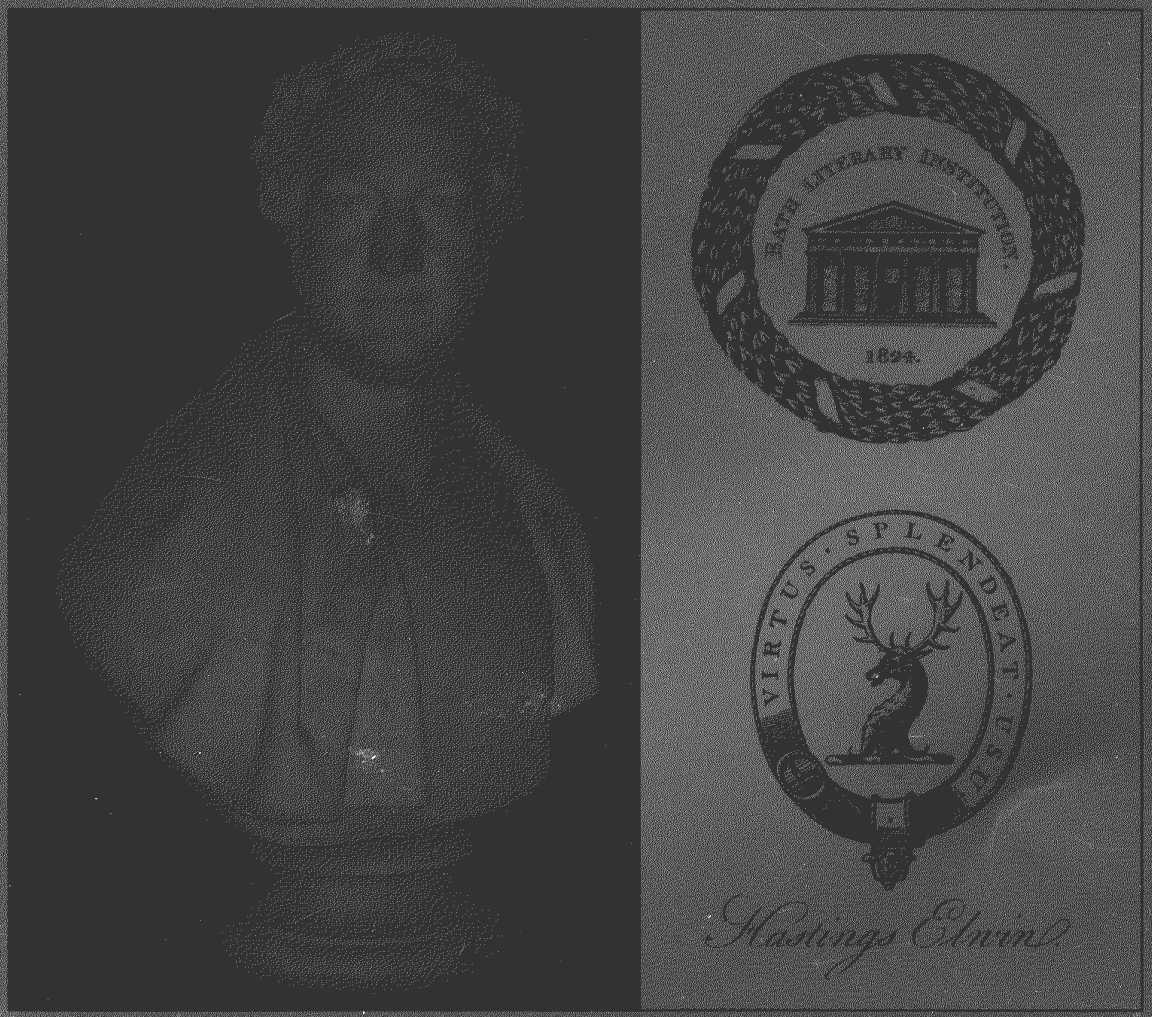
GEOLOGICAL CURATOR

Volume 8 Number 4



THE GEOLOGICAL CURATOR

VOLUME 8, No. 4

CONTENTS

GEOLOGICAL CURATORS' GROUP - December 2005

THE LIFE AND TIMES OF HASTINGS ELWIN OR ELWYN (1777–1852) AND HIS CRITICAL ROLE IN FOUNDING THE BATH LITERARY AND SCIENTIFIC INSTITUTION IN 1823

by Hugh S. Torrens

Torrens, H.S. 2005. The life and times of Hastings Elwin or Elwyn (1777–1852) and his critical role in founding the Bath Literary and Scientific Institution in 1823. *The Geological Curator* 8(4): 141–168.

H.S. Torrens, Lower Mill Cottage, Furnace Lane, Madeley, Crewe, Cheshire, CW3 9EU, U.K. *Revised version received 10th August 2005.*

For Stella Whyberd Pierce—in gratitude.

> "It is to be wished, if for nothing else but the honour of Bath, that so valuable a gift [as this Institution], transmitted from a generation almost passed away, should not perish in the hands of a race less alive to its value and importance" (Hunter 1853, 72).

Introduction

The Bath Literary and Scientific Institution, (hereafter—BLSI, or from 1837, when it acquired further royal patronage—BRLSI), has an important, if complex, history. As one direct result of its foundation, the claim was first made there, by Rev. Joseph Hunter (1783–1861), that "Bath may justly be regarded as the cradle of English geology" (Hunter 1827a, 14). The initiation of the study of Bath's geology by William Smith (1769–1839), from 1791, and its subsequent encouragement there by the BLSI, after Smith was in his northern English exile, was to have important museological consequences. A Bath newspaper item dated 29 June 1929 (copy preserved in T.S. Cotterell's copy of Bather (1926), Bath Reference Library) reported how

> the citizens of Bath could not have a worthier object to maintain, and their efforts should certainly be directed to the upkeep of this historic institution, which has been termed both 'the Finest Geological Museum outside London' and to be 'an institution whose opening date is uncertain'.

Such statements prompted the choice of 7 June 2003 to launch the BRLSI's reprint of the 1844 *Memoirs of William Smith LL.D.*. This was the 250th anniversary of the establishment of the British Museum on 7 June 1753. It was that same museum which purchased Smith's rock and fossil collections between 1815 and 1818. Smith's realisation of the importance of using fossils to identify those strata which contained them led to museums all round the world filling with such collections. That same date was also chosen to "call attention to the BRLSI's wonderful collections" (Catchpole 2004, 47), since no museum had more filled up with fossils and rocks than their's in Bath.

The City of Bath was enrolled, in 1987, as one of the United Kingdom's first World Heritage sites. It was the ninth here, listed by UNESCO (2003). However such a culturally important city now has some strange 'cultural legacies'. There was particularly fierce opposition from Bath's rate-payers, where rates were, and still are, famously low, to the Public Libraries Act of 1850. This was rejected in Bath four times and so any Bath Public Library and Art Gallery could only be finally adopted in 1900 (Kelly 1977, 81-84). The museological history of Bath is equally complex, because of the City's dependence on 'attracting tourists' to keep the rates low. The history of the BLSI/BRLSI Museum, by many decades the oldest in Bath, but which is not 'a tourist attraction', is thus of particular importance, although it fails to receive notice in recent histories (e.g. Davis and Bonsall 1996).

A more recent author has, rightly, claimed this is because Bath's recent heritage-mongers have been antipathetic to local science and its history.

> There was no sign of a twentieth-century swing [here] towards the sciences; indeed, quite the opposite appears to be the case. Any attempt, such as that of Williams and Stoddart (1978), to create a counter-hagiography of [Bath] scientists

> and engineers was seemingly doomed to failure. However, during the nineteenth century science enjoyed considerable kudos in Bath, a position reflected in the establishment of the prestigious Literary and Scientific Institution, whose Rooms were opened in 1825, and which proceeded to acquire... several scientific collections (Borsay 2000, 139).

Hastings Elwin junior's vital role in the founding of this important institution is thus both critical and too long forgotten. The Geological Curators' Group has now campaigned for over 30 years, for the better protection of its important collections (see Copp, Pickford and Torrens 1975 and Parker 1978). A jubilee publication on the Institution's history failed to mention him (Spender 1875). A recent piece by Jane Coates (the Institution's then archivist) did note a new display which included material on the "founding fathers of the institution, notably Hastings Elwin" (Coates 2003, 4). But conclusive evidence of his part in establishing this institution has never been properly revealed, nor have details of his biography or his distant fate.

It is extraordinary how some categories of people have fallen through the historical 'net' more than others. I have already made this point in relation to mineral surveyors (Torrens 2002). Their profession was often highly itinerant. Such itineracy becomes a major problem for their biographical record and is also one main reason why Hastings Elwin, of Norfolk, Antigua, Bath and Australia, has fallen into near-complete historical anonymity. A second reason is that Hastings Elwin, although twice married, had no children, through whom any memory, or archive, of his multi-faceted, widely spread, activities might have been maintained.

Elwin's origins and birth

Hastings Elwin was born on 8 March 1777, a fact only revealed on the far-away foot stone of what little survives of his grave in Sydney, New South Wales. He was the eldest son of the London barrister Hastings Elwin senior (1742–1833), who was a younger son of Peter Elwin (*c*.1700–1782). They came from a Norfolk family long based at Booton and Thurning, near Reepham (Blomefield 1769, vol. 3, 605; Blomefield and Parkin 1807, vol. 6, 355; Foster 1887-1891, vol. 1, 80). Hastings senior married Elizabeth Diana Woolhead on 30 October 1774. They also had a younger son, Rev. Fountain Elwin (*c*. 1784–1869) who matriculated at Oxford University in 1809 but did not graduate there and a daughter Harriett (*c*.1787–1868—see *Times*, 28 October 1868, 1, col. 1). She married a London solicitor, Alexander Gordon (*c*.1772–1854 —see *Gentleman's Magazine*, February 1855, 221). The son of these latter, of the same name, also migrated to Sydney in 1857 where he died in 1903—(see *Australian Dictionary of Biography* and Foster 1887–1891, vol. 1, 80).

Hastings Elwin (or Elwyn) Senior (1742–1833)

Elwin senior is a similarly forgotten figure like his confusingly homonymous son. The only clues, but which have considerable relevance to Hastings Elwin junior's later career as museum-builder and collector, are the several references to a "Mr Elwin" or "Elwyn" as art-collector and connoisseur in Georgian England. For example, he was listed, merely as "Elwyn", by the German curator Gustav Waagen (1794–1868) in 1838, as among

> the most distinguished [such] collectors in England since 1792, who, by diffusing the most admirable works of art in their century, have conferred upon it a lasting benefit (Waagen 1838, vol. 1, 57).

He is also listed in Joseph Farington's diaries between 1797 and 1809 (Garlick and Macintyre 1979; Cave 1982). He is identified no further than 'Hastings Elwin' in their index; but he is certain, in view of these dates, to be Hastings Elwin senior. Fritz Lugt (1938) records details of five of the Catalogues of art he, as both Hastings Elwin or Elwyn, auctioned in London between 1787 and 1811 (Lugt nos 4242 of 1787, 5263 of 1794, 7101 of 1806, 7791 of 1810 and 7918 of 1811). Lugt (1953) records another such sale of 1 June 1833 (Lugt no. 13325) by a mystery W.B. Elwyn who must be the Oxford educated barrister Dr William Brame Elwyn (*c*.1744–1841) but who came from a different Canterbury family. Hastings senior was also active in art circles in London as a purchaser, and agent for the sale, of expensive paintings by, for example, Rubens, Van Dyke and others. He was also a major purchaser at the Fonthill House, Wiltshire sale in August 1807 of two Vernet paintings for 550 guineas (Greig 1924, 197) and Leonardo's *Infant Saviour* for 350 Guineas (Whitley 1928, 129). This was the same source from which his son was later to acquire the Casali paintings for the BLSI (see below).

The most impressive Elwyn sale was that held in May 1806 (Lugt no. 7101 – copy in National Art Library, London). *The London Times* then noted it as a "Matchless Collection... the genuine and entire property of Hastings Elwin Esq." and recorded it contained some incredible "chef d'oeuvres of the Masters" it listed. It further noted that

> amid the crowd of Exhibitions that attract the *Beau Monde*, we have not visited one of higher merit than the Elwin Collection of Pictures to be seen at Phillips's in Bond-Street, which surpasses every exhibition we have yet seen exposed to sale. *The Candle-light* of Reubens [Lot 27] is an extraordinary performance and cost at Paris 2500 Louis d'ors (*Times* 20 May, 3, col. 4 and 21 May 1806, 1, col. 2).

This same painting was that sold by Sotheby's in July 2004 for £2,469,600 (see Sotheby's website <www.shareholder.com>) when it was bought by the American dealer Alfred Bader. Another painting in the same 1806 Elwyn sale (Lot 23), Paolo Veronese's *Mars and Venus united by Love* has been in the Metropolitan Museum of Art, New York since 1910 (see <www.metmuseum.org/Works_Of_Art/>). This extraordinary 1806 sale, and others held of Elwi[y]n's collections, clearly deserve much further study. The Getty Art History Information Program (see Fredericksen 1988-1993) records all the Hastings Elwin/Elwyn sales between 1801 and 1811 and describes him as a 'dealer', but then wrongly adds that he must have died 'circa 1811'.

Elwin junior's early life in London and Antigua 1786–1812

Hastings Elwin junior is an elusive figure and we have little information on his early years. The first record of him, apart from his date of birth, is of his having been painted as a child by the great English portrait-painter Sir Joshua Reynolds (1723–1792) in London in 1786. In the last of his father's sale catalogues, that of 1811 listed above, Lot 192 is recorded as "Sir J. Reynolds. A portrait of Mr Hastings Elwin, painted with great truth to nature and admirably coloured". The National Art Library copy carries the price it then realised in pencil "£31-10-0". This must be the same painting as that listed as "Elwin, Master", for which Reynolds held six appointments to paint the young sitter from life in January to March 1786 (Mannings 2000, vol. 1, 181). By then master Elwin would have been just 9 years old. Sadly neither the sitter nor the present whereabouts of this painting were identified by Mannings. Perhaps, now the sitter has been identified, it may be possible to discover its present location from the representations of Elwin junior as an older man here (Figures 3 and 4).

The next we hear of Elwin junior is of his marriage, aged 26, in the West Indies. Here he married on 29 December 1803 by licence at St John's church on the island of Antigua (*Times*, 2 May 1804, 3, col. 3; Oliver 1894-1899, vol. 2, 374 and 378) Margaret Matilda, second daughter of Thomas Ottley of Antigua (Pine 1952, 1944). *The Times* reported he was then "King's Counsel for the Leeward Islands... and his wife, niece to the President of that island".

Elwin's first known letter is dated 7 June 1805 and survives among the MSS of his fellow 'man of Norfolk', Admiral Horatio Nelson (1758–1805). It shows that Elwin was now giving additional service to a naval officer here during the Napoleonic wars, just before the Battle of Trafalgar. It reads:

> Triplicate 7 June 1805
>
> Sir!
>
> Combined fleets of the enemy attacked the island of Dominique [Dominica] on the 5th instant, and were landing troops on the south side of the Island. General Prevost desires Lord Lavington to communicate this intelligence at Home [London] and at Barbados.
>
> [signed]
>
> Hastings Elwin,
>
> Aid de Camp to Commissioner Lane
>
> (BL Add MSS 34929, f. 295).

An Aide-de-Camp was an officer acting as a confidential assistant to a more senior officer. This was Charles Henry Lane, who was then the Navy Commissioner on Antigua, some of whose own letters to Nelson also survive. General George Prevost (1767–1816—see *Oxford Dictionary of National Biography*—hereafter *ODNB*) was Governor in Dominica, while Lord Lavington, alias Ralph Payne (1739–1807—see *ODNB)*, was the Governor of the Leeward Islands, of which Antigua was one of their five Presidencies. Elwin had an earlier connection by his marriage with the Payne family; his first wife's grandfather having married Lord Lavington's sister. Horatio Nelson, of course, had equally been much involved with the West Indies and had married on Nevis, another of the Leeward Islands to the north, in 1787 (see Aspinall 1935).

In the summer of 1805, at the time of Elwin's letter, Nelson had decided to pursue the French Fleet to the West Indies. Here he reached Barbados on 4 June (Schom 1992, chapter 9). Nelson then started to chase the French Fleet round the more southern Windward Islands, at first to the south-west. But he soon swept northwards and reached Antigua on 12 June. The reports he now received from Dominica showed him how close he had actually been to the French Fleet when he first arrived in the West Indies. As soon as the French Fleet heard of Nelson's arrival, they disobeyed Napoleonic orders by returning to Europe as fast as possible. So their Dominican

invasion was withdrawn after only five days. But the stage was set for the famous Battle of Trafalgar on 19-21 October 1805 (Lloyd 1973).

The changed situation following this historic victory meant that Elwin could build on his legal career. On 21 February 1806, months after Nelson's death, Hastings Elwin was admitted to the Middle Temple as a barrister, as "eldest son of Hastings Elwin [senior] of Sloane Street, Chelsea, Middlesex" (Sturgess 1949, vol. 2, 423). He now followed in his father's footsteps, who had earlier been admitted to Gray's Inn on 8 November 1770 (Foster 1889, 386). Hastings junior now returned to, or had stayed in, Antigua, and on 27 February 1806 he and his family were listed as having maintained their place as Pew Holders at St John's Church (Oliver 1894-1899, vol. 3, 360). On 28 February 1807 Elwin, "of a respectable family in Norfolk", was appointed Advocate-General of Antigua. He also continued as one of the King's Counsel for these islands and as Deputy Naval Officer to Anthony James Pye Molloy, who died in 1814 (see *Gentleman's Magazine*, 84 (2), 192, August 1814).

On 16 March 1807 a Bill had been passed in Parliament, as a result of Evangelical reform, to abolish at least the trade in slaves (Oliver 1894-1899, vol. 1, cxlv; Brown 1961, 266-267). Elwin's experience from his time in Antigua later proved vital in one of his subsequent careers. On 31 March 1808, Captain James O'Bryan R.N. also of Antigua (*c*.1768-1855, later the third, and last, Marquess of Thomond) "owing to the abolition of the Slave Trade applies to have 100 negroes apprenticed to him for 15 years as he had purchased an estate in Antigua". Admiral Sir Alexander Cochran had earlier been granted 100 such for his estate at Trinidad as a precedent (Oliver 1894-1899, vol. 1, cxlvi; White 1953, 715-716). O'Bryan (or O'Brien), who had become Elwin's brother-in-law in 1806, was later involved with Elwin in the affairs of the BLSI in Bath.

Elwin in the south of England 1813–1814

The exact date of Hastings' arrival home remains unclear. On 14 April 1813 he sought admission as an early ordinary member of the Geological Society of London (no. 255, elected 21 May 1813—Woodward, 1907, 275 and Archives of the GSL). His Society sponsors were the then president, George B. Greenough and the then Secretary, Arthur Aikin (for both see *ODNB*). Elwin's address was given as "Farnham, Dorset". This seems a strange address, far from London. But that it was *his* membership, rather than that of his father, is confirmed by his 1820 Bath pamphlet (see Appendix), in which he urges the BLSI's museum-to-be to emulate "the Collection of the Geological Society" ([Elwin] 1820, 18-19).

An earlier connection between geology and Antigua had existed through Hon. Nicholas Nugent (*c*.1781-1843) M.D. Edinburgh 1804, when "of Antigua" (Anon. 1846, 235). Nugent was still in Antigua in 1808 when he was elected an Honorary Member of the Geological Society (Woodward, 1907, 271). Nugent returned to England in 1810, and was based at Hill near Southampton by 1812 (Torrens 1990a, 175). He made a number of donations of Antiguan geological specimens to the Geological Society's museum between 1811 and 1819 and published two papers on West Indian geology in 1811 and 1821 (Woodward 1907, 45). It seemed probable he was the man who introduced Hastings Elwin to the delights of geology and the Geological Society. This is proven by Nicholas Nugent's being the first signature on the 1813 form proposing Elwin for GSL membership. By 1815 Nugent had returned to Antigua where he was for some years Government Agent. Elwin's wife's first cousin George Ottley (1783–1856) also lived in both Antigua and later Millbrook, near Southampton. George's daughter Lucretia (1826–1894) duly married Oliver Nugent (1815–1894), later, from 1872, Sir, son of Dr. Nicholas, to cement these families' relationship (Pine 1952, 1944).

But a small Elwin mystery is provided by the membership lists of the Bath and West of England Agricultural Society (now in Bath University Library). Those printed for 1814 and 1815, which each probably relate also to the years before, record him as an ordinary member at "Farnham-College". Farnham College, Surrey was the location from 1813 to 1819 of the Senior Department of John Gaspard Le Marchant's (1766–1812—see *ODNB*) new Royal Military College, founded in 1799, and now the Royal Military Academy, Sandhurst (Bond 1972, 51-53). But Elwin does not appear in *Army Lists* for this period. The only surviving ledger preserved at Sandhurst, recording some of the staff at the Senior Department 1799-1820, equally makes no mention of Elwin and he does not appear in the index to their Minutes for 1812-1815 either. Probably Elwin was on the civilian staff here for a short time, after the settlement of wars over French and British possessions in the West Indies had allowed his return to England. Farnham, Surrey certainly seems a more likely location at which an ordinary member of the Geological Society of London would then have lived.

Elwin moves to Bath 1814

Elwin is listed as "of Bath" when mentioned as an executor, in the will dated 18 June 1814, of Anthony

Molloy (Oliver 1894-1899, vol. 2, 137). Elwin had, as we have seen, been serving as Molloy's deputy Naval Officer in Antigua. But Hastings could still be listed as "of Antigua" in May 1820 when he and others sold the Richmond estate there (Oliver 1894-1899, vol. 2, 261).

Probably Elwin moved to live in Bath early in 1814. He was certainly present at a meeting of the Bath and West Agricultural Society on 8 February 1814 (Archives 1/8, p. 109, Bath Record Office). Hastings Elwin's parents were also, probably temporarily, "of St. James square, Bath" on 24 December 1814, when Elwin's only sister Harriet married Alexander Gordon Esq. of Old Broad Street, London at Walcot Church, Bath. This was performed by his brother Rev. Fountain Elwin (*Bath and Cheltenham Gazette*, 4 January 1815, 3, col. 4).

Savings Banks

On 22 March 1816 the radical politician Joseph Hume (1777–1855—see *ODNB*) resolved that the plan of the Bath Provident Institution, newly founded in Bath in 1815, after a following a smaller organisation of 1808 founded for domestic servants only, should be adopted nationally. "Mr Hastings Elwin's oral advice [had] then determined the city of London to act in like manner" (Monkland 1855, 102). The *History of Savings Banks* records the important role played by the citizens of Bath in this whole movement (Horne 1947, 27 and 60-65). The third Marquess of Lansdowne, the politician Henry Petty-Fitzmaurice (1780–1860—see *ODNB*), who opened the Bath Provident Institution in January 1815, was in due course to become first president of the BLSI.

Bath and West of England Agricultural Society

Hastings junior soon joined in the cultural life of his new city. The first Society with which he was involved here was the Bath and West of England Agricultural Society (hereafter BWEAS). Their list for 1815, published 1816, records him as "Hastings Elwin esq; Bath". He continues thus up to the list for 1820, published 1821, when he is listed as a Vice President, paying a double subscription of £2-2-0. His last entry is in that published 1832.

In 1805 the BWEAS had voted to establish a Committee of Chemical Research with, from 1807, its Chemical Laboratory. Its main function was to examine the application of chemistry to soils (Williams and Stoddard 1978, 63-64). The connection of soils to geology was now of much interest, as a result of the earlier local work of geologist William Smith. This work so helped "further disseminate his stratigraphic methods... that we may suspect that Smith's connection with Bath was especially fortunate" (Torrens 1990b, 184). But this early BWEAS initiative soon failed. In March 1819 a new group at the Society, under Dr. Charles Henry Parry (1779–1860—see *ODNB*) who had also been an early convert to the merits of Smith's discoveries (Torrens 2002, III, 225-226) set up a new Committee for Chemical and Geological research. Its minutes (Bath Record Office, Archives 2/22) start on 2 March 1819, when Smith's old friend, the Somerset Coal Canal's chief engineer, William Hill (1776–1868) of Coombe Hay, offered the society "specimens of a complete series of Strata" arranged in Smithian stratigraphic order. These were accepted (Torrens 1977, 482).

By 11 January 1821, Elwin was chairman of this Committee and at his first meeting an honorary premium was suggested to reward the "particular encouragement of the sciences of Chemistry, Geology and Mineralogy" among BWEAS members. This was in hope "of completing their collection of specimens illustrative of the Geology of England". This is yet another illustration of the revolution brought to English geology and its museum collections by Smith's ideas (Knell 2000). By the next month a BWEAS medal for this purpose was being proposed. This initiative certainly produced a number of BWEAS donations of geological specimens, including Elwin's own donation "on 3 December 1821 of a fossil crab from Charmouth" (see also *Bath and Cheltenham Gazette*, 25 December 1821, 4, col. 2). But the BWEAS's main focus had necessarily to be on agriculture and it clearly lacked enough members who were genuinely interested in, what was to its majority, the marginal subject of geology. Circulars produced little result and so, in December 1821, the "present museum accommodations are not such as they ought to be for such an establishment". The Minutes noted how:

> the Committee beg leave again to suggest that this very backwardness is the cause of the evil of which complaint is made, the very circumstance, which stands in the way of that more complete and sufficient arrangement [of both specimens and strata in the Society's museum. They promised when this problem was solved to] give all the importance it deserves to such a collection, as well by the procurance of Cabinets better suited for exhibiting them, as of that still more desirable circumstance, a more light and commodious Room.

The Committee now drifted rudderless, until 30 November 1825 when Elwin was again back in the chair. It was now agreed that all those BWEAS

> specimens already received be transferred to the [new BLSI], where a collection is forming with the prospect of complete success and where these specimens will be seen to much greater advantage.

The BWEAS could now concentrate on matters of more "immediate agricultural interest" (Anon. 1990, 174). One cannot help wondering now if the problems of this BWEAS museum plan to collect geological specimens was not a real catalyst which turned Elwin's attentions to this other Bath Institution [BLSI], where Museum provision was to be a more central aim.

The Bath Literary and Scientific Institution (BLSI)

The major initiative with which Elwin was most concerned was this BLSI. Its complicated gestation has been recorded in two vital, largely contemporary, sources written by the historian Rev. Joseph Hunter (see *ODNB*). He was the Presbyterian/Unitarian minister of Trim Street Chapel, Bath from 1809 to 1833. He discussed *The Connection of Bath with the Literature and Science of England*, first in a rare essay of 1827 (Hunter 1827a). He covered this more fully in an extended and annotated version published in 1853 (Hunter 1853). This added *An account of the Formation of the [BLS] Institution*. Hunter here detailed the several attempts to found this last Bath [BLS] Institution.

