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CHALLINOR'S CURIOUS MARKS

by Helen Kerbey

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The National Museums and Galleries of Wales has recently received a collection of 'curiously marked' rocks from Aberystwyth University which compliment others found in the stores. The rocks are hard mudstones with polished surfaces covered in unusual multidirectional scratch marks. Some of these were collected and figured by John Challinor in the early 1900's but despite publication only a cliff face in Siberia was reported to have similar markings. The sites have been revisited and marks can still be found *insitu*, leading to the conclusion that their origin is due to earthquakes causing movements between bedding planes, though the indentor that caused the grooves has not been found. No other references to these types of marks has been found and they are thought to exist due to a combination of the right mineralogy, sedimentology, structural history, and locality.

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Introduction

A recent audit of the petrology collections at the National Museums & Galleries of Wales (NMGW collection) brought to light some interesting mudstones with very peculiar markings. At roughly the same time the NMGW obtained a collection of rocks and fossils from Aberystwyth University (AU) that was found to contain a large number of similarly marked rocks. Many of the AU specimens were originally collected and some figured by John Challinor in a 1926 paper entitled 'On Some Curious Marks on a Rock Surface'.

John Challinor

John Challinor (Figure 1) was born in Staffordshire in 1895 and died in Aberystwyth in August 1990 aged 95. His interest in geology began in his native Staffordshire and was strengthened when he went to Cambridge between 1913 and 1919 and was influenced by some of the leading geologists of the time including Bonney, Cowper Reed and Albert Seward. Challinor then went to Aberystwyth University were he remained until retiring in 1965. He had more then 100 publications during his lifetime and will perhaps be best known for his *Dictionary of Geology* first published in 1961. His published papers cover an eclectic range of subjects such as stratigraphy, geomorphology, structural geology and palaeontology mainly in Cardiganshire and Staffordshire and many of his works describe features of the Aberystwyth coastline such as the curious markings. He also had an interest in the history of geology and published numerous biographies of eminent geologists. Apart from the collection of marked rocks now at NMGW he appears to have been a collector of antiquarian books on natural history, rather than a collector of geological specimens. The books are now part of the Aberystwyth University library.

The Aberystwyth Collection (AU)

Over the course of four papers Challinor described several locations in Wales (Figure 2) where he found 'curious markings' on slaty rocks with the first, detailed, example being an exposed surface in a small, former quarry near Bryn Bala Farm, just north of Aberystwyth (Challinor 1926). These findings prompted further investigations and Challinor (1929) describes additional discoveries from many different locations along the coastline between Bryn Bala Quarry and Aberystwyth. In the same paper he also details information obtained from G.J. Williams and F.J. North about similarly marked rocks further inland at Aberllefenni. Throughout the period when the papers where published only one other location with 'curious markings' was ever communicated to Challinor and published: a cliff face in Transbaikalia, Siberia (Challinor 1928, 1977). There is however also a marked specimen in the AU collection from Brechfa in South Wales, and the Aberystwyth memoir,

Figure 1. A young John Challinor on holiday in Europe. Photo courtesy of the University of Aberystwyth.

(Cave & Hains, 1986) discusses the existence of the curious markings or 'hieroglyphs' and describes a further occurrence of jagged grooves near Forge, just south of Machynlleth.

The AU collection of Challinor's rocks contains 73 specimens all of which are hard mudstones/shales: 44 from Bryn Bala Quarry; 25 from Aberystwyth and the coastline; 3 from Aberllefenni and one from Brechfa, N. Carmarthenshire. Amongst the documents are photographs used for the original paper (Challinor 1926) and a photograph of the area in Transbaikalia used in Challinor (1928). There is also a letter from F.J.North of the Department of Geology at NMGW describing a specimen from Aberllefenni in the NMGW collection (NMW 27.111.GR.67).

Most of the AU specimens are marked with abbreviated locations that match known place names, though the meaning of abbreviation 'Cu' is not yet identified. The large number of unlabelled specimens are most likely to have come from the original collection locality at Bryn Bala Quarry. Some of the specimens have other initials on so it seems that not every single specimen was collected by Challinor himself; for example, the Aberllefenni specimens are marked as having been provided by G.J. Williams. Figure 3 shows a selection of items from the collection.

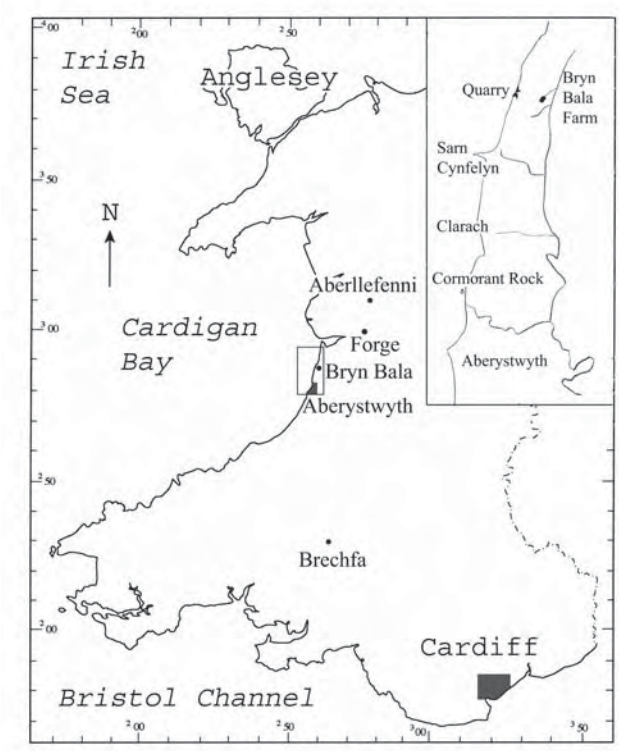


Figure 2. Location map showing the localities for Challinor's specimens. Inset shows the Aberystwyth coastline in more detail.

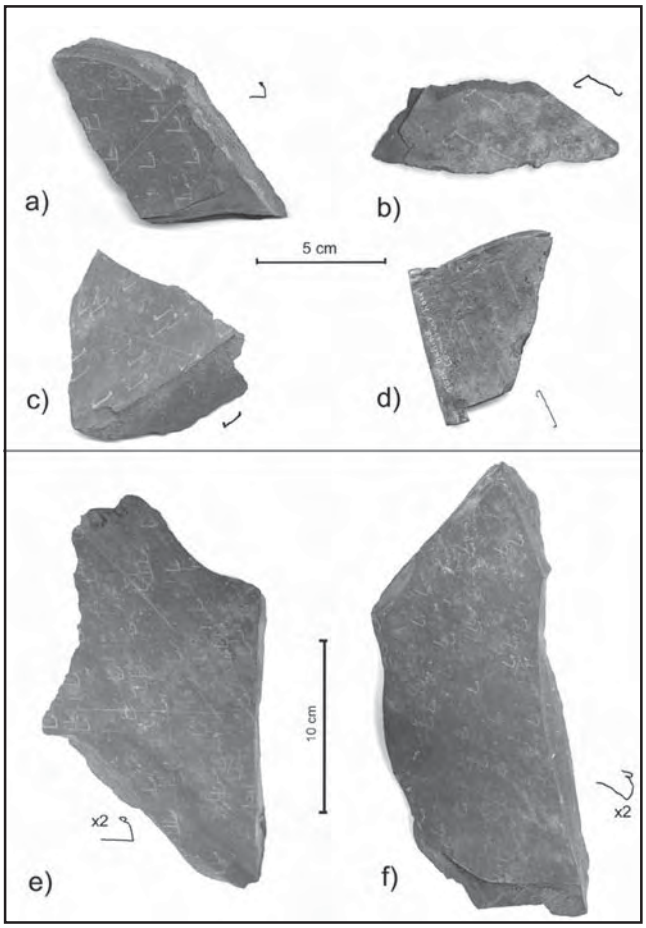


Figure 3. Some examples of Challinor's rocks in the AU collection. The mark's shape is shown to the side of the specimen. The images of the smaller specimens a - d were reproduced using a flat bed scanner. They were placed on top of photographic film to prevent damage to the surface of the scanner. a). AU01 From Bryn Bala Quarry, b) AU02 from the rock behind Cormorant Rock, c) AU03 from Bryn Bala Quarry d) AU04 from the rock behind Cormorant rock. The locality can be seen inscribed on this specimen. e) and f) AU05 and AU06 from Bryn Bala Quarry.

Table 1. Challinor's specimens in the AU collection (Italics indicate assumptions)

Label	N	Markings	Nodules/Holes
Cl (*? = Clarach*)	3	Long angled L shapes on one specimen, short straight marks on two others	
Bu (*? = Buarth in Aberystwyth*)	5	V shaped marks	Holes
Buarth Quarry behind chemistry lab., IW	1	One faint, straight mark	
Cu *?*	5	Fragments with no scratches	
S. of Clarach	1	2 sets of marks on one surface, one L, one complex	
N. of Cormorant rock	2	Large L shape	
Rock behind Cormorant rock	3	One straight with curved ends, one L shape with hooks	Nodules
N. of Clarach	2	Long L shape on one, small Z shape on one	Nodules
Behind Infirmary (Loose) I.W. 1929	1	L shape with hooks	
150yds NE of Breakwater, Craiglais, IW	1	Large, straight with angles	
Rock behind Cormorant Rock	1	Hook shapes	Nodules
Bryn Bala	19	Complex L shapes	
Not labelled *? Bryn Bala*	25	Complex L shapes	
Aberllefenni, G.J. Williams esq. Nov 1929	3	Faint, complex L shaped marks on very dark polished surface in mudstone	
N. of Brechfa, N. Carms H.J. Evans 1929.	1	Short straight marks with spurs	Spurs

The cliffs along the coastline north of Aberystwyth are part of the Aberystwyth Grits Group at the top of the Llandovery in the Silurian, and are comprised of steeply-dipping, turbidite deposits of alternating mudstones and sandstones. The cliffs reach heights of 400m and are continuously being eroded exposing good examples of sedimentary structures such as slumping and tool marks. The main site, the quarry near Bryn Bala Farm, is perched on the top of the cliffs and is now heavily eroded so the original surfaces are no longer visible. Figure 4 shows Challinor's photograph of the view in 1926 and Figure 5 the view in 2002. The Bryn Bala specimens were collected *in situ* from an exposed bedding plane shown in Challinor's photograph reproduced in Figure 6.

The rocks from Aberllefenni are from a lithological unit termed the Narrow Vein Formation in the Ordovician. The single specimen found in the AU collections from near Brechfa in Carmarthenshire is almost certainly Llandovery in age.

Figure 4. Challinor's photograph of the view from Bryn Bala Quarry when the specimens were collected in 1926.

Figure 5. The view from Bryn Bala Quarry in 2002.

