

# GCCG

NEWSLETTER  
OF THE  
GEOLOGICAL  
CURATORS  
GROUP

NUMBER 8

DECEMBER 1976



THE HOME OF THE DERBY TOWN AND COUNTY MUSEUM  
FOUNDED 1836 (NEXT DOOR TO THE BATHS)

"The establishment of a Geological and Mineralogical Society [in the County of Derby], for collecting and methodizing such accounts, and arranging and preserving Specimens of the several Measures proved in sinking Shafts, Quarries, Wells, &c. and of the Organic Remains which they contain, could not fail of proving highly beneficial to Science, and to the interest of Mining, at the same time, that it furnished a most rational and delightful amusement to the Members."

COVER

The quotation on the cover is from 'A General View of the Agriculture and Minerals of Derbyshire' vol. I, LONDON 1811; John FAREY'S early plea for the establishment of a Derbyshire Geological Museum.

For the tragic story see inside.

Back numbers of Newsletters are still available at £1 each (including postage). Remuneration must accompany all orders, which should be sent to Tim Riley, Sheffield City Museums, Weston Park, Sheffield S10 2TP.

Submission of MSS

Three Newsletters are published annually. The last dates for submission of MSS for publication are:

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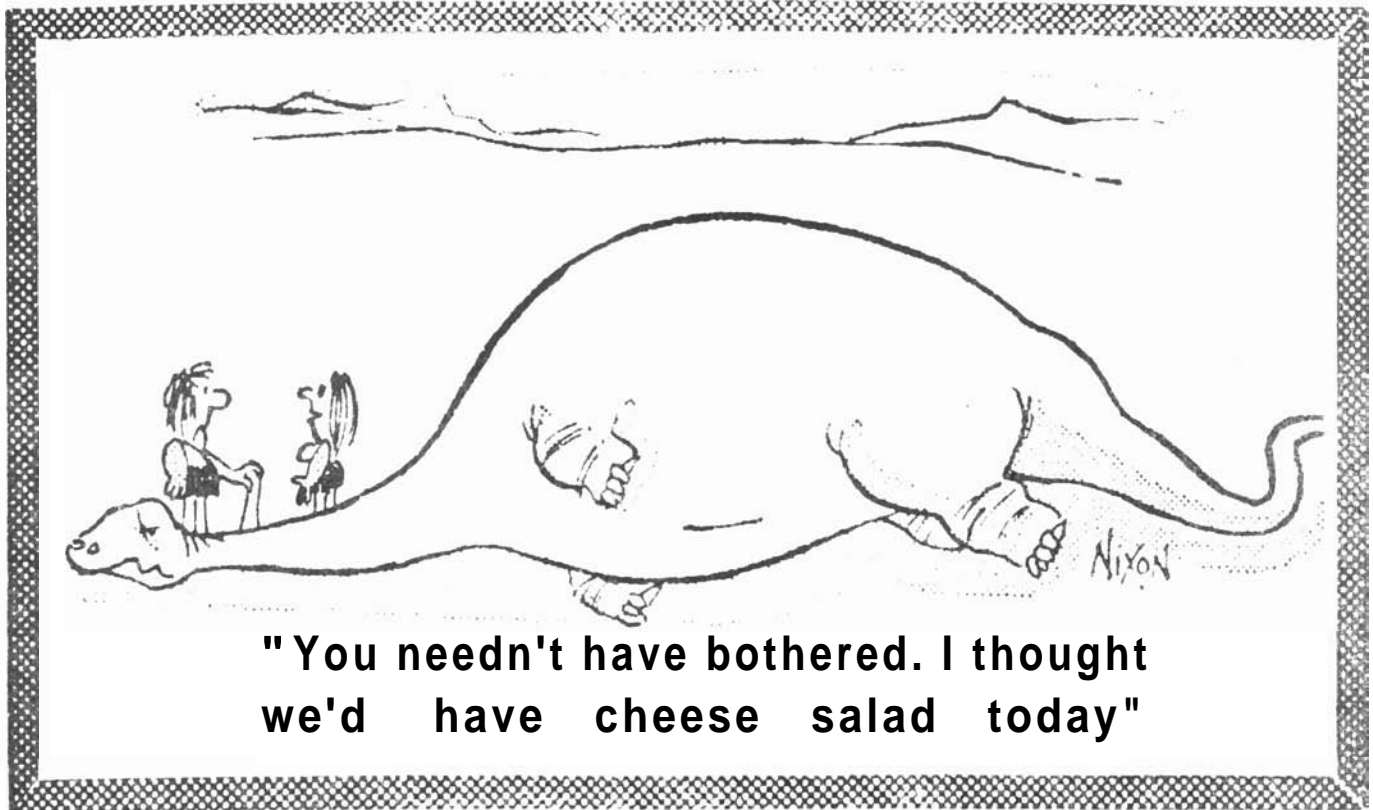
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Cartoons and many of the apt quotations which have been included in the Newsletter are from the Anthology of Geological Poems, Cartoons and Literary Snippets compiled by Hugh Torrens which will eventually be published. The Editor would be grateful for other cartoons and extracts which members may discover and consider appropriate. Please mention the source when submitting such material.