This was the fourth attempt to establish such an Institution, or Philosophical Society, in Bath. The third had been the semi-commercial operation established in 1815 by "Dr." Charles Hunnings Wilkinson (1766–1850), who had come from Nottingham, where he was born in 1766. He was the youngest son of Charles Wilkinson (died 1786), head-master of the Nottingham Academy. For a summary of the son's career see Thornton (1967). Wilkinson is another Bath-based scientist who deserves fuller study (Copp *et al*. 1975, 106-107; Torrens 1990b, 184).

a) Edward Barlow's first initative

A fourth Bath Institution had been suggested in 1819 (Hunter 1853, 4), in clear, if unrecorded, competition with the third Society above. The originator of this fourth 'Society' was Dr Edward Barlow (1779–1844), a Meath-born physician who had first practised as a surgeon in Dublin and then graduated M.D. at Edinburgh University in 1803. Barlow settled in Bath in 1807 (Anon. 1844). Barlow's favourite theme became medical reform in Britain, on which he published anonymously from 1807 to 1820 (Loudon 1986, 310 and 147-151), including his *Inquiry into the General State of the Profession of Physic* in 1818 (Edinburgh, A. Constable and Co.). In Bath he was elected honorary senior physician to the Bath General Hospital, on 3 March 1819. He also held an appointment at the Bath United Hospital (Borsay 1999, 117, 139, 167 and 334-5). His long campaign to reform the British medical profession, culminated in his equally prominent role in the Provincial Medical and Surgical Association from 1832. By so urging a new Institution on Bath's citizens early in 1819, Barlow may have hoped to further establish his local reputation, immediately after his appointment to the Bath General Hospital.

The history of the whole Literary and Philosophical Institution movement in Britain, which, by 1848, catered for over 400,000 people (Catchpole 2004, 48) deserves a modern historian. Simon Knell has made a fine start with his work on the *Culture of English Geology* within the period 1815-1851, with a chapter on Geology and the philosophical societies (Knell 2000, chapter 3). This describes the growth of such societies in the 1820s, with a map showing the distribution of some of those founded in England between 1783–1829.

On 14 April 1819, a month after his new medical appointment, Barlow "addressed a printed circular to such persons in Bath as he thought might be disposed to join with him in establishing an Institution". Joseph Hunter was one (Hunter 1853, 5). Notices of Barlow's idea appeared earlier in Bath newspapers. The *Bath and Cheltenham Gazette* drew "the attention of Literary and Scientific Readers to an article which will appear in our next number" (17 February 1819, 3, col. 3). On 24 February a long *Essay on the Advancement of Literature, Science and the Arts in Bath* signed by "a lover of Science and the Arts, Bath, 15 February 1819" (i.e. Barlow), duly appeared. It was accompanied by the editor's "strenuous solicitations", who noted how Barlow's "plan was to engraft on the [long established BWEAS] an institution on an extensive scale, embracing the most interesting objects connected with Science and Literature". The editor felt his plan "deserves serious attention" and offered to act as "the medium of communication" between all interested parties.

Barlow's article noted how:

> it has long been a subject of regret, that among the various attractions with which our highly favoured city [Bath] abounds, it contains no institution suited for associating the various LITERARY AND SCIENTIFIC characters that exist so

> numerously among its residents and occasional visitors... Indeed so great and obvious are the advantages resulting from associations which promote and facilitate intellectual intercourse, that it only excites surprise how the establishment of some suitable institution of this kind could have been so long delayed.

Barlow noted that most such associations had been set up to establish libraries and to hold meetings. He had had discussions with "a highly enlightened friend" [who may have been Elwin] who suggested the formation of a museum in Bath. The same friend compared the situation in Bath with those found on the Continent. Barlow added that he too, had just made a tour in France and Germany and could confirm how far in advance the continentals were in such associations. Barlow concluded that the best plan might be to try and graft the new organisation onto the existing BWEAS. Since the minutes of its new Chemical and Geological Committee start so soon after Barlow's plan was announced it seems certain that this was indeed part of this first initiative, to join forces (see above) and thus that Elwin was already involved in both.

Barlow's plan was soon supported by "a Constant Reader" (*Bath and Cheltenham Gazette*, 3 March 1819, 2, col. 3). Further notes recorded that "an association had been formed to carry these plans into action" (*ditto*, 24 March 1819, 2, col. 3). The first prospectus, to which Hunter referred (Hunter 1853, 5-6), was also announced on 21 April 1819 (2, col. 4) and printed on 5 May 1819 (4, col. 1). It was reprinted by [Elwin] (1820, 5-7).

But Hunter rightly noted how this scheme of Barlow's "partook of the somewhat sanguine temperament of Dr. Barlow's mind". His institution was still intended to comprise all eight of these components:

(1) a Library and Reading-room
(2) a Botanic Garden
(3) a Museum of Natural History
(4) a Cabinet of Mineralogy
(5) a Cabinet of Antiquities
(6) a Cabinet of Coins and Medals
(7) a Hall for Lectures, with suitable apparatus for the courses in chemistry and other branches of natural philosophy
(8) a Gallery for the Exhibition of Sculpture and Paintings

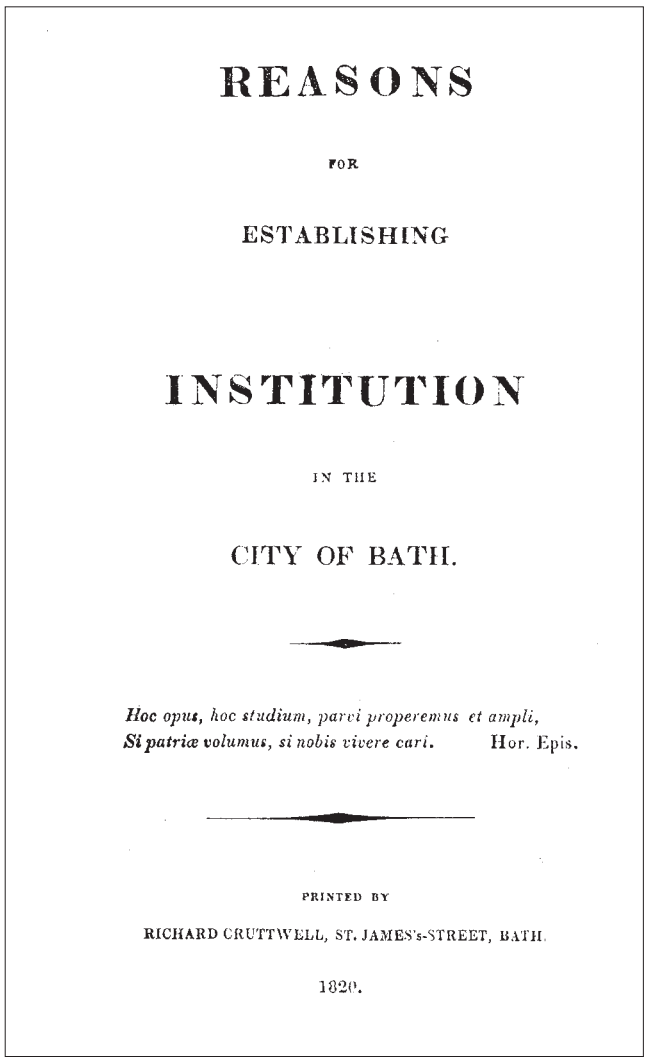
To achieve this, Barlow proposed that £30,000 be raised in 600 proprietary shares of £50 each. Of this £20,000 was to purchase, and fit up, suitable premises, and £10,000 was a reserve fund, to provide interest to pay for annual expenses. Nothing would be done however until 300 shares had been subscribed. Hunter rightly feared that this "scheme was too magnificent, or rather that £30,000 was a larger sum than would easily be raised in such a place, even as Bath". Nevertheless, on 6 May 1819, Hunter was elected a member of the Board of Directors (Hunter 1853, 6-7).

The first negative voice was heard, when, on 27 April 1819, one "E.M." wrote to the newspaper. This was the Rev. Edward Mangin (1772–1852—see *ODNB*), who was an early member of the Board of Directors of the planned institution (Hunter 1853, 7).[1] E.M. reported that share holders were not to be called upon to provide any funds "until the number of £50 shares amounts to 300", so that each shareholder would have "two and a half years... to complete his payment". He thought "it would be unseemly to despair" of the project, and hoped the plan might succeed, but "should the hopes entertained by the projectors of the 'Bath Institution' not meet with success" he pessimistically thought that subscriptions to the Institution could be cancelled less "a sum, not exceeding one pound, to defray incidental charges and to refund whatever balance may remain" to each share holder (*Bath and Cheltenham Gazette*, 28 April 1819, 3, col. 4). Nevertheless Barlow, as the Secretary, was still appealing for share subscriptions in May 1819 (*Bath and Cheltenham Gazette*, 5 May 1819, 1, col. 2).

A long, and long-winded but highly positive, letter from "A Friend of Literature, Science and the Arts" was printed on 2 May commenting on the recently printed *Prospectus*. It urged the desirability of such an Institution, as "a project which will confer a great and lasting benefit on the whole community". S/He urged "let us not hazard by a lukewarm and hesitating reception the realization of so excellent a plan" and noted:

> because there appear to be many who really wish well to the undertaking, but who, from some unaccountable timidity, or error in reasoning, suspend their intention of subscribing until they shall see how others decide!... The subscriber who really wishes to promote the undertaking, *risks nothing by early subscription* (*Bath and Cheltenham Gazette*, 12 May 1819, 1, cols. 2-3; *Bath Chronicle*, 20 May).

1. Richard Warner (1830, vol. 2, p. 12) listed "Rev. E. Mangin and Rev. T. Falconer as among the able men and members and supporters of the Literary Institution". Joseph Hunter responded that "neither have anything to do with the Institution" (BL Add MSS 36527, vol. 2, p. 5). This suggests that Mangin soon withdrew after his early involvement. Hunter also complained, rather unfairly, that Warner had here mispelt Elwin as Elwyn.



REASONS

FOR

ESTABLISHING

INSTITUTION

IN THE

CITY OF BATH.

Hoc opus, hoc studium, parvi properemus et ampli,
Si patriæ volumus, si nobis vivere cari. Hor. Epis.

PRINTED BY

RICHARD CRUTTWELL, ST. JAMES's-STREET, BATH.

1820.

Figure 1. Title page of Hastings Elwin's anonymous *Reasons for establishing an Institution in the City of Bath* of 1820 (Library of Congress, Washington DC, USA).

b) The need for a new initiative, enter Elwin

Hunter reports that "everything was done that could be done to gain attention to the project... and two or three other gentlemen were added to the Board". Among these was Hastings Elwin, whom he called a

> most valuable addition, as was proved by the whole course of subsequent events. He was the author of the pamphlet, printed in 1820, entitled *Reasons for establishing an Institution in the City of Bath* (Hunter 1853, 7-8).

No copy of this pamphlet had been located (Kite 1966, 81) but a copy has now been found, wrongly dated, in America ([Elwin] 1820) (Figure 1).

The exact date of its publication, in the first fortnight of 1820, is also established, as a notice that it had "just been issued" appeared in the *Bath and Cheltenham Gazette* (12 January 1820, 2, col. 3). The editor then noted that Elwin was "a writer of correct taste and enlarged observation", and highlighted Elwin's reproach (p. 4) of Bath's inability to "boast one solitary establishment for the enjoyment or promotion of Literature or the Arts". Elwin's complete pamphlet is of sufficient importance to be reprinted here (see Appendix).

By May 1820, the same "Friend of Literature, Science and the Arts" (who may well once again have been Elwin, since he quotes from the Elwin pamphlet), wrote in again, to note how

> attention has of late been so absorbed by subjects of great national interest, that we have scarcely had power to direct our thoughts to those local affairs which more nearly concern us [in Bath]".

This was the death of George III on 29 January 1820, just after Elwin's pamphlet was issued. This deflected attention from its publication and may explain why it is so excessively rare today. "The Friend" continued that subscribers now "amount to nearly a hundred" (of the, at least, 600 subscribers needed) and repeated that any subscription carried no future financial risk. S/He commented that such projects took time and noted how "it has taken above eight years to establish the Bristol Institution" [on which see Neve 1983; Taylor 1994] (*Bath and Cheltenham Gazette*, 31 May 1820 (2, col. 4). The editor added (col. 3) that Elwin's pamphlet was "the production of a highly gifted and distinguished gentleman of this city, who has lately taken up his residence amongst us". He noted that shares in the [Devon and] Exeter Institution had much increased in value within just four years, in his own attempt to encourage more Bath subscribers.

c) The Devon and Exeter Institution

This Devon and Exeter Institution (DEI) provides an interesting comparison with the BLSI since, as in Bath, it survives today. The DEI was founded in 1813 and still occupies the premises purchased for it in September 1813, within one month of its inauguration (Drake 1913, 10). The DEI was founded to promote science, literature and the arts, as in Bath, and was then concerned to provide both a library and reading room and a museum, although the library and reading room provision has long since become pre-eminent. This is in complete contrast to Bath. With the DEI at Exeter it proved possible to pass its museum collections on to the Royal Albert Memorial Museum when this was founded in Exeter in 1867 (Longridge and Reed 2002, 11-12 and 33). But at Bath there was no museum equivalent until many years later, despite attempts to promote such a Public Museum in Bath from 1853 (Gore *et al*. 1853). Another contrast with Bath is that the Exeter Institution has survived without the many crises which have faced the Bath institution, most recently that in 1997, when the Bath charity's

rights to exist were properly established by the District Auditor (Gibbs 1997). Such crises at Bath had already arisen by 1829, a few years after its formation, when the Institution was noted as

> chiefly sought as a place for Newspapers and Pamphlets and Easy Chairs and heated Air. In addition to this misfortune, that Bath itself cannot support such an Establishment, this has the ill-luck to be placed where no one can reach it (Torrens 1990b, 185).

d) Failure of the Barlow plan

Despite all this effort:

> before the close of 1820, it was become evident that the scheme in the form in which it was first proposed [by Barlow] could not be executed. In fact, shares had not then been taken to the amount of even £4,000. The hopes of its friends died away: the attendance at the Board was greatly reduced: indeed all were by that time convinced that the public would never support a scheme so magnificent (Hunter 1853, 8).

So new reduced schemes were now put forward. Barlow prepared a new one based on a subscription of only £6,000. Hunter himself proposed:

> one even more contracted still: the basis to be a capital of £3,000 or £4,000: the site the end of Johnston Street. With the assistance of a skilful architect [Hunter himself] had plans and elevations prepared. It was, however, too contracted for the ambition of others. It contemplated little more than a library of reference and a reading-room, (on which see Kite 1966).

e) A perceived miracle

Then came a miracle, or as Hunter put it, "while things were in this almost helpless state, a casualty happened in Bath which tended greatly to facilitate the execution of the design" (Hunter 1853, 9). This was the near-total destruction of the Lower Assembly, or Kingston, Rooms by fire. These were reduced to ashes on 21 December 1820 (*Bath and Cheltenham Gazette*, 27 December 1820, 3, cols. 4-5).

f) Progress on the site of the Lower Assembly Rooms 1821–1824

The first idea of turning this tragedy to real effect had come from another forgotten pioneer of the BLSI, Henry Woods (*c*.1796-1840), A.L.S. and F.Z.S. (1829), Bath surgeon and amateur zoologist and geologist who later became the BLSI's first Honorary Secretary. He, then of 7 North Parade on 26 December 1820, immediately after the fire, wrote a long letter pointing out:

> I cannot help indulging the hope, with the editor of the *Bath Herald*, that upon the site of these once splendid halls of harmony and gaiety will arise some equally ornamental structure, to form at once a lasting monument of the elegance of *ancient*, and a solid evidence of the taste and public spirit of *modern* Bath. [His letter continued] I am tempted to offer a suggestion... I have felt not a little surprise and regret that no extensive *Scientific Institution* has ever been established [here]. If, as from rumour, the Assembly-Rooms are *not to be re-built*, here then is a most favorable opportunity of raising from their ashes some edifice... sacred to the highest efforts of the human mind, the Sciences and Arts. [He suggested a] spacious building with four principal apartments.

These plans were now to be a good deal less ambitious than Barlow had originally proposed:

(1) a Library with
(2) a Reading Room
(3) a Museum "for specimens of Natural History and Geology, for which Bath, from its topographical situation, appears by nature peculiarly adapted. The vicinity of the prolific mountains of Wales, the rich mines of Cornwall and Devon, and its own native quarries, would yield inexhaustible treasures of the Animal, Vegetable and Mineral Kingdoms"
(4) a Theatre "for the accommodation of Professors in every branch of Natural Philosophy. It would perhaps be more consistently eligible for the enlightened lectures of such men as Messrs [Deane] Walker [1778–1865—see *ODNB*], [Robert] Addams and Thornton, when they favoured us with their annual visits, than a club-room at an hotel or a card-room at an Assembly-house". The editor additionally suggested that the adjoining gardens and bowling green at the Lower Assembly Rooms would also furnish a most eligible situation for
(5) a Botanical Garden. (*Bath and Cheltenham Gazette*, 27 December 1820 (3, col. 5).

Hunter tells us that much of the year 1821 was spent in corresponding with the agents of this Pierrepoint property, and with Lord Manvers himself. Charles Herbert Pierrepoint, Lord Manvers (1778–1860), was the owner of the Lower Assembly Rooms among his many properties in England, which included "the principal portion of the City of Bath" (*Gentleman's Magazine*, December 1860, 673-4). Then "in the August of that year it was ascertained that his Lordship was quite disposed to enter into an arrangement" with the promoters of the BLSI, Hunter adding that:

> in all these negociations the friends of the Institution were greatly indebted to the tact and skill and business power of Mr. Elwin, without whom a negociation not without its difficulties would hardly have been brought to a successful issue (Hunter 1853, 10).

It thus becomes clear that it was Elwin, acting on Woods' vital suggestion, who was the real instigator of the resolution that the BLSI, and its new building, should arise on the site of the old Lower Assembly Rooms. Hunter poignantly then added this fine tribute to Elwin:

> if in the far distant land [New South Wales] to which he [Elwin] has removed, this page should ever fall under his notice, let him see that there are those still living in England who retain grateful remembrance of the zeal and energy which he then, and ever after, manifested in favour of this important public object.

Sadly, Elwin, settled since 1841 in faraway Australia, could never have read this fine tribute, as he had died there, unknown to Hunter, the previous year.

Hunter's narrative continued:

> Barlow now set himself to arrange another financial scheme... not having a capital to be expended in a building... But this was only one of the abortive schemes. Another, of which I [Hunter] think it probable that Mr. Elwin was the prime originator, was on a more liberal scale. It was thought that £8,400 might be raised in proprietary shares of 20 guineas each.

Earl Manvers now magnanimously agreed to lease a new "building on a plan prepared by the Board and suitable to their purposes". Manvers proposed:

> to devote the sum of £4,000 received for the insurance of the premises, together with the old materials, estimated at £1,000, towards erecting a suite of rooms on the same spot, for a 'Literary and Scientific Institution', and then to grant a lease of the building, when erected, at a modest rent, for a long term of years (Mainwaring 1838, 247).

Early in 1823 there were still only 130 proprietary members on these terms. Sir John Coxe Hippesley, first baronet (1745/6–1825—see *ODNB*) of Ston Easton, Somerset now "lent important aid". The Duke of York accepted the office of Patron and the Marquis of Lansdowne that of President. The corporation of Bath even gave 100 guineas. The "establishment of a Literary and Scientific Institution at Bath" was announced in the *Gentleman's Magazine* (April 1823, 364). Elwin was one of four scrutineers to elect the committee of 13 from among the subscribers, with all their payments for shares to be completed by the end of January 1824 (*Bath Chronicle*, 15 January 1824, 3, col. 1).

The agents of Lord Manvers now proceeded to erect a building. The now local architect was George Allen Underwood (*c*.1793–1829) who had been working for Hippesley in 1816 (Colvin 1995, 1000). A trust deed was prepared giving all necessary security to the, by now 160, subscribers by a lease of the building granted to its seven trustees by Lord Manvers. These included Elwin. Hunter, who lists the trustees, noted how harmonious dealings now were and how the furniture, laboratory and library were fitted up. The naturalist Henry Woods, and the geologist William Lonsdale (1794–1871—see *ODNB*) are recorded as having also been much involved even before the formal opening of the Institution's building in January 1825 (probably in Lonsdale's case from circa 1823, see Copp *et al*. 1975, 89-91). Lonsdale had "for a long time devoted almost every day to the business of arranging and cataloguing the things [already] contributed to the museum" (Hunter 1853, 16). He and Woods were close friends (Copp *et al*. 1975, 89 and 108) and both made many donations to the BLSI Museum.

g) Museum provision

The initial question of any formal BLSI museum provision was however still clearly complex. On 21 October 1824, Rev. Richard Warner (1763–1857) wrote to Philip Bury Duncan (1772–1864), soon-to-be a member of several BLSI's Committees, including that of the museum in its first year of operation (1825—Anon. 1826, 4). Warner wished clearly to involve the BLSI and

> to dispose of my collection. It consists of about 400 Siberian specimens and between 800 and 900 miscellaneous ditto, organised fossils, polished specimens, siliceous specimens and shells: there are also to go with the above, 2 cabinets, one glazed, the other without glass. I consider the whole as worth £100. Should you know of any institution likely to wish for such a purchase, I should be obliged to you, to bear my collection in mind. It might be inspected, at any time *on a week's notice*, by a line directed for me at Miss Cole's (Bath Reference Library, AL 2029).

Duncan annotated this letter "I suppose Mr Warner thinks we propose to have a collection of Minerals at our [Bath] Institution. I have told him that I believe there is no intention of this kind".

Warner's "large and fine collection of organised fossils" has some fame, as the first ever to have been arranged in William Smith's stratigraphic order, probably as early as 1799 (Torrens 1979; 2003, xxiv). But sadly, as a result of Duncan's intervention, it never reached the BLSI (Copp *et al*. 1975, 106) but was apparently sold between 1824 and 1830. Why Duncan then thought it comprised only 'minerals' or that the BLSI then had no intention to collect such material remains unclear. The two Duncans, with Philip's brother John Shute (1769–1844), were to revolutionise the study of natural history, and the curation of the, particularly zoological, collections at Oxford's Ashmolean Museum (Macgregor and Headon 2000) from November 1823. These already excluded any minerals and fossils which had been lost to the Ashmolean from 1813. The Duncans soon developed a particularly Paleyean theological intent with regard to their Oxford displays (Macgregor 2001, 138-139) and perhaps they feared fossils might conflict with such theology? Samuel Peace Pratt (1789-1863) of Bath was one of those who both advised the Duncans on their Oxford Museum from October 1824 (Macgregor and Headon 2000, 383-386, 389-390) and who made donations (Macgregor, Mendonca and White 2002, 322). Pratt was also among the first geological donors to the BLSI. He provides another, forgotten, connection between these two institutions.

There is one other possible link to investigate as to the fate of this Warner Collection. Sometime in the 1830s, according to a letter from Lt-Col. John Torriano Houlton (1771–1839) of Farley Castle near Bath to Warner, Houlton, who had been an enthusiastic collector of fossils since at least 1815 when he was a subscriber to Smith's *Geological Map*, thanked Warner for his "gift of a geological collection made to his wife" (Torrens 2003, xxix-xxx). Sadly this original letter was lost in 1988, when the BLSI's copy of the Coverdale Bible was re-bound, so further details are now un-available.

h) The inaugural BLSI lecture and public dinner on 21 JANUARY 1825

The formal opening of the BLSI, on 19 January 1825, was announced with an Inaugural Lecture on the same day and a Public Dinner on 21 January (*Bath Chronicle*, 6 January 1825, 3, col. 1). In the event the inaugural lecture was held in the afternoon of 21 January and the dinner on that same evening. These dates become the termini for Hunter's account of 1853. Three Wiltshire-based poets, Rev. William Lisle Bowles (1762–1850) of Bremhill, Rev. George Crabbe (1754–1832) of Trowbridge and Thomas

Figure 2. The Institution's first book-plate (author's collection).

Moore (1779–1852) of Sloperton Cottage, Bromham, 3 miles south west of Calne, were the guests of honour at the second event, which, the *Bath Chronicle* announced, marked:

> a new aera in the history of Bath [in which] the construction of the [BLSI's new] 'Temple', could not have been impelled forward by one more able on all occasions to conceive, and more vigorous to execute, than by Mr. Elwin (*Bath Chronicle*, 27 January 1825, 3 and 4, cols. 1-4).

It is this temple-like form which the Institution's first book-plate shows (Figure 2).

The inaugural lecture was given at two o'clock by the Bath physician Sir George Smith Gibbes (1771–1851—see *ODNB*). His lecture was fully reported in the same Bath papers and a special broadside version was also reprinted (Broadside no. 424, American Philosophical Society Library, Philadelphia, USA). Gibbes had been chosen to lecture by the Trustees and here paid special attention to the sciences and to technology. His lecture continued the Temple analogy. The first science on which he touched was astronomy, since Bath was "where [William] Herschel first gave promise of his future fame". Gibbes next moved to "the living creation" or Natural History, where "Geology, a science of modern date, has been lately very successfully cultivated". Then followed his own field of comparative anatomy. Gibbes then mentioned those "celebrated men who have occasionally visited Bath within the few years past". These included Jean Andre de Luc (1727–1817), James Watt (1736–1819), Lord Lansdowne with his encouragement of Joseph

Priestley (1733–1804) and Dr Jan Ingenhousz (1730–1799). Then followed comments on the work of the chemists; the Swede, Carl Wilhelm Scheele (1742–1786), Joseph Black (1728–1799) and Sir Humphry Davy (1778–1829). Finally Charles Babbage (1792–1871) and his calculating machines got an honourable mention.

Gibbes' thoughts turned next to inventions by which the industrial revolution was then being fervently pressed forward. His final list recorded eleven names who had contributed to the "Literary History of Bath". At the conclusion of the lecture various speeches were made. These included Sir John Hippesley, who dwelt on the

> advantages which the Committee had derived from the deep legal knowledge and indefatigable perseverance of Mr. Elwin, by which the greatest obstacles, sufficient to have deterred a less powerful and energetic mind, were entirely overcome; he proposed a resolution that a Bust of Mr. Elwin, to be executed by Chantrey, be placed in the Library, in acknowledgement of his exertions in the formation of the Institution. [Hippesley also noted] that the plan of the building... included a gallery formed to receive objects of Natural History and Virtu.

Dr Edward Barlow seconded this resolution and

> bore testimony to the talents of Mr. Elwin. He had himself devoted much time in the attempt to establish an Institution; but, though aided by the co-operation of other zealous individuals, **his exertions were unsuccessful** [emphasis here added]: it was left to the superior powers of mind of Mr. Elwin to grapple with, and overcome, the obstacles which opposed themselves.

Dr Charles Henry Parry (1779–1860) also spoke "in praise of the services rendered to the Institution by Mr. Elwin". These are powerful testimonies to the fact that Elwin was the real driving force behind the foundation of the BLSI.

