of James Ussher, who is usually portrayed as being responsible for suggesting that the earth had been formed in 4004 BC. What he did say, in Latin was that 'the beginning of time, following our chronology, occurred at the beginning of that night which preceded the 23rd October in the year 710 of the Julian Period.' The words 'Before Christ, 4004' were placed at the opening of the book of Genesis in an Oxford edition of the King James

Bible by an unknown person, in 1701, and this was 50 years after Ussher's death. The method of reverse counting to arrive at the figure, and the attribution to Ussher is one of ignorance. No-one was ever able to count years BC in Hebrew Scriptures. Ussher's book of 907 pages only contains 1/10th on Hebrew (Old Testament) chronology, and there is no fixed point from which to start counting. In addition there is a gap of between 600 and 1000 years between Hebrew and Old Testament scripts. The figure of 4004BC consists of two parts. A unit of 4000 years plus an incremental sum, of 4 years, and both are far more ancient than Ussher. He only *assumed* a creation date of 4004 BC. However, Ussher's explanation is unconvincing. The first attempt at counting comes from the 6th century, long before Ussher. The year of AD1 was calculated from the start of the reign of Augustus, but he reigned for 4 years before being acclaimed Emperor, of which the makers of the calendar were unaware. The error shifted the start to 4BC. Add into that the words of Elias who had said that 4000 years had passed before the start of the Christian era; this had become folklore by the medieval period. The result is that 4004 owes nothing at all to Bishop Ussher.

Finally, it was the turn of keynote speaker **John Talent** who had come from Australia to speak about V.J. Gupta and perhaps the greatest geological fraud in history. After laying the ground with methods which induce fraud, and listing a number of geo and other fraudsters, John spoke of Gupta who has been involved in no fewer than 458 publications including 5 books – a staggering number – not one of which has been free of pollution. These have also involved 126 co-authors including some of the greatest names in recent paleontological history. His papers have covered such diverse things as Proterozoic algae, to trilobites, crocodiles, and dinosaur eggs!! His first two papers appeared in Nature in 1964. These had been predated by a spurious MSc thesis which had baseless assertions and no locality information. By the age of 30 he held a Chair, and was indeed perhaps the youngest Chair in India. He had been born in one part of India but moved to another after partition. He is alleged to have had great ambition but no real interest in things. The stress was on quantity rather than quality in publications, and he focused on a time slot (Cambrian to Ordovician) neglected in India for 50 years. The method involved misappropriation of intellectual property, taking sections from post graduate theses and conference reports, and producing minimalist papers using information simply overheard. In at least 1 case a paper involved material stolen from his own co-author's collection! The Professor of Palaeontology at Chandigarh University once received a thesis, but it later disappeared from his office. Eight months later it reappeared..... but with another author! This was helped by a breakdown of reviewing systems, influential (and even repugnant) connections, and the general reluctance of a number of scientists to blow the whistle and get involved. To date it is estimated that about 1.8 million dollars has been gained by Gupta from grant bodies. In about July 1989, a technician was recounting at morning tea, a tale regarding Gupta; two nights later he was killed in a hit and run accident. Weeks later Gupta was offering money to anyone who would commit harm to co-authors of John Talent who had unmasked Gupta, and even death threats were sent. After exposure, Gupta was able to retire without losing his accumulated degrees.

Notwithstanding the excellent paper given by John Fuller, it fell to **Hugh Torrens** to lead a toast at exactly 6.00pm to Archbishop Ussher. At the same time, HOGG Chair **Cherry Lewis** made presentations on behalf of the Committee and members, to John Fuller and John Martin, who are two (of three) members of the original (1994) Committee, and who are now standing down. Both received copies of "Murchison's Travels in Russia", signed by the current committee.

A meeting of the History of Medicine Section
of the Royal Society of Medicine

Medics and geologists: a fascinating symbiosis 1750-1850

Wednesday 2 February 2005

6.00 pm

North Hall, Royal Society of Medicine,
1 Wimpole Street, London, W1G 0AE



The ROYAL
SOCIETY of
MEDICINE

5.30 pm

Registration

6.00 pm

Medics and geologists: a fascinating symbiosis 1750-1850
Professor Hugh Torrens, Professor Emeritus, University of Keele

7.30 pm

Seated supper in the Garden Room

This meeting has been accredited with 1 points for CME/CPD

Meeting free of charge

Seated supper £23

**BOOKINGS FOR THE MEETING CAN BE TAKEN UP TO THE DAY OF THE
MEETING; FOR THE SUPPER MUST BE IN 4 DAYS IN ADVANCE**

(Please see booking form at the end of this newsletter)

Mrs Sue Weir –
President History of Medicine Section
Of the Royal Society of Medicine
invites you to
a meeting of the Section of History of Medicine

Bicentenary meeting

In association with Friends of the Wellcome, Faculty of History and Philosophy of Medicine and Pharmacy
of the Society of Apothecaries, Medical Art Society, Retired Fellows Society and the Music Society, Royal
Society of Medicine

(NOTE: Cost for HOGG members is £15.00)