Figure 6. Challinor's photograph showing the exposed bedding plane where the first set of Bryn Bala specimens were collected.

The NMGW collection

The NMGW collection has two specimens of curiously marked rocks from Aberystwyth and one from Aberllefenni. Details are given in Table 2 and the specimens are shown in Figures 7, 8 and 10.

The three NMGW specimens, when examined, showed a number of documentary errors. An old glass display panel (Figure 9) indicated that all three specimens had been on display together at one time and then removed to separate storage locations. Specimen NMW27.111.GR.67 from Aberllefenni is shown in Figure 10 to be a hard dark mudstone with a highly polished slickensided marked surface. Using the information from the original registration records and the new information from the AU collection it was possible to renumber the specimens and add additional data as shown in Table 2.

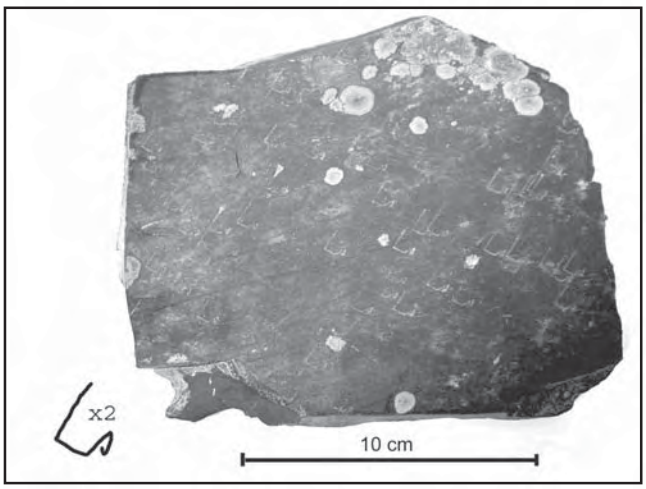


Figure 7. NMW28.38.GR.1a from Bryn Bala Quarry.

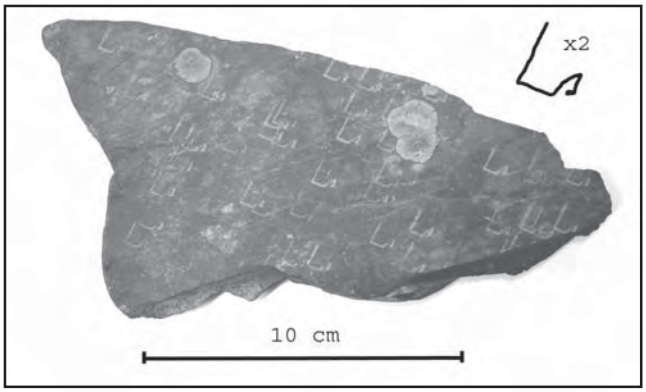
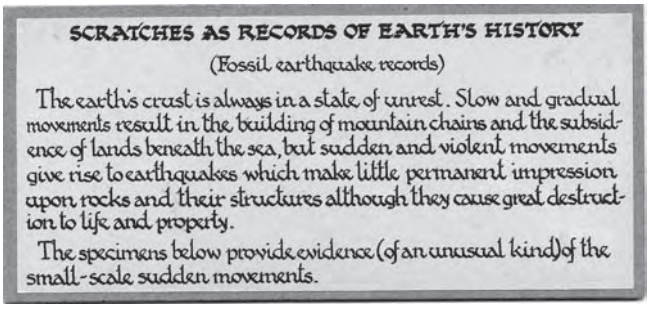


Figure 8. NMW28.38.GR.1b from Bryn Bala Quarry.


SCRATCHES AS RECORDS OF EARTH'S HISTORY

(Fossil earthquake records)

The earth's crust is always in a state of unrest. Slow and gradual movements result in the building of mountain chains and the subsidence of lands beneath the sea, but sudden and violent movements give rise to earthquakes which make little permanent impression upon rocks and their structures although they cause great destruction to life and property.

The specimens below provide evidence (of an unusual kind) of the small-scale sudden movements.

Figure 9. An old glass display panel describing the three NMGW specimens.

Table 2. Specimens in the NMGW collections with details of the errors and additions made to the documentation.

Accession number found with specimen	Correct Accession No.	Rock type	Locality details found with specimen	New locality details	Correct donor
NMW 27.111.GR.67	NMW 27.111.GR.67	Hard mudstone	Aberllefenni, Merionethshire	Narrow Vein (Y Faen Fach), Aberllefenni, Merionethshire	G.J. Williams
NMW 27.111.GR.67	NMW 28.38.GR.1a	Hard Mudstone	Borth, Nr. Aberystwyth	Bryn Bala Quarry, Aberystwyth	J. Challinor
NMW 28.38.GR.23	NMW 28.38.GR.1b	Hard Mudstone	Abllefenni [sic], Gwynedd	Bryn Bala Quarry, Aberystwyth	J. Challinor

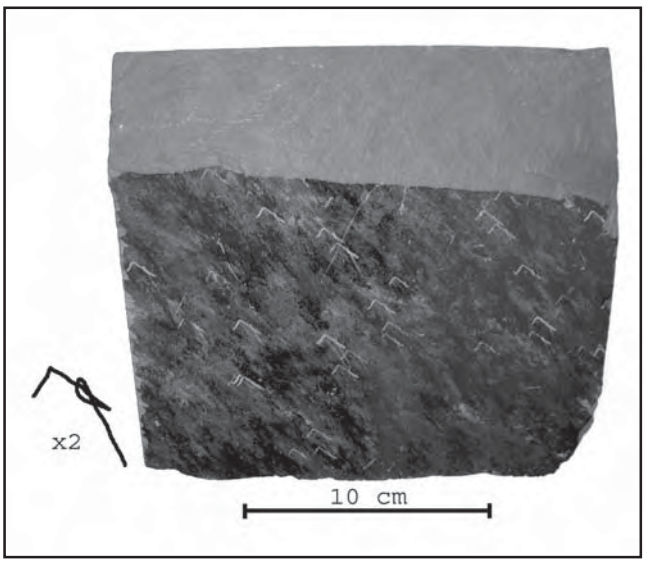


Figure 10. NMW27.111.GR.67 from Aberllefenni.

New collections

Some of the areas along the Aberystwyth coastline have been revisited during this study to examine the environment from which the specimens were taken. Many of the sites along the Aberystwyth coastline were inaccessible but some marks were found at Cormorant Rock and at Bryn Bala. The new specimens are detailed in Table 3.

Some exposures in the Devil's Bridge Formation at Forge, near Machynlleth were examined but no sign of the grooves described by Cave and Hains (1986) were seen. These marks are reportedly in the Devil's Bridge Formation in the Llandovery (Silurian) which consist of thinly bedded mudstones through to sandstones. The exact location of these marks is not known but the general structure of the mudstones seen in the area were very different to those in the AU collection.

Table 3. New specimens collected in 2002.

Location	Marks	Collection Number
Rock behind Cormorant Rock	Straight with hooks	105705
Bryn Bala Quarry- loose	V shape, weathered	105712
Bryn Bala Quarry - *in situ*	Straight with tail	105714
Bryn Bala Quarry - *in situ*	Straight with tail	105707

The marks

On any one specimen there are identically sized marks all with the same sized pattern and orientation, though measured over a larger area when originally *in situ* they apparently varied slightly (Challinor 1926). All of the marks occur on smoothed surfaces composed of homogenous, fine grained clay minerals. There are many varying sets and most are figured in Challinor's papers but a selection of some of the different styles are shown in Figure 11.

Though clearly visible by eye on most of the specimens, the scratches are at most only 250μm deep. Use of an SEM showed the specimens to be very homogenous (Figure 12), making the marks very difficult to find. One of the new specimens (105707) was collected with a cover surface that revealed scratches underneath when flaked away (Figure 13). No match with any possible indentors on the top surface was found though several loose quartz grains were present. Some of the specimens were found to have raised micro-nodules composed of the

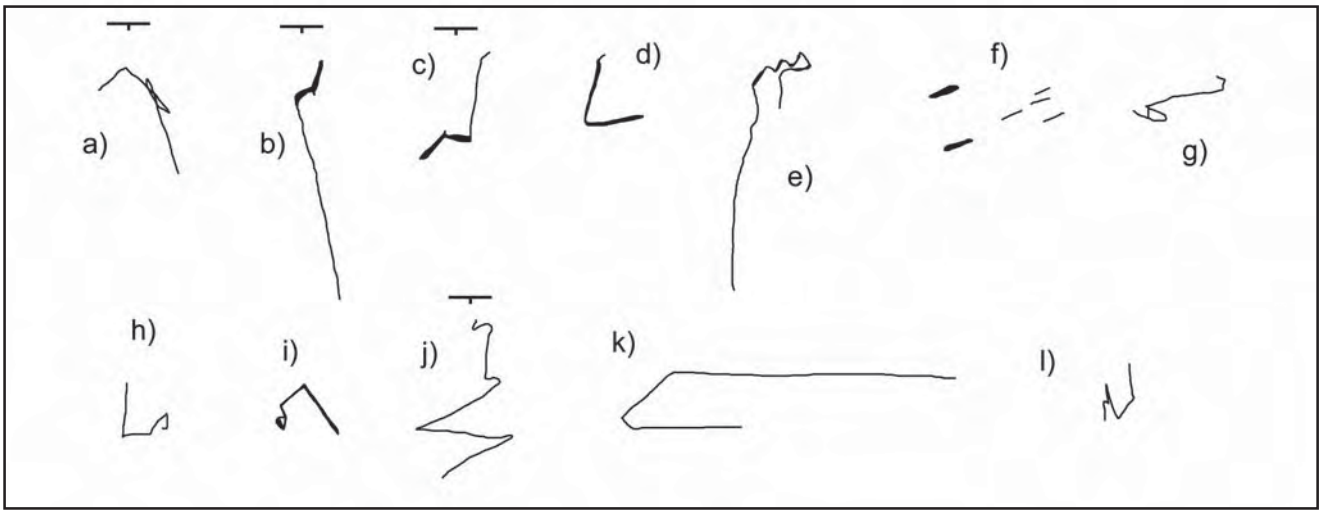


Figure 11. A selection of marks from different rocks. The direction of strike of the bed is shown where known. a) NMW 27.111.GR.67 Aberllefenni; b, c, d), 105707, 105714, 105712 Bryn Bala; e) Transbaikalia, Siberia, f), AU11 Brechfa; g) 105705 Rock behind Cormorant Rock; h) NMW 28.38GR1a Bryn Bala; i) AU05 Bryn Bala; j) AU08 Rock behind Cormorant Rock; k) AU09 unknown location; l) AU10 Bryn Bala.