MEETING AT YORK - SEPTEMBER 1976

The meeting on 'Mineral Collections in Small Museums' held on 24th September at the Yorkshire Museum was attended by 31 members of the Group. The Chairman, opening the meeting, pointed out that it was the first G.C.G. meeting to be devoted entirely to minerals.

The speaker for the morning session was Bob King of Leicester University whose subject was 'The Preservation of Minerals in Museums'. He started by warning curators who had tended to regard minerals as museum pets (easy to keep and no trouble to anyone - Pyrite inevitably excepted) that minerals are chemical compounds and so subject to all manner of physio-chemical change. Minerals are also prone to bacterial attack and the chemicals this releases may in turn attack other specimens in the collections.

He went on to point out that minerals should not be handled; washed with detergent; stored in oak drawers; stored in damp conditions (if deliquescent) or in dry conditions (if efflorescent) ; exposed to sunlight or washed in wan water if thermosensitive; or displayed at all if photo-sensitive. He concluded with the discouraging thought that if your storage area is warm enough to work in, it is probably too warm for the minerals. But all was not lost - you could always dig a large hole and store them in that.

Nor was the afternoon any more comforting for the complacent curator. Peter Embrey's talk 'The Role of Mineral Collections in Museums' was based on the paper published in this Newsletter. His main conclusion - that the mineral collections in most museums cannot be justified for purposes of research, reference or display - provoked a lively discussion.

The meeting was short (allowing members time to inspect the stores and the public galleries at the Yorkshire Museum) but provided two supremely professional papers in a field where most curators are little better than enthusiastic amateurs.

COMMITTEE NOTES

At the time of writing these Notes, the Group's third A.G.M. looms on the horizon. It is inevitable that what is said here will in part repeat, and in part be superceded by what will have been said at the A.G.M.

Please bear with me.

Finance First the bad news. In spite of the fairly optimistic view taken about finance in the last Notes, your Committee has been forced to increase the Group's Annual Charges. The new rates, which come into effect for 1977, are as follows:

Ordinary Members	£2.00
Subscription Members	£2.50
Overseas Members	£3.00
Overseas Subscription Members	£3.50

In line with this, the price of back numbers of the Newsletter is to be raised. The continuing escalation of costs for producing the Newsletter (particularly the price of paper) combined with the dramatic fall-off in advertising revenues, has at last forced us into this position. Your Committee decided to go for a hefty increase (in terms of percentages) to avoid making increased Annual Charges an annualevent, and for administrative reasons. I hope you will still feel the Newsletter is worth it. It is still a product we are getting on the cheap.