1805-1820 ART, LITERATURE, MUSIC AND MEDICAL SOCIETIES

Wednesday 16 February 2005

2.00 pm – 5.30 pm

New Lecture Theatre, Royal Society of Medicine,

1 Wimpole Street, London, W1G 0AE

1.30 pm	Registration and tea
2.00 pm	Art <i>Mr Patrick Bade MA, Art Historian, Lecturer and Author</i>
2.40 pm	Literature <i>Mr John Mullan MA PhD, Department of English UCL</i>
3.20 pm	Discussion
3.30 pm	Tea
4.00 pm	Music <i>Mr Marc Dooley, Musicologist, Conductor of the Fulham Symphony Orchestra</i>
4.40 pm	Medical Societies <i>Dr John Harcup MRCGP, Worcestershire</i>
5.20 pm	Discussion and completion of evaluation forms
5.30 pm	Close of meeting

CME: 3 credits

Fellow/Associates/Student Members/RSM Trainee: £10

Non-Fellow: £12.50; Students: £10

Please return your form by Thursday 10 February 2005 to:

Ruth Cloves, The Royal Society of Medicine, 1 Wimpole Street, London, W1G 0AE

Tel: (+44) (0) 20 7290 2985, Fax: (+44) (0) 20 7290 2989, email: history@rsm.ac.uk

Book on-line at: www.rsm.ac.uk/history

An unexpected letter from Down Under

Anthony Brook

At the end of April 2004 a letter turned up out of the blue from Australia, from a **Philip W. Mantell** of Flagstaff Hill, South Australia, who, apparently, is a collateral descendent, in the male line, of the great Gideon Mantell!

Certain extracts from his letter might, therefore, be of interest to members of HOGG.

Dear Mr Brook,

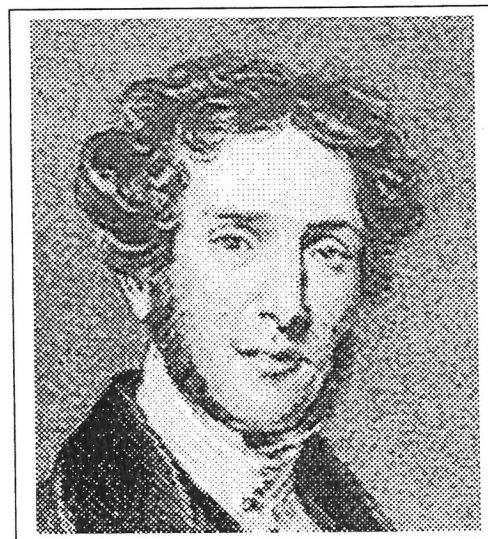
Your name and address was passed onto me by Hugh Torrens. Hugh and I met at Sussex University in 1990, on the occasion of the Gideon Algernon Mantell bi-centenary celebrations, to which I was invited by The Natural History Museum.

I am the Great, great, great-nephew of Gideon. At the time a genealogist placed me as a "grandson" of Gideon, but at the event at Sussex University, I began to have doubts as to the actual relationship. My father William Henry, bears a resemblance to Gideon, and reading Curwen's "The Journal of Gideon Algernon Mantell", I established a genetic connection. Since retiring in 1991, I have devoted my time to researching my father's life and genealogy. My late father, a British Mariner, who, through circumstances of World War I, became marooned in Port Pirie, South Australia (sic). As a baby, he and his

brother lived on the streets of London, becoming Mudlarks for between 9-10 years, so little was known of their genealogy. I began research in 1996 armed with my father's birth certificate, which I obtained in London in 1973. In 2002 I'd traced the family to Henry II (Curtmantle) 1154-1189, who is not unlike Gideon.



Henry II



Gideon Mantell

Gideon Mantell had 2 elder brothers, Thomas Austen (1781-1872) and Samuel Augustus (1789-1873), and one younger brother, Joshua (1795-1865), who died in Ticehurst Asylum, without marriage or issue. Thomas Mantell and Samuel Mantell both married, in 1809 and 1811 respectively, and both had similar-sized families of 3 boys and 3 girls. Both lived all their lives in Lewes, where the Mantells had been established for generations. Thomas led a very respectable life with a responsible job and a large house in the high-status residential area of the town, behind the Castle. Samuel on the other hand, had a series off more basic means of livelihood and lived in the poorer, lower part of Lewes. Their sons would be Gideon's nephews, and their male descendents would retain the family name. Whether Philip Mantell is related to Gideon through collateral male descent from brother Thomas or brother Samuel remains to be seen. I will enquire.

Like many of his contemporaries Gideon Mantell fervently believed his family had deep roots in the green and pleasant land of England, reaching back to Medieval times if not further, and made extensive notes about his ancestry and family history. He was convinced the Mantell family originally came over from Normandy with William the Conqueror in 1066; and also that an ancestor accompanied Richard Coeur-de-Lion to the Holy Land on the 3rd Crusade (1211-91). The late-Medieval Mantells settled in the East Midlands, in Northamptonshire, where tombs and brasses to several 15th century Mantells can be found in the chancel of Heyford Church, 6 miles west of Northampton. In his Journal Gideon recorded visiting the church on August 3, 1843, with his elder daughter, Ellen, to take brass rubbings, whilst on a 4-day visit to Leicester and Charnwood Forest. The 1540's and 1550's were terrible times for the House of Mantell. They forfeited their lands to the Crown, and several were executed as leaders of the Wyatt Rebellion in 1554. The family of Mantell in Lewes came from Kent shortly thereafter, and Gideon could clearly trace his direct ancestry from Thomas Mantell, Headborough of Lewes in 1562.