The dinner that followed that evening was a relaxed affair and the many speeches fully reported (*Bath Chronicle*, 27 January 1825, 3, cols 3-4). One of the most interesting comments then came from Charles Parry, who noted that he was "a member of a sister institution, recently established in the city of York". This is the Yorkshire Philosophical Society founded in November 1822, details of which Parry handed to the meeting, since the York Society "had expressed a desire to associate with you in the way of literary intercourse". As Simon Knell has noted, "the strongest of the links [of this Yorkshire Society] connected the Yorkshire county town with the rich geological country round Bath" (Knell 2000, 87-88). A crucial chain in this link had been provided by Colonel William Salmond (1769-1838). He had been a soldier and a customs officer in the West Indies (Curaçao) who, like Elwin, had returned to settle in England and become a member of the Bath and West of England Society, in 1812. He had next moved to York by 1820 where he became a leader in the excavations, from 1821, of the famous Kirkdale Cave near there and became a founder of the Yorkshire Philosophical Society (Knell 2000). No wonder that Parry wanted Bathonians to emulate this Yorkshire activity. Parry first read Salmond's letter to him, describing these first discoveries at Kirkdale, to the Bath and West Society in February 1822 (Minutes, 12 February 1822, BWEAS Archives vol. 8, 448 and *Bath Chronicle*, 14 February 1822, 3). This was soon reported back in York, although there credited to an unnamed, and unidentified, correspondent (Orange 1973, 7). Salmond then played a vital role in the foundation of the Yorkshire Philosophical Society some months later.

Elwin's own health was also drunk, to which he modestly replied that the establishment of the Institution had been due to the cordial co-operation of all the members of the Committee. But he did note:

> that the prior attempt to establish a Literary Institution [here] had only failed from the gigantic nature of its plan: and that its promoters, with the most commendable liberality, [had] abandoned their own plan, and most cordially united their efforts with those of the present Committee.

The three poets spoke last. There survives a remarkable description from one of them, the fluent Irish pen of Thomas Moore (Russell 1860, 375-376; Moore 1853-1856, vol. 4, 271-273). It is also worth noting that another of them, George Crabbe, was by then a passionate devotee of geology, some of whose collection survives (Torrens and Delair 1980). It is also clear from Moore's own more voluminous *Memoirs* how extensive his social contacts were with the Elwins at this period (Moore 1853-1856).

i) The Chantrey Bust of Elwin

At a subsequent meeting of the Proprietors and Subscribers to the BLSI, Hippesley's resolutions were adopted, and the following advertisement issued.

> The subscribers, deeply sensitive of their obligations to Mr. HASTINGS ELWIN, whose sound judgement, ardent zeal, and unremitting exertions, have been so conspicuously displayed in establishing this Institution, are anxious to evince their gratitude for his eminent services by a suitable Memorial.

Figure 3. Bust of Elwin by Chantrey (from the BLSI collections by kind permission, and specially photographed by Daniel Brown).

> Resolved: 1) That a Bust of Mr. Elwin by Chantrey, be ordered, and, with Mr. Elwin's permission, be placed in the Library.
>
> Resolved: 2) That the expense be defrayed by the voluntary contributions of the Subscribers and that Subscriptions be received at the Bank of Messrs Cavanagh, Browne and Co.; the same to be closed, when the sum amounts to £150.
>
> Resolved: 3) That the following Gentlemen [19 names] be a Committee, for obtaining Mr. Elwin's consent, and for carrying the foregoing Resolutions into effect (*Bath Chronicle*, 27 January and 3 February 1825, 3, cols 2/4).

This bust of Elwin by the famous sculptor Sir Francis Leggatt Chantrey (1781–1841) survives in the BLSI's collection. It was long left to disintegrate in the basement yard at 16-18 Queen Square but has now been rescued and is shown in Figure 3.

It bears these incisions

a) on the back, "Chantry sc. 1826" and
b) on the pedestal, "Hastings Elwin - Ob Merita Positum"
[on account of his meritorious position].

Even better, two preliminary pencil drawings, taken from life (498 mm x 643 mm) by Chantrey, survive in the National Portrait Gallery's collections, London inscribed "Mr. Elwin as dated circa 1824" (NPG no. 316a(46)—see <www.npg.org.uk>). A letter from the NPG's Richard J.B. Walter dated 17 August 1983 (now in Bath Reference Library's cuttings file) describes them as: "head only in full-face and profile, a fairly heavily built man of about fifty to sixty [actually 47] with thick curly hair". The NPG drawings appear here as Figure 4 (over).

The Chantrey Ledger, now in the Royal Academy, London, records the order, in 1824, had originated from Lord James O'Bryan (see *ODNB*, sub O'Bryen) for "the Library Society of Bath for a Marble Bust of the Founder, H. Elwin Esq., price 200 guineas", which Chantrey duly finished, and was paid for, in 1826. Lord James O'Bryen (1769-1855), later the third, and last, marquess of Thomond in the Irish Peerage (see *ODNB*) was Hastings Elwin's brother-in-law, he having married, as his second wife, in 1806 on Antigua, Hastings' wife's younger sister Jane née Ottley (*c*.1780–1843—see *Gentleman's Magazine*, October 1843, 444-5 and Pine 1952, 1944). O'Bryan too was interested in geology and he donated a "*valuable* collection of bones from a Cave at Torquay" to the BLSI in 1828 (Copp *et al*. 1975, 102). This is Kent's Hole, where O'Brien [sic] was a named helper of Rev. John J. MacEnery (1796–1841) and so this

Figure 4. Chantrey's preliminary drawings of Elwin from which his bust was sculpted (by courtesy of the National Portrait Gallery, London).

may well be cited material. It certainly survived as "other remains of special interest from the Rev. McEnery collection with [William] Lonsdale's writing preserved on the labels", until 1937, although its full history and connection with O'Brien were then unknown, being only noted as "an unrecorded donation from MacEnery" (Kennard 1945, 159 and 163).

Major omissions in Gibbes' lecture "Bath as the Cradle of English Geology"

On 3 February 1825 a letter to the editor of the *Bath Chronicle* appeared. This was an anonymous piece commenting on the "late auspicious opening" of the BLSI. It noted that:

> the time necessarily limited for the occasion rendered it impossible for George Smith Gibbes to bring forward one-half of the evidence, through which our charming city might be rescued from so undeserved a stigma [that literature and science had not, and could not, flourish here].

The author proceeded to list those who had not been mentioned by Gibbes. The most prominent of those he named was William Smith (1769-1839), pioneer of stratigraphy, whose work had started in 1791 in the hills round Bath. Next, the writer mentioned the meetings which had been held weekly at the houses of Sir William Watson (1744-1824) and Dr. John Haygarth (1740-1827). These must be refer to the, badly known, second Bath Philosophical Society (Torrens 1990b). The writer noted "I should doubtless exhaust the time and patience of your readers were I to name one-half of the eminent persons, who were in the habit of assembling there". This suggests, as we shall see, that these meetings had lasted until at least 1809, when Joseph Hunter arrived in Bath. The writer "hoped that this addition to the arguments brought forward by Sir George Gibbes... may not be deemed impertinent" (*Bath Chronicle*, 3 February 1825, 2, col. 3).

Comparison with the later printed lecture which Joseph Hunter delivered at the BLSI in Bath on 6 November 1826 makes it clear that Joseph Hunter must also have been the author of this anonymous letter of 1825. His lecture was published, as a pamphlet, early in 1827 (Hunter 1827a), then in a periodical in April/June 1827 (Hunter 1827b), and was reprinted, with additions, in 1853 (Hunter 1853).

This establishes an important point. In 1825 Hunter had only noted of Smith that "the foundation of our

Figure 5. Portrait of Joseph Hunter (from Hunter 1828-1831). Hunter was the first to make the claim that "Bath be regarded as the cradle of English GEOLOGY".

present knowledge of the Geology of England and Wales received its first impulse towards that object in this city [Bath]". In his 1826 lecture Hunter became the first to make the claim that "Bath may justly be regarded as the cradle of English GEOLOGY" (Hunter 1827a, 14; 1827b, 544 and 1853, 49). So it must have been Hunter himself, whom Smith himself had in mind, when he wrote, shortly before his own death in 1839, "for, as some of my pupils and friends have called the vicinity of Bath, 'the cradle of Geology', I now inform them that Rugburn [High Littleton] was its birthplace" (Cox 1942, 72). But Hunter had been beaten to any first suggestion that Smith deserved to be called "the father of modern English geology". This was a title first suggested by the Geological Society's museum-keeper, draughtsman and then secretary Thomas Webster (1772–1844—see *ODNB*) in January 1825 (Webster 1825, 39).

All this was part of the intense 1820s polarization, within senior members of the Geological Society of

London and without, as to Smith's rightful place in the pantheon of British geology (Torrens 2002, X, 8-10). In a wonderful irony those same Bath newspapers, which recorded news of Gibbes' lecture and of Hunter's powerful response to it, still carried advertisements for "Greenough's Pectoral Lozenges of Tolu" (patented in 1757) (*Bath Chronicle*, 27 January, 3, col. 5 and 3 February 1825, 1, col. 3). It had been the great sale of these 'quack medicines' that allowed George B. Greenough, first president of the Geological Society of London, so easily to afford to compile his rival *Geological Map of England and Wales* in 1820. This had fuelled this polarised debate.

On 5 February 1825 a not-entirely informed Lord Manvers wrote from Thoresby Park, Nottinghamshire to Sir John Hippesley:

> Many thanks for the Newspaper account you have sent me of the opening of the Bath Literary Institution, on the completion of which I beg, most cordially, to congratulate you, as the *original Projector of the scheme* or, at least, I may without fear of contradiction assert that but for your active and zealous instrumentality on the outset, this new Society *never* would have been erected on the site, where it now stands, and where, I trust, it will long continue to flourish.
>
> Believe me, my dear Sir John, with great regard and esteem your very faithful and obedient servant, Manvers
>
> (Original copy letter, MSS in author's collection).

The BLSI "business of the lecture department was begun by a short course on the steam-engine, by Mr Webster" (Hunter 1853, 17). This was Norton Webster, whose course on the steam engine (*Bath Chronicle*, 16 December 1824) and others on experimental philosophy and practical mechanics are recorded (*ditto*, 3 February 1825, 4, col. 3-4; 10 February 1825, 3 and 4, cols 1 and 4). Webster was active between 1819 and 1825 (Inkster 1997, II 80 and 87; VI 454). Lectures to include geology reached Bath with Robert Addams (noted above in 1820) whose course on "electro-chemistry and magnetism, chemistry and geology" started in March 1825 (*Bath Chronicle*, 10 and 17 February 1825, 3, cols 3 and 4). Addams was a London lecturer and patentee also active throughout the provinces at this time (Inkster 1997, VI 464-465). Henry Woods, the BLSI's first Honorary Secretary (*Bath Chronicle*, 27 August 1840, 3), also lectured to the BLSI (*Bath Journal*, 28 November 1825, 2, col. 5) and his *Introductory Lecture on the study of Zoology*, delivered to the BLSI on 28 November 1825, was soon printed by order of the BLSI Trustees (Woods 1825).

Elwin's donations to the BLSI and the Casali paintings

Elwin was a major donor to the BLSI collections. The first *Annual Report* for 1825 notes that:

> A Museum has been founded, in which it is intended to collect and preserve whatever Remains of Antiquity the district of Bath may supply; – and which already promises a considerable source of instruction to the students of Natural Science, particularly in the department of Geology (Anon. 1826, 10).

Elwin was one of these students and the same *Report* lists the following gifts as made by him:

(a) A large gift of books in Latin, Italian, French, English on Natural History, Geology, Travel, Current affairs and Politics (p. 20). Only one of these seems to survive, *The Digest of Parochial Returns made to the Select Committee appointed to enquire into the Education of the Poor*, 1818, two volumes. Elwin's other 1825 donations include:
(b) three maps (p. 24)
(c) four casts of 1) The Wrestlers, 2) Listening Slave, 3) Apollino and 4) Venus de Medici (p. 24) and
(d) a Scale of Thermometers (p. 26).

Elwin's personal book-plate is shown here (Figure 6).

Figure 6. Elwin's own book plate (author's collection).

Elwin's later geological donations to the BLSI, listed in 1975 (Copp *et al*. 1975, 97), comprised:

(1) in 1826, 100 Rocks – Mont Blanc area
(2) in 1826, Lias Fossils from Charmouth

Elwin's main acquisitions for the BLSI are the four famous Andrea Casali circular ceiling paintings, of the 1760s, of Pan, Ceres, Pomona and Mercury, which once adorned William Beckford senior (1709–1770)'s famous house at Fonthill Splendens (see <www.brlsi.org/collections/casali.htm>). These have been recently restored by the BRLSI. These were purchased by Elwin for the BLSI in 1823 and two are shown on the original ceiling of the BRLSI's Victorian Charles Moore Room, on the cover of Copp *et al*. (1975). The Pink Room at the BRLSI, now housing these Casali paintings, is now named the Elwin Room in his honour.

The history of these paintings is complex. In 1801 demolition work had started on Fonthill House and the twenty Andrea Casali (1720?–1783) paintings, originally for this house, were put up for sale. Five were then purchased by Samuel Cox (1758–1822), land-owner and sail-cloth manufacturer of Beaminster, Dorset (Draper 2005). Cox died in April 1822, and his wife Ann in September (Hutchins 1863, vol. 2, 137), and their son Samuel Cox junior (1790–1860) now decided to sell four of them. The one Dorset survivor is still on the drawing room ceiling of their former manor house (Royal Commission, 1952, 19, 23 and plate 76). Their house had been considerably enlarged by the BLSI's future architect, George Allen Underwood in 1822. When Underwood became the architect of the new BLSI building in April 1823, he suggested to Elwin that these four be bought for their new building. They cost Elwin only £12 later that month (Draper 2005). Wright (1864, 310-22) records them, and gives details of other Casali paintings, also purchased in 1801 by Paul Cobb Methuen (1752–1816) of Corsham, Wiltshire. These, after adorning the Orchard Street Theatre in Bath, are now at Dyrham Park, near Bath.

Any later donations made while Elwin was still based in Bath need further investigation. An MSS green folder, formerly seen at the BRLSI, listing Donations to the Museum 1825-1934, recorded in an MSS note dated 1904, that "a miniature portrait on ivory of Hastings Elwin, attributed to Jagger, Bath 1827, had been given by Mrs S.F. Patey". With the discovery of Chantrey's drawings of him, this miniature may now be identifiable. Charles Jagger (*c*.1770–1827) was a miniature painter long active in Bath and this must have been one of his last productions there.

Elwin's later life in Bath 1826–1829

Hastings was still living at 16 St James' Square when his first wife Margaretta Matilda died there on 1 April 1826 (*Bath and Cheltenham Gazette*, 11 April 1826, 3, col. 3). Elwin's continued connections with both the BWEAS and with Italy are revealed in the two short papers he contributed to their *Letters and Papers* in 1829 (Elwin 1829a; 1829b). These are wrongly attributed to a namesake in the *National Union Catalog*; Hastings Philip Elwin (1845–1874), who was not alive when they were written.

On 21 May 1829 Elwin, now of Park-street, Bath, married again at Clifton, "Mrs Coxe, widow of the Rev. —— Coxe, and daughter of the late Archibald Thomas" (*Gentleman's Magazine*, May 1829, 462 and *Bath and Cheltenham Gazette*, 26 May 1829, 3, col. 3) where Thomas is more correctly recorded as "Archdeacon". He was Rev. Archdeacon Josiah Thomas (1760–1820) of Bath (*Gentleman's Magazine*, June 1820, 565-566). Mary Anne Coxe née Thomas (1796–1872) was widow of the Rev. Holled Coxe (*c*.1796–1820) who had died in India, where he was a chaplain in the East India Company's service. His brother was Bodley's librarian in Oxford (see *ODNB*). Elwin is recorded as living at 16 St James Square, or at either 36 (in 1822) or 15 (in 1829) Park Street, Bath up to 1831 when he suddenly disappears from *Bath Directories*.

Hastings' second cousin Whitwell Elwin (1816–1900), clergyman and journal editor (see *ODNB*), was memorialised by his son in 1902 (Elwin 1902, vol. 1, 1-38). This contains material on the ancestry of the Elwin family. Whitwell's second cousin, Fountain Elwin (*c*.1784–1869) who was, from 1816, minister of the Temple church in Bristol, was recorded as having been very kind to Whitwell when, at a date supposed to be 1834, Whitwell there met his wife-to-be. His biographer added that soon after this date.

> Two relatives now lived at Bath – Fountain Elwin... had since moved from Bristol to become minister of the Octagon Chapel [Bath] and Fountain's elder brother, Hastings, who had lately retired from the post of Attorney-General in the West Indies. Hastings Elwin went a good deal into society, and entertained guests himself. Under his hospitable roof Whitwell made the acquaintance of several persons well known in public life... Here he often saw Lord Camperdown [Robert Dundas Duncan (1785–1859)] and Lord James O'Brien, afterwards Marquis of Thomond, who had been one of the lords-in-waiting to William IV (Elwin 1902, vol. 1, 17).

It seems that Whitwell Elwin's biographer has got the date of 1834 wrong and that this episode relates to an earlier period up to 1830. 1830 was also the date when the BLSI received its first royal patronage from William IV, which led in 1837 to its becoming the BRLSI, and it is likely that O'Bryen's connections with the King were the means by which this patronage was secured.

Joseph Hunter gave a fascinating explanation in 1833 of why Hastings Elwin departed from Bath in 1830:

> [Hastings Elwin was] one of the founders of the Institution and one without whose aid I doubt whether the united force of all its other friends would have been sufficient to have brought it to maturity. His bust is in the [library] room by Chantry. Mr Elwin came to settle in Bath many years after me [in 1809]: perhaps about 1821 [more probably 1814]. He had been, I believe, in the Island of Antigua. His wife was a niece of Dr [Richard Scott] Byam [1753–1832—M.D. Edinburgh, 1775], one of my [Bath Presbyterian] congregation, a Miss Otley [Ottley]. He had no children. Lived in St. James Square. Her sister was the wife of Lord James O'brian [sic] who also lived in Bath. Mr Elwin had remarkably popular manners: but, which way or other, he has many here who do not much like him, for no other reason that I know of, than that he outshone them. His talent lies in his conversational powers, but supported of course by much intercourse with the world and by much reading.
>
> His wife died and then he married again, a widow, Mrs Cox, a daughter of Archdeacon Thomas. She was much younger [19 years] than himself and not in quite the same circle. There was even disgust in him at the manner in which she was received by some of his friends, and this it is said occasioned him to leave Bath. He has now for about three years resided at Ryde, on the Isle of Wight. His absence is a loss to the [Bath] Institution. I hear moreover that he is become very evangelical. This is a great change indeed, June 1 1833
>
> (British Library, Add MSS. 36527, f. 112).

The Elwins move to the Isle of Wight 1830–1833

The Elwins' time on the Isle of Wight must have been rather short. A *National Directory* for 1830 confirms he had moved there by 1830. Then he appears among the "nobility, gentry and clergy, as Hastings Elywn Esq, Melville Street, Ryde" (Pigot 1830, 232). While he was on the Island, in 1832 Elwin purchased some property there, detailed in an 1841 "Abstract of Title of the Trustee of Hastings Elwin Esq. to a cottage called Bevis' Cottage in Hill Street, Ryde, Isle of Wight" (Isle of Wight Record Office (IOWRO), ref. RYD/15/7—10 pages). In a map of the parish of Newchurch by T. Hellyer 1840, a considerable number of plots, in the east part of Ryde, are recorded as "Landowner: Hastings Elwin: Occupiers: Colonel Johnston and others" (IOWRO ref. JER/T/193— book and 194—map). Elwin is still, now wrongly, recorded as of "East Mount, Ryde, I.O.W." in the list of Fellows of the Geological Society dated 1837.

The Elwins move to London 1833-1841

The reason for his short stay on the Island is that in Hunter's words he had "come to live in London in the winter of 1833, being appointed one of the paid Commissioners for Slave Compensation". This would have been a job for which Elwin's experiences in Antigua would have well suited him. He was then aged 56. The Slave Compensation jurisdiction had just come into force as a result of the final abolition of slavery here. The abolitionist William Wilberforce (1759–1833), then in Bath, heard from his fellow philanthropist in London, Zachary Macaulay (1768–1838), in this letter dated 15 May 1833.

> My dear friend,
>
> This day ten years ago the abolition of slavery was first made a question in Parliament. Last night its death-blow was struck. I send you a copy of the debate. Stanley's allusion to you was quite overpowering and electrified the House. My dear friend, let me unite with you in thanks to God for this mercy... (Furneaux 1974, 454).

On 26 July 1833 the Bill for the Abolition of Slavery passed its second reading in the House of Commons. "Thank God" said Wilberforce when he heard the news, "that I should have lived to witness a day in which England is willing to give twenty million sterling for the Abolition of Slavery" (Wilberforce 1838, vol. 5, 370). This was the sum by which the slave owners/planters were to be compensated. It represented about half the 'market value' of their slaves. Wilberforce died on 29 July 1833 (Brown 1961, 530). This was the year that Elwin/Elwyn senior died, which may have given his son some financial independence, although no will has been found, either in Norfolk Record Office or the Consistory Court of the Bishop of London or Prerogative Court of Canterbury records.

> Compensation was placed in the hands of a Central Board in London. In each colony an Assistant Board was set up to assess the gross value of the

> slaves. Altogether, 780,993 slaves were valued at £45,281,738 15s 10 3/4d. The average value of a slave was then worked out and multiplied by the number of slaves in each colony. When the proportion of the gross value, and thus of the smaller sum to be paid in compensation, had been arrived at, it only remained to distribute it within the colony (Burn 1937, 116-117).

The internet currently offers for sale a letter to "Hastings Elwin, Commissioner, Slave Compensation Office, London" dated from a ship setting out to Jamaica, 13 February 1834 (http://michael-hamilton.com/bwi/leeward%20islands/ – no. 29043). The *History of Antigua* records a Slave Compensation claim that involved Elwin himself, made on that island (Litigated Claims, ordered to be printed 16 March 1838, List D of 28 March 1836, claims 97 and 98). This involved Pulsford vs Elwin, sums of over £4,000 and compensation for nearly 290 slaves (see Oliver 1894-1899, vol. 3, 318).

According to the document in the Isle of Wight Record Office, on 4 February 1841, Elwin was now living at Lower Cadogan Place, off Sloane Street in Chelsea, London. This was where his late father had been living in 1806 and where he had just made his own will, dated 9 January 1841 (Public Record Office, PROB 10/6921). The reason is again given in his IOWRO documents. These record that "Hastings Elwin, being about to go to reside in Australia", asks that all his land and cottages at Ryde, listed page 5, with fixtures, furniture and effects should be assigned to Daniel Boys of Ely Place, London upon trust, for sale for the said Hastings Elwin (IOWRO ref. RYD/15/7). His will confirmed this, since all his estate was to go to his executor to provide an annual sum of £300 to Marianne (or Mary Ann) Elwin, his wife. It thus seems likely that she did not accompany him to Australia. Certainly it was now that the Geological Society in London completely lost track of him. He continues to appear in their lists for 1841, 1843 and 1852, but now with no address.

Elwin emigrates to Australia 1841–1852

Early in 1841, Elwin set sail for New South Wales. He would have celebrated his 64th birthday on the voyage out. Exactly what inspired his dramatic decision will probably never be known. His careers in Australia deserve a separate study but can be summarised here. He became the Managing Director of a new Loan and Trust Company in Sydney, New South Wales, called the Australian Trust Company, which had been incorporated by Royal Charter. But he was also soon to play his part in the governance of this still new colony. In a letter dated 18 July 1843, the Colonial Governor Sir George Gipps (1791–1847—see *ODNB*), noted that Elwin was now an unofficial nominee for their Legislative Council.

> Elwin is well known at the [London] Colonial Office, having acted as Commissioner for the distribution of the money granted by Parliament as a compensation to the Proprietors of Slaves on the abolition of Slavery. [Gipps did not think his] employment with a Loan and Trust company should be considered to render him ineligible for the situation of a Legislative Councillor; or, any rate, I thought it should not outweigh the qualifications which he appeared to possess for the Office, superior to those of any other person within my reach (Watson 1914-1925, series 1, vol. 23, 44-45).

This was high praise. Soon afterwards Elwin was:

> on 24 November 1843, without his consent or even knowledge, elected Auditor of the City of Sydney, and, under the 54th clause of the Sydney Incorporation Act, would have had to pay a fine of £50 for not accepting the Office, had he not been able to prove that he was exempt on the score of Age [he was then 66] (Watson 1914-1925, series 1, vol. 23, 286).

On 31 March 1845 Elwin wrote expressing his views on the amended Insolvent Act which had been passed in New South Wales in December 1843 (Watson 1914-1925, series 1, vol. 24, 550).

Elwin was also still active as a scholar, here publishing his rare *Observations on the Poetics of Aristotle by Metastasio rendered into English with a biographical notice of the author* in 1842 (Elwin 1842).[2] This has sometimes been credited to a mythical, reversible, author, Elwin Hastings. The book was positively reviewed in the *New South Wales Magazine* (1843, 20-27). One of the copies in the Mitchell library, Sydney is inscribed "W.B. Clarke from the Translator, Hastings Elwin Esq, St. Leonards [Sydney], 1847" and has been annotated in a different hand, ?Clarke's, "who died June 1852 at Sydney". This proves that Elwin was then in contact with the so-called "father of Australian geology", Rev. William Branwhite Clarke (1798–1878—see *ODNB*). Since Clarke was another classicist, it seems likely this too would have been a mutual interest. There is a letter in the W.B. Clarke archive in Sydney, which Ann Moyal, editor of Clarke's scientific correspondence, kindly tells me has no scientific content, but which has proved to

2. The book *Shakespeare restored*, published in Norwich in 1853, is by his English namesake, and distant cousin, Hastings Elwin of Thorpe, Norfolk.

be from Elwin. It is dated 18 March 1851 but was indexed as by K. Ekwin (Mitchell Library, ref. ML MSS 139/3, 181-184). In this correspondence Clarke gives his address as just "Parsonage" while Elwin's address is not recorded. Its content is amusing. Elwin must then have been a neighbour of Clarke who writes to complain about a persistent noise nuisance coming from Elwin's house: a "continual beating of a drum upon your premises"... "a perpetual disturbance at all hours of the day and night, and on Sunday mornings"! Clearly these two had been previously in rather close contact. The site of Elwin's house and property at St Leonards is established from a newly online map held in the National Library of Australia [see <http://nla.gov.au/nla.map-f685>. This gives a detailed "Plan of the Property of the late Hastings Elwin Esqr, situate in the Town of St Leonards, North Shore, [Sydney]". It shows his property here, mostly purchased from "the Crown", but some also "from Mr Berry", situated at the corner of Miller Street and Berry Street.

Alexander Berry (1781–1873) was a prominent Sydney merchant, and an early Australian settler, from 1808, and then permanently in 1819, see *Australian Dictionary of Biography*. He was a close friend of Clarke's and also took a real interest in geology, on which he published. The plan shows Berry Street as leading to a further unnamed road, which adjoined Elwin's property, and which "lead to the church". This may be how Elwin came to live so close to Clarke. The date of this map is given by the Library as between 1840 and 1849, but since Elwin is now "the late", it must at least postdate 1852.