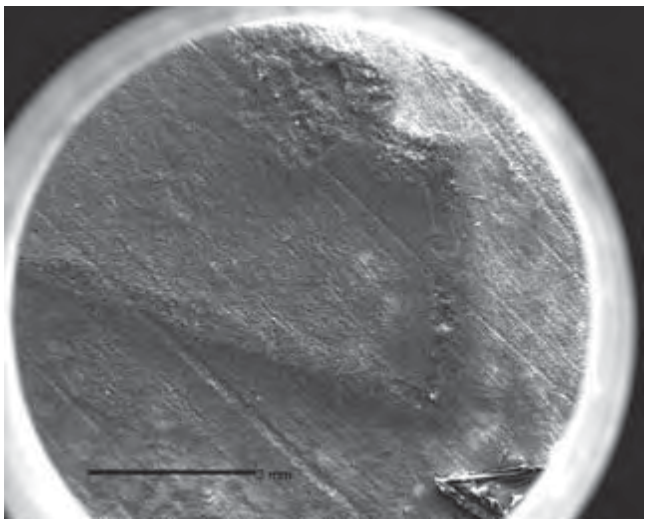


Figure 12. An SEM picture of the mark on one of Challinor's specimens AU07 from Bryn Bala Quarry. There are no mineralogical changes across the mark.

same clay rich material as the rest of the specimen which are the right order of magnitude (0.5mm diameter) to match the indents, but again no match was found with any grooves.

The Brechfa sample varied from the others in that it contained very simple straight marks with spurs and matches descriptions of slickenside indicators given in many standard reviews of structural features (e.g. Willis and Willis 1934, Doblas 1998). Though these reviews note the ability of hard protrusions such as pyrite grains to make scratch marks no mention in the literature has been found of multidirectional movements.

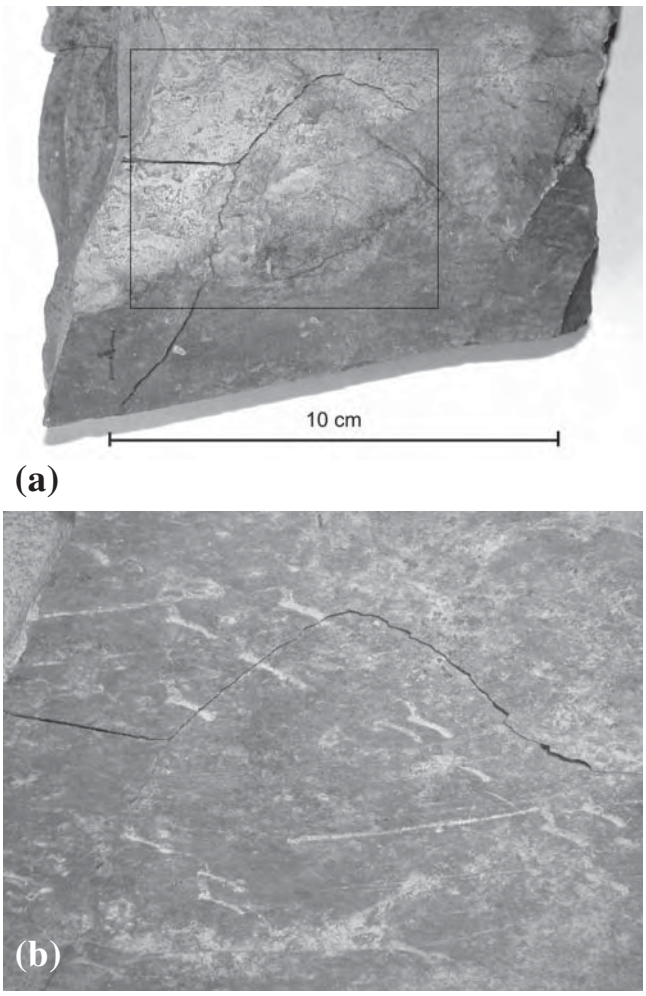


Figure 13. (a) Newly collected specimen 105707 with scratches covered, and (b) view of the marks after the top surface was removed.

Discussion

Several ideas have been put forward as to the cause of the curious marks. Mechanisms such as glaciation, human or animal means can be discounted as the scratches have been uncovered from within the rock face. Challinor (1949) concludes that the most likely cause of the marks is a result of earthquakes whilst the rocks were still fairly ductile. Cave and Haines (1986) note that 'the cause of the movements is not known; perhaps earthquakes were a contributory factor'. The nature of the markings and the polished surfaces suggest that movement has taken place between the bedding planes, and that the most likely cause of this multidirectional movement is from an earthquake. Since the marks appear in different beds of different ages there was probably more than one tremor.

The Aberystwyth Grits were deposited in an unstable marginal basin situated to the south-east of the Iapetus suture. The basin had started by the early Cambrian but was beginning to be deformed by the Ordovician and Silurian. There are no major fault lines directly through the area though there are major areas of faulting nearby. To the north there are zones of transverse faults such as the east-west Cwm Sylwi Fault which has played a major control on the topography of the landscape and is surrounded by brecciated country rock. Activation along some of these larger fault lines would have caused earthquakes in the region.

These marked rocks are now housed all together in the National Museums and Galleries of Wales though additional material can still be found along the Aberystwyth coastline in places. The fact that they have not been found elsewhere suggests that the lithologies, the structures and the mineralogy of the area was just right to preserve the actions of earthquakes.

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BOOK REVIEW

Cribb, Stephen and Julie. 1998. *Whisky on the Rocks: Origins of the 'Water of Life'*. Illustrated by Richard Bell. An Earthwise publication of the British Geological Survey. 72 p. Paperback. ISBN 0-85272-290-7. Price: £6.50.

The literature of Scotch, including guides to the famed "whisky trails" of Scotland, has increased in recent decades. As the subtitle of the 1993 edition of Gordon Brown's classic *The Whisky Trails: A Geographical Guide to Scotch Whisky* (Running Press, Philadelphia and London), indicates, most of these books take an approach that is tied to geography. But, while the more recent of these guides have beautiful color photos of scenery, to a geologist their treatment of the terrain is perfunctory. *Whisky on the Rocks* goes beyond these more general guides, distilling the pertinent geology of Scotland in a way that can be savored by geologists as well as connoisseurs of Scotch whisky.

Despite the occasional doubter, the geological exploration of the terroir of fermented and distilled drinks has become all the rage in the last decade, fueled by what seem to be ever increasing numbers of symposia and field trips (not to mention the tastings associated with these) devoted to the geology of wine and spirits. This little book has already played a role in all of this (the timing of this review, more than a wee bit after publication, allows one to make such observations). Indeed, this book appears to have instilled an appreciation of geology in connoisseurs of whisky. *Whisky on the Rocks* is thus a successful contribution to the ever growing alcoholic beverage branch of the geology of culture. The book is listed, commented on, and/or reviewed on a number of web sites, including sites devoted to books on Scotch and whisky in general. And its influence can be detected in, and is appropriately acknowledged in *Scotland and its Whiskies* (2001, Harcourt, New York and London), by the great whisky writer Michael Jackson.

Whisky on the Rocks is almost entirely devoted to single malt Scotch whisky, with the exception of the inclusion of one Irish whiskey (Bushmills), thus the more general appellation 'whisky' in the title. There is of course a link between Irish whiskey and Scotch, all going back to 563 AD and all that (the arrival of St. Columba in Scotland from Ireland), and there is a basic, that is basaltic, geological link as well. (The association of the saint with basalt is strong and widespread: St. Columba is shown with columnar basalt in a cathedral window in San Francisco, which is some distance from Scotland and Ireland. And if it wasn't the saint who brought the distillation process to Scotland from Ireland, well, it certainly was one of his followers.)

Geology, as related to Scotch, is really almost all within the realm of hydrogeology, mostly that concerning surface waters, but subsurface waters as well. The water, of course, is that obtained from or which has run over or through various bedrock and other deposits (peat, alluvial, and so on) of Scotland. All this is explained in the book, as are key aspects of the geology and geological history of Scotland. The text is punctuated by numerous original watercolours by Richard Bell. My favourite is the geological column on page 7. At appropriate levels, it sprouts pipes and faucets through which water drips into barrels. The oblique-view maps and block diagrams also impart a nice flavor to the book.

There are some pleasant short geological digressions from the main topic. Hugh Miller puts in an appearance in a discussion of the Old Red Sandstone times, for example, and elsewhere we learn what sandstones were used for the cathedral of St. Magnus in Kirkwall and that phyllite was used for the drystone walls near Laphroaig. (North American readers may note that the form of these walls resembles that of the limestone fences of the Bluegrass region of Kentucky, home of some mighty flavorful Bourbon whiskey). Since this is a review, I feel duty bound to report that the book is not without its faults. There are, for instance, two figures numbered "2" on facing pages (p. 60-61) where they should only be one, and some of the map texts fall into the inside margins of the book, making some place names difficult to discern.

I recommend this book as an armchair trail guide, best savored in the company of a sampling of various Scotch whiskies. The price is very reasonable, especially so to those accustomed to the prince of single-malt Scotch whisky these days. The book can also be used as a field guide for those inclined to explore the whisky trails themselves. (Myself, I plan to take it with me on my next field trip to the liquor store to choose another single malt Scotch with a source from an untasted, by me, part of the geologic column of Scotland).

Let us drink to this fine, nay pioneering, contribution towards the geology of culture of spiritous drinks. Let it be an inspiration for future contributions to the geology of culture.

Joseph T. Hannibal, Cleveland Museum of Natural History, 1 Wade Oval Drive, Cleveland, Ohio, 44106-1767. USA. 5th January 2004.

THOMAS HAWKINS, LORD COLE, WILLIAM SOLLAS AND ALL: CASTS OF LOWER JURASSIC MARINE REPTILES IN THE GEOLOGICAL MUSEUM, TRINITY COLLEGE, DUBLIN, IRELAND

by Patrick N. Wyse Jackson

Wyse Jackson, P.N. 2004. 'Thomas Hawkins, Lord Cole, William Sollas and all: casts of Lower Jurassic marine reptiles in the Geological Museum, Trinity College, Dublin, Ireland'. *The Geological Curator* 8(1): 11-18.

A number of casts of complete or portions of plesiosaurs from the Lower Jurassic of England are stored or displayed in the Geological Museum of Trinity College, Dublin. The historical significance of these has only relatively recently been realised. They include specimens from the collections of Thomas Hawkins, William Willoughby Cole the Earl of Enniskillen, and the Bristol City Museum. They came into the possession of Trinity College, Dublin either by donation from the Geological Society of Dublin in 1848 or from William Johnston Sollas in the late 1800s. These casts include the holotype of *Thalassiodracon hawkinsi* (Owen, 1838); a 'sternum' and 'scapula' illustrated by Thomas Hawkins and now referable to *Eurycleidus arcuatus* (Owen, 1840); a complete skeleton of *Plesiosaurus macrocephalus* Owen, 1838; the right and left side of a skull of *Eurypterygius communis* (Conybeare, 1822) the original of which was at the Birmingham Philosophical Institution; the skull and the right front flipper of *Rhomaleosaurus megacephalus* (Stutchbury, 1846); and a badly damaged cast of *Attenborosaurus conybeari* (Sollas, 1881). The latter two examples are important because the originals once in Bristol were destroyed in 1940 during the Second World War.