Meetings The joint meeting with the Palaeontological Association on Palaeobiological Curating scheduled for 14/15th April 1977 at the National Museum of Wales at Cardiff, unfortunately has had to be postponed. It is now planned to hold it in April 1978. One of the reasons for postponement was the poor initial response to the meeting. Of course, since the postponement many more people have indicated that they had planned attending. Next time, let the organisers know of your interest, even though you may not at the time be able to give a firm commitment.

Museums Association Constitutionally (both with a capital and with a lower case C ) the Group is concerned with Geology and geological materials in museums **rather** than with the professional geological curator. It is partly

in these terms that we must seek to define our relationship with the Museums Association. Our present relationship could be described as one of close co-operation with, but Independent from the M.A. However, it seems likely that closer more formalised links may have to be considered if one can judge from the nature of matters submitted for our consideration by the Association in recent months. I suspect there will be strong feelings either way on this issue.

1. Your new Chairman and Secretary will represent the Group at a meeting called by the Working Party on the Constitution of the Museums Association. This meeting is to consider the proposals for the establishment of a Professional Services Committee within the M.A. This meeting will take place on the 1st February, 1977.

2. The M.A. annual conference to be held in Bradford in 1977, will have as its theme "New Trends and Developments in the Museums Service". We have been asked to comment on the possibility of specialist sessions being organised at this meeting.

3. The M.A. is considering the desirability (or otherwise) of relocating its offices outside London. Your Committee felt that as a Group we should not comment on these proposals, although individual members of the Group might care to do so.

4. Following a resolution passed at its annual conference this year, the M.A. is considering its policy with regard to the development of a national network of environmental records centres. A meeting has been called to consider these proposals, and your Committee has nominated Mike Jones and John Cooper to represent the Group. They have been the two most closely associated with our National Geological Site Documentation Scheme, a scheme which could materially affect the nature of the proposed environmental records centres.

Information Gathering Our Recorder reports that 96% of the questionnaires for the national geological collections survey have been completed and returned.

National Site Documentation Scheme      Our application to the Nature Conservancy Council for grant aid for the establishment of this scheme is currently under consideration.      We should hear the outcome shortly.

There are hopes that the differences between the recording format developed for our Scheme and that developed by IRGMA will be resolved shortly -we are sure that at least the two systems can be made compatible.

Booklets Following on from the suggestion of the Promotions Co-ordinating Committee of Geol. Soc., we are going ahead with the production of two handbooks; on collecting and preserving geological materials respectively. Roy Clements and Ron Croucher have the job of carrying this project through. They will be seeking contributions from within and outside the membership of the Group.

Roy Clements  
26. xi. 76.



## GEOLOGICAL COLLECTIONS AND COLLECTORS OF NOTE

### 13. DERBY MUSEUMS & ART GALLERY

#### 1. HISTORY OF THE MUSEUM AND ITS GEOLOGICAL COLLECTIONS

1836 Derby Town and County Museum and Natural History Society

1858 Derby Town and County Museum and Philosophical Society

1871 Borough of Derby Free Public Library and Museum

1885 Borough of Derby Free Library, Museum and Art Gallery

1896 County Borough of Derby Free Library, Museum and Art Gallery

1948 County Borough of Derby Museum and Art Gallery

1974 Borough of Derby Museums and Art Gallery

The Derby Town and County Museum and Natural History Society was founded on February 10th 1836 (Jones 1859) and was housed in the building adjoining the Public Baths and wash-houses in Full Street. The Duke of Devonshire was the patron with Sir George Crewe as president, it was a private society financed by proprietary shares of £2.00 (life membership £10) and annual subscriptions of not less than 10 shillings (Jones 1859). Many donations were received in the first two years in particular the collections (minerals and curiosities) of Dr. Forester. Richard Forester (Forrester) 1771-1835, a local practitioner, county magistrate and trustee of the Derby Royal Infirmary (Briggs 1869), had been President of the Derby Philosophical Society which was founded by Erasmus Darwin in 1784 (Robinson 1953). The annual reports list the donations, which include numerous minerals and fossils (Annual reports 1837, 1838, 1861, 1862).