Whether there is any incontrovertible family relationship to King Henry II, despite Gideon's facial and physical resemblance, remains to be proven: many have tried to be related to Kings, few have actually succeeded.

Later in his letter Philip Mantell has a poignant paragraph about his father, William Henry, and his brother Richard, which vividly illustrates the coincidental agonies of wartime:

Recently I have written the story of my father and his brother Richard which I've called "The Tatterdemalions", the story of their destitute childhood, the intervention of their elder brothers who put my father to Maritime training aboard the Shaftesbury, on the Thames, and Richard in the South Wales Borderers. The two were then separated during their teenage years. When World War I breaks out, my father is in Port Pirie and Richard is with his regiment in China. Fate then draws the two together, they crossed paths three times. Both landed in Gallipoli only miles apart, both are critically wounded, at about the same time, both are transported to separate hospitals on Malta. My father is moved to Harefield Hospital, and after just 3 weeks he and his fellow wounded Australians are to be moved back to Australkia, sealing my father's fate. Came the day to leave their Ward Hut at Harefield, as my father is moving out of the ward on crutches, British wounded are entering the opposite end, among them is Richard; they were not permitted to "break ranks" and my father is relocated to South Australia.

In reply I asked him a) to clarify and confirm his relationship to Gideon Mantell: was Thomas or Samuel his ancestor? There is also some uncertainty about the names and birth-dates of their children: and b) whether he has any artefacts or mementoes, in any shape or form, of the great Gideon that might have been passed down the family since his great, great, great-uncle's time. You never know.

And, before you ask,

- 1) the O.E.D. defines a 'tatterdemalion' as someone in tatters, a ragamuffin, a term first used by Ben Johnson in 1607; and
- 2) 2) according to the Columbia-Lippincott World Gazetteer, Port Pirie is a small port-city 125 miles NNM of Adelaide, at the base of the Yorke Peninsula, on the south inlet of Germein Bay of Spencer Gulf. It is the site of smelting works for the Broken Hill mines, ready for trans-shipment, and the eastern terminus of the TransAustralia railroad all the way to Perth in Western Australia.

Addendum:

In further correspondence last summer, Phillip Mantell confirmed that he was a direct male descendent of Gideon Mantell's reprobate elder brother Samuel Augustus (1789-1873), although which one of Samuel's 3 sons (i.e Gideon's nephews) still is not clear. He also wrote: 'As to any Mantell artifacts. My father, ignorant of his ancestry and the product of family tragedy arrived in Australia [in 1912] with 3 possessions, all photographs of his life as a merchant seaman.'

He is greatly intrigued by the powerful physical resemblance of his father, William Henry Mantell (1891-1981) to Gideon Mantell, and was dumbfounded to discover how alike their signatures were, even though Gideon was an educated man and his father illiterate until later in life. Moreover, there is almost exactly 100 years between these two members of the Mantell diaspora.

BOOK REVIEW

“Bones of Contention: the fossil that shook science”, by Paul Chambers, Pub. John Murray, London, ISBN 0-7195-6059-4