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Introduction

In the Geological Museum of Trinity College Dublin are stored or displayed a number of plaster casts of marine reptiles from the Jurassic of England. These are in various states of repair. While the provenance of some has been known for some time, others have recently been identified and prove to be specimens of high scientific and historical significance. A number of specimens came to Trinity College via the Geological Society of Dublin in 1848 while others were acquired later, probably in the 1880s (Wyse Jackson 1992).

Geological Society of Dublin specimens: Thomas Hawkins and the Earl of Enniskillen

The Geological Society of Dublin was founded in 1831 (Davies 1965), and, in a similar vein to its older cousin the Geological Society of London, it regularly met to discuss geological matters throughout the winter months, established a journal, and rapidly assembled a museum of Irish and foreign material (M'Coy 1841), even though good collections of geological material was available in the city at Trinity College (Wyse Jackson 1992) and at the Royal Dublin Society (Monaghan 1992). During its lifetime the Geological Society of Dublin served as a forum for most of Ireland's foremost geologists, and numbered among its Presidents, Sir Richard Griffith, Joseph Ellison Portlock, Thomas Oldham, Joseph Beete Jukes, the Rev. Samuel Haughton, and George Henry Kinahan.

In its early years it met in rented chambers in the Richmond National Institution for the Instruction of the Industrious Blind, situated on Upper Sackville Street (now O'Connell Street). However financial problems caused the Geological Society to seek an alternative venue for its activities, and in 1841 it was offered rent-free accommodation in the Custom House, a magnificent building on the north quays of the River Liffey. There its burgeoning museum was placed under the charge of Thomas Oldham. Shortly afterwards Ireland was struck by potato famine and

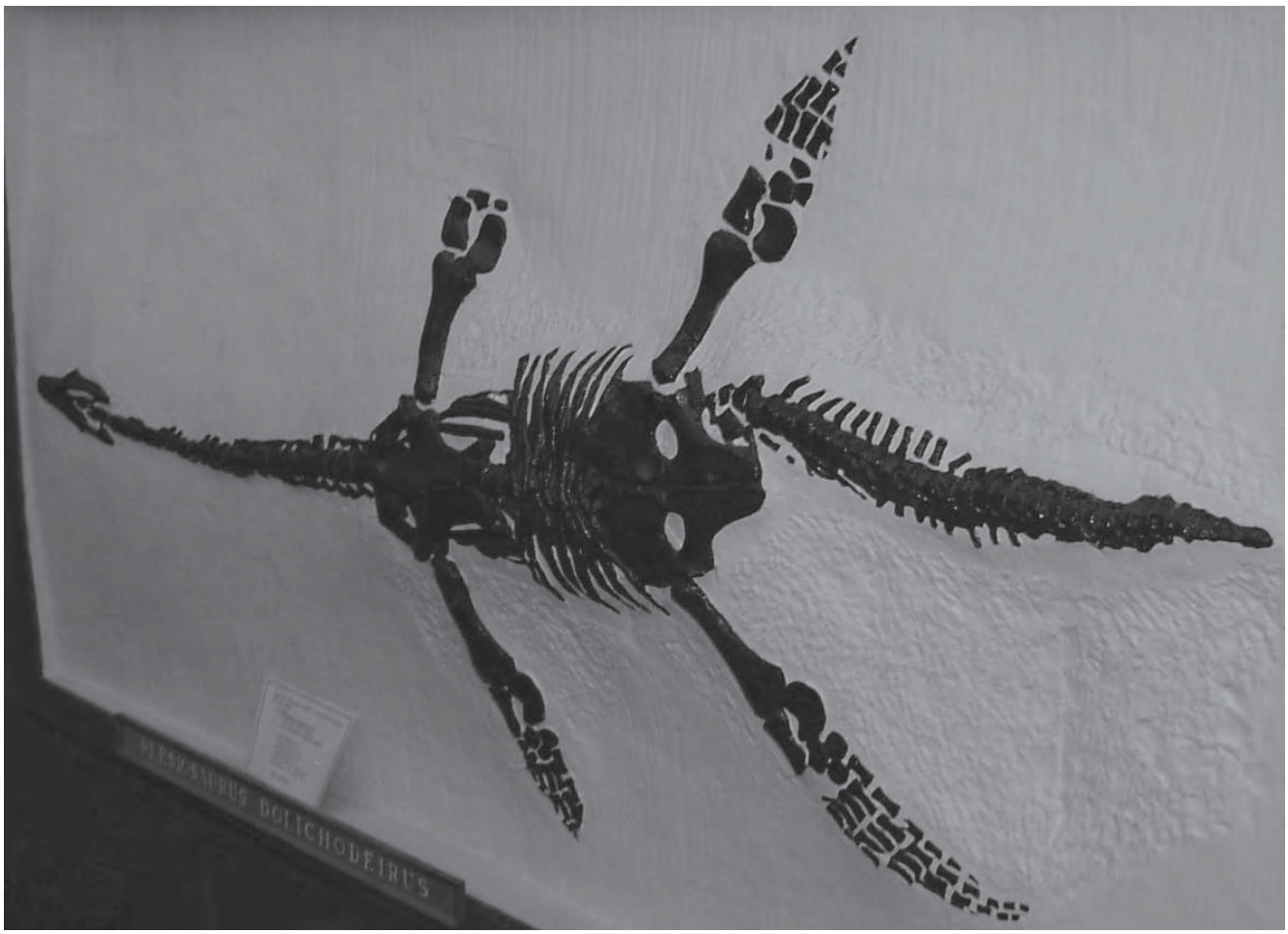

Figure 1. *Thalassiodracon hawkinsi* (Owen, 1838). TCD.22932. Cast of BMNH.2018. Width of view: 180 cm.

the accommodation occupied by the Society was requisitioned for urgent use by the Poor Law Commissioners. Fortunately a solution was close at hand: in 1848 the Museum of the Geological Society of Dublin was transferred to Trinity College, Dublin, in exchange for use of accommodation in which to carry out the business of the Society (Davies 1965). Much of this collection cannot now be recognised in the present Geological Museum in the College. The Geological Society of Dublin metamorphosed into the Royal Geological Society of Ireland on 28th March 1864, and continued to meet regularly and publish a journal. By the late 1880s however, membership declined, and the affairs of the Society were wound up in 1890.

Some time ago while reading the second volume of the *Journal of the Geological Society of Dublin*, I discovered that Thomas Hawkins (1810–1889) the noted collector and illustrator of ichthyosaurs and plesiosaurs (Taylor 1989, 2003, O'Connor 2003) had expressed a wish to present material to the Geological Society of Dublin. It is well known that Hawkins's material was distributed either by sale or donation to several institutions in England including the British Museum (now The Natural History Museum), the Cambridge Museum (now the Sedgwick Museum) and the Oxford University Museum of Natural History (Taylor 1989). What was not known, until now, was that additional material made its way across the Irish Sea to Dublin.

On 14th May 1834 Thomas Hutton presented to the Geological Society of Dublin a cast of a plesiosaur (Figure 1) that had been found by Thomas Hawkins near Street, Glastonbury, Somerset. This specimen was later described and named by Richard Owen as *Plesiosaurus hawkinsii* and was designated the holotype of that species (Owen 1838, 1840) (it is now reassigned to the genus *Thalassiodracon* Storrs and Taylor (1996) and the correct species name is *hawkinsi*). On the same day as Hutton's donation, the Society received a letter from Hawkins, the author of *Memoirs on Ichthyosauri and Plesiosauri* (1834) and *The Book of the Giant Sea-Dragons* (1840), stating that he was presenting casts of a 'sternum' and 'scapula' of a plesiosaur (Figures 2 and 3) that he had illustrated in his recently published book. While it is unclear when the casts arrived in Dublin, it is probable that they were in the Dublin by the latter part of 1834 or 1835 at the latest. They are now on display in the present Geological Museum where they flank a rather

Figure 2. *Eurycleidus arcuatus* (Owen, 1840) 'sternum'. TCD.39925. Width of view: 44 cm.

Figure 3. *Eurycleidus arcuatus* (Owen, 1840) 'scapula'. TCD.39926. Width of view: 42 cm.

battered plaster cast of William Buckland's celebrated *Megalosaurus* jaw (TCD.56538) which is mounted upside down. [The Museum also holds another more recently-made cast of this jaw and some individual teeth - TCD.56539.]

On the 11th November 1840 it was announced at a general meeting of the Society that William Willoughby Cole (1807–1886), the recently elevated 3rd Earl of Enniskillen, was to present a cast of *Plesiosaurus macrocephalus* Owen, 1838 from his own collection (Figure 4). A description of the animal was given by Richard Owen in two papers published by the Geological Society of London (Owen 1838, 1840*b*). Cole also presented at the same time a copy of the first part of Owen's report on British fossil reptiles published by the British Association for the Advancement of Science (Owen, 1840*a*); the second part of Owen's work appeared two years later (Owen 1842). This plesiosaur had been discovered by Mary Anning in December 1830 at Lyme Regis, and it attracted the attention of Adam Sedgwick at Cambridge who offered to purchase it (see Taylor and Torrens 1987, p. 136). However, before Sedgwick could indicate this to Mary Anning the specimen was bought by Cole for the reputed and enormous sum of 200 guineas (James 1986, Torrens 1995). Cole kept this specimen, together with a huge collection of fossil fishes, in his own private museum at Florence Court, County Fermanagh. Eventually, just before he died, the complete collection was purchased by the British Museum (now The Natural History Museum, London) in 1883, and his specimen of *P. macrocephalus* can now be seen together with other marine reptiles, many from Hawkins of course, in the gallery off the main entrance hall that leads towards the Department of Palaeontology. In the 1860s Henry Augustus Ward (1834–1906) founder of Ward's Natural Science Establishment of Rochester, New York made moulds of many of these marine reptiles from the originals and casts were subsequently sold by him and distributed to many museums. A useful catalogue of Ward's casts was published in 1866 (Ward 1866). The Geological Society of Dublin casts are earlier than his replicas.