In 1840 the museum moved to the Athenaeum in Victoria Street (then still called Brookside) where the collections were arranged in one room. However, the whole of the building was requisitioned in 1843 for a summer exhibition (Museum catalogue 1843). Many specimens which had been lent for the exhibition were allowed to remain as permanent additions.

In 1847 the museum and society was "considered in a dormant state" due to "the discontinuance of the Soirees". Meetings were badly attended and "interest seemed nearly to have ceased, although very considerable additions have been made, especially at the sale of the late Mr. Cook's Museum" (Jones 1859). John Cook was -a taxidermist with premises at Museum Piazza, Derby. Honorary Curators were nominated at the Annual meetings until 1853 when a Dr. Burneys was appointed General Curator. Unfortunately he left Derby after a few months. John Jones, Honorary Secretary, undertook the task until his death in 1860. In 1856 William Mundy of Markeaton Hall (demolished 1964) became President, and the museum was offered to the Town Council, who rejected the offer by 12 votes to 9. This embarrassed the finances of the Institution but with successful canvassing it soon flourished. Llewellynn Jewitt (sometime editor of 'Reliquary') was elected Secretary and Curator of Antiquities in 1857 with Mr. Timmins as Curator of Mineralogy and Mr. Chadfield as Curator of Entimology (Sic). The Museum was opened every Saturday afternoon for "the gratuitous admission of the working classes" (Jones 1859).

In the Autumn of 1858 the Derby Town and County Museum and Natural History Society amalgamated with the Derby Philosophical Society and moved to a spacious mansion in the Wardwick (Plate 1) formerly occupied by Dr. R. Forester, and arranged. in a suite of apartments . The Philosophical. Society transferred their Library of some 4,000 volumes and museum of 'mathematical. and philosophical apparatus, specimens and fossil s .. (No lists are known of the contents of the museum). Samuel Carrington (Cope 1976, Marsden 1474) of Wetton (his fossil collections are at Wollaton Hall Museum, Nottingham) arranged the geology collection in 1860 and Mr. Adam (Ford 1973b) was temporarily employed arranging and labelling the specimens a year later (Annual Reports 1861, 1362).



Plate 1

In 1863 Alexander Croall was appointed Librarian and Curator and in the following year the Derby Town and County Library was joined to the museum in the Wardwick premises at the museum's expense:

At a public meeting of the Burgesses of Derby on 17th May 1870 the proposal that the 'Free Public Libraries Act 1855, and the Act 1866 amending the same, be adopted by the Borough of Derby' was carried unanimously. A committee was set up on 3<sup>rd</sup> August 1870 and two months later had arranged for the transfer of the Derby Town and County Museum to the Corporation. The building and contents required renovating, cleaning and entirely re-arranging before the institution could be opened to the Public. The committee experienced considerable difficulty in adapting the premises in the Wardwick to the requirements of a Public Institution. However, on 20th March 1871 the News-room was opened to the Public. The first annual report of 1872 states "The Museum - with the exception of a very partial re-arrangement of the objects and specimens, the committee are quite Incapable of extending the benefits which might be derived from its use owing to the want of space

for the exhibition of those specimens". A small section of the museum was opened to the public in 1873 until 1975-6 when "the whole of the objects in the Museum have been carefully packed and removed to suitable premises (lower room at the Old Grammar School in St. Peter's Church Yard), until they are arranged and displayed in the new building" (Annual Report 1876). The corporation had decided to purchase the premises in the Wardwick at present occupied as the Free Library and Museum, and "to appropriate them to the purposes of the intended building to be erected by the munificence of Michael Thomas Bass, M.P. for Derby".

The new premises were finally opened on 28th June 1879; 'the entire contents of the museum have been renovated, classified and admirably displayed by the curator, Mr. Heath, in the elegant a i r tight cases (built by F. Sage of London at a cost of approx. £1,500) provided for their reception'. (These cases are still in use - they contain the geological displays).