One of the most beautiful houses to survive from the decade 1830-1840 in Sydney is Elizabeth Bay House. This was built by the entomologist, and New South Wales' colonial secretary and statesman, Alexander Macleay (1767–1848). The construction of the house started in 1835 but Macleay was forced to resign his post in early 1837, although he was elected the Speaker of the first Legislative Council in 1843 (to which Elwin had been nominated). In 1842 as a result of a sustained drought and over-speculation in land and stock here, the colonial economy had crashed. As two results, the Australian Trust Company had to be formed, and was the means whereby Hastings Elwin was drawn 'down under' to act as its Managing Director. But Macleay soon had also to mortgage his house and in late 1844 it was mortgaged to Elwin, manager of the Trust Company, see (<www.hht.nsw.gov.au/museums/elizabeth_bay_house/guidebook>).

It is however appropriate, in view of Elwin's activities in founding the BLSI, which built up such fine museum collections, that Alexander Macleay should also have come to occupy an important museological position in Australia. The Macleay Museum at the University of Sydney was founded in 1888. This was based on his collections and those of his descendants (see Stanbury and Holland 1988).

Elwin ended his days in Sydney on 14 June 1852, as reported by the *Sydney Morning Herald* (15 June 1852, 3, col. 3) "at his residence, Charlotte Place". This was on Church Hill, now under motorway in the central business district of the city. He was 75. His Burial Certificate (no. 328 Vol. 38b, in New South Wales Burials), records him as "Chairman of Loan Company", wrongly says he was 76, but gives no cause of death. He was buried on 16 June at the peaceful burial ground of Camperdown, Newtown, close to the location of the University of Sydney. His grave (no. 1023) has lost its headstone and the foot stone now merely records his dates of birth and death. But he has again been mythically indexed here as "Elwin Hastings" (Society 1990). The son of the English anatomist Sir Everard Home (1756–1832), Sir James Everard Home (1798–1853), senior naval officer of the Australian station, is also buried here and Beazley's book describes the cemetery (2000, 138-140).

Back in England, Elwin's death seems to have passed unnoticed, certainly, as we have seen, by Joseph Hunter. Elwin's will was proved in London on 28 January 1853 (original will at PRO PROB 10/6921 and copy will PROB 11/2165). Francis John Poynton later wrote on the Kelston area near Bath and its Harington family. This contains the best pedigree of the Thomas family, into which Hastings Elwin had married through his second wife. Poynton wrongly recorded that Elwin had died in August 1852 (Poynton 1885, 56). This may have been when the news reached here from Australia.

A postscript

Hastings' widow Mary Ann Elwin, who, as noted above, seems to have stayed in England when Hastings left for Australia, died in Bath on 8 November 1872, aged 76, of hepatic disease (according to her Death Certificate). They had no children. The Bath newspapers reported her merely as either the "widow of the late —— Elwin Esq, formerly of this city [Bath]" (*Bath and Cheltenham Gazette*, 20 November 1872, 8, col. 2) or that "Mrs Hastings Elwin had died at the house of her brother H. Harington Thomas [1795-1874] Esq." (*Bath Chronicle*, 14 November 1872, 5, col. 2). She was buried at Locksbrook Cemetery, Bath. Her brother's house was at 16 Queen Square which, in a miraculous juxtaposition of history, is today part of the new (since 1932) home of the

BRLSI. History has strange ways to remind us of unacknowledged debts and Bath's debt to Hastings Elwin has certainly remained unacknowledged.

Elwin's younger brother Rev. Fountain Elwin died on 22 May 1869 (Foster 1887-1891, vol. 1, 80). He had long been assistant minister at the Octagon Proprietary Chapel in Bath. The last we hear of Hastings is however even later. In 1892 the Geological Society of London at last faced up to the fact it had long lost all contact with him. In their card files is the note "address not known. Removed May 25 1892". Hastings would then have been nearly 115 years old. This may be a Society record...

Acknowledgements

I owe thanks to Michael Ball (London), Daniel Brown (Batheaston), Sue Chadwick (Bath), the late Warren Derry, Christopher Gardner-Thorpe (Exeter), Basil Greenslade (Bath—who kindly much improved an early draft), Chris Hellier (Farnham), Colin Johnston (Bath), Simon Knell (Leicester), Cherry Lewis (Bristol), Donald Lovell (Bath), David Mannings (Aberdeen), Ann Moyal (Canberra), David Oldroyd (Sydney), Ron Pickford (Bath), Stella Pierce (Wincanton)—to whom this work is dedicated, Len Pole (Exeter), Peter Pringle (New York), Robert Randall (Bath), Diana Smith (Haslemere), Michael Taylor (Edinburgh), Peter Thwaites (Camberley) and Matt Williams (Bath). The staff at the Bath, Norfolk, Isle of Wight and Public Record Offices and at the Mitchell Library (Sydney) gave every assistance. My research notes have been deposited in the Bath and N.E. Somerset Record Office (Accession no. 604).

References

ANONYMOUS 1826. *The First Annual Report of the Committee of the Bath Literary and Scientific Institution*. Bath: Meyler.

ANONYMOUS 1844. Notice of Dr. Barlow. *Provincial Medical and Surgical Journal* **1**, 120-123.

ANONYMOUS 1846. *Nomina eorum qui Gradum Medicinae Doctoris... quae Edinburgi*. Edinburgh: Neill and Son.

ANONYMOUS 1990. *Catalogue of the Library and Archives: The Royal Bath and West of England Society*. Shepton Mallet: The Society.

ASPINALL, A. 1935. *The Pocket Guide to the West Indies*. London: Sifton, Praed and Co.

BATHER, F.A. 1926. *Bath Royal Literary and Scientific Institution: Address on William Smith, "The Father of English Geology"*. Bath: BRLSI.

BEAZLEY, A.W. 2000. *Home away from Home*. Wellington, NZ: Central Institute of Technology.

BLOMEFIELD, F. 1769. *An Essay towards a Topographical History of the County of Norfolk*. Volume 3. King's Lynn; Whittingham and Baldwin.

BLOMEFIELD, F. and PARKIN, C. 1805-1810. *An Essay towards a Topographical History of the County of Norfolk*. 11 volumes. London: printed for William Miller.

BOND, B., 1972. *The Victorian Army and the Staff College*, London: Eyre Methuen.

BORSAY, A. 1999. *Medicine and Charity in Georgian Bath*, Aldershot: Ashgate.

BORSAY, P. 2000. *The Image of Georgian Bath, 1700-2000*, Oxford: Oxford University Press.

BROWN, F.K. 1961. *Fathers of the Victorians*, Cambridge: University Press.

BURN, W.L. 1937. *Emancipation and Apprenticeship in the British West Indies*. London: Cape.

CATCHPOLE, G. 2004. Report of launch of reprint of *Memoirs of William Smith LL.D.. Proceedings of the Bath Royal Literary and Scientific Institution* **7**, 47-50.

CAVE, K. 1982. *The Diary of Joseph Farington*. Volumes 7 to 9. New Haven: Yale University Press.

COATES, J. 2003. The BRLSI Collections. *History of Bath Research Group Newsletter* **50**, 4-5.

COLVIN, H.M. 1995. *A Biographical Dictionary of British Architects 1600-1840*. New Haven and London: Yale University Press.

COPP, C.J.T., PICKFORD, R.F. and TORRENS, H.S. 1975. The Bath Geological Collections. *Newsletter of the Geological Curators' Group* **1**, 88-124.

COX, L.R. 1942. New Light on William Smith and his Work. *Proceedings of the Yorkshire Geological Society* **25**, 1-99.

DAVIS, G. and BONSALL, P. 1996. *Bath: A new history*. Keele: Keele University Press.

DRAKE, F.M. 1913. *A hundred years with the Devon and Exeter Institution*. Exeter: Devon and Exeter Institution.

DRAPER, R. 2005. The history of the [Casali] purchase. *Proceedings of the Bath Royal Literary and Scientific Institution* **8**, 72-73.

[ELWIN, H.] 1820. *Reasons for establishing an Institution in the City of Bath*. Bath: Cruttwell (copy in Library of Congress, Washington, USA – call mark AS 122. B 18).

ELWIN, H. 1829a. Rural Economy of Italy. *Letters and Papers of the Bath and West of England Society* **15**, 20-24.

ELWIN, H. 1829a. Factitious Stone [in Florence]. *Letters and Papers of the Bath and West of England Society* **15**, 29-33.

ELWIN, H. 1842. *Observations on the Poetics of Aristotle by Metastasio rendered into English with a biographical notice of the author*. Sydney: Kemp and Fairfax.

ELWIN, W. 1902. *Some XVIII Century Men of Letters*. Volume 1. London: Murray.

FOSTER, J. 1887-1891. *The Royal Lineage of our noble and gentle families, together with their paternal ancestry*. Three volumes, London: Hatchards.

FOSTER, J. 1889. *Register of Admissions to Grays Inn 1521-1889*. London: privately.

FREDERICKSEN, B.B. (editor). 1988-1993. *The Index of Paintings sold in the British Isles during the Nineteenth century, the Provenance Index of the Getty Art History Information Program*. Three volumes, 1801-1815. Santa Barbara and Oxford: ABC-Clio.

FURNEAUX, R. 1974. *William Wilberforce*. London: Hamilton.

GARLICK, K. and MACINTYRE, A. 1979. *The Diary of Joseph Farington*. Volumes 3 to 4. New Haven: Yale University Press.

GIBBS, G. 1997. Historians win battle over charity assets. *Guardian*, 27 February 1997.

GORE, R.T. *et al*. 1853. *Report of the Museum Sub-Committee of the BRLSI*. Bath: Meyler and Son (copy in Green Collection, Bristol Public Library).

GREIG, J. 1924. *The Farington Diary by Joseph Farington R.A*. Volume 4. London: Hutchinson and Co.

HORNE, H.O. 1947. *A History of Savings Banks*. London: Oxford University Press.

HUNTER, J. 1827a. *The Connection of Bath with the Literature and Science of England*, Bath: Cruttwell (50 copies only).

HUNTER, J. 1827b. On the Connection of Bath with the Literature and Science of England. *Gentleman's Magazine* April 1827, 347-350 and June 1827, 544-546.

HUNTER, J. 1828-1831. *South Yorkshire, the history and topography of the deanery of Doncaster*. Two volumes. London: Nichols and Son (reprinted 1974)

HUNTER, J. 1853. *The Connection of Bath with the Literature and Science of England...with an Account of the Formation of the Institution*. Bath: R.E. Peach.

HUTCHINS, J. 1863. *The History and Antiquities of the County of Dorset*. Volume 2. Westminster: Nichols and Son.

INKSTER, I. 1997. *Scientific Culture and Urbanisation in Industrialising Britain*. Aldershot: Ashgate.

KELLY, T. 1977. *Books for the People*. London: Deutsch.

KENNARD, A.S. 1945. The Early Digs in Kent's Hole, Torquay, and Mrs Cazalet, *Proceedings of the Geologists' Association*, 56, 156-213.

KITE, V. 1966. *Libraries in Bath 1618-1964*. F.L.A. TSS thesis (copy in Bath Reference Library).

KNELL, S. 2000. *The Culture of English Geology 1815-1851*. Aldershot: Ashgate.

LLOYD, C. 1973. *Nelson and Sea Power*, London: English Universities Press.

LONGRIDGE, R.N. and REED, A. 2002. *The Devon and Exeter Institution*. Exeter: Devon and Exeter Institution.

LOUDON, I. 1986. *Medical Care and the General Practitioner 1750-1850*. Oxford: Clarendon Press.

LUGT, F. 1938-1953. *Répertoire des Catalogues de Ventes Publiques intéressant l'Art*. Volumes 1 (1600-1825) and 2 (1826-1860). La Haye: Nijhoff (Rijksbureau voor Kunsthistorische Documentatie).

MACGREGOR, A. 2001. The Ashmolean as a museum of natural history 1683-1860. *Journal of the History of Collections*, **13**, 125-144.

MACGREGOR, A. and HEADON, A. 2000. Re-inventing the Ashmolean. Natural history and natural theology at Oxford in the 1820s to 1850s. *Archives of Natural History* **27**, 369-406.

MACGREGOR, A., MENDONÇA, M. and WHITE, J. 2002. *Ashmolean Museum Oxford: Manuscript Catalogues of the Early Museum Collections 1683-1886 (part 1)*. Oxford: British Archaeological Reports, International Series 907.

MAINWARING, R. 1838. *Annals of Bath*. Bath: Meyler.

MANNINGS, D. 2000. *Sir Joshua Reynolds: a complete catalogue of his Paintings*. Two volumes. New Haven and London: Yale University Press (for the Paul Mellon Centre for Studies in British Art).

MONKLAND, G. 1855. *Supplement to the "Literature and Literati of Bath"*. Bath: Peach.

MOORE, T. 1853-1856. *Memoirs, Journal and Correspondence of Thomas Moore*. 8 volumes. London: Longman.

NEVE, M. 1983. Science in a commercial city: Bristol 1820-1860, pp. 179-204, in Inkster I. and Morrell J. (eds), *Metropolis and Province*. London: Hutchinson.

OLIVER, V.L. 1894-1899. *The History of the Island of Antigua*. three volumes. London: Mitchell and Hughes.

ORANGE, A.D. 1973. *Philosophers and Provincials: the Yorkshire Philosophical Society from 1822 to 1844*. York: Yorkshire Philosophical Society.

OXFORD DICTIONARY OF NATIONAL BIOGRAPHY (= *ODNB*) 2004. 60 volumes. Oxford: University

Press.

PARKER, S. 1978. Scandal of heritage in museum basements. *Bath and West Evening Chronicle*, 7 September, 13.

PIGOT and Co. 1830. *National Commercial Directory*. London: J. Pigot.

PINE, L.G. 1952. *Burke's Genealogical and Heraldic History of the Landed Gentry*. 17th Edition. London: Burke's Peerage Ltd.

POYNTON, F.J. 1885. *Memoranda historical and genealogical relating to the parish of Kelston, in the county of Somerset*. Part 4. London: privately.

ROYAL COMMISSION ON HISTORICAL MONUMENTS ENGLAND, *An Inventory of the Historical Monuments in Dorset*. Volume 1 - West. London: H.M.S.O.

RUSSELL, J. 1860. *Memoirs, Journal and Correspondence of Thomas Moore*. London: Longman etc.

SCHOM, A. 1992. *Trafalgar: countdown to battle 1803-1805*. London: Penguin.

SOCIETY OF AUSTRALIAN GENEALOGISTS 1990. *Monumental Inscriptions in Camperdown Cemetery*. Sydney: The Society (microfiche, copy in Mitchell Library, Sydney).

SPENDER, J.K. 1875. *Some account of the History of the Bath Royal Literary and Scientific Institution*. Bath: Chronicle Office.

STANBURY, P. and HOLLAND, J. 1988. *Mr Macleay's Celebrated Cabinet*. Sydney: Macleay Museum University of Sydney.

STURGESS, H.A.C. 1949. *Register of Admissions to the Middle Temple*. Three volumes. London: Butterworth.

TAYLOR, M.A. 1994. The plesiosaur's birthplace: the Bristol Institution and its contribution to vertebrate palaeontology. *Zoological Journal of the Linnean Society of London* **112**, 179-196.

THORNTON, J.L. 1967. Charles Hunnings Wilkinson (1763 or 74-1850. *Annals of Science* **23**, 277-286.

TORRENS, H.S. 1977. The Bath Geological Collections. *Newsletter of the Geological Curators' Group*, **1**, 482-483.

TORRENS, H.S. 1979. Richard Warner (1763-1857). *Newsletter of the Geological Curators' Group*, **2**, 188.

TORRENS, H.S. 1990a. A Wiltshire Pioneer in Geology and his Legacy - Henry Shorto III (1778-1864), Cutler and Fossil Collector of Salisbury. *Wiltshire Archaeological and Natural History Magazine* **83**, 170-189.

TORRENS, H.S. 1990b. The Four Bath Philosophical Societies 1779-1959, pp. 180-188 in Rolls R. and Guy J. and J.R. *A Pox on the Provinces*. Bath: University Press.

TORRENS, H.S. 2002. *The Practice of British Geology 1750-1850*. Aldershot: Ashgate.

TORRENS, H.S. 2003. *Memoirs of William Smith LL.D. by John Phillips (1844) with additional material*. Bath: BRLSI.

TORRENS, H.S. and DELAIR, J.B. 1980. The Reverend George Crabbe (1754-1832). *The Geological Curator* **2**, 461-3.

UNESCO, 2003, *The World Heritage 2003 [poster recording all such sites]*. Paris: UNESCO World Heritage Centre.

WAAGEN, G. 1838. *Works of Art and Artists in England*. Three volumes. London: Murray.

WARNER, R. 1830. *Literary Recollections*. Two volumes. London: Longman etc.

WATSON, J.F. 1914-1925. *Historical Records of Australia*. Series 1, 33 volumes, Sydney: Library Committee of the Commonwealth Parliament.

WEBSTER, T. 1825. Reply to Dr Fitton's Paper. *Annals of Philosophy* **25**, 33-51.

WHITE, G.H. (ed.) 1953. *The Complete Peerage by G.E.C*. Volume 12, part 1. London: St Catherine.

WHITLEY, W.T. 1928. *Art in England 1800-1820*. Cambridge: University Press.

WILBERFORCE, R.I and S. 1838. *The Life of William Wilberforce*. Five volumes. London: Murray.

WILLIAMS, W.J. and STODDARD, D.M. 1978. *Bath: Some encounters with Science*. Bath: Kingsmead.

WOODS, H. 1825. *Introductory Lecture on the study of Zoology, delivered to the BLSI on 28 November 1825*. Bath: Hunt (by order of BLSI Trustees).

WOODWARD, H.B. 1907, *The History of the Geological Society of London*. London: Geological Society.

WRIGHT, G.N. 1864. *The Historic Guide to Bath*, Bath: Peach.

APPENDIX

Hastings Elwin's long-lost *Reasons for establishing an Institution in the City of Bath* of 1820.

REASONS, &c.

A Stranger, on his first visit to this city, on making the usual inquiries as to the state of its amusements and resources, will learn that there are Clubs for the morning, a Theatre for the evening, Balls, Cards, and Entertainments in such abundance, as scarce to leave room to regret the more splendid, though not more varied, amusements of the Capital itself: But if the stranger should extend his inquiries but one step further; if, when he had assured himself of the important article of diversion, he should ask in what quarter of the town he was to look for its Literary Establishments,—where were the Athenæum, the Institution, the Library, the Lecture Room, the Musæum, the place consecrated to letters, where the lovers of science might be gratified by meeting each other in the midst of whatever could assist and enlighten their pursuits; where the minds of the young could be instructed, and the old refreshed; the taste for the arts fostered, encouraged, promoted, and improved;—if such an inquiry were made, what must be his surprise at hearing, that Bath, pre-eminent in every thing that can smooth the later

years of life, or encourage amusement in its earlier stage, has not to boast one solitary establishment for the enjoyment or promotion of Literature or the Arts? that the only places of resort are the back rooms of the respective booksellers' houses;—where, indeed, the different newspapers are received, but where no more than the scanty accommodation necessary for such a purpose can be afforded; neither the foreign journals, of great and increasing interest, nor the scientific journals of our own country, are to be seen;—nor can any bookseller, let his desire of accommodation, and spirit of liberality, be as great as it may, (and no where is it more eminently conspicuous than in this city,) place in his library, for general circulation, the expensive but indispensable publications, both ancient and modern, which are necessary for the elucidation of almost every branch of art or science. If the absence of a public Library of Reference could be supplied by any individual exertions, it would be found amongst the respectable Booksellers in Bath; who, in the general spirit of their trade, lend themselves, with the most laudable alacrity, to the wishes of their friends.

How mortifying the fact, that while Edinburgh, Dublin, Bristol, Liverpool, Glasgow, and Exeter, boast their several Libraries, and Philosophical and Literary Institutions; while every

country district has its Book Club; while every where there seems to be the same disposition to cultivate letters, and promote the arts; Bath alone, abounding more than any other city in Europe of equal size in men of talent and extensive acquirements, in science and literature, second only to the Capital in her artists, and munificent in her charitable and benevolent foundations, should be exposed to the reproach of having omitted all attention to the mind in her provision for the accommodation of her residents and visitors.

It is time that such a reproach should be wiped away; and I rejoice to observe, that an opportunity now presents itself for effecting it, by the publication which I see at the different libraries, and which I insert; trusting, with respectful confidence, to the indulgence of my townsmen and neighbours, while I offer a few observations on the advantages resulting from such an Establishment, sufficiently obvious in themselves, but which, perhaps, may have escaped the attention of those who have not addressed themselves to the deliberate consideration of the subject.

" BATH INSTITUTION.

" IN the course of the last year a project " was formed for founding in Bath an Institu-

" tion for the cultivation of Science, Literature,
" and the Liberal Arts.

" The object being warmly approved by se-
" veral individuals, a *Voluntary Association* was
" formed for arranging the outline of a plan,
" and collecting subscriptions in aid of its ac-
" complishment.

" The principal objects contemplated by the
" promoters of this plan are,

" 1st. The establishment of a select but ex-
tensive Library, including such books as shall
" be useful and necessary to scientific and lite-
" rary men in their researches and pursuits, but
" which, from various causes, are not generally
" found in libraries of public resort.

" 2d. A Lecture-Room, supplied with suitable
" apparatus for the delivery of Lectures on
" Chemistry, and the several branches of Na-
" tural Philosophy.

" 3d. A Gallery or Exhibition-Room, in which
" might be exhibited to the public the works of
" ancient masters, as well as the productions of
" modern artists, for the gratification of the
" lovers of the arts, and the improvement and
" encouragement of the student.

" It was also proposed that this part of the
" establishment should contain receptacles for
" such collections or specimens of Natural His-
" tory, Mineralogy, and Antiquities, as the ge-
" nerosity of private donors, or the liberality

" of the public, might place at the disposal of
" the Institution.

" It was also conceived, that a Botanic Garden
" upon a limited scale might, if approved of by
" the subscribers, be a very interesting addition
" to the plan, without considerable expense.

" To carry the whole of this very desirable
" but extensive plan into execution, it has been
" considered that a capital of £30,000 would be
" necessary; and that it would not be prudent to
" commence any operations, until a moiety of
" that sum should have been subscribed.

" It is therefore proposed to raise the required
" amount by proprietary shares of £50 each;
" no payment to be made until three hundred
" shall have been subscribed, except a deposit
" of £1 per share, at the time of subscribing.

" And it is also proposed, that when a suffi-
" cient number of shares shall have been taken,
" a General Meeting of Shareholders shall be
" called, for the purpose of revising, modifying,
" and completing the regulations of the Institu-
" tion defining its extent, directing the appropria-
" tion of its funds, and appointing the necessary
" managers and officers for carrying its several
" purposes into effect.

" Subscriptions received at the Bank of Messrs.
" Cavenagh, Browne, and Co.; and at all the
" Libraries in Bath. (Signed,)

" E. BARLOW, Secretary."

I observe in this proposal an extensive and magnificent outline; but I observe, also, the just and necessary declaration, that the Subscribers shall themselves decide on the extent and nature of the plan to be adopted. It appears to me, that those who approve of the principle may safely come forward and subscribe to its accomplishment, assured that to themselves will belong the final arrangements; that nothing can be undertaken till the Shareholders at large shall have decided upon it; they are not summoned to support a settled and fixed plan, they are invited to assist in the formation of one. Whatever of apprehension from the magnitude of the original scheme, and even of prejudice or prepossession, may have been entertained against it, must now, therefore, I apprehend, be in candour and justice dismissed. The promoters of this Project unequivocally avow themselves to act only for the purpose of obtaining support to the principle, leaving the nature and magnitude of the Establishment, as well as the nomination of its managers and officers, where they ought, and where, in fact, they must be—in the body of the Subscribers; who will of course be guided by the amount of the subscription, and the extent of the support they will receive.

I have not the smallest doubt, but that all the useful parts of this plan will be carried

into effect; whether or not the more splendid appendages, alluded to in the outline with so much caution, may or may not be added, can only be known when the season is more advanced. It were certainly to be wished, that to utility and elegance might be added somewhat of splendour befitting a city of such general resort and high estimation; but I hope and trust that the good sense of the Subscribers or Proprietors will not reject the one, because the other may in the first instance be unattainable; but establish, on a respectable footing, the three grand objects,—a Library, and Lecture-Room, and Exhibition-Room or Gallery. And, perhaps, such an Institution ought not to spring forth, like its tutelar Goddess, ready armed at all points at its birth; but rather grow up by degrees to a maturity of excellence, obeying the impulse of public taste, according to the means afforded by public favour.

If it be urged, that the number who would benefit by such an Establishment would be few; that scholars form no where, not even at Bath, the bulk of society; and that no general advantage would be derived to the city at large; I answer, that if it were proposed to crowd the shelves of the Library with " all such reading " as is never read;" to provide black-letter manuscripts, obsolete tracts, and forgotten controversies; to raise from obscurity authors,

whose works would long since have been reprinted, if they had not sunk into merited oblivion; then, indeed, it would fall under this objection. But I trust that such is not the object of the promoters of this plan: I hope that the choice of books will not be confided to one man, or to any small number of persons; but that when competent persons shall have prepared lists of such books as shall to them appear necessary in their particular class, it will be only by common consent that the selection shall be made; that care will be taken that no one class greatly preponderate; that due attention be paid to the possible demands of every pursuit; and that, especially, no book shall be purchased for any other reason than its utility.

A Library so constituted would be a never-failing resource to every one whose reading extended beyond the topic of the day; and, indeed, when it is considered what an infinite variety of subjects the discussion of foreign and domestic politics now embraces, it will not be denied but scarcely a day elapses in which it would not be desirable, if not necessary, for the clear understanding of the current subject, to have recourse to maps, charts, and books, which nothing short of a well-chosen library can afford. Nor is it the least among the advantages of such an Institution, that the facility of acquiring information generates a spirit and disposition of in-

quiry; the mind turns with more willingness to the investigation of any subject, whether of science, or art, or general information, under the assurance, that provision is made for removing all obstacles, and solving all doubts, as they arise. Whoever has witnessed the foreign libraries, especially at Paris, will be satisfied that, had it not been for such facilities, a large proportion of those who frequent those noble rooms, would have wholly foregone, or have been obliged to abandon, the pursuits in which they were engaged. It is also evident, that the same course and extent of reading which sufficed some years ago, is no longer capable of satisfying the literary thirst of the present day. I do not speak of classical learning, which has never been in abeyance amongst us, but of the pursuits of general knowledge: Geology and Political Economy, formerly scarcely known as distinct branches of study, have attained the rank of sciences.—The extraordinary events during and consequent upon the war have turned men's minds to deeper researches, not only upon politics as a science, but upon the nature of man as subjected to their influence; and upon the history and constitution of countries now for the first time engaging the attention as subjects of political speculation. An acquaintance with foreign countries has infused a desire to be also more intimately ac-

quainted with their domestic history, their literature, their historians, and their poets. The opening of the Continent has revived that taste for the arts, which has at all times, and under all disadvantages, distinguished every class in the kingdom, except the lowest; and with that taste will always be associated the desire to trace their decay, their rise, their progress, and their history, as connected with that of the eventful periods in which they fell or flourished.—And above all, the progress of some branches of science has opened new views of the operations of Nature, and excited a spirit of investigation, which it requires more than ordinary sources of information to allay.