Thalassiodracon hawkinsi (Owen, 1838) = *Plesiosaurus hawkinsii* Owen, 1838 = *Plesiosaurus triatarsostinus* Hawkins, 1834

TCD.22932. Complete skeleton (Figure 1). Cast of BMNH.2018 (holotype). Presented to the Geological Society of Dublin by Thomas Hutton 1834. Figured Hawkins (1834, plate 24, and 1840, plate 24) as *Plesiosaurus triatarsostinus*. The original is in The Natural History Museum and was purchased from Hawkins in 1834.

Eurycleidus arcuatus (Owen, 1840) = *Plesiosaurus arcuatus* Owen, 1840 = *Plesiosaurus triatarsostinus* Hawkins, 1834

TCD.39925. 'Sternum' (Figure 2). Cast of BMNH.2028. Marshall's Elm, Street, Somerset. Presented to the Geological Society of Dublin by Thomas Hawkins 1834 or 1835. This was figured by Hawkins (1834, plate 26, and 1840, plate 26) as *Plesiosaurus triatarsostinus*. Renamed *Plesiosaurus arcuatus* by Owen (1840) and subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 164), but now considered to belong to the genus *Eurycleidus* Andrews, 1922. Some authors (Storrs and Taylor 1996) have considered *Eurycleidus arcuatus* to be a probable synonym of *Rhomaleosaurus megacephalus*.

TCD.39926. 'Scapula' (Figure 3). Cast of BMNH.2029. Marshall's Elm, Street, Somerset. Presented to the Geological Society of Dublin by Thomas Hawkins 1834 or 1835. This was figured by Hawkins (1834, plate 26, and 1840, plate 26) as *Plesiosaurus triatarsostinus*. Renamed *Thaumatosaurus arcuatus* by Owen (1840) and subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 164), but now considered to belong to the genus *Eurycleidus* Andrews, 1922 (see above).

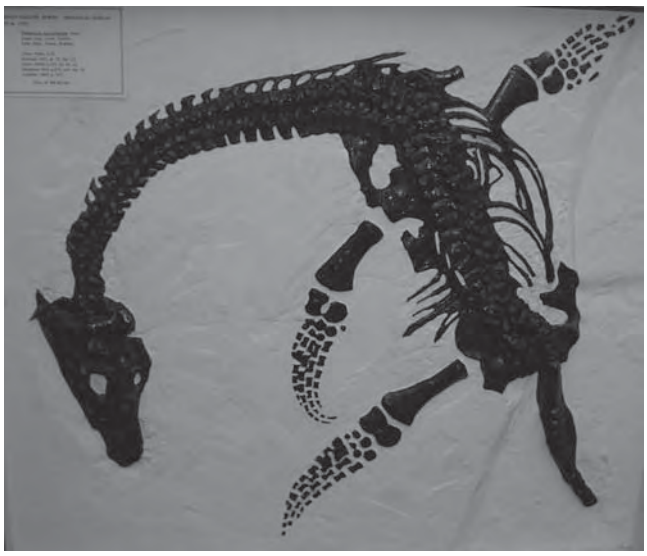

Figure 4. *Plesiosaurus macrocephalus* Owen, 1838. TCD.22931. Cast of BMNH.R1336. Width of view: 90 cm.

Plesiosaurus macrocephalus Owen, 1840

TCD.22931. Complete skeleton of a juvenile (Figure 4). Cast of BMNH.R1336 (holotype). Presented to the Geological Society of Dublin by the Earl of Enniskillen (Figured Owen, 1840*b*). The original is in The Natural History Museum and was purchased from the Earl of Enniskillen in 1883 – this is displayed rotated 90° clockwise relative to the TCD specimen.

Eurypterygius communis (Conybeare, 1822) skull

TCD.39927 and 39928. Right and left side of a skull of *Eurypterygius communis* (Conybeare, 1822) (Figure 5). An identical cast is at the Oxford University Museum of Natural History, and is labelled "*Ichthyosaurus communis* from the Lias of Barrow-on-Soar, Leicestershire, 1841 in the Museum of the Birmingham Philosophical Institution". The Trinity specimens are contained within the same wall mount as that of the casts presented to the Geological Society of Dublin in the 1830s and 1840s discussed above and so are assumed to be part of the same collection and of the same vintage. The originals of these casts cannot be found.

Figure 5. *Eurypterygius communis* (Conybeare, 1822) skull - right and left side. TCD.39927 and 39928. Width of view: 78 cm.

Bristol Institution and Bristol City Museum specimens

The Bristol Institution for the Advancement of Science, Literature and the Arts was established in 1823. It has rightly been described as the "plesiosaur's birthplace" (Taylor 1994) as it was there that the Rev. William Daniel Conybeare (1787–1857) and Henry De la Beche (1796–1855) carried out their collaborative research on plesiosaurs and ichthyosaurs from the Lower Jurassic of Dorset and Somerset. In 1821 they coined the term 'Plesiosaurus'. Many years later the Institution passed its collection of fossil marine reptiles to the Bristol City Museum, where in 1940 most were destroyed during the blitz. Fortunately casts had been made of a number of the specimens, and two of these have been identified in the collections in Trinity College, Dublin.

For many years filthy casts of a large plesiosaur skull and flipper (Figures 6 and 7) were stored in the basement of the Geological Museum of Trinity College, Dublin. These were identified in May 1995 by Dr Peter Crowther (Ulster Museum) as casts of the original type of *Plesiosaurus megacephalus* Stutchbury, 1846 (now *Rhomaleosaurus megacephalus* (Stutchbury, 1846)) (Figure 8) once in the Bristol Institution. Because this specimen was destroyed Cruickshank (1994) designated a neotype from Barrow-upon-Soar. The Bristol specimen measured 496 cm in length with a skull 83 cm long. Found in the Lower Lias at Street on the Fosse, Somerset (often confused with the small town of Street some 14 km away - see Storrs and Taylor 1996, p. 405 - the area around which is the main provenance for Lias marine reptiles thereabouts), it was acquired by the Bristol Institution in 1835, and first described by Samuel Stutchbury (1798–1859) the second Curator of the Bristol Institution eleven years later (Taylor 1994).

Another cast, unfortunately in very bad condition having been broken into several pieces in the early 1950s, was also in the basement store, and this has been identified as being a cast of the type specimen of *Plesiosaurus conybeari* Sollas, 1881 also from the collection of the City Museum, Bristol (Figure 9). This species was selected as the type of the new genus *Attenborosaurus* by Bakker (1993). Another cast is in The Natural History Museum, London and a third in the Oxford University Museum of Natural History. The original had been collected in 1880 from the Lower Lias of Blackven Water, half a mile west of the River Char, Charmouth, Dorset, by Samuel Clarke of Charmouth (Swinton 1948, p. 344).

Figure 6 (left). *Rhomaleosaurus megacephalus* (Stutchbury, 1846). TCD.47762a. Cast of skull. Width of view: 90 cm.

Figure 7 (above). *Rhomaleosaurus megacephalus* (Stutchbury, 1846). TCD.47762b. Cast of right fore limb. Width of view: 90 cm.

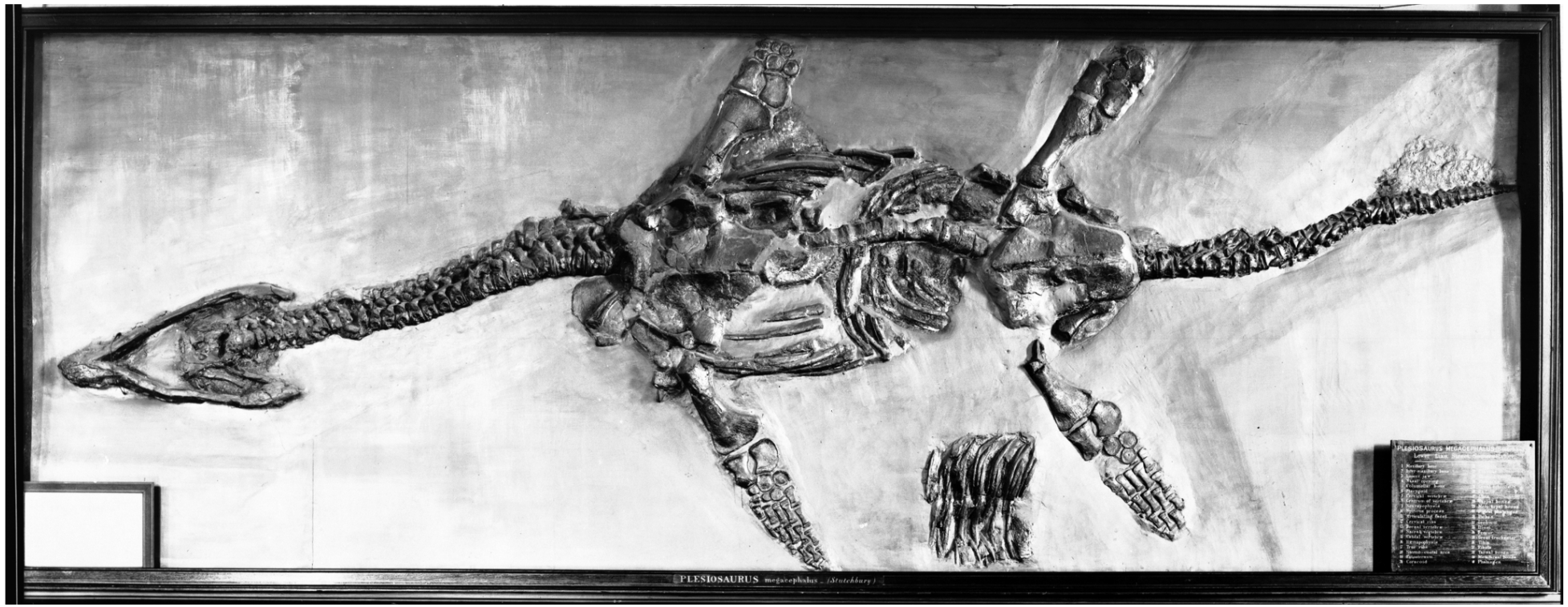

Figure 8. *Rhomaleosaurus megacephalus* (Stutchbury, 1846). Original in Bristol City Museum. Destroyed 1940. Width of view: *c*. 496 cm. [Photograph taken from glass plate negative used for Swinton's 1948 paper. © Bristol City Museum & Art Gallery. Courtesy of Roger Clark.]