During the next four years the museum and the collections continued to grow. Heath added to the geological and Natural History collections by selecting many thousands of duplicates from the British Museum, Natural History (see below under collections). The Art Gallery was opened in November 1882 and electric lights were introduced the following year. The building was further expanded just prior to the First World War; by this time the bulk of the ecological collections had been formed. A new building was erected in the early 1960's which roughly trebled the display area but not the storage space. However in 1970-71 the first attic room of the 1879 building was cleared to house the Geology reference collections, which had previously been kept in the Natural History storerooms. Three re-inforced 'bird skin' cabinets, each with 60 dust-proof drawers (26" x 17" x 3") and two smaller open drawer cabinets were moved in to accommodate the collections; an existing bench with cupboards was utilized to store large specimens. In 1972-73 the second attic room was cleared to provide storage space for the Osteology reference collections, which includes the fossil mammal specimens.

During the last six years several displays have been produced and a major

re-display of Ipswichian and Devensian mammals is underway at present. The completed displays include a representative collection of minerals (Stanley 1975), Mammoth Teeth and Derbyshire and Foreign 'marbles'. A fine specimen of an Ichthyosaur and an Irish Elk skull and antlers have also been cleaned, restored and re-displayed.

### STAFF

Prior to 1970 the collections were the responsibility of several Librarians, Curators and Assistant Curators.

Alexander Croall	1863 - 1875	Principal Librarian
Thomas Heath F.R.H.S.	1873 - 1883	Librarian & Curator
Henry Alpass	1883 - 1884	Librarian & Curator
William Crowther	1884 - 1911	Librarian, Curator & Secretary
Gilbert H. Dutton	1911 - 1914	Curator & Secretary
F. Williamson	1914 - 1927	Curator
“ “	1928 - 1942	Director & Curator
Arthur L. Thorpe F.M.A.	1928 - 1942	Assistant Curator
“ “	1942 - 1948	Deputy Director & Curator
“ “	1948 - 1971	Curator (Library & Museum separated)
Roy G. Hughes A.M.A.	1951 - 1972	Assistant Curator
“ “	1972 - Present	Deputy Director, Principal Keeper
Bryan P. Blake M.A., A.M.A.	1971 - Present	Curator, Director, Chief Museums Officer
Susan J. Patrick B.Sc.	1968 - Present	Keeper of Natural History
Michael F. Stanley A.M.A.	1970 - Present	Assistant Keeper of Natural History

### COLLECTIONS

There are four main problems with regard to the collections.

1. The Accession and Specimen registers were not started until 1914 by which time the bulk of the geological collection had been formed. Prior to this a list of donations was given in most of the annual reports, but they were not detailed, with most entries reading "coal fossils", "nine minerals" etc.

Also, no index cards were produced. This is perhaps the greatest problem as

28% of the total entries for the museum up to 1892 and 20% up to 1915 are for geological specimens. Locating any but the largest specimens, which perhaps are more difficult to lose, has proved to be almost impossible.

2. Several exercises at re-mounting the collections have been undertaken over the years. The majority of specimens were fixed with water-based glue to either paper-covered glassplates or to board. Consequently their original labels were removed so that allocation to particular collections is impossible. Between 1887 and 1892 5,600 fossils were re-arranged of which 100 were re-mounted and labelled by J.W. Carr of Nottingham. In 1932 all the fossils, minerals and shells were mounted on separate tablets of 'beaver' board. The duplicates were removed (presumably to the basement). Six years later the mineral collection was re-mounted (Annual Reports 1887-1892, 1932, 1938).

3. In 1932 "the museum store in the basement was completely flooded and almost everything in it destroyed" (Annual Report 1932). It is extremely doubtful if the actual loss of specimens will ever be known as there are no records of material stored in the basement. But judging by the number of specimens (whatever they were) noted in the years previous to the flood and those remaining the loss was considerable. Several hundred specimens, almost entirely without labels, were saved because they have been 'shovelled' into a trunk which was found in 1971 when the first attic room was being cleared to house the geological collections.