In proof of this, let any one cast his eye over the list of new publications by the principal booksellers, and see the number and description of the works in, and preparing for, the press; light and frivolous subjects are discarded to make way for graver and more important topics of literature; and no surer criterion of the public taste can be furnished, than the materials selected by such acute and experienced purveyors for its gratification: and, as a further evidence that general reading is not on the decline, it may be sufficient to mention, that a single bookseller in London has paid, within a short space of time, (I dare not trust my recollection to say how short,) no less a sum than £43,000 for copy-

right.—Every quarter produces two volumes of opposite political opinions, by which the attention of the public is led to the consideration of topics of the highest interest, on all subjects of taste and science, under the form of critiques on recent publications. It cannot be doubted, but that the diffusion of those works must afford a strong and repeated stimulus to the further and deeper study of the subjects of which they treat: and that their influence, be it what it may, is not confined within a narrow sphere, may be inferred from the circumstance, that the number of one, which every quarter "spread "their light wings of saffron and of blue," is stated to be upwards of 20,000, and of the other 16,000; being nearly seven times the number in circulation of the paper of the Spectator, supported as it was by the talents of the first writers of that Augustan age of literature.

If an apartment for the delivery of lectures has been found desirable and advantageous at Edinburgh, Glasgow, and Liverpool, I apprehend it is at least as much so for this place; this is, perhaps, beyond any other town, resorted to by families for the laudable purpose of giving to their children that education which is not attainable at all, or at great difficulty and expense, in the country; and if a census were taken, I apprehend it would appear that a more than full proportion of the rising generation is

assignable to the population during the vacation of college and school; when our streets are filled with young men, driven, by the absolute want of any rational mode of occupation, to the unmitigated idleness and lounging vacuity, which have too long been our reproach.

It cannot be doubted, that, if a Lecture-Room were established, the Manager of the Institution would be enabled to obtain the presence of many of the first lecturers on scientific subjects; and our youths, instead of being forced into unnatural and involuntary indolence, would, as in other places, have their attention directed to departments of knowledge, which form only a subordinate part of their severer academical studies. It is this exhibition of science, in its most popular and attractive form, that constitutes one of the chief enjoyments of a winter in Edinburgh; where the same persons are seen attending Lectures on Chemistry and Mineralogy in the morning, who are met with in the gayer circles in the evening. In Liverpool, one master-hand early gave a generous impulse and a literary tone to the place; and, like the illustrious Medici, whom he has celebrated, and to whose honoured name his own will be inseparably associated by a just posterity, has promoted the love of science along with the pursuits of commerce, and contrived to unite a practical encouragement of the liberal arts with the adverse pursuits of extensive trade.—In

Liverpool this plan has been acted upon; a certain sum has been assured to the lecturer, to prevent the possibility of loss; and as he also receives the whole subscription for the lectures, repaying the sum assured, he can suffer no loss; and the Institution, which can tolerably appreciate the probable amount of the subscription, is at little or no expense; indeed, a fund may be thereby provided to reimburse the expense of the indispensable apparatus. And the happy coincidence of the Bath season with the London vacation will enable the Professors at the different Institutions to resort here at the time when their presence is most desirable, and can be best remunerated, and when their visits will be made at the least possible sacrifice of personal convenience.

The objects of the proposed Gallery or Exhibition-Room seem to be clearly enough explained in the printed publication. Those who are in the habit of visiting London in the spring must have participated in the pride and pleasure so generally felt at the display of the British Gallery, to which individuals possessing specimens of the arts, hitherto only pictures, (because, and only because, pictures were more abundant,) are from time to time invited to permit their treasures to be submitted to public inspection for a short time in the year. The lovers of the arts have an opportunity of seeing, admiring,

examining, and comparing the finest specimens in the kingdom, with a frequency and freedom which could not be enjoyed in a private house; and the fortunate possessors are not insensible to the gratification of being known as the proprietors of those admired objects. It may be remarked, that some of the finest of the productions have been sent from the West of England; and it cannot be doubted, but when the proposed plan takes place, and a Gallery is established, so that the proprietors of pictures shall be assured that there is no danger of loss or damage, they will cheerfully contribute to the temporary decoration of the Gallery; and in "the productions of modern artists," Bath stands second only to the Capital, and can supply from her own stores an ample provision of admirable productions in painting and drawing.

A circumstance occurs at present, peculiarly favourable to the formation of such a Gallery as is here alluded to. When the marbles, which the power and policy of Napoleon had placed in the Louvre, were restored to their original proprietors. These latter, desirous of making some acknowledgment to a power not the last in producing the restoration, presented Casts of the most admired Groups and Figures to the Prince Regent, which are now placed in the Royal Academy for the examination of the Student. These Casts, differing only in the mate-

rial from the original, may be multiplied to any extent; and I am not aware that any impediment exists to the procuring them at a very inconsiderable expense; and it may be confidently expected, that, for the encouragement of a public Institution, such a relaxation in the duties would be allowed by Government, as to leave no other expense than the freight and cost. These alone would form a magnificent and extensive collection, equally conducive to the gratification of the lover of the arts, and the improvement of the pupil; reviving in the memories of those who have worshipped the originals, the form and features of the objects of their idolatry; and conveying, in the only possible manner, to those who may not have had such opportunities, a distinct idea of the unrivalled remains of Grecian and Roman sculpture.

When, therefore, permanent statues, periodical contributions, and the productions of native artists, are taken into the account, it may rather be feared that the limits of the Gallery will be necessarily too confined, than that there will be any difficulty in covering its walls.

It is, I observe, proposed to provide receptacles or cabinets in the first instance, in the hope of filling them in due time with whatever can properly belong to such an establishment; and there is one source of supply which may be reckoned upon, though it is incapable of assign-

able limit or amount,—I mean, Donations and Legacies. How many persons are there, whose Books, Fossils, Minerals, Drawings, and Casts, may be, collectively, well worth the acceptance of a Public Institution, but which, in a dispersed and unconnected state, are a source rather of inconvenience than pleasure to the owner; and which, in the event of his death, would devolve, perhaps, on persons totally insensible of their value, or be sold for a sum utterly disproportioned to it. Is it too much to expect, that in many instances a liberal collector would be disposed to anticipate such a dispersion or contempt of his stores, by enrolling his name among the contributors to the Musæum? This case has occurred so often, and to such an extent, elsewhere, that I do not see why this place may not fairly entertain an expectation of similar advantage. How many duplicates of books and minerals? how many volumes relating to a pursuit discontinued, or a branch of science no longer cultivated, might be expected to find their way to a Collection, where they would be equally within the reach of the former possessor, and more conveniently accessible to others?

That this expectation is not too sanguine, witness the Collection of the Geological Society, composed entirely of donations; and which now, in its early years, far exceeds their power of accommodation:—witness, also, every private col-

lection, augmented by the contributions of friends, into whose hands single specimens or volumes chance to fall, and who, having no cabinets of their own, take pride in placing them in the collections of those who are better provided for their reception.

That a Literary Institution would be of general advantage to the city of Bath will not be denied, if it be admitted that it is desirable to attract to it those who, about to retire from the alternate crowd and desolation of London, or the unattractive monotony of a country life, after the activity of youth is gone, and a family dispersed, hesitate where to fix their household gods; I would ask whether such an Establishment would be without its weight in deciding the choice in our favour with many of the most worthy of those who should find themselves under such circumstances; and when watering places in the interior are growing into towns, the whole southern coast receiving new swarms every year from the great national hive, it may be worth a thought with those who take an interest in the welfare of Bath, and can influence its counsels, whether any means should be neglected of extending her attractions, and securing her pre-eminence.

For these, amongst other reasons, it is sincerely hoped, that the whole of this plan may be realized! though I am not yet persuaded

of the practicability of raising for such an object, so large a sum as is stated to be necessary. Yet, when I recollect that five years ago, on the first formation of the Provident Institution, it was considered by the most sanguine, (and there were few whose hopes were so high,) that £10,000 was the utmost extent to which the capital could reach; and that, notwithstanding £23,000 were received within the third year, and that its capital now reaches £60,000, and is every week increasing, I shrink from assigning a limit to the opulence and resources of this city and neighbourhood, and gladly repose on the warmer hopes and expectations of others. But I do earnestly hope and trust, that if it should, after fair trial, prove impracticable to obtain the full amount, that the object will not be wholly lost sight of. I am fully persuaded, that the most essential parts of the project may be secured for a much smaller sum. Without protesting against magnificence, let us at our outset be contented with utility and elegance; and if we can gratify the public taste, interest and occupy youth in useful and elegant pursuits, assist the student, and aid the scholar, such an Institution will in due time obtain the public approbation and support, in proportion as it shall be found to deserve it.

Printed by Richard Cruttwell,
St. James's-Street, Bath.

THE COLLECTIONS OF GEORGE GARDNER (1810–1849) FROM THE SANTANA FORMATION (CRETACEOUS) OF NORTHEAST BRAZIL

by John R. Nudds and Jane Washington Evans

Nudds, J.R. and Washington Evans, J. 2005. The collections of George Gardner (1810–1849) from the Santana Formation (Cretaceous) of northeast Brazil. *The Geological Curator* 8(4): 169–175.

The Glaswegian botanist, George Gardner, made extensive collections of fossil fish from the Santana Formation (Lower Cretaceous) of the Chapada do Araripe in northeast Brazil between 1836 and 1841. Two of Gardner's specimens have been rediscovered in the collections of the Manchester Museum, UK, and are shown to be the original syntypes of *Vinctifer comptoni* (Agassiz 1841) and *Notelops brama* (Agassiz 1841), which have been "lost" for more than a century. Replica casts of these specimens have been presented to the Universidade Regional do Cariri and the Departamento Nacional de Produção Mineral (in Crato, Brazil). Gardner's original type locality of Mundo Novo was possibly in the vicinity of Sitio Miquirina, near the village of Barra do Jardim, on the southern side of the Araripe Plateau.

John Nudds, School of Earth, Atmospheric and Environmental Sciences, University of Manchester, Oxford Road, Manchester M13 9PL, U.K.; e-mail: john.nudds@manchester.ac.uk, and Jane Washington Evans, Department of Geology, University of Leicester, University Road, Leicester, LE1 7RH, U.K.; e-mail: jane_w_evans@hotmail.com. *Received 21st December 2004; revised version received 5th August 2005.*

Introduction

The Lower Cretaceous Santana Formation of northeast Brazil is exposed on the flanks of an uplifted plateau, called the Chapada do Araripe (Figure 1), which represents the remnants of an ancient, east-west trending sedimentary basin straddling the states of Ceará to the north, Pernambuco to the south, and Piauí to the west (see Martill 1993).

The formation is well-known for its fossil fish, preserved within calcareous concretions, which were first discovered in 1817 by the German naturalists, Johann Baptist von Spix (1781–1826) and Carl Friedrich Philipp von Martius (1794–1868), from the Munich Academy of Sciences (Brito 1990, Maisey 1991). Specimens are common, and due to their widespread availability from commercial fossil dealers (even though the export of fossils is prohibited by Brazilian law) are to be found in museum collections throughout the world.

The fish fossils have gained notoriety due to the exquisite preservation of their soft tissues, including gills, muscles and eggs, which Martill (1988, 1989) considered to be the result of instantaneous fossilization which he termed the 'Medusa Effect'. The biota from this Fossil-Lagerstätte has been described and illustrated by Maisey (1991), Martill (1993), and Selden and Nudds (2004) and is probably of Albian age.

The collections of George Gardner

Following the footsteps of Spix and Martius, the next European scientist to explore this region was the Glasgow botanist, George Gardner (1810–1849). Born in Ardentinny in Argyll and Bute (Scotland) in 1810, Gardner qualified as a surgeon in Glasgow, where he became friends with the eminent botanist Sir William J. Hooker, who encouraged him to pursue his early bias towards botany. This he did with immediate success, publishing his *Musci Britannici* in 1836, a pocket herbarium of British mosses. This so impressed the directors of the Royal Botanic Gardens that they agreed to fund Gardner in a botanical exploration of northern Brazil which lasted for five years between 1836 and 1841. After his return Gardner was appointed as Superintendent of the Botanic Gardens in Ceylon where he died suddenly of apoplexy in 1849. His Brazilian adventures are described in fascinating detail in his book *Travels in the interior of Brazil*, first published in 1846:

Figure 1. The Chapada do Araripe plateau at Sobradinho, near Villa da Barra do Jardim.

On the same evening, after a journey of about two leagues and a half we reached Crato…the evening was one of the most beautiful I ever remember to have seen, the sun was setting in great splendour behind the Serra de Araripe, a long range of hills about a league to the west of the Villa… (p. 183).

The country gradually rises from Crato towards the S.W, till it reaches the base of the Serra de Araripe, an elevated table land forming a semicircle round the undulatory plain in which the town is situated…During my residence at this place I made many excursions in the neighbourhood, but the Serra de Araripe proved the best field for my researches, I spent several days at different times, in exploring its ravines, sides and summit…The greater portion of the wooded districts around Crato consist of deciduous trees and shrubs, forming what are called Catingas…(pp 190, 191).

I found on my arrival at Crato that it would necessary to remain there longer than I had previously anticipated, owing to the desert state of the country…I was therefore strongly recommended to defer leaving Crato till the rains should set in… It was now the beginning of December, and the rains were not expected to set in till the beginning of February. Having pretty well exhausted the neighbourhood of Crato, I determined to visit in the interim a small town about sixteen leagues distant, called Villa da Barra do Jardim…in order to search for a deposit of fossil fishes which were reported to exist in the neighbourhood…On the afternoon of the eleventh of December I left Crato. The road for the first five leagues runs nearly eastward along the Serra da Araripe,..we halted for the night…at a little village called Cajazeira… It was seven o'clock before we could resume our journey, and in an hour's time we reached the foot of the Serra with the view of crossing it, but we first halted for a short time…being informed that neither houses nor water were to be met with during the next eight leagues of the journey. It occupied a ride of nearly six hours to traverse this table land, which is perfectly level all the way… It was not till we had reached the extremity of the Taboleira, that I came in sight of the valley in which the Villa da Barra do Jardim is situated, from the rich and verdant appearance of which it takes the name of Jardim, or Garden. The Serra being lower on the south side than on the north side, the descent is much easier, and the road is also better (pp 198-201).

Two days after my arrival, I paid a visit to Capt. Antonio da Cruz, where I learned that on a rising

ground between his house and the Serra, there were often found rounded limestones, which when split, exhibited the remains of fishes; two of his sons accompanied me to the spot, where I made a collection of several species more or less perfect. The place where these were found was on the slope of a low hill about a mile from the Serra; the stone in which they occur, being an impure dark-coloured limestone; I found them of all sizes, but none larger than I could lift, all were more or less rounded, having evidently undergone attrition. The place which they occupy is not above a hundred yards square, and in this extent scarcely any other kind of stone is found, but beyond it, the ground is covered in similar manner, with rounded blocks of sandstone of the same nature as that which forms the mass of the Serra. (pp 203-204).

In addition to this collection from the Villa da Barra do Jardim, Gardner also visited and collected from Maçapé to the northeast of Jardim, from Mundo Novo to the west and also from nearby Brejo Grande (Gardner 1846):

On the evening of the 23rd of December I had an invitation…to a place called Maçapé five leagues to the east of the Villa da Barra do Jardim [which] I gladly accepted, having been already informed that a large deposit of fossil fishes existed there… Having made enquiries for the place where the fossil fishes were to be found, I went there…after walking about half a league, we reached the spot which much resembled that near Jardim, the stones occupying a limited space on the slope of the rising ground that runs along the foot of the Serra…we had little difficulty in procuring abundance of stones, though few good ones… (pp 211-213).

Understanding that a very large deposit of fossil fishes existed at a place called Mundo Nova, about three leagues to the west of Barra do Jardim, I determined on making an excursion there prior to my departure…as in all the instances I had before met with, it occupied an isolated spot of considerable extent on the gentle slope of a low ridge, which runs along the base of the Serra: here…almost every stone contains the remains of a fish in a more or less perfect condition; most of the smaller ones, that were only four or five inches long, were perfectly entire, but the larger ones, some of which measured fully six feet, were always in fragments. After three hours labour, I collected many tolerably perfect specimens, but no species different from those already obtained in other places. (pp 216-217).

The western descent [from the Serra de Araripe] *is very gradual, and ends in a long narrow ravine, which leads into Brejo Grande, a large valley surrounded on all sides, except to the westward, by branches of the Serra…In the afternoon I visited another deposit of fossil fishes…and found it to be exactly similar to the others already described*. (pp 225-226).

On his return to England in 1841 Gardner brought back large collections of these fossil fish, many of which he donated to leading palaeontologists and museums, but whilst still in Brazil (in December 1838) he sent a selection of specimens to his friend, botanist and geologist, John Eddowes Bowman of Manchester (Gardner 1846, pp 210-211). Bowman (1785-1841), who was a founder member of the Manchester Geological Society and a specialist on mosses, fungi and parasitic plants [Obituary: *Memoirs of the Manchester Literary and Philosophical Society*, Series 2, (1843), **7**, 45-86], exhibited these fossil fish at the British Association Meeting in Glasgow in August 1840 where they were seen by the eminent Swiss palaeontologist, Louis Agassiz, the world's leading authority on fossil fish.

In October/November 1840 Bowman presented a paper written by Gardner to the Edinburgh Philosophical Society announcing the discovery (Gardner 1841), and Agassiz, in a complimentary paper to the same society, referred the "Bowman specimens" to seven new species, (*Aspidorhynchus comptoni, Rhacolepis buccalis, R. brama, R. latus, Lepidotus temnurus, Cladocyclus gardneri, Calamopleura cylindrical*), and correlated them to the Cretaceous Period (Agassiz 1841). Agassiz stated that he would figure these specimens in a supplementary part of his work on Fossil Fishes and although these were never published, the "Bowman specimens" remain the original syntypes of Agassiz's seven species. These were, however, lost to science on Bowman's premature death in December 1841.

During the recent refurbishment of the geology galleries of Manchester University Museum, two specimens of Santana fish were discovered in the collections by one of us (JN), both with their original labels reading, "Mrs Bowman". We have suggested (Nudds *et al*. 2005) that that following J.E. Bowman's sudden death the specimens sent to him by Gardner, and on which Agassiz's new species were based, were passed by his widow to The Manchester Museum (MM), where their significance has remained undiscovered until now. The specimens were originally labelled as "*Aspidorhynchus" comptoni* (MM LL. 12285) and "*Rhacolepis" brama* (MM LL. 12284), now referred to *Vinctifer comptoni* and *Notelops brama* (Figures 2, 3).

Figure 2. *Vinctifer comptoni* (Agassiz). Specimen no. LL.12285, Manchester University Museum. Specimen collected by George Gardner in 1838, described by Agassiz in 1840, and passed to Manchester Museum by the widow of J.E.Bowman sometime after her husband's death in 1841.

Figure 3. *Notelops brama* (Agassiz). Specimen no. LL.12284, Manchester University Museum. Specimen collected by George Gardner in 1838, described by Agassiz in 1840, and passed to Manchester Museum by the widow of J.E.Bowman sometime after her husband's death in 1841.

We argue (Nudds *et al*. 2005) that these two Manchester Museum specimens are the original syntypes of "*Aspidorhynchus" comptoni* and "*Rhacolepis" brama*, as described by Agassiz in 1841, and that although they cannot replace the lectotypes subsequently selected by Sir Arthur Smith Woodward (1887, 1901), they still constitute original syntypes of Agassiz and as such become paralectotypes.

The whereabouts of the Bowman specimens of the remaining five species described by Agassiz remains unknown, and so we illustrate herein the original labels of the Manchester specimens as an aid to curators who are encouraged to examine their collections of Santana fish in the hope that they too might be discovered (Figures 4-6). Note that the labels reading "Mrs Bowman" are a later addition by Manchester Museum, while the labels describing the provenance are possibly original labels by Bowman or even Agassiz. Note also the name "Dinkel" on all three labels, referring to Joseph Dinkel, an art student from Munich Academy and Agassiz's illustrator

Figure 4. Original label of specimen LL.12285, reading, "*Aspidorhynchus Comptoni* Brazil No 7 Part 2 Dinkel Mrs Bowman".

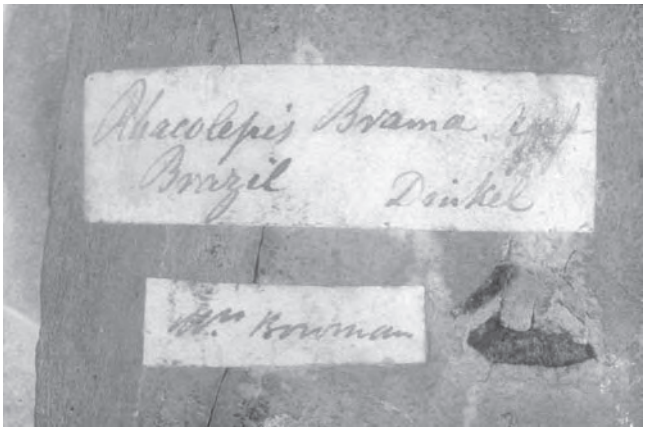


Figure 5. Original label of specimen LL.12284, reading, "*Rhacolepis Brama* Brazil Dinkel Mrs Bowman".

Figure 6. Original label of specimen LL.12285, reading, "*Aspidorhynchus Comptoni* Brazil No 7 Part 1 Dinkel Mrs Bowman".

(James 1986). This further confirms that these are indeed the specimens seen by Agassiz and which he had intended to illustrate in his later publication. The specimen of "*Aspidorhynchus" (Vinctifer) comptoni* was originally broken into two pieces, hence the labels reading "No. 7 Part 1" and "No 7 Part 2". This suggests that there were originally at least seven Bowman specimens, possibly corresponding to the seven species described by Agassiz in 1841.

Commemorating George Gardner

During our visit to the Chapada do Araripe in 2001, we visited the village of Barra do Jardim, where Sr José Alvares Coutinho Junior told us of his plans to open a museum in the village to house examples of the fossil fish which were still being collected from the vicinity of Jardim by local "fishermen". Sr José Alvares Coutinho Junior hoped that this would give the locals a legitimate reason to collect the fossils rather than sell them illegally to local dealers. We were honoured to be asked to be the first to sign the visitors' book for a museum which was not yet in existence! GCG Chairman, Tom Sharpe, subsequently wrote a supporting letter to the authorities in Brazil applauding his ambition.

On a return visit to Jardim in 2004, one of us (JN), accompanied by David Martill and Bob Loveridge (University of Portsmouth) and Federica Menon (University of Manchester) was delighted to discover that Sr José Alvares Coutinho Junior had indeed succeeded in opening his museum (Figure 7) and now had over 7,000 names in his visitors' book. We were further delighted to discover that one room of the "Museu de Ciéncias Naturais e de Historia Barra do Jardim" had been named "Sala George Gardner, Pesquisador Escocês – 1838" in honour of the man who enabled these wonderful fossils to be scientifically described (Figure 8).

To illustrate further the respect afforded to George Gardner in the Val do Cariri, the Universidade Regional do Cariri in Crato has recently named its

Figure 7. Museu de Ciéncias Naturais e de Historia Barra do Jardim, with David Martill and Sr José Alvares Coutinho Junior at the entrance.

Figure 8. The "Sala George Gardner, Pesquisador Escocês – 1838" in the Museu de Ciéncias Naturais e de Historia Barra do Jardim, with John Nudds, Sr José Alvares Coutinho Junior and Ms Alvares Coutinho.

Figure 9. David Martill examines some of the fossil fish found by local farmers at Sitio Miquirina near the village of Taquari, close to Gardner's type locality.

research laboratories after Louis Agassiz and George Gardner. We were delighted to be able to donate replica casts of both Manchester Museum specimens (prepared by Lorraine Cornish of the Natural History Museum, London) to the Universidade Regional do Cariri and to the Departamento Nacional de Produção Mineral, also in Crato, Brazil.

Gardner's type locality

During the 2004 expedition, on our return from the Villa da Barra do Jardim to our pousada accommodation in Nova Olinda (for map see Selden and Nudds 2004, fig. 193), we decided to attempt to search out one of Gardner's original 1838 localities. Thanks to Dave Martill's intimate knowledge of both the local geography and Gardner's travel memoires (plus his undoubtred skills as a rally driver), we managed to get our small Fiat through the Araripe mud to the village of Taquari (7° 38′ 75″ S, 39° 17′ 54″ W, altitude 764 m) into which Dave estimated that Gardner had descended from the Chapada plateau. The locals looked bemused when we emerged from the Fiat wielding a GPS, digital camera and laptop, trying to estimate our position, but soon directed us to nearby Sitio Miquirina, where fossil fish were known by the locals to occur. A kind family escorted us through the fields to a low hill (Figures 9, 10) where we soon discovered the "*rounded limestones, which when split, exhibited the remains of fishes*" (Gardner 1846, p. 203). After half an hour searching we had found *Vinctifer, Paraelops, Rhacolepis, Cladocyclus* with soft tissue preserved, and the swim bladder of a coelacanth. We believe that Gardner's original locality of Mundo Novo was a short distance to the west of Sitio Miquirina.

Figure 10. Local farmers at Sitio Miquirina display the day's "catch" with John Nudds.

Acknowledgments

We thank many friends and colleagues who have helped us in this work, especially David Martill and Bob Loveridge (University of Portsmouth, UK), Federica Menon (University of Manchester), Paulo Brito (Universidade do Estado do Rio de Janeiro, Brazil), André Herzog (Universidade Regional do Cariri, Crato, Brazil) and Artur Andrade (Departamento Nacional de Produção Mineral, Crato, Brazil). Photographs of the Bowman specimens and labels are by Geoff Thompson (University of Manchester, UK). Replica casts of both Manchester Museum specimens were beautifully prepared by Lorraine Cornish (Natural History Museum, London). Finally we are indebted to Patrick Wyse Jackson (Trinity College, Dublin) who revealed to us the significance of the name, "Dinkel" on the specimen labels.

References

AGASSIZ, L. 1841. On the fossil fishes found by Mr Gardner in the Province of Ceará, in the north of Brazil. *Edinburgh New Philosophical Journal* **30**, 82-84.

BRITO, I.M. 1990. Breve histórico sobre a estratigrafia da Bacia do Araripe; pp. 1-18. In *I Simpósio sobre a Bacia do Araripe e Bacias interiores do Nordeste, Crato*.

GARDNER, G. 1841. Geological notes made during a journey from the coast into the interior of the Province of Ceará, in the north of Brazil, embracing an account of a deposit of fossil fishes. *Edinburgh New Philosophical Journal* **30**, 75-82.