In 1984, the palaeontological world was shaken by the revelation that the fossil of Archaeopteryx in the (then) British Museum (Natural History) was a fake. The assertion was attributed to Professors Fred Hoyle and Chandra Wickramasinghe. As a worker in the museum at that time (though not in palaeontology), I well remember the problems that it caused, and the flurry to provide numerous high resolution photos which would try to show that the allegation was wrong. This led eventually to the publication of a paper by Alan Charig (and others), then the head of the dinosaur group, which starkly refuted the allegation. Ironically, Hoyle and Wickramasinghe did not set out to question the validity of archaeopteryx, but only its apparent age of 150m years; for reasons stated by Chambers in this book they said it could not be older than 65 m years and the formation of the KT boundary. This episode is just one in a whole series which Archaeopteryx has generated, ever since it was first discovered in 1861 in the fine-grained limestones of a quarry at Solnhofen in Bavaria. Curiously, this happened at almost the same time that Charles Darwin changed thoughts on evolution with the publication of his book *On the Origin of Species*. At the time the importance of Archaeopteryx was not realised, but as it became more obvious, its value increased dramatically. When it came to the notice of the egocentric but brilliant anatomist and palaeontologist Richard Owen in London, he felt he had to possess it at practically any cost. After protracted negotiations (by a proxy mostly!), and despite deceiving the Trustees of the British Museum (Natural History) over its cost, he was able to obtain it. How Owen achieved this is wonderfully set out by Chambers. Owen looked on the fossil as his own and only grudgingly allowed anyone to see it. As the fossil rapidly became the most famous in the world, Owen saw a chance to get his name associated with it, if he could replace the suggested name of Archaeopteryx, and started by replacing the species name *lithographica* with his own choice of *macrura*. However, it was his intention to go further and use the old name of *Gryphosaurus*, and it was only the dogged intervention of Hugh Falconer which stopped it, and it remains to this day *Archaeopteryx lithographica*. Owen also came up against the redoubtable Thomas Henry Huxley, who had served a long term as a ship's surgeon in the Royal Navy. Few dared to question Owen on anything, but in Huxley he met a powerful adversary. Huxley detested Owen, much for his position and relative wealth as anything else, and Archaeopteryx presented a golden opportunity to confront Owen. An insight into the detestation is shown in a quote by Chambers from a letter where Huxley felt he would “knock him into the gutter” regarding one of many failed job applications which Owen was supposedly endorsing. Darwin's *Origin of Species* had created a stir in evolutionary circles, and had been shunned and even panned by critics, and was perhaps even heading for oblivion. But in 1859 it received a glowing tribute in The Times from an anonymous hand; Darwin though recognised it as that of Huxley. It wasn't so much that *he* believed in a process of natural selection, but more that Owen didn't, and here he could strike a major blow. If Archaeopteryx was a missing link between dinosaurs and birds, then Darwin's evolutionary case was proven, and Owen would be sunk. Owen and Huxley fought it out over the next few years, and by 1868, Huxley's star was rising as fast as Owen's was sinking. Owen died in 1892 aged 88, having finally been discredited when Huxley had shown that Owen had not seen that the Archaeopteryx fossil was

upside down on its slab. As Chambers says, "One wonders.... if Owen ever regretted setting eyes on the wretched fossil".

The great debate raged on, across the Atlantic between Edward Drinker Cope and Othniel Marsh especially, whose feud was to rock the core of the US Geological Society. But by the 1890s it had become not so much one of was Archaeopteryx the missing link between birds and dinosaurs, as what was the true origin of birds? The publication in 1926 of an English version of a huge work called the Origin of Birds, by a Dane named Gerhard Heilmann, caused uproar. He positively said, on the basis of extensive studies, that the birds evolved from the reptiles and that there cannot be any doubt about it. Birds and dinosaurs had a common ancestor (called Proavis) and Archaeopteryx was not a missing link. There the arguments more-or-less lay until an American Professor discovered remains of a new species in Montana. From the resulting studies, he was to proclaim that "birds are nothing more than feathered dinosaurs", and moreover, that Archaeopteryx is indeed midway between the two. By 1985, a new group, in opposition to this theory and calling themselves Birds Are Not Dinosaurs (or BAND) was formed. BAND supporters tend to hail from the ornithological side and favour a 'tree down' origin for flight (i.e that proto birds started by gliding from the tops of tall trees), while opponents, who hail from the palaeontological world, favour a 'ground up' theory (fast moving creatures taking leaps into the air). Feelings between the groups ran high, and opponents clashed vociferously at conferences, and sabotaged each others' scientific papers. Whilst this was proceeding, the Creationist movement gained ground, and its supporters latched onto some ideas favoured by BAND proponents, which led to an uneasy relationship. It was at this point that Hoyle and Wickramasingh entered the story.

In more recent times, the arena has moved towards China and the unbelievable avian fossils which are appearing from strata there. The Liaoning area has produced (and still does) some remarkable fossils. A number of fossils bearing very clear feathers have been found, and once again the arguments rage as to whether they evolved to enable animals to fly ('trees down' BAND theory) or whether they were there for another purpose and adapted for flight ('ground up' palaeo theory). The jury remains out on this argument.

Archaeopteryx is perhaps the best known fossil across the whole world. Its effect on palaeontology related to the development of birds is a complicated subject, with many different and unproven views, but Paul Chambers manages carefully to take the reader through its history. Each chapter deals with one of the controversies caused by this bird (or is it reptile?), and ends on something of a cliff-edge, and it will be hard for the reader to put it down when reaching those points. I would thoroughly recommend it to anyone who wants to learn and read, in a simple way, of the tangled history of this most enigmatic of fossils; this book is an absolute joy to read.

Peter Tandy

For your bookshelf?.....

“Victorians and the Prehistoric. Tracks to a Lost World”, by Michael Freeman. Pub: 2004, by Yale University Press, New Haven and London, pp310, ISBN 0-300-10334-4.

As the Victorians excavated the earth to create canals and railways in the early part of the nineteenth century, geological discoveries brought to light new narratives of the prehistoric, ideas that resounded in British society, art and literature of the period. This engaging and generously illustrated book explores the Victorian fascination with all things prehistoric.

Michael Freeman shows how men and women were both energized and unsettled by the realization that the formation of the earth over hundreds of millions of years and Darwin's theories about the origins of life contradicted what they had read in the Bible. He describes the rock and fossil collecting craze that emerged, the sources of inspiration and imagery discovered by writers and artists, and the new importance of geologists and palaeontologists. He also notes that the intellectual and emotional journey undertaken by Victorian men and women in the face of the unfolding earth narratives was increasingly being recorded, in more institutional form, in the museums that were springing up in Victorian cities and towns. Beginning first as basic repositories for the science of collecting, these buildings ultimately became much more powerful symbols, shrines to all that was progressive of their age but still clothed in the trappings of traditional ideas. The greatest natural history museums were housed in cathedral-like structures, sometimes embellished at almost every turn with features that appeared to celebrate not scientific evolution but the natural world as a form of divine creation.