4. Large numbers of specimens have been lent or donated to local institutions. Between 1895 and 1898 the bulk of the specimens from the J.A. Birds Collection (see later) were lent to various schools and the Technical College (now Derby College of Art and Technology) ; they were apparently never returned. However, the conditions of loan are not known (Annual Reports 1895 - 1898).

In 1900 duplicate minerals and fossils were given to the Technical and Training Colleges (now Derby Lonsdale College). The specimens given are not listed in the Annual Report for 1900. 200 named minerals were given to Worksop Museum in 1938 and more specimens were lent to Derby Technical College in 1949. Some specimens (Horwood Collection, see below) have been traced from the last loan to the Technical College.

For these four reasons the geological collections by 1970 had been drastically depleted and completely mixed up and few collections are left of importance. Nevertheless I feel that it is worthwhile to note the collections which have been donated or purchased since 1871 in roughly chronological order.

### 1871 - 1880

#### 1. 1871 Derby Town and County Museum and Philosophical Society

This formed the nucleus of the present museum collections but as yet no geological specimens listed in the Annual reports (1837, 1838, 1861, 1862) or the Museum catalogue (1843) have been identified. The mineral collection must have been of some standing or size to warrant a curator (Jones 1859).

#### 2. John Thomas Woodhouse (1809 - 1878)

was a mining engineer and was educated at Gresley and Repton schools. He was articled to J.A. Twigge (mineral agent to the Duke of Devonshire) of Chesterfield and was his partner until 1839 when Twigge died. He assisted in the construction of the Erewash Valley (Derbys. -Notts. border) and Leicester - Swannington railway lines. He was a consulting mining engineer to the Duchy of Lancaster and was connected with many railway undertakings and difficult colliery operations. He was a Fellow of the Geological Society and a Member of the Institute of Civil Engineers. In 1875 (Accn. No. 3-1875) he donated 'a large and complete collection of fossils and minerals of great value and interest . . . . . representing the researches and accumulations of a life-time' (Annual Report 1875) . No specimens have been identified from his collection. For biographical information see Boase 1965 and Tilley 1900.

#### 3. Thomas Heath F.R.H.S. (1848 - 1886)

was the Librarian at Upperthorpe, Sheffield before becoming curator at Derby (1873 - 83) . During his time at Derby he was superintendent of excavations, with Rev. J. Magens Mello, of Creswell Caves (Mello 1875 - 77). He had lengthy written arguments with Prof. Boyd Dawkins on the discovery of a tooth of *Machairodus* (Sabre-tooth 'lion') at Creswell (Heath 1880). On reading Heath's discussion there must be doubt on the authenticity of the tooth!

Rooke Pennington promised a collection of Pleistocene mammals from

Derbyshire (Annual Report 1875) during Heath's curatorship but this never materialised (Hancock et al 1976). However, Heath formed his own collection (Accn. No. 4-1876) of Pleistocene mammals from Creswell, which forms the nucleus of our fossil mammal collection. He left Derby in 1883 to take charge of an important Free Library and Museum in Manchester but relinquished his position due to ill health. For further biographical information see his obituary notice in Derbyshire Red Book 1887 p. 150.

#### 4. Arthur H. Stokes (1842 - 1910)

was born at Wednesbury, Staffs. and apprenticed to mining engineers between 1858 and 1863. He was appointed an Inspector of Mines in 1874 and was Chief Inspector for the Midland District from 1887 to 1909. He served on the committee of Derby Museum (1876 - 1910) and was a Fellow of the Geological Society and a Member of the Institute of mining engineers.

Stokes donated many Coal Measure fossils and minerals between 1870 and 1900. He also presented 4 trays of Derbyshire rocks and minerals for the re-display of the mineral collection (Remrose 1889), which he helped to arrange. He loaned his Derbyshire mineral collection for the museum opening in 1879 (Annual Report 1879) but its present location and that of his geological collection is unknown. No specimens given by Stokes have been identified in the present Derby geological collections.