GARDNER, G. 1846. *Travels in the interior of Brazil, principally through the northern provinces*. Reeve, Benham and Reeve, London, xvi + 562 pp. (Reprinted AMS Press, New York, 1970.)

JAMES, K.W. 1986. *"Damned nonsense!" – the geological career of the third Earl of Enniskillen*. Ulster Museum, Belfast, 24 pp. (Ulster Museum Publication No. 259.)

MAISEY, J.G. 1991. *Santana fossils: an illustrated atlas*. T.F.H. Publications, New Jersey, 459 pp.

MARTILL, D.M. 1988. Preservation of fish in the Cretaceous Santana Formation of Brazil. *Palaeontology* **31**, 18.

MARTILL, D.M. 1989. The Medusa effect: instantaneous fossilization. *Geology Today* **5**, 201-205.

MARTILL, D.M. 1993. *Fossils of the Santana and Crato Formations, Brazil*. The Palaeontological Association, London, 159 pp.

NUDDS, J.R., BRITO, P.M. and WASHINGTON EVANS, J. 2005. The original syntypes of *Vinctifer comptoni* and *Notelops brama* from the Santana Formation (Cretaceous) of northeast Brazil. *Journal of Vertebrate Paleontology*. 25(3), 716-719.

SELDEN, P.A. and NUDDS, J.R. 2004. *Evolution of fossil ecosystems*. Manson Publishing, 160 pp.

WOODWARD, A.S. 1887. On the fossil teleostean genus *Rhacolepis*, Agass. *Proceedings of the Zoological Society of London* **1887**, 535-542.

WOODWARD, A.S. 1901. *Catalogue of fossil fishes in the British Museum of Natural History, Part 4*. London, 636 pp.

COMMENT ON 'BIOEROSION, PREPARATION AND CURATION'

by Stephen K. Donovan, Caroline Hensley and David N. Lewis

Donovan, S.K., Hensley, C. and Lewis, D.N. 2005. Comment on 'Bioerosion, preparation and curation'. *The Geological Curator* 8(4): 177–178.

Stephen K. Donovan, Nationaal Natuurhistorisch Museum, Postbus 9517, NL-2300 RA Leiden, The Netherlands; e-mail: donovan@naturalis.nnm.nl; Caroline Hensley and David N. Lewis, Department of Palaeontology, The Natural History Museum, London, SW7 5BD, U.K. *Received 11th December 2004.*

Introduction

We welcome the recent note by Radley and Twitchett (2004) for bringing one of the more unloved groups of fossils *sensu lato* into the curatorial limelight. Invertebrate trace fossils in any form, but particularly shallow-tier bioerosion structures, may cause curatorial headaches, and we consider discussion of these problems important in placing them on a secure and informed footing in museum collections. Trace fossils are arguably the most 'difficult' palaeontological objects that may be under the care of a curator in a geology museum. They are not fossils *per se*, but structures generated by the activities of organisms. Tracks, trails and burrows require curation with relevant sedimentological data such as details of original orientation if they are to be of continuing value; those which are preserved within the structure of another organism (boring) or on a lithified surface (shallow-tier bioerosion) require the substrate details to be recorded. Problems of classification may arise when evidence for their purported producing organism(s) enables their biological 'affinity' to be postulated, giving them an enhanced biological value, yet potentially leading to nomenclatorial confusion for the uninitiated (Pickerill 1994).

We strongly advocate trace fossils having their own designated space in any systematic collection. Although Radley and Twitchett (2004, p. 29) appear to imply that examples of surface bioerosion are in some way subservient to the body fossils on which they are commonly found preserved, they recommend that "... fossils preserving surficial bioerosion traces should be collected and curated ... in their own right" (p. 31). This is largely a matter of perspective by the curator. We consider trace fossils to be as worthy of scientific attention as an oyster or whatever biological substrate that its producing organism infested and would consider such bioeroded shells better classified within a dedicated ichnological collection. While some invertebrate trace fossils are commonly more 'producing group specific' than others, almost invariably they are not identifiable with certainty to zoological species or even higher group, but they can be classified to ichnogenus/ichnospecies. Thus, as just one example of the problem of biological 'affinity' and to all curators who include *Cruziana* d'Orbigny within their trilobite collection, we ask what would they do with *Cruziana seilacheri* Zonneveld *et al*., 2002, from the Middle Triassic?

Our point of view, essentially similar to that of Radley and Twitchett (2004), may best be illustrated by reference to specific examples. A shell of the brachiopod '*Terebratula*' sp. (National Natuurhistorisch Museum, Leiden (NNHM), RGM 283 547; Miocene of Alicante, Spain) bears five attachment scars of brachiopod pedicles, that is, the shallow-tier bioerosion structure *Podichnus centrifugalis* Bromley and Surlyk, 1973 (Donovan and Lewis 2004, figs. 2, 3). These bioerosive structures, far from being inconspicuous, were spotted by S.K.D. with the naked eye in the gift shop of the NNHM (although, admittedly, we all have our own search patterns for those fossils in which we are interested!). This is a rare specimen showing multiple attachments of brachiopods (Donovan and Lewis 2004), presumably generated by the same species as the substrate (in this example *P. centrifugalis* are approximately symmetrical and about the same size, that is, slightly smaller than the pedicle foramen of the shell). Attachment scars occur on both valves and are widely distributed thereon, indicating that at the time of infestation the brachiopod was both alive and elevated above the sea floor by its pedicle, presenting

the entire shell for attachment by episkeletobionts (*sensu* Taylor & Wilson, 2002). It is the occurrence of these trace fossils, otherwise rare on shells of this locally common taxon (many tens of specimens were offered for sale over a period of months, yet no other *P. centrifugalis* were identified), that makes this specimen important, not the body fossil.

A second example, albeit of deep-tier borings rather than shallow-tier bioerosion traces, will serve as an extreme demonstration of the potential problems of classification and museum curation. Deep-tier borings are locally common for most of the Phanerozoic, that is, from the Ordovician onwards (Wilson and Palmer, 2004). The NNHM recently subsumed the research collections of the University of Amsterdam, including the palaeontological and lithological specimens of de Buisonjé (1974) from the Netherlands Antilles or ABC Islands (Aruba, Bonaire and Curaçao). Unusually, one group of trace fossils is preserved, at least in part, in association with body fossils of the producing organisms. De Buisonjé gave moulds of Mio-Pliocene bivalve borings (that is, three ichnospecies assignable to *Gastrochaenolites* Leymerie; Kelly and Bromley, 1984) the Linnean names of the producing bivalves *sensu stricto* (*Spengleria rostrata*? (Spengler), *Lithophaga* spp. and *Rocellaria* sp.), whether a producing mollusc was preserved in the boring or not (Donovan and Hensley 2004). Many of these specimens also preserve moulds of part of the bored substrates, colonial scleractinian corals such as *Porites* sp. Some borings preserve moulds of the tubes of annelid(?) worms that encrusted the walls of the trace fossils after the death of the producing bivalve. So, which part of the collection should these specimens be assigned to, trace fossils, bivalves, scleractinians or annelids? Our vote, you will have guessed, is for the trace fossil collection. The principal research interest of these specimens is undoubtedly ichnological and palaeoecological (bivalve/boring relationships), but adequate cross referencing between all groups involved will enable them to be utilized across systematic collections. Any decision should be flexible: if revision of the bivalves shows one or more to be a new species, then such specimens would be better included in the collection of type benthic molluscs.

Thus, our comment on Radley and Twitchett (2004) is not critical, but supportive. Indeed, when Radley and Twitchett (2004, p. 31) said "... surficial bioerosion traces should be collected and curated more widely, as palaeontological specimens in their own right," we consider that they understated their case. Indeed, the morphological uniqueness and palaeoecological relevance of all trace fossils makes them a scientifically important part of any collection of fossils *sensu lato* and the basis for any public display on palaeoecology. In any museum collection they should be afforded the same taxonomic autonomy as any other major palaeontological group.

References

BROMLEY, R.G. and SURLYK, F. 1973. Borings produced by brachiopod pedicles, fossil and Recent. *Lethaia* **6**, 349-365.

BUISONJÉ, P.H. DE. 1974. *Neogene and Quaternary geology of Aruba, Curaçao and Bonaire (Netherlands Antilles)*. Doctoral Thesis, Rijksuniversiteit te Utrecht, 293 pp.

DONOVAN, S.K. and HENSLEY, C. 2004. Bivalve borings or boring bivalves? A curatorial conundrum from the Netherlands Antilles. *Geological Society of America Abstracts with Programs* **36**(5), 112.

DONOVAN, S.K. and LEWIS, D.N. 2004. Palaeoecology in the museum gift shop. *Proceedings of the Geologists' Association* **115**, 367-370.

KELLY, S.R.A. and BROMLEY, R.G. 1984. Ichnological nomenclature of clavate borings. *Palaeontology* **27**, 793-807.

PICKERILL, R.K. 1994. Nomenclature and taxonomy of invertebrate trace fossils. *In* Donovan, S.K. (ed.). *The Palaeobiology of Trace Fossils*. John Wiley and Sons, Chichester, 3-42.

RADLEY, J.D. and TWITCHETT, R.J. 2004. Bioerosion, preparation and curation. *The Geological Curator* **8**, 29-31.

TAYLOR, P.D. and WILSON, M.A. 2002. A new terminology for marine organisms inhabiting hard substrates. *Palaios* **17**, 522-525.

WILSON, M.A. and PALMER, T.J. 2004. Patterns and processes in the Ordovician Bioerosion Revolution. *In Abstract Book, 4th International Bioerosion Workshop, Prague, August 30 - September 3, Institute of Geology, Academy of Sciences of the Czech Republic, Prague*, 64-65.

ZONNEVELD, J.-P., PEMBERTON, S.G., SAUNDERS, T.D.A. and PICKERILL, R.K. 2002. Large, robust *Cruziana* from the Middle Triassic of northeastern British Columbia: ethologic, biostratigraphic, and paleobiologic significance. *Palaios* **17**, 435-448.

RESPONSE TO DONOVAN *ET AL.*, COMMENT ON 'BIOEROSION, PREPARATION AND CURATION'

by Jonathan D. Radley

Radley, J.D. 2005. Reply to Donovan *et al.*, Comment on 'Bioerosion, preparation and curation'. *The Geological Curator* 8(4): 179–180.

Jonathan D. Radley, Warwickshire Museum, Market Place, Warwick CV34 4SA, England, U.K.; e-mail: jonradley@warwickshire.gov.uk. *Received 8th December 2005.*

I welcome Stephen Donovan, Caroline Hensley and David Lewis's positive response to a note recent published in *The Geological Curator* (Radley & Twitchett 2004), reinforcing the case for the preservation and curation of trace fossils as repositories of palaeobiological and palaeoenvironmental information. With reference to the perceived subservience of bioerosion traces to the body fossils on which they are commonly preserved; this would be hard to deny for their status, often unrecognised, amongst many collections. Hopefully this correspondence, and a forthcoming thematic set of papers in *The Geological Curator* concerning curation of trace fossils, will go some way to furthering their cause within museums.

To my mind, the subject of trace fossils leads to broader issues concerning the curatorial challenges presented by certain other categories of palaeontological specimen. Proactive collecting in many museums focuses upon acquisition of previously unrepresented and/or rare rock types, mineral and fossil species, and acquiring specimens that demonstrate exceptional preservation patterns or features. The case for trace fossils as scientifically important components of a collection is founded upon their value as repositories of geological (generally ichnological and palaeoecological) information. Conventional storage and documentation frameworks, involving systematic petrological, mineralogical, palaeontological and stratigraphical classification schemes, largely account for the status of trace fossils as 'the most 'difficult' palaeontological objects that may be under the care of a curator in a geology museum' (see Donovan, Hensley and Lewis's correspondence).

To further explore the concept of 'difficult' specimens, consider one of the most familiar of British Early Jurassic fossils; the oyster *Gryphaea*. Many modern taphonomic studies emphasise the utility of fossil preservation patterns for palaeoenvironmental information gain, through consideration of hard part articulation, fragmentation, abrasion, bioencrustation and bioerosion patterns, and overall fossil concentration fabrics (Kidwell 1991 and references therein). In this respect, worn and broken fossils can be as important as pristine specimens as repositories of information. Perfectly preserved specimens of *Gryphaea arcuata* Lamarck, from the upper part of the Blue Lias succession exposed at Hock Cliff, Fretherne, Gloucestershire, western England, are widespread amongst museum collections in Britain and further afield (Hallam 1968; LaBarbera 1981; Jones & Gould 1999). However, how many collectors and curators will have attached equal value to the inconspicuous, worn *Gryphaea* 'pebbles' that occur within the lower part of the Hock Cliff succession (Simms, Chidlaw, Morton & Page 2004)? A recent study of such fossils, cited by Richard Twitchett and I in our note, has started to realise their potential as repositories of palaeoenvironmental data, and raises similar questions of curatorial classification to those that surround Donovan, Hensley and Lewis's bivalve borings and bioeroded brachiopod.

Similarly, I would predict that few collections hold significant numbers of the intensely worn, degraded *Gryphaea* shells that occur within the Frodingham Ironstone around Scunthorpe, North Lincolnshire, northeast England (Hallam 1963). Studies of the surface textures of modern marine bivalve shells have demonstrated their utility for modelling a range

of palaeoenvironmental parameters such as bathymetry, current influence, sedimentation rates and water chemistry (e.g. Cutler 1995). An initial investigation of the surface textures of Frodingham Ironstone *Gryphaea*, recently undertaken by a postgraduate student at the University of Bristol, holds much promise for further understanding of sedimentary processes in the Frodingham Ironstone sea.

In the examples cited above, it is the destruction of palaeontological information through abrasion, corrosion and bioerosion that makes the specimens scientifically important. However, I imagine that most curators would assign such specimens to the taxonomically arranged mollusc collections, despite their true significance as sedimentary particles and lithic substrates. As Donovan, Hensley and Lewis suggest, such situations can be partly remedied by adequate cross-referencing and a flexible approach to documentation.

These essentially philosophical issues are far-removed from the economics, pressures, audience requirements and expectations that represent the realities of curation in a modern museum. Admittedly, a collection of broken, virtually unrecognisable fossil oyster shells might be difficult objects to successfully display. However, we cannot afford to lose sight of collections as repositories of past, present and future scientific knowledge. By remaining aware of new directions in geological research and thereby new ways to interpret geological specimens, we can continue to produce scientifically innovative and relevant displays and exhibitions.

Acknowledgement

I would like to thank Simon Knell (University of Leicester) for further discussion of palaeontological collecting.

References

CUTLER, A.H. 1995. Taphonomic implications of shell surface textures in Bahia la Choya, northern Gulf of California. *Palaeogeography, Palaeoclimatology, Palaeoecology* **114**, 219-240.

HALLAM, A. 1963. Observations on the palaeoecology and ammonite sequence of the Frodingham Ironstone (Lower Jurassic). *Palaeontology* **6**, 554-574.

HALLAM, A. 1968. Morphology, palaeoecology and evolution of the genus *Gryphaea* in the British Isles. *Philosophical Transactions of the Royal Society of London, Series B* **254**, 91-128.

JONES, D.S. and GOULD, S.J. 1999. Direct measurement of age in fossil *Gryphaea*, the solution to a classic problem in heterochrony. *Paleobiology* **25**, 158-187.

KIDWELL, S.M. 1991. The stratigraphy of shell concentrations. In Allison, P.A. and Briggs, D.E.G. (eds). *Taphonomy: releasing the data locked in the fossil record*. Plenum Press, New York, 211-290.

LABARBERA, M. 1981. The ecology of Mesozoic *Gryphaea*, *Exogyra* and *Ilymatogyra* (Bivalvia: Mollusca) in a modern ocean. *Paleobiology* **7**, 510-526.

RADLEY, J.D. and TWITCHETT, R.J. 2004. Bioerosion, preparation and curation. *The Geological Curator* **8**, 29-31.

SIMMS, M.J., CHIDLAW, N., MORTON, N. and PAGE, K.N. 2004. *British Lower Jurassic stratigraphy*. Geological Conservation Review Series No. 30, Joint Nature Conservation Committee, Peterborough.

THE JURASSIC OF WARWICKSHIRE: PERSPECTIVES ON COLLECTING

by Jonathan D. Radley

Radley, J.D. 2005. The Jurassic of Warwickshire: perspectives on collecting. *The Geological Curator* 8(4): 181–187.

Southern and eastern parts of Warwickshire, central England, are a dominantly lowland terrain underlain by highly fossiliferous Lower and Middle Jurassic strata. Historically, these beds were revealed in numerous quarries and cuttings, but are now relatively poorly exposed. The Warwickshire Museum continues to collect Jurassic rocks and fossils as well as site records. Recently acquired specimens have been used for displays, outreach and research projects. Additionally, Jurassic sites continue to provide geological materials for student projects, and attract limited numbers of amateur collectors.

Jonathan D. Radley, Warwickshire Museum, Market Place, Warwick CV34 4SA, England, U.K.; e-mail: jonradley@warwickshire.gov.uk. *Received 20th March 2005.*

Introduction

This paper is based on that given at the Geological Curators' Group seminar entitled 'Is collecting dead?'; held at the North Lincolnshire Museum, Scunthorpe, England, on the 17th May 2004. Pressures on resources and shifting curatorial roles, philosophies and priorities are increasingly constraining and/or reordering collecting activities in British museums (Knell 2004). Additionally, growing health and safety legislation and attendant insurance requirements are rendering access to quarries, temporary exposures and other inland geological collecting sites ever more difficult. This paper explores perspectives on geological collecting in an essentially lowland, central English setting (county of Warwickshire), with reference to Jurassic strata and their palaeontology. It is emphasised that the Jurassic System is just one aspect of Warwickshire's geodiversity, which provides evidence for a 600 million-year journey from Neoproterozoic (Vendian) volcanic arc settings to the modern environment (Hains and Horton 1969). However, Jurassic palaeontology remains a specialisation within the Warwickshire Museum, building on a long-term strength of the collections.

The Jurassic System in Warwickshire

The county of Warwickshire is dominated by an intensely farmed landscape of rolling hills and valleys, mainly less than 150 metres above sea level. Much of southern and eastern Warwickshire is underlain by richly fossiliferous Lower and Middle Jurassic strata (Figures 1 and 2), dipping shallowly towards the south-east, deposited in shallow-marine environments between about 205 and 165 million years before present. The greater part of this terrain is clay lowland, termed the Feldon, underlain by the Hettangian up to Pliensbachian (Lower Jurassic), essentially argillaceous Blue Lias and Charmouth Mudstone formations of the Lias Group. Drift deposits, including glacial till, alluvium and river terrace sediments, locally overlie these strata (Institute of Geological Sciences 1982; British Geological Survey 1984).

The Cotswold and ironstone fringes margin the Feldon along the Gloucestershire and Oxfordshire borders (Warwickshire County Council 1993). This hillier terrain is characterised by varied and generally more resistant rock types, namely sandstone, limestone and ironstone. These constitute Warwickshire's youngest Jurassic strata and range from the Lower Jurassic (Pliensbachian) Dyrham Formation up to the Middle Jurassic (Bathonian) Forest Marble Formation (Edmonds *et al*. 1965; Horton *et al*. 1987; Radley 2003; Figure 2). The Lower Jurassic (Pliensbachian possibly up to Toarcian) Marlstone Rock Formation (an ooidal ironstone - locally quarried as Hornton Stone) caps several prominent topographic features including the Edge Hill escarpment and parts of the Burton Dassett Hills (Edmonds *et al*. 1965; Institute of Geological Sciences 1982).

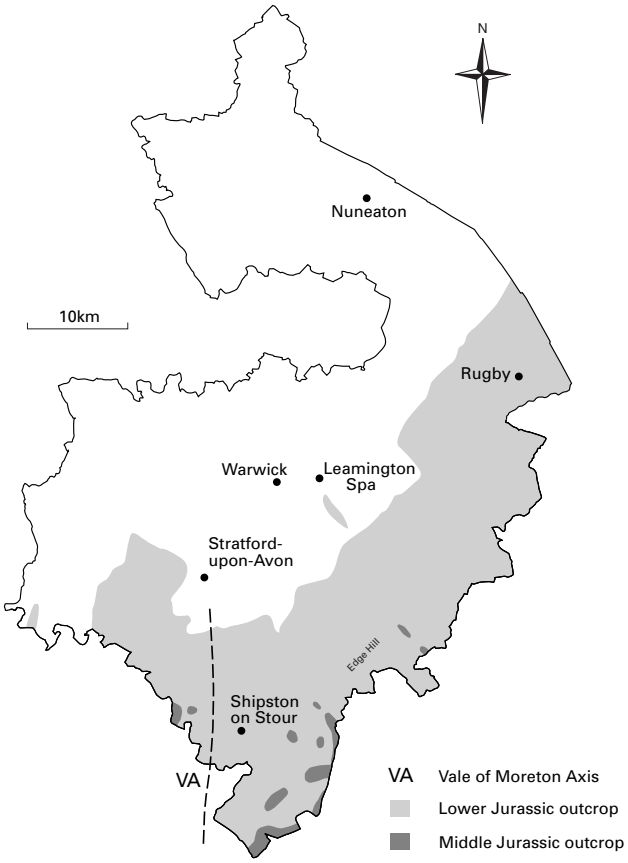


Figure 1. Outline map of Warwickshire, central England, showing Jurassic outcrop.

Historical collecting

During the nineteenth and early twentieth centuries, numerous quarries that extracted mudstone, sandstone, ironstone and limestone as raw materials for bricks, aggregates, building stone, ornamental stone, agricultural lime and cement, characterized Warwickshire's Jurassic outcrop. Freshly excavated railway cuttings provided further sections. This was the heyday of local fossil collecting and geologists such as the Rev. Peter Bellinger Brodie and Thomas Beesley documented many exposures (see e.g. Brodie 1868, 1874; Beesley 1877). Fossils, including many marine reptiles, were collected (Figure 3). Today, a limited number of the most important sites are preserved as geological SSSIs (Sites of Special Scientific Interest), and RIGS (Regionally Important Geological and Geomorphological Sites). Over the last few decades, working quarries in Jurassic strata have attracted the attention of further workers who have continued to document and interpret their geology (e.g. Clements 1975; Ambrose 2001).

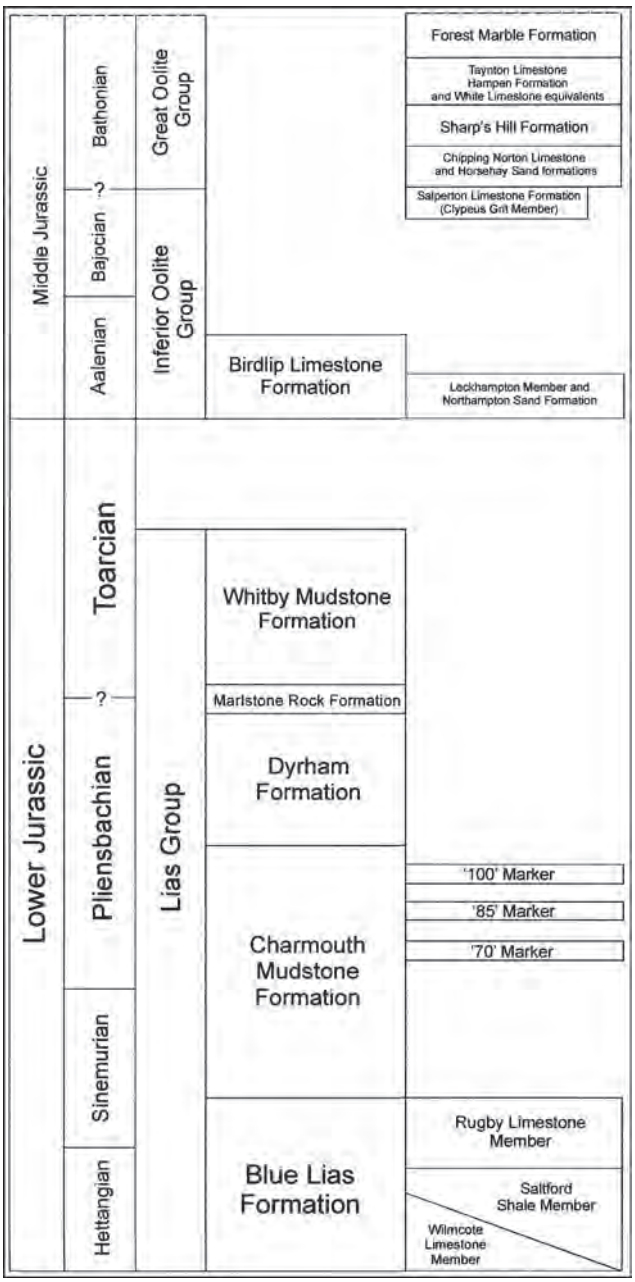


Figure 2. Lower and Middle Jurassic succession in Warwickshire, central England.

Fossil sites

Warwickshire Museum's Geological Localities Record Centre (GLRC) holds records of 362 Jurassic sites within the area defined as Vice-county 38. Fossiliferous Lower Jurassic (Blue Lias Formation) mudstone and limestone is still exploited for the Rugby Cement industry at Southam Cement Works, Long Itchington (Figure 4), and in a recently opened quarry at New Bilton, Rugby. The Hornton Stone (see above) was quarried at Edgehill and near Avon Dassett for aggregate, building and ornamental purposes until recently.

Figure 3. Ichthyosaur skeleton, Blue Lias Formation, Harbury Cement Works quarry, Warwickshire. Photograph taken in 1928.

Many disused quarries occur. Their rock exposures are often covered by talus and vegetation, and some are flooded. Exposure is otherwise limited largely to shallow, partly overgrown road and railway cuttings, stream and ditch sections, and weathered landslip scars. Temporary exposures and field brash are an important source of fossils, as on the Sinemurian-Pliensbachian Charmouth Mudstone outcrop around Upper and Middle Tysoe, and Lower Quinton (Institute of Geological Sciences 1974, 1982).

Safe, accessible fossil sites, much sought after by the public, are increasingly difficult to identify. At present the Warwickshire Museum promotes just one site: Cross Hands Quarry, near Little Compton, at the county's southern tip. Warwickshire Museum's Heritage Education department runs at least one collecting excursion to Cross Hands Quarry annually, as a public event. There, spoil tips of crushed and screened Upper Bajocian (Middle Jurassic) Clypeus Grit limestone yield a range of invertebrate fossils, principally molluscs, brachiopods and echinoids (Cox and Sumbler 2002).

Warwickshire Museum's acquisition framework

Warwickshire Museum's current Acquisition and Disposal Policy (adopted 2004) states that "Future collecting will concentrate upon well-documented rock, fossil and mineral specimens from the county that are not represented in the present collections, of better quality than existing holdings, or preserve hitherto unrepresented features of geological significance." Thus, the policy promotes acquisition of specimens that afford a balanced representation of the geological components of (a) present-day county geodiversity (*sensu* Gray 2004) and (b) county geological history, as vouchers for rock-types, mineral and fossil species, and ancient physical and biogenic processes. The policy observes relevant sections of the Geological Society's 'Guidelines For The Curation Of Geological Materials' (Brunton, Besterman and Cooper 1985) and the Museums and Galleries Commission's 'Standards in the Museum Care of Geological Collections' (Museums and Galleries Commission 1993); both currently under revision.