(from the dustjacket)

“Romantic Rocks, Aesthetic Geology”, by Noah Heringman. Pub: 2004, Cornell University Press, pp304, ISBN 0-8014-4127-7

Why are rocks and landforms so prominent in British Romantic poetry? Why, for example, does Shelley choose a mountain as the locus of a “voice....to repeal / large codes of fraud and woe”? Why does a cliff, in the boat-stealing episode of Wordsworth's *Prelude*, chastise the young thief? Why is petrification, or “stonifying,” in Blake's coinage, the ultimate figure of dehumanization?

Noah Heringman maintains that British literary culture was fundamentally shaped by many of the same forces that created geology as a science in the period 1770-1820. He shows that landscape aesthetics – the verbal and social idiom of landscape gardening, natural history, the scenic tour, and other forms of outdoor “improvement” – provided a shared vernacular for geology and Romanticism in their formative stages.

Romantic Rocks, Aesthetic Geology reexamines a wide range of eighteenth and nineteenth century poetry to discover its relationship to a broad cultural consensus on the nature and value of rocks and landforms. Equally interested in the initial surge of curiosity about the earth and the ensuing process of specialization, Heringman contributes to a new understanding of literature as a key forum for the modern reorganisation of knowledge.

(from the dustjacket)

“The Dodo. The Bird That Drew the Short Straw”, by Jan Den Hengst, Pub: Arts Revisited, 2004, ISBN 90-72736-26-5

In spite of the immense interest in the dodo, which has after all, been extinct for more than three hundred years, we are still unsure about its exact appearance. There have been several attempts to reconstruct the dodo on the basis of Seventeenth Century portraits, resulting in the flabby monster like creations we all recognise

However, there are portraits of leaner dodos as well as the notorious fat ones, and in consequence, many theories have been developed to explain these variations in appearance. The difference in weight could have been caused by the fluctuations in the availability of food. Perhaps there was too little to eat during the dry season on Mauritius, the only place where the dodo was to be found. Another explanation is that the bird became ill and stiff when brought to Europe for exhibition, where it puffed up its feathers against the cold. Perhaps the animal had been shut up in cage for too long during the voyage and had become corpulent due to overfeeding and lack of exercise.

Another suggestion is that the difference is that the difference in size was simply the difference between the sexes. To make things just a little more complicated, scientists felt obliged to invent a new species, the white dodo, a beautiful snow-white creature with elegant egg-yellow tail and wings. Here too the sexes looked very different. Andrew Kitchener, the curator of the Royal Museum of Scotland, constructed a completely revised model of the dodo in 1990. He concluded, on the basis of countless measurements of skeleton fragments and comparisons with living congeners, that the fat dodo would hardly be able to bear its own weight.

Unfortunately he based his model on rather dubious pictorial models, which gave his construction of plasticine and chicken feathers, a rather implausible appearance. More or less the same fate befell the model made by the Zoological Museum in Amsterdam in 1994. Equally, this was the result of painstaking research, but with too little attention paid to the art historical evidence that is available.

The physical remains of the dodo that are left to us are very limited. There is a skull in Copenhagen, a shard of beak in Prague, a head and a leg in Oxford, a plaster cast of a leg in the Rothschild Museum in Tring, and skeleton fragments, most of which were excavated by the schoolmaster George Clark from a swampy area south of the Mauritian town of Mahebourg. As the Dutch writer Jan Wolkers put it: you could carry all the dodo material we have left on the back of your bicycle. This material has been extensively studied by various ‘dodologists’ through the years, and it seems unlikely that modern science can throw any more light on the question of the dodo’s appearance. The key to learning what the dodo really looked like lies in art history. During a period of fifteen years, a large number of dodo paintings, drawings, watercolours have been hunted down. The precondition was, naturally, that all of the pictures had been made in the time that the dodo was still in existence. Each of the representations was reproduced, and where necessary, the detail of the dodo was reproduced separately. A careful analysis revealed that most artists worked from earlier sketches or borrowed from the works of fellow artists. In this way the pictures by famous dodo artists such as Roelant Savery, Gilles de Hondecoeter and Adriaen van der Venne could be traced back to one single example. A meticulous study with the assistance of present day bird painters has led to the conclusion that these portrayals were based on a stuffed specimen. This creature appears to have been in the process of decomposition, and had probably been “improved” by the salesman by means of adding feathers belonging to other birds. The oft-quoted texts from

the logs of the East Indian trading ships also turn out to have been copied from one another. The logbooks were commissioned to be reworked, by publishers keen on exploiting the great demand for attractive and readable travel accounts. This was often carried out many years after the voyage had been made. By arranging all these works in order of publication, it was possible to work backwards to the original text. This text, along with other accounts from the available literature, proved to be in concert with the impression of the dodo that was left once all the dubious illustrations had been eliminated. The picture of the dodo arrived at by this method gives us an answer to many of the questions which have proved to be impossible to answer by any other means.