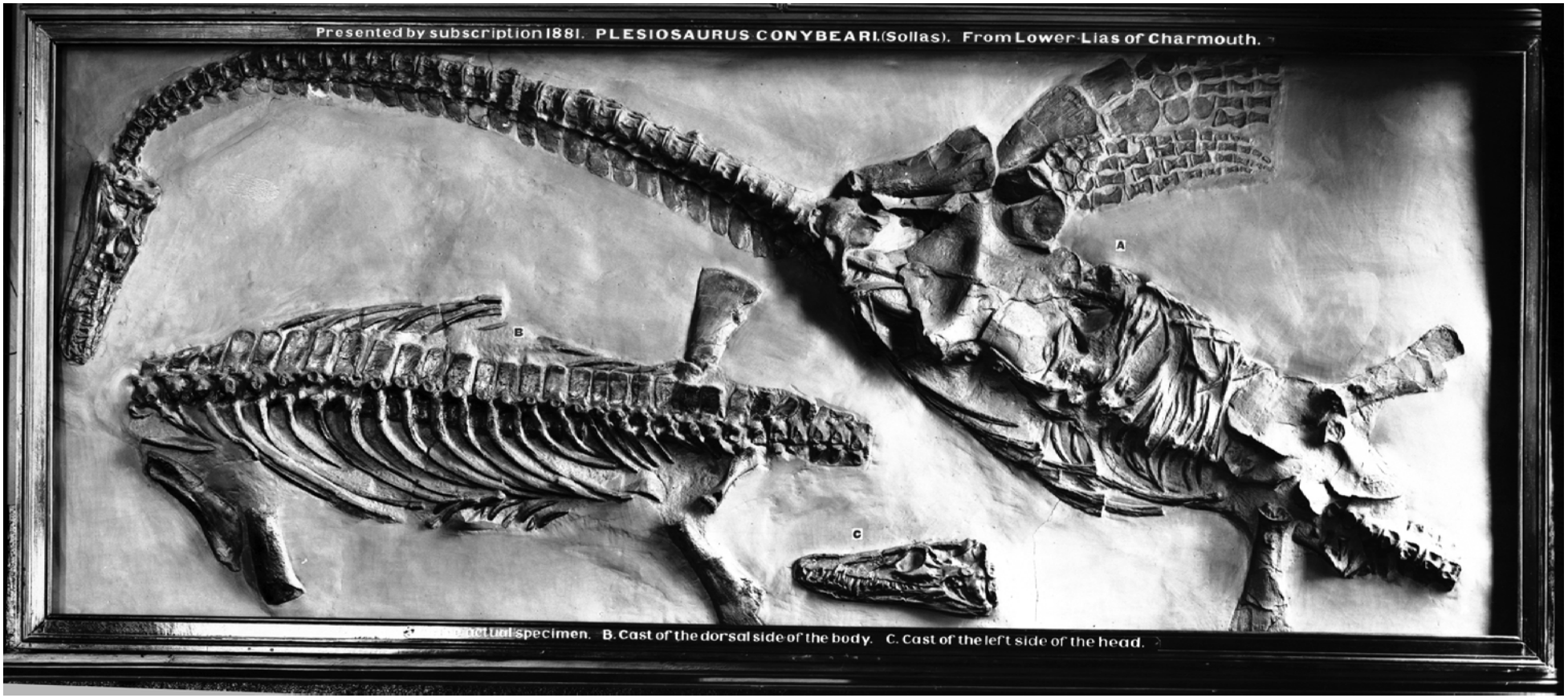

Figure 9. *Attenborosaurus conybeari* (Sollas, 1881). Original in Bristol City Museum. Destroyed 1940. Width of view: *c*. 356 cm. [Photograph taken from glass plate negative used for Swinton's 1948 paper. © Bristol City Museum & Art Gallery. Courtesy of Roger Clark.]

William Johnston Sollas (1849–1936) was Professor of Geology and Zoology at Bristol until his translation to Dublin where he took up the Chair of Geology and Mineralogy in the university in 1884; he later moved to Oxford where his major claim to fame was his and his daughter's translation of Eduard Suess' influential work *Das Antlitz der Erde* [*The Face of the Earth*], and his longevity (Wyse Jackson 1994). It is highly probable that he arranged for Trinity College, Dublin and Oxford to receive casts of his Bristol plesiosaur. He was certainly proud of the specimen, and had overcome difficulties in persuading the Bristol City Museum of which he was Curator to purchase the specimen in the first place. Undaunted he raised the finance through public subscription (Peter Crowther, pers. comm. 7th June 1995). It is therefore not surprising that he should have wanted the specimen or at least copies of it to follow him around to the various universities in which he worked - one can imagine he viewed *Attenborosaurus conybeari* as a friend.

Although the Trinity cast of *Attenborosaurus conybeari* is no longer complete (part of the body is missing as are the front limbs and flippers), it and the other casts of the two Bristol plesiosaurs are now valuable scientifically as both of the originals were destroyed on 24th November 1940 during the Second World War. The Trinity casts of *Rhomaleosaurus megacephalus* have now been cleaned and are now on display in the main museum gallery, while that of *Attenborosaurus conybeari* remains to be restored.

Rhomaleosaurus megacephalus (Stutchbury, 1846) = *Plesiosaurus megacephalus* Stutchbury, 1846.

TCD.47762a. Cast of skull (ventral side) (Figure 6).
TCD.47762b. Cast of right fore limb (Figure 7).

Original (Cb 2335) in Bristol City Museum destroyed in blitz in 1940 (Figured by Swinton 1948, plate 11; reproduced here as Figure 8). Subsequently assigned to the genus *Thaumatosaurus* Meyer, 1841 (see Lydekker, 1889, p. 166) and then to *Rhomaleosaurus* Seeley 1874. Identical casts to those in TCD are also in The Natural History Museum, London [BMNH R.1310] and in the British Geological Survey at Keyworth, Nottingham.

Attenborosaurus conybeari (Sollas, 1881) = *Plesiosaurus conybeari* Sollas, 1881.

TCD.47763. Original (Cb2479) in Bristol City Museum destroyed in blitz in 1940 (Figured by Swinton 1948, plate 9a; reproduced here as Figure 9). Casts are also in The Natural History Museum, London [BMNH R.1338, R.1339 (presented by Sollas in 1881)] and in the Oxford University Museum of Natural History [OUM. J10335].

Endnote

I regret, and am somewhat embarrassed, that it has taken me nearly nine years to write up the short story of these specimens. Unfortunately like many curators who are subjected to ever increasing reviews and bureaucracy, and who therefore cannot find the time to do this type of necessary and rewarding collections research, I kept on putting this work on the long-finger. Collections research should be a fundamental part of the work of geological curators and should, in my opinion, become more of a priority.

Acknowledgements

I am grateful to Peter Crowther who first recognised the casts of *Rhomaleosaurus megacephalus* and *Attenborosaurus conybeari* for what they were, and to him and Mike Taylor who kindly provided me with considerable information on the history of these Bristol plesiosaurs. Sandra Chapman and Derek Siveter looked for originals in the collections of The Natural History Museum, London and the Oxford University Museum of Natural History respectively. Ryosuke Motani kindly commented on the identification of the ichthyosaur skull illustrated in Figure 5, while Paul Jeffrey supplied the critical information relating to the Oxford casts of the same specimen and their provenance. Roger Clark supplied digital copies of Figures 8 and 9 at short notice, for which I am most grateful. Arthur Cruickshank and Michael Taylor generously reviewed the paper and helped improve it significantly.

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LOST & FOUND

Enquiries and information, please to Patrick Wyse Jackson (Department of Geology, Trinity College, Dublin 2, Ireland; e-mail: wysjcknp@tcd.ie). Include full personal and institutional names and addresses, full biographical details of publications mentioned, and credits for any illustrations submitted.

The index to 'Lost and Found' Volumes 1-4 was published in *The Geological Curator* 5(2), 79-85. The index for Volume 5 was published in *The Geological Curator* 6(4), 175-177.

Abbreviations:

CLEEVELY - Cleevely, R.J. 1983. *World palaeontological collections*. British Museum (Natural History) and Mansell Publishing Company, London.

GCG - *Newsletter of the Geological Curators' Group*, continued as *The Geological Curator*.

LF - 'Lost and Found' reference number in GCG.

258. Catherine Raisin collection.

Ian Rolfe [e-mail: ianrolfe@macace.net] has written to say that CLEEVELY p. 239 lists respositories of her material including the Hunterian Museum, Glasgow Unversity. A further note regarding association with W.H. Hudleston's collection in to be found in the microfiche directory of collectors appended to H.E. Stace *et al*. 1987. *Natural Science collections in Scotland,* National Museum of Scotland. Other material is held at the Sedgwick Museum and The Natural History Museum.

Professor J.W. Gregory was the power behind Glasgow Unversity's purchase of several London collections around this time, including Frank Rutley's collection (its fate was unknown to CLEEVELY but given in Stace *et al*. 1987).

259. A collection of fossils donated to the Blandford Forum Museum, Dorset.

Barbara J. Pyrah, 50 Cedar Glade, Dunnington, York, YO19 5PL (Keeper of Geology, Yorkshire Museum, 1968-88) writes:

The collection of fossils acquired by gift at the Blandford Forum Museum, Dorset, and listed by Dr Michael Le Bas (2003), is typical of material offered for sale by Edward Charlesworth. The method of presentation (see below) and the handwriting on the labels is identical to that on Charlesworth material in the Yorkshire Museum.

Edward Charlesworth (1813–1893) was the eldest son of the Rector of Flowton, near Ipswich, and as a child collected fossils from the Crag pits there. He studied medicine at Guy's Hospital London. In his early 20s he held the position of Assistant Secretary of the Zoological Society, and had the temerity to argue with Charles Lyell on the Crag Formations; he was elected a Fellow of the Geological Society and was Honorary Curator of Ipswich Museum. In 1836 he was appointed to the staff of the British Museum and in 1837 Assistant to the Museum of the Zoological Society, and also took over Loudon's *Magazine of Natural History*.

In 1840 he accompanied a "young gentleman of fortune" through Central America.

He was Keeper of the Yorkshire Museum from 1844 to 1854, following John Phillips in the post, and worked with honorary curators of various collections - geological, archaeological etc. While at York he founded the London *Geological Journal* and formed the British Natural History Society to employ collectors and distribute identified collections of fossil material to its members, starting with Hampshire Tertiary fossils (which was as far as it ever got).

When he left the Yorkshire Museum in 1858 "he settled for a time in London, and carried on a Natural History and Geological Agency... [He became] one of the most active buyers of fossils in London; always seeking to secure the best specimens and paying the highest prices for them...he generally had some exquisite specimen, temptingly displayed on pink cotton wool in a glass-topped box, for his private customers..." (Anon. 1894).

During the last 20 years of his life illness meant that he was often bedridden. It may be no coincidence that the last of the Yorkshire Museum manuscript catalogues is dated 1878, so it would seem probable that the collection now at Blandford Forum was purchased while Charlesworth was dealing in London between 1858 and say 1880.

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GEOLOGICAL CURATORS' GROUP

29th Annual General Meeting

10th December 2002 at the Sedgwick Museum, University of Cambridge.