Warwickshire's museum-based geological collecting and site conservation agenda benefits from a robust partnership with the Warwickshire Geological Conservation Group. The latter has a broader agenda

Figure 4. Southam Cement Works quarry, Warwickshire. The exposures in the foreground are of Rhaetian Langport Member (Lilstock Formation) limestones. The main cliff, roughly 35 m high, is in mudstones and limestones of the Early Jurassic Blue Lias Formation.

Figure 5. Pseudoplanktic oysters encrusting ammonite conch (*Waehneroceras* sp.) and preserving xenomorphic sculpture. Saltford Shale Member, Blue Lias Formation, Southam Cement Works quarry, Warwickshire. Warwickshire Museum specimen G15657. Specimen is 165 mm in diameter.

than many county-based geology groups, taking forward the RIGS programme, funded site conservation projects, as well as providing talks, field excursions and other public events. The partnership has important implications for museum collecting, notably good communication with local collectors and geological site recorders. In the current climate of dwindling field sites, Warwickshire Museum is ideally positioned to maximise upon the available resources.

Warwickshire Museum: proactive collecting

Outreach and handling

Jurassic-themed talks, events, activities and displays maintain their popularity within the Warwickshire Museum and as countywide outreach. A large number of ammonites, belemnites and other invertebrates have been collected over the past three years for handling purposes, principally from the Southam Cement Works and Edgehill quarries.

Collecting for display

Warwickshire Museum's geology gallery features temporary displays, often linked to topical issues. For example, the gallery currently (2005) incorporates a display based upon a copy of William Smith's geological map of England and Wales with part of Scotland, published in 1815. Smith was born in Churchill, Oxfordshire, five kilometres from Warwickshire's southern tip, where the Upper Bajocian Clypeus Grit at Cross Hands Quarry is a well-known source of the regular echinoid *Clypeus ploti* (Cox and Sumbler 2002). English Nature's 'Facelift' excavation at that site, during the winter of 2001-2002, allowed collection of several specimens. These have been incorporated within the display as examples of 'pound-stones', used in Smith's day as counterweights on butter-scales. We know that as a boy, Smith was a keen collector of these and other local fossils (Phillips 1844).

Routine collecting

Regular visits to larger quarries have frequently resulted in accessions representing new records for the collection, or better examples of existing holdings. Amongst recent finds, the Saltford Shale at Southam Cement Works quarry has yielded previously unrecognised trace fossils, ammonite shells displaying pseudoplanktic bioencrustations (Figure 5) and more. Certain finds, such as bioerosion traces from a Pliensbachian belemnite accumulation (Radley and Barker 2001), have led to museum-based research programmes involving further collecting from a range of county and non-county sites.

Warwickshire Museum: reactive collecting

Temporary exposures

Temporary exposures remain an important source of specimens and data. For illustration, during the summer of 2003 a gas pipeline was installed in trenches running for approximately 18 kilometres from King's Coughton, north of Alcester, to Lower Quinton, south of Stratford-upon-Avon. The route traversed roughly 10 kilometres of Lower Jurassic outcrop in the eastern part of the British Geological Survey's Stratford-upon-Avon 1:50 000 sheet area, where the Lower Jurassic stratigraphy is poorly known (Williams and Whittaker 1974). Access was gained to the excavations for two days, enabling collection of ammonites and other fossils from the Charmouth Mudstone Formation. These have allowed recognition of several ammonite biozones, including the previously unconfirmed oxynotum biozone.

Advance notification of temporary exposures currently relies upon contact with planners, developers, field archaeologists, ecologists and members of the public. Through its Local Geodiversity Action Plan programme (Larwood 2004), Warwickshire Museum is exploring the viability of Geographical Information System–based mechanisms that would provide advance warning of potentially fossiliferous excavations.

Donations and purchases

Fossils such as *Gryphaea* shells and belemnite rostra are amongst those most frequently brought into the museum as enquiries. They are typically collected from field brash, or Quaternary river gravel where

Figure 6. Partial skull of *Ichthyosaurus communis* Conybeare, Saltford Shale Member, Blue Lias Formation, Southam Cement Works quarry, Warwickshire. Warwickshire Museum specimen G15643. Specimen is 57 cm in length.

used for construction purposes. Such enquiries do not normally generate donations. The most significant recent accession of Jurassic fossils is the Peter Blake collection from Southam Cement Works quarry, purchased in 2001 with grant-aid from the Museums, Libraries and Archives Council's PRISM Grant fund. Comprising sixty-five specimens, the collection features Saltford Shale fossils including limestone concretions enclosing ammonites, and well-preserved ichthyosaur and plesiosaur remains (Figure 6).

Jurassic site records

Warwickshire Museum's Acquisition and Disposal Policy also covers ecological, archaeological and geological site records. The museum's Geological Localities Record Centre was established in the late 1970s as part of the National Scheme for Geological Site Documentation. Intensive data capture was undertaken at that time through fieldwork and literature surveys. The geological records remain largely paper-based and linked to card indexes, a library of maps and papers, and a wall-mounted map. This system was augmented by Charles Copp's computerised Geological Sites Database (GD2), in the early 1990s. At present, the UKRIGS GeoConservation database (Slawson 2004) is being appraised for suitability as a possible replacement.

In 2001 the Warwickshire Geological Conservation Group, in partnership with the museum, gained funding from the Department of the Environment, Transport and Regions' (DETR) Environmental Action Fund via the Western Association of RIGS groups (now The Geology Trusts), to establish forty new county RIGS (Campbell and Oliver 2002). Local RIGS selection had previously focused on sites that provide best examples of major stratigraphical divisions represented in the county, for educational, scientific, historic and/or aesthetic purposes. The DETR project necessitated greater consideration of sites demonstrating geomorphological features, active processes, finer lithostratigraphic divisions and intraformational variation. Ten additional Jurassic RIGS were identified and selected. Temporary exposures have also led to several new records over the last few years, for example the pipeline sections outlined above.

Collecting activity outside of the Museum

Local and national geological societies continue to visit sites such as Cross Hands Quarry, ironstone quarries at Edge Hill and Avon Dassett, and the Blue Lias exposures at Southam Cement Works, Long Itchington. To my knowledge there is currently no professional collecting activity within the county, though Lower Jurassic ammonites from Blockley Station Quarry, Gloucestershire, just beyond the county boundary, are still widely marketed. Evidence from museum enquiries and fieldwork indicates widespread casual collecting of Jurassic fossils, principally from ploughed fields and temporary sections on the Lower Jurassic outcrop. Southam Cement Works quarry (Figure 4) continues to source materials and data for student projects. Most recently, undergraduate and postgraduate research programmes at the University of Birmingham (School of Geography, Earth and Environmental Sciences) have entailed collection of rock samples from the Saltford Shale for geochemical and micropalaeontological processing (I. Sansom, personal communication).

Current levels of public collecting activity have not, to date, generated concerns relating to collecting methods and specimen repositories. Warwickshire Museum promotes the concept of responsible, sustainable collecting, through publications such as the Geologists' Association's Geological Fieldwork Code, English Nature's Position Statement on Fossil Collecting and the Joint Nature Conservation Committee's Policy Statement 'Conserving Our Fossil Heritage'.

Discussion and conclusions

The material legacies of geological collecting in Warwickshire, spanning nearly 170 years, are preserved in the collections of the Warwickshire Museum, other recognised museums and private collectors. A general reduction in Warwickshire Museum's geological collecting since the nineteenth century to modern levels reflects the decline of the Warwickshire Natural History and Archaeological Society and Natural History Field Club (Green 1986) and more recently, the closure of many quarries and increasing access difficulties. However, museum and university-based research into the Jurassic of Warwickshire, focusing principally on the Lias Group, is realising the potential of many disused sites (some preserved as SSSIs or RIGS), ploughed fields and temporary sections, as sources of specimens for the museum's collection. Fossil collecting remains a popular pastime amongst the public, with Cross Hands Quarry the principle resource.

Acquisition and updating of site records is undergoing something of a renaissance, due partly to recently funded projects undertaken by the Warwickshire Geological Conservation Group in partnership with the museum. Policy and audience-driven collecting activities are inextricably linked, and feed into a fundamental mission to interpret Warwickshire's journey through time with objects and records. Warwickshire Museum strongly encourages collecting, reflecting the current policies and philosophy of the geological conservation 'establishment' that promote a broad 'ownership' of geological science (Knell 2002). The benefits are obvious in terms of the public profile of geology, two-way communication with the collecting community, and museum acquisition.

Acknowledgements

Simon Knell (University of Leicester) kindly commented on an early draft of this paper. Hugh Torrens (Keele University) is thanked for providing information on William Smith's connection with 'pound-stones'. Ivan Sansom (The University of Birmingham) supplied details of student projects and Anton Irving (English Nature) discussed the 'Facelift' site conservation programme.

References

AMBROSE, K. 2001. The lithostratigraphy of the Blue Lias Formation (Late Rhaetian-Early Sinemurian) in the southern part of the English Midlands. *Proceedings of the Geologists' Association* **112**, 97-110.

BEESLEY, T. 1877. The Lias of Fenny Compton, Warwickshire. *Proceedings of the Warwickshire Naturalists' and Archaeologists' Field Club* **1877**, 1-22.

BRITISH GEOLOGICAL SURVEY 1984. *British Geological Survey 1:50 000 Series, England and Wales Sheet 184, Warwick, Solid and Drift Geology*.

BRODIE, P.B. 1868. A sketch of the Lias generally in England, and of the "Insect and Saurian beds", especially in the lower division in the counties of Warwick, Worcester and Gloucester, with a particular account of the fossils which characterize them. *Proceedings of the Warwickshire Naturalists' and Archaeologists' Field Club* **1868**, 1-24.

BRODIE, P.B. 1874. Notes on a railway-section of the Lower Lias and Rhaetics between Stratford-on-Avon and Fenny Compton, on the occurrence of the Rhaetics near Kineton, and the Insect-Beds near Knowle, in Warwickshire, and on the recent discovery of the Rhaetics near Leicester. *Quarterly Journal of the Geological Society* **30**, 746-749.

BRUNTON, C.H.C., BESTERMAN, T.P. and COOPER, J.A. (eds) 1985. *Guidelines For The Curation Of Geological Materials*. Geological Society Miscellaneous Paper No. 17. Geological Society, London.

CAMPBELL, M. and OLIVER, P. 2002. Western pioneers. *Earth Heritage* **18**, 6-7.

CLEMENTS, R.G. 1975. *Report on the Geology of Long Itchington Quarry*. Department of Geology, University of Leicester.

COX, B.M. and SUMBLER, M.G. 2002. *British Middle Jurassic Stratigraphy, Geological Conservation Review Series No. 26*. Joint Nature Conservation Committee, Peterborough.

EDMONDS, E.A., POOLE, E.G. and WILSON, V. 1965. *Geology of the Country around Banbury and Edge Hill*. Memoir of the Geological Survey of Great Britain. HMSO, London.

GRAY, M. 2004. *Geodiversity: valuing and conserving abiotic nature*. Wiley, Chichester.

GREEN, M. 1986. *Warwickshire Museum 1836-1986*. Warwickshire Museum Publication.

HAINS, B.A. and HORTON, A. 1969. *British Regional Geology, Central England, Third Edition*. HMSO, London.

HORTON, A., POOLE, E.G., WILLIAMS, B.J., ILLING, V.C. and HOBSON, G.D. 1987. *Geology of the country around Chipping Norton*. Memoir of the British Geological Survey. HMSO, London.

INSTITUTE OF GEOLOGICAL SCIENCES 1974. *Geological Survey of Great Britain (England and Wales), Stratford-upon-Avon, Sheet 200, 1:50 000 Series, Solid and Drift Edition*.

INSTITUTE OF GEOLOGICAL SCIENCES 1982. *Geological Survey of Great Britain (England and Wales), Banbury, Sheet 201, 1:50 000 Series, Solid and Drift Edition*.

KNELL, S.J. 2002. Collecting, conservation and conservatism. Late twentieth century developments in the culture of British geology. *In* Oldroyd, D.R. (ed.). *The Earth Inside Out: Some Major Contributions to Geology in the Twentieth Century*. Geological Society, Special Publication No. 192. Geological Society, London, 329-351.

KNELL, S.J. 2004. Altered values: searching for a new collecting. *In* Knell, S.J. (ed.). *Museums and the Future of Collecting, Second Edition*. Ashgate, Aldershot, 1-46.

LARWOOD, J. 2004. How to mind the LGAP. *Earth Heritage* **22**, 6.

MUSEUMS and GALLERIES COMMISSION 1993. *Standards in the Museum Care of Geological Collections*. Museums and Galleries Commission.

PHILLIPS, J. 1844. *Memoirs of William Smith: author of the "Map of the Strata of England and Wales"*. John Murray, London.

RADLEY, J.D. 2003. Warwickshire's Jurassic geology: past, present and future. *Mercian Geologist* **15**, 209-218.

RADLEY, J.D. and BARKER, M.J. 2001. Echinoid grazing traces (*Gnathichnus pentax* Bromley) in the Middle Lias (Lower Jurassic) of Warwickshire. *Proceedings of the Cotteswold Naturalists' Field Club* **42**, 28-30.

SLAWSON, G.C. 2004. Geological Recording in the UK. *In* Browne, M. and McAdam, D. (eds). *Proceedings of the Sixth UKRIGS Annual Conference*. UKRIGS, 19-21.

WARWICKSHIRE COUNTY COUNCIL 1993. *Warwickshire Landscape Guidelines: Avon Valley, Feldon, Cotswolds*. Warwickshire County Council Planning and Transport Department.

WILLIAMS, B.J. and WHITTAKER, A. 1974. *Geology of the Country around Stratford-upon-Avon and Evesham*. Memoir of the Geological Survey of Great Britain. HMSO, London.

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.

260. Mr Alfred Bernard Badger.

Helen Kerbey, Department of Geology, National Museum and Galleries of Wales, Cathays Park, Cardiff CF10 3NP, Wales, UK (Acting Collection Manager (Mineralogy/Petrology); Tel: 02920 573367; e-mail: Helen.Kerbey@nmgw.ac.uk) writes:

I am seeking information about the life and works of an Alfred Bernard Badger whose collection was donated to NMGW around 1923. The collection consists of a large number (+1000) of rocks each containing small labels relating to map sheets covering the area of NW Gwynedd from Bangor through Caernarfon and Llanberis to Pen-y-groes. Annotated map sheets and a number of notebooks, letters and essays accompany them.

A letter from Mr Badger offering the collection to the museum in May 1923 notes his intention to publish his work on the area however only one geological publication appears to exist (Badger 1908) whilst several ?unpublished articles exist in the collection. He appears to have been associated with Prof. Lapworth and the University of Birmingham, and describes himself as an "Associate of Birmingham University" on one article. A letter to Lapworth in 1900 notes his address as Normanton-by-Derby but by 1908 he was living in Dewsland Park, Newport and working for the Higher Education Department. The 1901 census implies that he was born in Worcester around 1865.

I would be interested to hear of any correspondence relating to Badger and any articles or notes written by him on Geology or any other subject.

Reference

BADGER, A.B. 1908. Preliminary note on some unrecorded exposures of the Quartz-Felsite in North-West Carnarvonshire. *Geological Magazine* Decade 5, **5**, 261-264.

BOOK REVIEW

Pellant, Chris & Pellant, Helen. 2003. *A Guide to Rocks*. Field Studies Council Publications, Montford Bridge, Shrewsbury, 12 pp. Pocket guide. ISBN 1-85153-888-7. Price: £3-25.

Another slender pocket guide and one that should be of use, or at least interest, to all geologists. Hitherto, the Field Studies Council have published guides to the organic world, so A Guide to Rocks is a welcome departure. It is very attractively produced with one 'side' (= 6 pp.) of the stiff, laminated, double-sided, folding guide printed in full colour with 71 photographs of mainly hand specimens. It measures 168 x 247 mm ($6^1/_2$ x $9^{11}/_{16}$ inches).

The most important feature of such a guide are the illustrations, in this instance of rocks. These are packed in as tightly as possible, twelve to a page (any more and they'd be too small to be useful), each associated with brief informative comments. Most show hand specimens, but the few photographs from the field illustrate important features such as pillow lava, columnar joints, sedimentary bedding and a granite/country rock contact. I must congratulate the authors on the uniform high quality of the photographs, which will be appreciated by anyone who seeks to apply the guide to rock identification.

As with the photographs, so with the text, which appears on the reverse side of the guide. The key word when producing such a guide is 'cram' – how much information can be squeezed in before the text becomes unintelligible to the uninitiated? The $5^1/_2$ pages of text have to introduce a huge range of concepts and terms relating to igneous, sedimentary and metamorphic rocks, and this is done very successfully. There are places where I might add half a sentence or so of further explanation here and there, and might define a feature in slightly different terms, but this would be no more than personal preference of, I admit, a pedantic reviewer.

This guide is designed for the field, yet it should be there on the shelf of many geology professionals or, at least, the reference library of your museum's identification service. Who has to identify specimens in your museum? Is the 'right' person always in their office? With this guide, even a non-geologist can make a good stab at naming a rock specimen.

Stephen K. Donovan, Nationaal Natuurhistorisch Museum, Postbus 9517, 2300 RA Leiden, The Netherlands. 1st August 2005.

GEOLOGICAL CURATORS' GROUP

30th Annual General Meeting

9th December at the Ludlow Museum Resource Centre, Shropshire

1. Apologies for absence

Received from Alan Bowden, Caroline Buttler, Sara Chambers, John Cooper, Paul Ensom, Helen Fothergill, Ros Gourgey, Steve Howe, Camilla Nichol, Steve Tunnicliff, and Wendy Simkiss.

2. Minutes of the 29th Annual General Meeting held at the Sedgwick Museum, Cambridge

Agreed, with the following amendments:

Item 6. Treasurer's report. Should read: C.J.C. Burhouse was thanked... .

Item 9. Newsletter Editor's report. Should read Sharpe, not Shape.

3. Matters Arising

Item 13. AOB. Paul Davis asked about progress on the Curation guide. The item has been discussed and copy is awaited for the forthcoming *Guidelines* publication. Paul Davis asked about the specialist contact list. Chairman replied that this had been discussed and will be investigated again.

4. Chairman's report from Patrick Wyse Jackson

In a three year term of office I think that one could be excused for thinking that once the first year has passed, and the controls of the locomotive understood, that the wheels of office would roll smoothly until you entered the terminus at the end of year three. Certainly this has not been the case this year; it has been marked by some great difficulties, but these have been offset somewhat by achievements which you will hear of from other members of the committee.

BCG and NSCG have now merged as NatSCA, and we remain in close contact with this group through Steve Thompson who remains on the GCG committee. At an early part in the merger discussions the GCG were approached about joining a merged group. However it was decided that we would should remain independent. I wrote to NatSCA soon after its establishment offering my congratulations and hopes that it and the GCG would work together and forge links where appropriate. I am looking forward to their AGM to be held in Dublin next April.

The Manchester Museum has undergone staff restructuring. Most of you will know much about this business as the rational for this was outlined by Tristram Besterman (the Director of the museum) in the June issue of *Coprolite* and I responded in the same issue on behalf of the Group. I know that many were deeply unhappy about the proposed changes and that letters of representation were sent to Manchester. The Group wrote and outlined its concerns on the effects these changes would have on the welfare of the collections.

I continue to receive notifications of problems with collections, be they orphan collections or collections held in 'reputable' institutions. In the last few weeks I have heard mutterings of problems in this respect at several institutions. I shall write to the appropriate authorities to express our deep concern. We have also been engaged in discussion with authorities in the south-west and hope that this situation will be resolved to everyone's satisfaction.

It was hoped that a short statement of the Group's position on the knotty issue of ethics would have been published by now in *The Geological Curator* and in *Coprolite*. However this has not happened, as the Working Group which was set up dissolved with the resignation from Committee of Susan Cooke who was the main author of the document. This will be addressed by the Committee at its next meeting, and a new Working Group will be charged with completing the document ready for publication next Summer. It is essential that we complete this as other groups such as the Museums Association are interested in our conclusions.

Earlier this year Susan Cooke resigned as Treasurer, and I thank her for her contribution in this role. At a meeting in Cardiff several members of the Committee sorted through a backlog of papers from the Treasurer, and divided up the task of sorting out several outstanding issues. Tom, Giles and myself met in October in London to discuss this business further and the situation has now been fully sorted out. Tom Sharpe took on the accounts and has done a wonderful job in order to be able to present the accounts for this year but also for last year at this AGM. I sorted through membership papers, have invoiced all institutional members for 2004, and sorted out problems with non-payment or non-encashment of

cheques. I am grateful, pleased and relieved that Ros Gourgey has agreed to act as Membership Secretary for 2004 and that the whole membership database will be held by Camilla Nichol. In the past various people were responsible for different parts of this database and this was a nightmare. When you are returning your subscriptions, your standing order form or your Gift Aid form for 2004 you should return them to Ros.

Your committee works very hard on your behalf. Giles Miller is an efficient and skilled Secretary. Steve McLean continues to exercise his imagination to provide us with an excellent series of events. As ever Ros Gourgey provided her invaluable organisational skills for the annual study visit. Tom Sharpe continues to produce *Coprolite* which seems to grow with age. Tony Morgan plays a pivotal role as Minutes Secretary. Helen Fothergill is new to her role as Recorder but already has compiled the preliminary results of the Status survey undertaken by her predecessor Glenys Wass. Helen's report appeared in the November issue of *Coprolite*. I also appreciate the valuable contributions of the other members of the Committee: Sara Chambers, Mark Evans, Jon Radley, Camilla Nichol (who is our Web Master), John Nudds, Steve Thompson and Ros Gourgey. I am most grateful to all the members of the committee who have worked very hard during this rather difficult year but nevertheless enjoyable one for the GCG.

So what next for the Group? Apart from the usual activities we can look forward to the forthcoming publication by the Geological Society of *Guidelines 2*. Authors have been commissioned to contribute to this worthwhile publication, although it soon became apparent that many were either too busy to contribute or were unwilling as they had retired. I received the first contribution last week, so this is promising, and will continue to hound authors for their manuscripts.

Of great concern is the matter of membership which continues to fall, and a consequence of this is that our financial state is not as healthy as it was. In the first half of 2004 I shall embark on a recruitment drive and will be writing to as many institutions and individuals as I can think of and will encourage/urge/browbeat them into joining the Group. We will also attempt to sell more back issues of our journal to increase our revenue take - at the moment a considerable amount of capital is sitting in boxes in Manchester and Dublin. **All the membership can participate in this recruitment drive.** If you have colleagues in the museum sector who are not members, go to them with a photocopy of the subscription forms and ask them to send a cheque to Ros. Also check to see if your institution is a subscriber - if it is not then ensure that it joins. With a large network of members the Group will see benefits in the greater transfer of information and expertise about geological collections and their curation, and this would help protect and enhance these collections further. The GCG should be a global network, and not just have a patchy presence in Western Europe. I shall work towards the development of this global network.

The GCG was saddened to learn of the deaths of Professor Frank Hodson, formerly Professor of Geology at Southampton and a long-term member of the Group, and of Michael Eagar, formerly Keeper of Geology at the Manchester Museum and acknowledged expert on Upper Carboniferous non-marine bivalves. Both 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".

Matters raised: BCG and NSCG merger. Paul Davis asked if there were any plans for GCG to join the other groups to form one large Natural History organisation?

The Chairman replied that there are no plans for such a move at the moment, although Committee will continue to monitor the progress of NatSCA. Steve Thompson replied that NatSCA would see further amalgamation as very useful and that there is an open invitation for GCG to link up with the new group. Paul Davis noted that amalgamation would be useful to provide a united front on natural history concerns, and would help to tackle declining membership. The Chairman replied that the membership issue is being tackled, and that we now have a presence in Europe and North America.

5. Secretary's Report from Giles Miller

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

Membership

Hardly a week has gone by this year without me receiving some sort of correspondence regarding the GCG. The majority of this has been relevant to maintaining the membership database. The standing order scheme has taken off with over 80 of our members now using this method of payment. This number almost doubled when members whose subscriptions were in arrears were reminded that they were overdue. Similarly, many members joined the gift aid scheme after receiving reminder letters. I would like to thank Camilla Nichol, Helen Fothergill

and Caroline Hensley for help with producing and sending out these reminders. The letters have had the desired effect as I have just submitted a tax claim for £623 covering the years 2001-2003. Although the amount claimed is not going to be as high for 2003-2004 it should also include claims for many people who did not pay their 2003 subs until after April 6th. Just a gentle reminder then for those that still pay by cheque that subs should be sent as soon as possible so we can claim the gift aid back just after April 6th 2004. The amount claimed this year should cover production and postage for one edition of *Coprolite* so this is an important source of income for the group. The state of play for the group is:

A grand total of 228 members including:

81 paying by standing order

110 we currently claim gift aid from

26 overseas members (Ireland, Germany and USA make up the majority)

8 honorary members

You will notice that Institutional members are not included in this figure. As with the previous year, the treasurer has dealt with institutional subscriptions. I would like to thank Patrick Wyse Jackson for compiling an electronic database and sending out Institutional subscriptions for 2004 so that everything can now be handled on one database. Having everything on one database means that we can answer subscription enquiries much more easily. The committee has worked to improve the way we deal with membership issues and decided that is was best to spilt the job up into several manageable portions. As advertised in *Coprolite*, Ros Gourgey has offered to act as the focal point for accepting subscriptions and paying in the cheques as they arrive. Camilla Nichol has developed a database in MS Access that will handle both the current membership databases. It will also produce reminder letters, mailing labels, invoices as well as lists of members paying by standing order. Camilla has offered to maintain this database. The Secretary will continue to collate all the paperwork relevant to subscriptions and use this to prepare tax returns each year in association with all the paperwork built up over the last two years. Camilla's database currently has:

242 personal subscribers

92 UK Institutional members

Camilla is currently merging the overseas Institutional membership details into the database.

A number of Brazilian curators have approached me since my trip there in the summer for advice about setting up a GCG equivalent. We have one new Brazilian member who has offered to act as Brazilian correspondent and to encourage other curators or institutions to join the GCG. We should certainly look to develop links with other countries with no GCG equivalent. This should be easier to maintain now that we have a US Dollar bank account. I would like to thank Tiffany Adrain for acting as the US Correspondent and for setting up and paying US Dollar cheques into this account.

Other correspondence

I have been invited to attend several meetings of the *Earth Science Education Forum*. The group are keen to maintain links with the GCG and regularly send minutes to me from their meetings. Occasionally I have passed information on via the GCG JISCMAIL list about them and their Scottish equivalent the *Scottish Earth Science Education Forum*.