(from the forward)

“Vulcan’s Forge and Fingal’s Cave. Volcanoes, Basalt, and the discovery of Geological Time”, by William B. Ashworth Jr., 96pp, 91 colour illustrations, soft cover, ISBN: 0-9763590-0-6. Available from Linda Hall Library (Exhibit Catalogue Orders), 5109 Cherry Street, Kansas City, MO 64110, USA. (\$20 + \$3P & P).

Vulcan’s Forge was a name given to the eruptive island of Vulcano, just north of Sicily, while Fingal’s Cave is a spectacular formation of basalt columns on the island of Staffa in the Scottish Hebrides. The idea of a geological time scale of immense duration developed in the early nineteenth century as a direct result of the realization that basalt is a volcanic rock. This catalogue of a rare book exhibition tells the story of the role of volcanoes and basalt in the discovery of geological time through a selection of rare books and journals spanning the period 1565-1835. The stunning illustrations from the early books on volcanoes and basalt are some of the most beautiful, and influential, in all of geology.

.....

Sold at Auction; Letters from the Pioneers of Geology

Anthony Brook

Knowing of my keen interest in the History of Geology, a good friend of mine and fellow-member of the West Sussex Geological Society, John Henley, who is, by trade, an antiquarian bookseller specialising in Natural History and allied subjects (1), passed on to me the well-produced Catalogue of an Auction Sale, by Bonhams of New Bond Street, London, of the Enys Collection of Autograph Manuscripts on Tuesday 28 September 2004. He particularly pointed out the prospective sale of letters by William Smith and Gideon Mantell, two giants of the putative ‘Heroic Age of Geology’. Manuscript letters by these two pioneer geologists are extremely rare and seldom, if ever, come to the marketplace, particularly those of William Smith, who was far more the practical surveyor than a frequent or creative correspondent. With the full permission of and due acknowledgement to Bonhams (2), the appropriate pages of the Catalogue (pages 132-33 and 138-39) are reproduced here; they represent an illustration of the calligraphy, together with a deft description and contextual commentary.

To complete the picture, I enquired about two key aspects of the sale: what price did they sell for, and who bought them? The estimated price and the auction-room price are shown in the accompanying Table, from which it can be seen that both Lots made well

over their estimate, because of their rarity value. The Mantell letter of November 1824 also included a coloured 'Sketch of the Succession of Strata in the neighbourhood of Lewes'; and the two letters by William Smith, of March 1815 and July 1816, were unique because 'we can find no record of a letter by William Smith having been offered for sale'.

Lot No.	Correspondent	Letters		Estimated Sale Price	Sold at Auction for
		Quantity	Date		
271	Gideon Mantell	1	12 November 1824	£6-800	£4,541
280	William Smith	2	a) 6 March 1815 b) 12 July 1816	£4-6000	£15,535

I also wished to know who had bought these priceless artefacts, whether they were purchased by a public institution of some sort, which would probably allow access to bona fide researchers; or a wealthy private collector, who probably would not. Matthew Haley, of Bonhams' Book Department, replied that 'unfortunately we are not able to tell you who the purchasers were, and indeed, often do not know ourselves, because members of the book trade often execute bids on behalf of clients'. Disappointing, but he continued; 'if the items were purchased by a research institution, it will, of course, be in their interest to make this fact public, and to allow access to the papers' which leaves us no further forward, unless the new public owners declare themselves, in some way. Historians of Geology, of all people, should at least know where such significant historic documents are currently located, even if access is difficult.

In addition, a small collection of letters *to* Gideon Mantell were also offered for sale (Lot 270); letters from G. B. Greenough, Horatio Smith, Georg Scharf, John Pye Smith and James Sowerby, covering the period 1813-42, with an estimate of £100-150, which sold at auction for £2390! Where are they now?

Correspondence like this provides a very personal perspective on the life, labours and times of historic figures, and provides essential documentary sources for biographies and controversies (3). The more, the better, but not those at those prices!

1) John Henley produces Catalogues at regular intervals (No. 64, Nov. 2004) and can be reached by email at johnhenley1@compuserve.com

2) Bonhams, of New Bond Street, must be thanked for granting permission to reproduce copyright material from their Catalogue: their email address is books@bonhams.com

3) 57 of 454 Lots in this Auction Sale concerned Science and the correspondence of scientists.

This collection was formed by members of the old Cornish family of Enys, of Enys near Falmouth, in the nineteenth century and has, in all its astonishing richness, lain undisturbed ever since. It is one of the last autograph collections from the nineteenth century remaining in private hands. This was the 'great age of autograph collecting: prior to the 1820s and the rise of the Romantic movement, manuscripts were collected more for the information they contained than for the sake of the handwriting and the concomitant sense of communion with great figures of the past. Exactly when in the nineteenth century the Enys family started to put together their collection is not clear, although it seems to have reached its final form by about 1900. The collection derives from 4 main sources. There are – scattered through the collection – the many letters addressed to Davies Giddy, who later changed his name to Gilbert. He served as President of the Royal Society from 1827 to 1829, and is remembered today as the man who discovered Humphrey Davy and nurtured the genius of Richard Trevithick. Gilbert's daughter Catherine, married John Samuel Enys of Enys. The are the extraordinary letters of the great seventeenth-century botanist John Ray, and his circle.