1. Apologies for absence

Received from Alan Bowden, Paul Clasby, Peter Crowther, Phil Doughty, Ros Gourgey, Phil Manning, Angela Milner, Wendy Simkiss, Steve Thompson, and Sue Turner.

2. Minutes of the 28th Annual General Meetings held at Oxford University Museum of Natural History

Accepted as a true record of the meeting. Acceptance proposed by Giles Miller, and seconded by Andrew Clark.

3. Matters arising

None.

4. Chairman's Report from Patrick Wyse Jackson

The report was circulated at the meeting and read by Patrick Wyse Jackson.

The first year of my three-year term has passed, and I feel somewhat dazed. Shortly after last year's AGM I was bombarded with e-mails from Cardiff - do this, this has to be completed, ignore the other.

As I mentioned at the Committee meeting held in January the life of the Chairman seems to be one of deflection, absorption, and response. I now have a folder for my incoming e-mail entitled "Chairman's business" and it contains 208 messages - one per working day of last year.

The Committee continues to worry and act on Orphan Collections and collections-at-risk. This year I have made representations on behalf of the collections held at Northampton, Gloucester, Musée de l'Homme in Paris, the Nottingham collections now in Durham, and Oxford Brookes. In some cases the situation is still ongoing, and I will continue to monitor the situation, in other cases the threat has receded. Northampton have now decided to retain their collections, while at Durham it appears that no valuable specimens were sold to Open University students. This collections is being accessed, and some of it is due to be given to Manchester.

The Group made strong representrations to the authorities at Manchester University and voiced its concerns at the proposed implementation of a new management and staffing structure at the Manchester Museum.

The Group is preparing a working discussion document on the whole issue of ethics and geological collecting and acquistion. A Working Group was set up, but shortly afterwards its Chairman stood down due; it proved impossible to get a suitable replacement. That said the working party consisting of Susan Cooke, Tom Sharpe and myself have nearly completed the document, and this will be distributed in the New Year to others for comment. I hope that a short statement of the Group's position on this issue can be published shortly in *The Geological Curator* and in *Coprolite*. I know that the Museums Association is also interested in our conclusions.

Recently I have had contact with the folks at FENSCORE and they are keen to get that initiative revitalised. This is something the GCG could get involved in, and so keep an eye on *Coprolite* for any details.

We are keeping a close eye on the planned joining together of the BCB and NSCG, and have a close link through Steve Thompson who is keeping the GCG committee appraised of the current situation.

It has been a transitional year where the new committee and officers has eased itself into new roles. We have a new Secretary and Treasurer and Chairman, but already the influence of the former is beginning to be seen. The Committee has worked very hard on your behalf, and I believe have set the Group up for expansion in the future. membership has declined somewhat, and it has become increasingly difficult to get members to pay subscriptions. I suspect that this is due to forgetfulness rather than dissatisfaction with the Group and its workings. Hoever it woud be good to know what members want from the GCG. A concerted effort will be made in 2003 to bring back those disenfranchised members as well as to find new members. The Group should be able to reach a membership of at least 500 persons and institutions. All of us present here today should be paid-up members but how many of our institutions are paid-up members?

Giles Miller has taken up the reins of Secretary with gusto and efficience; Susan Cooke has done a great deal of work looking at the Ethics issue, as well as trying to improve our finances through various schemes. Steve McLean continues to organise a lively and topical slate of events, and with the indespensible help of Ros Gourgey organised a quick switch to Berlin when problems arose with Prague the original location for the annual study visit. As far as I know 8 members enjoyed the trip to Germany. Steve organises meetings that the committee think members would wish to participate in, he would be grateful for suggestions as to what we want. Tom Sharpe edits *Coprolite* which continues to grow fulfilling its original purpose. I am delighted to have Tom on the Committee as he has a wealth of knowledge of British geological museums and a great number of personal contacts which are of great use to the Committee. As a non-UK national I have to admit having difficuties at times understanding the acronymns

that fly around the Committee table - it is useful to have somebody there you can put me right. Tony Morgan is the Minutes Secretary and without him the Committee probably would not do any work. Glenys Wass has been the Recorder for a number of years and instituted a new Status survey. Un fortunately she is stepping down this year, but the compilation of the returns and analysis of the results will be undertaken by the new Recorder. I thank Glenys for her considerable contribution to the GCG as Recorder. The Committee has been fortunate to have had as members Helen Fothergill, Camilla Nichol (who is our Web Master), Sara Chambers, Mark Evans, John Nudds, Steve Thompson and Ros Gourgey who have brought a range of abilities and experiences to the Committee table. I am most grateful to all the members of the committee who have made this year an enjoyable one for the GCG.

Finally the GCG is saddened to have lost two major figures in John Norton and Bill Sarjeant. John worked at Ludlow for many years, while Bill had a wide range of interests both in palynology and the history of geology. They will be missed. To their families and those of all recently deceased GCG members I extend the warmest sympathy on behalf of the Group.

The report was accepted on the general "aye".

5. Secretary's Report from Giles Miller

The report was circulated at the meeting and read by Giles Miller.

Since taking over from Mandy Edwards at the beginning of the year, the majority of my activities have revolved around membership issues. Following from the previous committee's arrangements, I have been handling Personal membership while our Treasurer Susan Cooke has dealt with Institutional subscriptions. The present method of collecting subscriptions by individual cheque is labour intensive and makes it very difficult to maintain our membership levels. I was grateful for the help of Helen Fothergill and Tom Sharpe who between them helped with the mailing of reminder letters in March this year. We received quite a few "back subscriptions" from members who had not paid for several years as a result. Maintaining our membership over the next few years should be a priority. As a result I would like to ask the membership to strongly consider the option of paying by standing order. A disappointingly low number of members have so far taken up this option that saves the committee valuable time that could better be utilised for ensuring that the committee runs smoothly and the group increases its membership. It is also hoped that the introduction of an American bank account will ensure we keep hold of our American members. Other overseas members who prefer to pay their subscriptions should also find it easier now the option of paying in Euros is open to them. I would also like to encourage British members to subscribe to our gift aid scheme that allows us to claim tax back on subscriptions. The group currently gains £3.36 for each member who pays tax on their earnings and subscribes to the scheme.

As Secretary I have needed to field a large number of enquiries that have filtered through via our website. This is testament to the work of Camilla Nichol who has regularly updated the site thoughout the year and ensured that the GCG has maintained a high profile both in Britain and overseas. Via the website I am often approached to publicise events at related museums and societies and usually pass details on to Tom Sharpe for inclusion in *Coprolite*. Sometimes the deadline has been missed and this has not been possible. However, the GCG has an e-mail list run by Frances Wall that is ideal for these purposes. I would like to encourage the membership to make use of this list that now includes over 100 geological curators and conservators. Publicising the GCG is something I think that committee time can be spend doing rather than the administration involved in processing and chasing up subscriptions. I was grateful to Jon Radley at Warwick who offered to display the GCG advertising boards at the Dudley Rock and Fossil Show in September this year. If members know of any similar events that they think the GCG should have a presence at then please let me know and I will co-ordinate the movement of the advertising boards that are currently languishing in my office in South Kensington. Looking further ahead, I have had correspondence with members of the SPNHC committee who have suggested that we contribute a session to a major international to be held in London, probably in 2005.

During the last year the committee met three times, once at the Geological Society and twice at the Natural History Museum. If any member would like something discussed at any of these meetings then please contact me. In the meantime, please keep send me your standing order and signed Gift Aid forms.

The report was accepted on the general "aye".

Matters raised: Paul Ensom asked if Bankers Orders or Direct Debit would be a more efficient method of gathering subscriptions than Standing Orders? Susan Cooke replied that Standing Orders are more suitable for GCG at the moment, and that Direct Debits need a high turnover of cash for it to be worthwhile to the Group financially.

Andrew Clark asked if the was a credit card number for international members to use or can invoices be sent instead? Susan Cooke replied that the cost of credit card transactions is too high and that invoicing would involve costs in terms of extra work, but a suitable method of payment is being investigated.

6. Treasurer's Report from Susan Cooke

The report was circulated at the meeting and read by Susan Cooke.

Financial Report

The Geological Curators' Group has financial assets of £8401.05. Income from subscriptions is lower in 2001/2002 than 2000/2001. This is largely due to invoicing problems last year leading to fewer institutional renewals this year. Institutional invoices for 2003 will be issued

shortly and this problem is not expected to reoccur.

Expenditure this year is lower in all areas expect for the printing of *The Geology Curator*, which is higher as the costs of three print runs appear in this year's accounts rather than the usual two. However, this is the second year running that expenditure has exceeded income. Measures are in place to counteract this deficit. One of these is to increase efficiency in is subscription payments, hence the introduction of the Standing Order system. Members can now pay their annual subscriptions by Standing Order which saves having to remember to post a cheque each year and saves us on admin costs. Another is to remove the cost of cashing foreign currency cheques, which is often nearly as much as, or even exceeding, the cheque's value. For this reason an accounts in the US has now been set up. For members paying in Dollars, please send your subscriptions to Tiffany Adrain, University of Iowa, USA.

The third measure is the rise in subscriptions, proposed and agreed at last year's AGM, which takes affect in January 2003. Therefore the subscriptions for 2003 will be as follows: UK Personal £12; Overseas Personal £15; UK Institutional £16; Overseas Institutions £18.

Subscriptions are due in January 2003. All personal members should have received a subscription renewal form in the last edition of Coprolite. Please can all UK tax paying members tick the Gift Aid box on the renewal form. This will enable us to claim back tax at no cost to the members.

Financial Summary

Balance at 5/12/01: £11,367.63
Total Income 6/12/01 - 5/12/02: £2,917.57
Total Expenditure 6/12/01 - 5/12/02: £5,884.15
Balance at 5/12/02: £8,401.05

The report in this form was accepted on the general "aye".

[Full financial accounts for 2002 were not presented here, but were presented at the following AGM held in Ludlow. These accounts are detailed following these minutes on page 26.

The following was reported at the 2003 AGM by Tom Sharpe, Acting Treasurer:

It should be noted that the balance at 5.12.01 reported at the AGM in 2001 as £11689.30 is incorrect This was due to a simple book-keeping error where several payments and deposits were double counted, leading to a discrepancy of £320.23 which was not, unfortunately, picked up by the auditors of the time. The true balance was £11369.07.

Subscription income was down on the previous year by £373.99 while our main items of expenditure, our publications, increased in cost. Additionally, our expenditure included several items from the previous year, which have contributed to the disturbingly large deficit of expenditure over income of £4036.57. This substantially reduced our reserves from £11369.07 at 5.12.01 to £7332.50 at 17.12.02.]

7. Programme Secretary's Report from Steve McLean

The report was circulated at the meeting and read by Steve McLean.