I have now become one of the owners of the *GCG JISCMAIL* list so if there are any problems with posting messages there then please contact me. Just over 100 GCG members and a few non-members are currently subscribed. I would encourage members to join as the traffic on that list is not that heavy but the list offers the chance to easily disseminate information to a large number of geological curators.

SPNHC 2005 at the Natural History Museum. I have attended several meetings as representative of the GCG and will be overseeing publication of the abstracts volume and any special publications that come from that meeting.

Resource approached me recently as they wish to update their Standard for Museum Registration, following their extensive consultation and piloting exercises earlier this year. Part of this rewriting included bringing the Acquisition and Disposal Policy template up to date. Paul Davis of the NHM responded for the GCG on this occasion.

Vast numbers of "*Thumbs up*" leaflets have been found a new home. These were taking up space in a corridor at Manchester University until Mandy Edwards was told to move them or risk their disposal. The GCG e-mailing list came in handy and a new home was quickly found at Liverpool Museum. If you would like to get hold of copies of the leaflet then please contact Alan Bowden.

I continue to receive correspondence regarding missing or duplicate journal and *Coprolite* issues and to send out membership packs to prospective new members. Hopefully the changes to the way that the committee handles the Membership Secretary duties will take some of the pressure off the Secretary. More

time will then be available to ensure that the committee runs smoothly so that we manage to raise our profile and expand our membership over the coming years.

The report was accepted on the general "aye".

Matters raised: John Nudds asked if it was possible to find out who is on JISCMAIL? The Secretary replied that it is possible and names can be called up, although it is possible to be listed anonymously. Steve McLean recommended members to sign up to JISCMAIL as this is one way changes to programmes can be announced at short notice.

6. Acting Treasurer's report from Tom Sharpe

Circulated at the meeting and read by Tom Sharpe, Acting Treasurer. These include the 2002 accounts that were not available for the 29th AGM in Cambridge.

No balance sheet was presented at the 2002 AGM in Cambridge, so the accounts for 2002 and 2003 are presented here.

2002 balance sheet

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 bookkeeping 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 £378.99, 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.

2003 balance sheet

During the year, Susan Cooke resigned as Treasurer. Of particular note in the accounts is the large increase in subscription income, up £1898.16 on the previous year. This is due partly to the new increased subscription rate which came into effect this year, but is mainly due to the sterling efforts of our Chairman and Secretary in chasing unpaid and lapsed subscriptions. The introduction of standing order payments should allow this figure to settle down in future years. We are grateful to Clinton Burhouse for his continuing, long-standing support of *Coprolite*. Apart from our publications, our greatest expenditure was in travel costs for members attending Committee meetings. This is a figure which is likely to continue to rise as fewer members receive financial support from their institutions to attend our meetings.

Total income for the year was £5550.86 and total expenditure £5883.79. However, the income contains £264.00 of overpaid subscriptions and our expenditure includes an advance payment of £993.16 for the next issue of *The Geological Curator*. Taking these into account, the adjusted income figure for 2003 is £5286.86 and the adjusted expenditure is £4890.63, giving a small surplus of income over expenditure of £396.23.

Although the balance figure of £6999.57 appears to be down on that for 2002 (£7332.50), to this should be added the £993.16 advance payment for the next issue of *The Geological Curator* and from it should be deducted £264.00 of overpaid subscriptions, giving an adjusted balance figure of £7428.73, a small increase (£96.23) on that of 2002.

Taking both years' accounts into consideration, it is clear that, like most organisations, we are facing ever-increasing costs and will have to consider making some economies in the year ahead. However, we are looking forward to a significant income from Gift Aid which will appear in future accounts. We are very grateful to all members who are UK taxpayers who have completed Gift Aid forms. If you have not already sent a Gift Aid form to Giles, please do so as soon as you can.

I am grateful to our auditors, Paul Ensom and Simon Knell, Steve Howe and Cindy Howells for their examination of the accounts.

The report was accepted on the general "aye".

Matters raised: Paul Davis asked why the change in Auditors since last year?

The Acting Treasurer replied that some difficulties in communications had been experienced during the year, so to save time and costs it was agreed to appoint local Auditors for this year.

Giles Miller asked if the accounts include subscriptions from the USA? It was responded that they did not yet, but that a sum of $283 had been collected. This will be listed separately in future accounts.

The Chairman and Susan Cooke thanked Tom Sharpe for the work he has done getting the accounts together.

7. Programme Secretary's Report from Steve McLean

This was circulated at the meeting and read by Steve McLean.

Another busy year draws to a close with a range of seminars and activities which have had a varied response from the membership. It is unfortunate to start this report on a rather negative note, but we have had to postpone or cancel two meetings this year owing simply to a lack of interest, and other meetings have had lower turnouts than expected. This has caused me to consider once again the whole annual programme.

I would really like to hear from the membership as it is frustrating planning meetings and then having to cancel them. I am very happy to plan in a different way or provide a more focused programme based on your needs, but I really do need to hear your views. Please do contact me in the usual way to discuss any matters. I would be very happy to hear from you.

Summary of Programme 2003:

10-11 December 2002. Sedgwick Museum, Downing Street, Cambridge. GCG Seminar, AGM and study visit: A new look at geological displays.

An excellent meeting which investigated the more recent developments in geological displays throughout the UK. Sincere thanks to Leslie Noe and Liz Hide for organisation of the venue, and to all the speakers who were Tom Sharpe, Steve McLean, Martin Munt, Alan Hart, Dave Smith, Liz Hide, Leslie Noe, and David Norman.

19 and 20 May 2003. GCG seminar and field trip. Inverness and Elgin, Scotland. Scottish Geology Collectors and Collections

A rather adventurous two-day meeting exploring the theme of Scottish Geology collections and collectors and also focusing on Hugh Miller. The visit included trips to Hugh Miller's Cottage, the Old Kirk and the monument at Cromarty; Inverness and Elgin Museums, and Clashach Quarry: home to the famous Permo-Triassic trackways.

My grateful thanks to the speakers and field trip leaders: Mike Taylor, Nigel Trewin, Jon Watt, Neil Clark, Jeff Listen and Bob Davidson. Thanks also to Jon Watt, Susan Bennett and Martin Gostwick for venue organisation.

11 June 2003. GCG Training: Identifying Fossils 3. Marine Reptiles. New Walk Museum and Art Gallery, Leicester.

A very well received session on the identification of marine reptiles lead by Marks Evans of New Walk Museum, Leicester. My sincere thanks to Mark who masterminded the whole event.

4 September 2003. Department of Palaeontology, Natural History Museum, London. Training session/seminar on "The curation and conservation of micropalaeontological materials".

Another popular training session entirely organised by Giles Miller and delivered by Giles and colleagues at the Natural History Museum, London.

22-23 September 2003. GCG Seminar and Field Trip: Is Collecting Dead? North Lincolnshire Museum, Scunthorpe.

Postponed due to lack of interest. This meeting has been rescheduled to take place on 17 and 18 May 2004 at Scunthorpe. My thanks to Steve Thompson for bearing with us!

24-26 October 2003. Overseas Study Visit: Wonderful Wonderful Copenhagen!

Cancelled due to lack of interest.

2004 Programme:

The 2004 programme has already been set and has appeared in *Coprolite*. The sessions include the "collecting" seminar described above, two further training sessions, a joint trip with NatSCA to Prague and the next AGM which will now take place in January 2005 (not December 2004 as previously advertised) at the Hancock Museum Newcastle. Given the late AGM we may try to programme in another seminar late next year.

I really do hope that more of you will be able to participate next year. Please try to give your support and do let me know if we can improve things for you.

The report was accepted on the general "aye".

Matters raised: Steve Thompson asked if it would be possible to rerun training workshops for those who missed them? Steve McLean replied that this is possible, if local organisers can be found to run the sessions again.

Paul Davis noted there are often problems attending events as employers often have a list of objectives that have to be covered before leave is allowed. Steve McLean replied that this has been spoken about at Committee, and that wording of notices will try to take this into account in future.

8. Journal Editor's report from Patrick Wyse Jackson

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

Volume 7 of *The Geological Curator* has been completed with the publication of Number 10 (which is now with the printers, and which should be

distributed before or immediately after Christmas). Prior to this Volume 7, Part 9 was issued to members in May.

Number 10 was slightly delayed getting from my computer as I was anxious to include an index to all ten parts of the volume at the end of the volume, and this index took me the best part of a week to compile.

This year I advertised in *Coprolite* the availability of a number of books for reviewing that had been received. Most titles were rapidly snapped up; even more miraculously, reviews appeared soon afterwards in print.

I thank all those who wrote for *The Geological Curator* - without your contributions it would be impossible to sustain this journal. I am also most grateful to all those of you who reviewed papers for the journal. Peer review is valuable and allows us to strive towards producing and maintaining a journal of high standards.

Volume 7(9) contained three papers, an obituary of Michael Eagar the former Keeper of Geology at the Manchester Museum (by John Nudds), some book reviews, the minutes of the 28th Annual General Meeting held in Oxford, and the citation by Tom Sharpe on the presentation of the Brighton Medal to Philip Powell.

THE CHARLES W. PEACH (1800-1886) COLLECTION OF CORNISH FOSSILS by Peter Crowther

A LARGE SCALE 'MICROCLIMATE' ENCLOSURE FOR PYRITIC SPECIMENS by Adrian Doyle

A NEW TOOL FOR FOSSIL PREPARATION by Paul Selden

Volume 7(10) contained four papers, and appreciation of John Norton, the former Keeper of Geology at Ludlow and an Honorary Member of the GCG (by Peter Toghill), a Lost & Found section, some book reviews, and the Index to Volume 7.

SOME EARLY COLLECTORS AND COLLECTIONS OF FOSSIL SPONGES REPRESENTED IN THE NATURAL HISTORY MUSEUM, LONDON by S.L. Long, P.D. Taylor, S. Baker and J. Cooper

COMMENT ON 'TYPE AND FIGURED SPECIMENS IN THE GEOLOGY MUSEUM, UNIVERSITY OF THE WEST INDIES, MONA CAMPUS, JAMAICA' by S.K. Donovan

CURATION OF PALYNOLOGICAL MATERIAL: A CASE STUDY ON THE BRITISH PETROLEUM MICROPALAEONTOLOGICAL COLLECTION by J. Dunn

UPPER CARBONIFEROUS CRINOIDS: AN EXTRAORDINARY COLLECTION BY LATE 19TH CENTURY AMATEUR PALAEONTOLOGISTS, KANSAS CITY, MISSOURI, U.S.A. by R.J. Gentile

I hope that members will continue to support their journal through the submission of papers. In the past decade this has been a perennial problem, although you have always received two issues of reasonable length each year. This year one published paper was diverted from another volume that I am editing, as I decided it was more suitable for the GCG than the other project. In my filing cabinet I have one paper waiting for publication in the next issue - this is a paper of my own that I started seven years ago and have only just finished it, so take out your dusty manuscripts however short, look at them again, convert the text from the BBC microcomputer or Amstrad to WORD and consider submitting it. If the paper is worth publishing it will be published, and may prove to be of value to our profession.

I am grateful to Vincent Fitzpatrick and Adrienne Foran of ColourBooks of Dublin who continue to do a professional 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. Newsletter Editor's report from Tom Sharpe

Circulated at the meeting and read by Tom Sharpe.

2003 saw completion of the 14th year of publication of *Coprolite*. As usual, three issues (Numbers 40, 41 and 42) were published, in March, July (dated June) and November, totalling, as last year, 68 pages.

For *Coprolite* to be of value as a newsletter, we need to hear your news. Any news of events, meetings, exhibitions, publications, staff changes and job moves, or anything at all relating to geology in museums would be more than welcome. And if you can spice it up with some salacious and gratuitous gossip, so much the better. So, like last year, make a New Year Resolution (but try and keep it this time) to send me your news.

Thanks are due to Barnes Print Group of Nottingham who print and distribute *Coprolite* and to Clinton Burhouse of Burhouse Ltd of Huddersfield, for his continuing generous support.

The report was accepted on the general "aye".

10. Recorder's report from Helen Fothergill

Circulated at the meeting. Read by the Chairman.

Much of this year was spent on the forthcoming State and Status Report. Having taken over the role of Recorder from Glenys Wass (thanks go to Glenys for

arranging the survey in the first place), I have been entering the returned survey responses on an Access database. This is now complete, and though the poor response rate is somewhat depressing, that in itself perhaps gives us an indication of the "state and status of geology collections'.

The initial survey questionnaire was sent out in 2001. Over 2 years later we are beginning to compile a report to compare with the Doughty Report (1981). However the fact that a number of 'big' names are still obviously absent, does call into question the usefulness of the data as an overview of collections in the UK.

A brief report was published in the last edition of *Coprolite*. The following report gives a little more detail and some initial tabulated results:

To summarise

Total number of questionnaires sent out = 423

Total number of questionnaires returned =213

Only 50% of those to receive a questionnaire responded in any form.

A number of forms were returned blank. Some forms were very sparsely completed.

A more detailed summary of results is available in electronic form for those who have not received a 'hard copy'. To receive this report please e-mail me at helen.fothergill@plymouth.gov.uk

Only three museums have added information since the report in *Coprolite* but have not yet been included in the summary report. Those museums are: Hunterian, Glasgow; Leicester City Museum Service; Bristol City Museums.

If you are not included on full list of respondees and wish to be (or are on the 'black list' published in the November 2003 issue of *Coprolite*). Blank forms are available from myself. Don't be shy about asking for one! In the New Year I plan to send out blank survey forms to those museums known to hold geological material. I also plan to send a basic report similar to this one to the area Libraries, Archives & Museums Councils for information about sites who have not responded.

The report was accepted on the general "aye".

11. Election of Officers and Committee for 2004

No nominations received. Current officers remain.

Ros Gourgey has been co-opted to act as Membership Secretary.

Sara Chambers has agreed to take on the role of Treasurer, and Andrew Ross has agreed to join the Committee.

Agreed by those attending the meeting.

12. Election of Auditors

Caroline Buttler and Steve Howe were nominated. Agreed by those attending the meeting.

13. Brighton Medal 2004: call for informal nominations

This being the Chairman's second AGM of his term of office, he is calling for informal nominations (in writing) for possible Brighton Medallists. A "medal advisory panel" will be agreed at a future Committee meeting and will help the Chairman choose the medallist.

14. Any other business

Andrew Ross, new Committee member, introduced himself to the Group.

15. Date and venue of next meeting

The Hancock Museum, Newcastle-upon-Tyne. January 2005. (Date to be confirmed).

The Chairman then closed the meeting with thanks to Daniel Lockett and the staff of the Resource Centre for their organisation and hospitality.

The meeting closed at 5.20 pm.

Annual Accounts for the period 18th December 2002 to 10th November 2003

	2003	2002
Income		
Subscriptions[1]	4308.17	2410.01
Seminar and workshop fees	658.00	490.00
C. Burhouse sponsorship[2]	500.00	
Interest	84.69	
	5550.86	
Balance on 17/12/02	7332.50	
	12883.36	

	2003	2002
Expenditure		
The Geological Curator[3]	3011.75	3662.96
Coprolite	1741.00	1664.00
Seminars and workshops	245.26	1253.89
Committee expenses	690.00	348.63
Treasurer's expenses[4]	86.44	34.49
Secretary's expenses[5]	20.00	
Website domain name[6]	21.16	
Brighton Medal engraving	14.00	
Refund of overpaid subscriptions	36.00	
Bank charges (Euro conversion)	18.18	
	5883.79	
Balance on 10/11/03	6999.57	
	12883.36	

Notes

[1] 2003 figure includes £264.00 of overpaid subscriptions
[2] Paid in arrears for 2002
[3] 2003 figure includes £993.16 paid for next issue
[4] Postage and stationary (2003)
[5] Postage (2003)
[6] Covers 2002 and 2003

T. Sharpe *GCG Acting Treasurer*

S.R. Howe and C. Howells *Auditors*

10th November 2003

ERRATA: THE STATE AND STATUS OF GEOLOGICAL COLLECTIONS IN UNITED KINGDOM MUSEUMS: 2001. *THE GEOLOGICAL CURATOR* 8(3) [2005], 53–136.

The last issue of *The Geological Curator* was devoted in its entirety to the report of the Geological Curators' Group survey on the state and status of geological collections in United Kingdom Museums. This extensive survey was commenced in 2001, and several hundred Questionnaires were sent to museums listed in Doughty's 1981 report. In addition Questionnaires were circulated to other institutions not listed in Doughty, but which were known to hold geological collections. In total 258 completed Questionnaires were returned, and the report published earlier this year was based on an analysis of the responses contained within them.

Since its publication it has come to our attention that the report contains some errors pertaining to the collections and staff numbers at the Oxford University Museum of Natural History (cited in the report as University Museum Oxford). For these inadvertent errors we apologise and publish the correct information below.

Page 89 stated that the Oxford University Museum of Natural History employed 50 staff working full-time on the geology collection, whereas the correct number of staff is 8.

Consequently some of the inferences drawn from this error are incorrect. Figure 7.1 on page 90 tabulated the total number of hours that full-time members of staff spend on curation. This

No. of F/T staff working on geological collections	% of time spent on curation of geological collections	Hours per week (based on 37 hour week)
20	60	444
15	60	333
11	45	183
8	60	177
4	50	74
2	70	52
2	70	52
3	42	47
2	60	44
2	60	44
2	50	37
1.5	50	28
2	30	22
2	20	15
3.5	10	13

Figure 7.1

No of specs in geology collections	Name of Museum / Institution	Hours per week	Hours per 1000 specimens
Over 250,000	Natural History Museum (Dept. of Palaeontology)	444	0.88
Over 250,000	National Museum of Wales	333	0.67
Over 250,000	National Museum of Scotland	183	0.37
Over 250,000	Oxford University Museum of Natural History	177	0.35
Over 250,000	Sedgwick Museum of Earth Sciences	74	0.15
30,001 to 100,000	Somerset County Museum	52	0.8
30,001 to 100,000	University College London Dept. of Geological Sciences	52	0.8
Un-declared	Manchester University Museum	47	n/a
Over 250,000	University of Birmingham Lapworth Museums of Geology	44	0.09
100,001 to 250,000	Liverpool Museum	44	0.25
30,001 to 100,000	Dinosaur Isle Museum	37	0.57
10,001 to 30,000	Hampshire county Council Museum Service	33	1.65
30,001 to 100,000	University of St Andrews Geological Collection	30	0.46
100,001 to 250,000	Yorkshire Museum	28	0.16
30,001 to 100,000	Nottingham Natural History Museum	22	0.34
100,001 to 250,000	Hancock Museum, Newcastle upon Tyne	22	0.13
10,001 to 30,000	Royal Cornwall Museum, Truro	22	1.10
10,001 to 30,000	Sunderland Museum and Winter Gardens	18	0.90
30,001 to 100,000	Lancashire County Museums Service	15	0.23
10,001 to 30,000	Potteries Museum & Art Gallery, Hanley	15	0.75
Over 250,000	University of Glasgow Hunterian Museum	13	0.03

Figure 7.2

calculation was based on the museum's own estimate of the percentage time that was devoted to curation and the number of full-time staff. Oxford responded that 60% of staff time was spent on curation. Based on a 37 hour week, the eight members of staff would devote a total of 177 hours per week to curation, and not 1,110 hours as reported. A correct Figure 7.1 is given here.

Following this Figure 7.2 also on page 90, tabulated the number of hours spent on curation per 1,000 specimens in the collections. Oxford reported that it held over 250,000 specimens, and on the basis that 1,110 hours per week were spent curating the collection it was reported that 2.22 hours were spent on curation per 1,000 specimens. This calculation was incorrect and given the correct figure based on 177 hours should read '0.71' (see new Figure 7.2 earlier). Where the figures giving number of geological specimens are 'between 30,000 and 100,000' the figure used to calculate the curation time per specimen was based on an actual figure rather than a range: therefore a mean figure of 65,000 was used.

Reading additional notes where available in Questionnaires returned, most museum that listed 'over 250,000' specimens suggested that the best fit figure would be nearer 500,000 specimens (hence the apparent need to multiply the 'Hours per 1000 specimens' figure by 2).

It was also drawn to our attention that the Questionnaire returned by Oxford contained information relating to the Department of Palaeontology holdings and that it did not contain any information on the collections held by the Department of Mineralogy in the same Museum.

It was the intention of the Geological Curators' Group to provide as full a picture of the state and status of geological collections in the United Kingdom in 2001, but this survey could only be as complete as the returns allowed. Several times over the course of 2003 and 2004 the Recorder requested that institutions return Questionnaires. An appeal was published in *Coprolite* in November 2003 and reminders were sent to institutions by e-mail and by letter.

It was unfortunate that some gaps in the returns subsequently became obvious. Information for the mineralogical holdings in both Oxford and the Natural History Museum, London is lacking simply because that information was not provided. It is impossible for the GCG Recorder to be aware of all internal museum departmental structures, and she reasonably assumed that an institution that returned a Questionnaire would have reported on its complete geological holdings, and not just on a portion of them.

The Geological Curators' Group

2006 MEMBERSHIP RENEWAL/APPLICATION FORM

Please complete this form and return it with payment to:
Camilla Nichol, Curator of Geology, Yorkshire Museum, Museum Gardens, York YO1 7FR, UK (e-mail: camilla.nichol@ymt.org.uk)

Subscriptions for 2006:

- UK Personal Subscription 12 pounds sterling per annum
- Overseas Personal Subscription 15 pounds sterling per annum
- UK Institutional Subscription 16 pounds sterling per annum
- Overseas Institutional Subscription 18 pounds sterling per annum

Please make all cheques and postal orders payable to the "Geological Curators' Group". US subscribers may remit in US $. Other overseas subscribers are asked to make their payment in Sterling.
UK subscribers are reminded that subscriptions to the Geological Curator are tax deductible.

Name:	
Address:	
Postcode:	
Tel:	Fax:
e-mail:	
Position:	
Organisation and address if different from above:	
Where did you hear about us?	

If you do not wish your details to be included in this year's membership list, please tick here ☐

Please copy and fill in this form and return it with payment to the above address.

Thank you.

ERRATA: THE STATE AND STATUS OF GEOLOGICAL COLLECTIONS IN UNITED KINGDOM MUSEUMS: 2001
THE GEOLOGICAL CURATOR 8(3) [2005], 53–136.

The last issue of *The Geological Curator* was devoted in its entirety to the report of the Geological Curators' Group survey on the state and status of geological collections in United Kingdom Museums. This extensive survey was commenced in 2001, and several hundred Questionnaires were sent to museums listed in Doughty's 1981 report. In addition Questionnaires were circulated to other institutions not listed in Doughty, but which were known to hold geological collections. In total 258 completed Questionnaires were returned, and the report published earlier this year was based on an analysis of the responses contained within them.

Since its publication it has come to our attention that the report contains some errors pertaining to the collections and staff numbers at the Oxford University Museum of Natural History (cited in the report as University Museum Oxford). For these inadvertent errors we apologise and publish the correct information below.

Page 89 stated that the Oxford University Museum of Natural History employed 50 staff working full-time on the geology collection, whereas the correct number of staff is 8.

Consequently some of the inferences drawn from this error are incorrect. Figure 7.1 on page 90 tabulated the total number of hours that full-time members of staff spend on curation. This

No. of F/T staff working on geological collections	% of time spent on curation of geological collections	Hours per week (based on 37 hour week)
20	60	444
15	60	333
11	45	183
8	60	177
4	50	74
2	70	52
2	70	52
3	42	47
2	60	44
2	60	44
2	50	37
1.5	50	28
2	30	22
2	20	15
3.5	10	13

Figure 7.1

No of specs in geology collections	Name of Museum / Institution	Hours per week	Hours per 1000 specimens
Over 250,000	Natural History Museum (Dept. of Palaeontology)	444	0.88
Over 250,000	National Museum of Wales	333	0.67
Over 250,000	National Museum of Scotland	183	0.37
Over 250,000	Oxford University Museum of Natural History	177	0.35
Over 250,000	Sedgwick Museum of Earth Sciences	74	0.15
30,001 to 100,000	Somerset County Museum	52	0.8
30,001 to 100,000	University College London Dept. of Geological Sciences	52	0.8
Un-declared	Manchester University Museum	47	n/a
Over 250,000	University of Birmingham Lapworth Museums of Geology	44	0.09
100,001 to 250,000	Liverpool Museum	44	0.25
30,001 to 100,000	Dinosaur Isle Museum	37	0.57
10,001 to 30,000	Hampshire county Council Museum Service	33	1.65
30,001 to 100,000	University of St Andrews Geological Collection	30	0.46
100,001 to 250,000	Yorkshire Museum	28	0.16
30,001 to 100,000	Nottingham Natural History Museum	22	0.34
100,001 to 250,000	Hancock Museum, Newcastle upon Tyne	22	0.13
10,001 to 30,000	Royal Cornwall Museum, Truro	22	1.10
10,001 to 30,000	Sunderland Museum and Winter Gardens	18	0.90
30,001 to 100,000	Lancashire County Museums Service	15	0.23
10,001 to 30,000	Potteries Museum & Art Gallery, Hanley	15	0.75
Over 250,000	University of Glasgow Hunterian Museum	13	0.03

Figure 7.2

calculation was based on the museum's own estimate of the percentage time that was devoted to curation and the number of full-time staff. Oxford responded that 60% of staff time was spent on curation. Based on a 37 hour week, the eight members of staff would devote a total of 177 hours per week to curation, and not 1,110 hours as reported. A correct Figure 7.1 is given here.

Following this Figure 7.2 also on page 90, tabulated the number of hours spent on curation per 1,000 specimens in the collections. Oxford reported that it held over 250,000 specimens, and on the basis that 1,110 hours per week were spent curating the collection it was reported that 2.22 hours were spent on curation per 1,000 specimens. This calculation was incorrect and given the correct figure based on 177 hours should read '0.71' (see new Figure 7.2 earlier). Where the figures giving number of geological specimens are 'between 30,000 and 100,000' the figure used to calculate the curation time per specimen was based on an actual figure rather than a range: therefore a mean figure of 65,000 was used.

Reading additional notes where available in Questionnaires returned, most museum that listed 'over 250,000' specimens suggested that the best fit figure would be nearer 500,000 specimens (hence the apparent need to multiply the 'Hours per 1000 specimens' figure by 2).

It was also drawn to our attention that the Questionnaire returned by Oxford contained information relating to the Department of Palaeontology holdings and that it did not contain any information on the collections held by the Department of Mineralogy in the same Museum.

It was the intention of the Geological Curators' Group to provide as full a picture of the state and status of geological collections in the United Kingdom in 2001, but this survey could only be as complete as the returns allowed. Several times over the course of 2003 and 2004 the Recorder requested that institutions return Questionnaires. An appeal was published in *Coprolite* in November 2003 and reminders were sent to institutions by e-mail and by letter.

It was unfortunate that some gaps in the returns subsequently became obvious. Information for the mineralogical holdings in both Oxford and the Natural History Museum, London is lacking simply because that information was not provided. It is impossible for the GCG Recorder to be aware of all internal museum departmental structures, and she reasonably assumed that an institution that returned a Questionnaire would have reported on its complete geological holdings, and not just on a portion of them.