These seem to have been purchased, although the possibility that they passed through the hands of William Innys, publisher to the Royal Society, may point to a family connection. There are letters which were contributed by fellow collectors or neighbouring families, often as one suspects by way of collector's swaps, such as the Molesworth's (later Molesworth-St Aubyn) of Pencarrow. And there are, finally, the numerous letters – many of which have left traces in the scholarly literature ('present whereabouts unknown') – which were acquired at auction; mainly, it seems in the eighteen-nineties. One is left, having perused the collection from a modern perspective, with a sense of wonder at the opportunities available to the nineteenth-century collector, and that such a collection should appear on the market in our day and age.

A significant proportion of the proceeds of this sale will be contributed to a charitable trust that has been formed to enable the gardens at Enys – one of the great gardens of Cornwall and reputedly the oldest – to be restored and opened to the public.

Lot No: 271 (see illustration)

Science

MANTELL (GIDEON)

Autograph letter signed ("Gideon Mantell"), to Davies Gilbert, Vice-President of the Royal Society, giving news of his latest fossil discovery in Tilgate Forest and requesting he be admitted Fellow of the Society ("...the discovery of the new reptile in Tilgate forest, the nature of which I have no[w] established beyond a doubt, will give me a more favorable introduction to the [Royal] Society, than perhaps may again fall to my lot. If therefore Sir, it was agreeable to you to propose me in the customary manner, I would prepare a paper on this new animal, to be laid before the Society...Buckland, Mr Lambert, Dr Fitton, Mr Greenough, Mr Smith, Warburton &c would I have no doubt sign my certificate..."), he also expresses the hope that his collection of fossils be purchased for the country ("...nothing would afford me greater pleasure than such an arrangement, for it has always been the height of my ambition to be the founder of the first scientific collection in my native country; but to you Sir, whose kindness to me demands the most implicit confidence, I would candidly state, that...I have not received that encouragement in my profession from the gentry of this neighbourhood, that I have reason to expect..."), and informs him that he is still corresponding with Baron Cuvier ("...You will I am sure Sir be pleased to hear, that my correspondence with the French naturalist continues to be very flattering..."); together with a coloured "Sketch of the Succession of Strata in the neighbourhood of Lewes" [?by Mary Mantell], *Mantell's letter four pages, 4to, integral address panel and seal, guard, minor damp-staining but nevertheless still in sound and attractive condition, Castle Place [Lewes], 12 November 1824*

GIDEON MANTELL ANNOUNCES THE DISCOVERY OF THE IGUANADON, the first of the great herbivorous dinosaurs to be recognized, writing in this letter: "I believe Sir, I have not had the pleasure of seeing you since I discovered the recent prototype of my fossil animal: it is the Iguana of Barbadoes. I propose calling my zoolittie, *Iguanosaurus*, as indicating the resemblance: this will be in strict accordance with the nomenclature of Buckland & Conybeare, who have already given us the *Ichthyosaurus*, *Plesiosaurus* &c &c &c...". Mantell was to write to Georges Cuvier – the greatest authority of the time – with this news only the following day (13 November). His discovery stemmed from the recovery of a tooth of what was eventually to be called the Iguanodon by his wife Mary some time in 1820-21. Much about Mantell's discovery and the conclusions he drew from it was debated; he was, after all, merely a country doctor without academic tenure. When first shown drawings of the tooth, Georges Cuvier in Paris declared that it came from a rhinoceros. William Buckland at Oxford thought that it came from a fish. Buckland also thought the Tilgate Beds, where it had been found, were not ancient Secondary Rocks, as Mantell supposed, but of more recent origin. After further work, much with the young geologist Charles Lyell, and further setbacks, Mantell wrote to Cuvier with drawings of further teeth he had discovered. Cuvier replied in June 1824. In his letter, he retracted his earlier opinion and agreed with Mantell that the teeth did, indeed, come from an ancient herbivorous reptile, and that nothing like them had been known before. That September Mantell had the chance to examine some teeth from a modern Iguana brought back from Barbados. The ancient teeth were in nearly all respects gigantic versions of the Iguana's. Soon afterwards, William Conybeare suggested to Mantell that instead of calling his lizard the *Iguanosuarus* (a word equally applicable to the modern Iguana), he call it the Iguanodon, that is 'having the tooth of the Iguana'; a name Mantell soon adopted. The proposal set out in our letter, that he "prepare a paper on this new animal, to be laid before the Society" bore fruit. For on 1 January 1825 he wrote a formal letter to Davies Gilbert outlining his discovery, and it was this letter that Gilbert read out to the Royal Society on 10 February. On 22 December 1825 Mantell was admitted a Fellow of the Society. For a recent account of Mantell's discovery and its significance, see Deborah Cadbury, *The Dinosaur Hunters* (2000).

presenting to the Society a colored copy
of the "Geology of Safray" Brinkland,
Mr Lambert, Dr Fitton, Mr Greenough,
Mr Smith, Wamburton & would I have no
doubt sign my certificate.