Summary of 2001-2002 Programme:

5-6 December 2002. GCG Seminar, AGM and Field trip: Geology, Art and Architecture. Oxford University Museum of Natural History. Oxford.
A fascinating programme of talks enticed over 40 members to this two-day meeting which provided a range of insights into the links between geology art and architecture, with discussion of topics such as building stones, ammonite motifs and Ashford black marble to name but a few. The second day consisted of a field trip led by Philip Powell to Ardley Quarry to look at magnificent dinosaur trackways and then to the Pleistocene gravel pit at Cassington where bones of bison, mammoth, horse, reindeer and red deer are found.

An excellent two-day seminar and field trip and grateful thanks are extended to all the speakers (Mick Stanley, Monica Price, Patrick Wyse Jackson, Trevor Ford, John Cooper, Peter Crowther) and to Phillip Powell and staff at the Oxford University Museum of Natural History, who took great pains to organise such a splendid session.

8-9 March 2002: GCG Seminar and Field Trip, and viewing of new museum. Dinosaur Isle Museum, Sandown, Isle of Wight.
Despite the small GCG turnout (there were more locals than GCG members!), this trip promised an insight into the BBC "Live from Dinosaur Isle" series as well as tours of the new "*Dinosaur Isle*" museum facilities which cost £2.7 million and opened in August 2001. The second day included a field trip to view the Cretaceous sequences at Yaverland. My grateful thanks to all the speakers who were: Mike Bishop, Dave Martill, Steve Hutt, and Martin Munt. Special thanks to Martin Munt for organising a splendid two-day visit.

15 May 2002: British Geological Survey, Keyworth. GCG Seminar (joint meeting with BGS and Geological Society (Geological Information Group): Geological Databases, GIS and the World Wide Web.
Over 60 people attended this joint meeting which provided a detailed examination of the variety of database available for collections management purposes, word wide web databases and access to on-line geological catalogues, and more generally the types of issues one must consider when planning to use a database system. Once again my sincere thanks go to all those who contributed to this session, The speakers were David Falvey, Alan McKenzie, Adrian Rissoné, John Faithfull, Joe MacQuaker, Tim McCormick, Paul Britton, Jana Horak, Kevin Walsh, Giles Miller and

Suzanne Miller. Special thanks to Mike Howe and Giles Miller for organising the seminar and to all the staff at BGS for collections tours and hospitality.

29 May 2002: National Museum of Wales, Cardiff. GCG Training: Identifying Fossils 2 : Ammonites.
A workshop led by Dr John Cope of Cardiff University. The group of 10 willing-to-learn GCG members were given insights into ammonite biology, sexual dimorphism, biostratigraphy and taxonomy and then spent a valuable practical session on ammonite identification. Sincere thanks to Dr John Cope who led an excellent session and to Tom Sharpe and Steve Howe for local organising.

27 November 2002. GCG Workshop. Identifying Fossils 3: Corals. The Manchester Museum. Manchester.
Unfortunately owing to difficulties with access to the museum collections at Manchester during re-developments this workshop had to be cancelled. It is hoped that it will be possible to reschedule in the near future.

29 November - 1 December 2002. GCG Study visit to the Museum für Naturkunde, Humboldt University, Berlin.
The original plans to visit Prague this year were changed owing to the fact that most of the collections at Prague would have been inaccessible due to major re-developments. However it was possible to arrange, at relatively short notice, a trip to the above museum in Berlin. Eight GCG members attended an absolutely fascinating two-day visit to the Museum, which included guided tours of the collections and galleries, and several short talks. The fact that we were also privileged to be shown the Berlin *Archaeopteryx* and the original single feather was a wonderful bonus. There was, of course, plenty of time to enjoy the local hospitality and to see some of Berlin itself on the Sunday.

I am particularly grateful to the following people who put a great deal of effort into making this an excellent study visit: Ros Gourgey (for organising transport and hotels with her usual efficiency), Prof. Hans-Peter Schultze (Director of the Museum) for given us so much of his time an hospitality, Stephan Schultka (palaeobotany), Martin Aberhan (invertebrates), Wolfgang Kiessling (databases), Ferdinand Damaschun (mineralogy and meteorites) and David Unwin (birds and reptiles). Finally my special thanks must go to Oliver Hampe who organised the entire two-day programme, showed us some of the collections and displays himself, and acted as our guide over both days.

As always, I am just as keen to hear your views and ideas about the programme so please do not hesitate to contact me. Next year's programme is in a state of flux at the moment but it will all be organised for the March edition of *Coprolite*. I hope that members will be able to continue to support the group by attending our seminars and study visits and I look forward to seeing many of you throughout 2003.

The report was accepted on the general "aye".

Patrick Wyse Jackson emphasised that the meetings programme is one of the mainstays of GCG. If anyone has any ideas for topics or visits, please contact the Committee.

8. Journal Editor's Report from Patrick Wyse Jackson

The report was circulated at the meeting and read by Patrick Wyse Jackson.

Two issues of *The Geological Curator* will be published this year: Volume 7, Part 7 (issued July 2002) and Volume 7, Part 8 (to be issued late December 2001).

Volume 7, Part 8 is now with the printers and should be mailed shortly after the Christmas break. It has been slightly delayed due to the development of a new printing process adopted by the printers to allow them to work from PDF format files. Version 7 of PageMaker has been acquired and this allows me to supply files in the preferred format.

Volume 7(7) contained three papers, a book review and the minutes of the 26th and 27th Annual General Meetings held in Dublin and York respectively.

THREE LECTURES ON THE LIFE AND LITERARY CHARACTER OF THE REV. DR GEORGE YOUNG D.D., BY MARTIN SIMPSON, FEBRUARY 1862 by P. Thornton

MICROPALAEONTOLOGICAL MODELS AT THE NATURAL HISTORY MUSEUM, LONDON by C.G. Miller

THE TOWNSHEND FOSSIL INSECT COLLECTION AT WISBECH AND FENLAND MUSEUM by G. Wass and A.J. Ross

Volume 7(8) contains the following three papers.

TYPE AND FIGURED SPECIMENS IN THE GEOLOGY MUSEUM, UNIVERSITY OF THE WEST INDIES, MONA CAMPUS, JAMAICA by I.C. Brown and D.M. Langner

ICHTHYOSAUR TO IFFYOSAUR: FROM FACT TO FICTION by C.J. Buttler and S.R. Howe

EDWARD SIMPSON, OR, A SEARCH FOR 'FLINT JACK' by P. Thornton

I have a number of papers pending on a diverse range of topics. As ever additional copy is always welcome.

I am grateful to Vincent Fitzpatrick and Adrienne Foran of ColourBooks of Dublin who continue to do a fine job of printing *The Geological Curator*. Additionally I thank Matthew Parkes, and my colleagues on the GCG Committee and in Trinity College for their continuing support.

The report was accepted on the general "aye".

9. Newletter Editor's Report from Tom Sharpe

The report was circulated at the meeting and read by Tom Sharpe.

2002 saw completion of the 13th year of publication of *Coprolite*. As usual, three issues (Numbers 37, 38 and 39) were published, in March, June and November, totalling 68 pages.

As *Coprolite* is a newsletter, we need to hear your news - news of upcoming events, meetings, exhibitions, and publications; news of new acquisitions; news of job changes; in fact, any news at all relating to geology and museums. The rest of us want to know what you've been up to. So make a New Year Resolution (and this time, keep it) to send stuff to *Coprolite*. Thank you to everyone who contributed news this year. I would also like to record my thanks to Hugh Barnes, Managing Director of our printers, Barnes Print Group, who has overseen printing and distribution of *Coprolite* since it began publication.

We continue to receive the generous support of Clinton Burhouse of Burhouse Ltd of Huddersfield, for which we are grateful.

The report was accepted on the general "aye".

10. Recorder's Report from Glenys Wass

The report was circulated at the meeting and read by Giles Miller.

The last year has seen mixed success with the large job of recording and analysing the results from the State and Status survey. An Access database has been set up to enter the information on, however, we have had some problems with this throughout the year, which has necessitated starting again from scratch in October.

This, coupled with increasing conflicting commitments within my post at Peterborough Museum, has meant that I have been unable to give the survey the attention that it deserves. Therefore, it is with regret that I am standing down as Recorder. I hope this post can be passed onto someone who feels that they can take this task forward, and will be happy to help with this where I can.

I have very much enjoyed my time on the GCG Committee and hope to remain a supporting member of the Group in future.

The report was accepted on the general "aye".

Matters raised: Peter Tandy asked if the results of the State and Status survey will be published in full and Patrick Wyse Jackson responded that this would be the case.

11. Election of Officers and Committee for 2003

No nominations have been received for Committee of Officers posts. Glenys Wass has resigned as Recorder, but Helen Fothergill has agreed to take on this role. Jon Radley will join the committee.

This was accepted by the meeting.

12. Nomination of Auditors

The current auditors Simon Knell and Paul Ensom were willing to continue. Propsed by Tom Sharpe and seconded by Steve McLean. They were elected for a further year.

13. Any other business

Paul Davis asked if GCG would produce a handy guide on curation for non-curators? Patrick Wyse Jackson replied that the Group was hopefully going to publish revised standards and guidelines.
Paul Davis asked if there a list of people who could be contacted for help on particular subjects? Patrick Wyse Jackson replied that there is nothing formal, but Committee could discuss the idea.

Paul Ensom thanked the Committee and Officers for the work they do for the Group.

14. Date and venue of the next AGM

Ludlow Museum had been approached toi host the AGM. No date yet set but will be notified to all via *Coprolite*.

The meeting closed at 17.03.

Annual Accounts for the period 5th December 2001 to 17th December 2002*

	2002	2001
Income		
Subscriptions[1]	2410.01	2789.00
Seminar fees	490.00	548.00
Committee refreshments	65.00	
Interest	14.80	
Total income	2979.81	
Balance on 5/12/01[4]	11369.07	
	14348.88	

	2002	2001
Expenditure		
Geological Curator[2]	3662.96	2585.47
Coprolite	1664.00	1562.00
Seminars and workshops[3]	1253.89	996.24
Committee expenses	348.63	303.90
Treasurer's expenses	34.49	
Display Boards transport	52.41	
Total expenditure	7016.38	
Balance on 17/12/02	7332.50	
	14348.88	

Notes

1. This figure may include some seminar and workshop fees
2. This figure covers 3 issues of the journal
3. This figure includes gem workshop expenses from 2001
4. The balance of £11689.30 reported at the 2001 AGM is in error

* This balance sheet was presented at the 30th AGM in Ludlow on 9th December 2003

[signed] T. Sharpe *GCG Acting Treasurer*
20.9.03

[signed] P.C. Ensom and S.J. Knell *Auditors*