Believe Sir, I have not had the pleasure
of seeing you since I discovered the recent
prototype of my fossil animal: it is the
Iguanodon of Barbadoes. I propose calling my
oolithe, Iguanosaurus, as indicating the
resemblance: this will be in strict accordance
with the nomenclature of Brinkland's Longbeak,
who have already given us the Ichthyosaurus,
Pterisaurus &c &c.

My brother has been hard at work at the
cases of types; the Hebrews proved him exceedingly;
but the whole will be ready by the middle
of next week. Shall we Sir, forward them to you,
or do you wish them to remain here till your
next visit to Leices.

The Earl of Chichester has expressed a wish
that my collection could be purchased for the
County, & placed in the Hall; nothing would

Estimate: £600 to 800

Lot No: 283 (see illustration)

Science

SMITH (WILLIAM)

Two autograph letters signed ("William Smith"), to Davies Giddy (Gilbert), the first letter announcing the imminent completion of his geological map ("...From the great Interest you have always taken in the promotion of Science I am led to hope you will excuse me for troubling you with the recital of difficulties arising out of my long endeavours to serve my Country...") while telling him of "the embarrassment occasioned by a Distress on my Goods Maps & Fossils now in my House for Rent"; the second letter discussing preparation of his publications identifying strata by organised fossils and the purchase of his fossil collection by the British Museum ("...My Fossils had been sometime removed to the British Museum when Your Friend favored me with a call. He took however the trouble to investigate some of my Plans and papers and was much pleased with my mode of representing the Strata by Sheets of colored Paper placed together in Stratigraphical order on each of which are pasted Figures of the organized Fossils they contain...I am now...most assiduously employed for the last five months in arranging the Geological Collection which is gone to the Museum..."), two pages, 4to, integral address leaves, docketed by Gilbert, the letters pasted to each other along the edge of their respective address leaves, the second with a printed identification slip, but otherwise in fine, fresh and attractive condition, Buckingham Street, 6 March 1815 and 12 July 1816

THE 'FATHER OF GEOLOGY' ON 'THE MAP THAT CHANGED THE WORLD': Smith telling Gilbert in the first of these letters that "I have been laboring from 5 in the Morning till 9 at night for Six Weeks past at the necessary corrections and Additions to the Map & it is certain my part of the Business may be done in a fortnight if I can be at liberty to pursue it and the Map might be produced by the end of the Month". The first copy of Smith's great map, *A Delineation of the Strata of England and Wales with part of Scotland*, was to be presented by him to the Board of Agriculture on 23 May 1815. Smith, a surveyor who had received no formal education beyond the age of eleven, was one of the first to recognize fossils to be a good indication of the stratigraphy, single-handedly building up a collection of 2657 specimens representing 693 species. His *Strata identified by Organized Fossils* began publication in 1816, but broke off after four numbers, while in 1817 he published *A Stratigraphical System of Organised Fossils*. His collection was purchased by the British Museum in 1816. Four years after the map's triumphant publication, the "embarrassment" described in the first of these letters meant that Smith, the victim of plagiarism and swindled out of his profits, was imprisoned for debt and forced to sell up his London house. At last, in 1831, he was acknowledged by the Geological Society, which had early refused to grant him a fellowship, and was the first ever recipient of the Wollaston Medal, their highest honour. Adam Sedgwick in his presentation address declared that "we use the language which he taught us in the infancy of our science. If we, by our united efforts, are chiselling the ornaments and slowing raising up the pinnacles of one of the temples of nature, it was he that gave the plan, and laid the foundations, and erected a portion of the solid walls, by the unassisted labour of his hands". More recently, his name has come to a wider public with publication of Simon Winchester's book, *The Map that Changed the World: William Smith and the Birth of Modern Geology* (2001). We can find no record of a letter by William Smith having been offered for sale.

Estimate: £4,000 to 6,000

March 6th 1815

Sir

I should have done myself the pleasure of waiting on you in person with the inclosed Letter but from the embarrassment occasioned by a Distress on my goods Maps & Topols now in my House for Rent. I have been laboring from 5 in the morning till 9 at night for six weeks past at the necessary corrections and additions to my Map & it is certain my part of the Business may be done in a fortnight if I could be at liberty to pursue it and the Map might be produced by the end of the Month.

From the great Interest you have always taken in the promotion of Science I am led to hope you will excuse me for troubling you with the detail of difficulties arising out of my long endeavours to serve my Country — I am.

In most respectfully
Your obliged Servant

Wm Smith

15 Buckingham Street
York Buildings —

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Dear HOGG Member,

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THE FEE IS £10.00

- a) To help us save scant resources *please* complete the standing order form below 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 new amount (£10) payable since 2001, since this year's payment will already have been collected, thank you.
- 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

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