For further biographical information see his obituary notices in Derbyshire Red Book for 1911 and Q.J.G.S., 67, lvi - lvi i , 1911.

#### 5. White Watson F.L.S. (1760 - 1835)

Dr. T. D. Ford has written an excellent biography of this eminent Derbyshire geologist (Ford 1960, 1973a) . Derby Museums have five of his inlaid marble tablets illustrating sections of strata, three of which are figured and listed by Ford. (1960, 1973a).

In 1879 L.F. Bingham F.L.S., a Bakewell auctioneer, loaned 'a large portion of the late White Watson's geological collections and original sections (tablets) of Derbyshire strata' (Annual Report 1879). He also donated three cases of Italian lavas and Derbyshire minerals and fossils. It would seem that he must have donated the 'original sections' at the same time as no entry for these



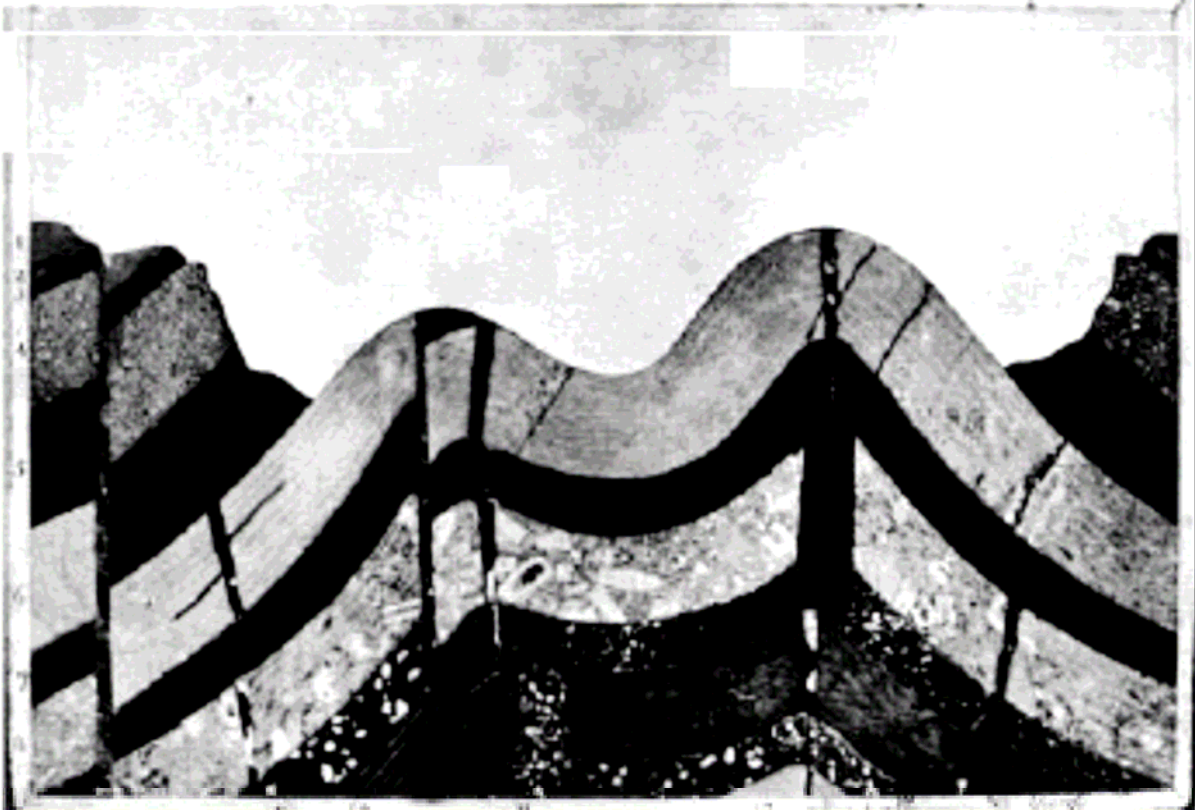
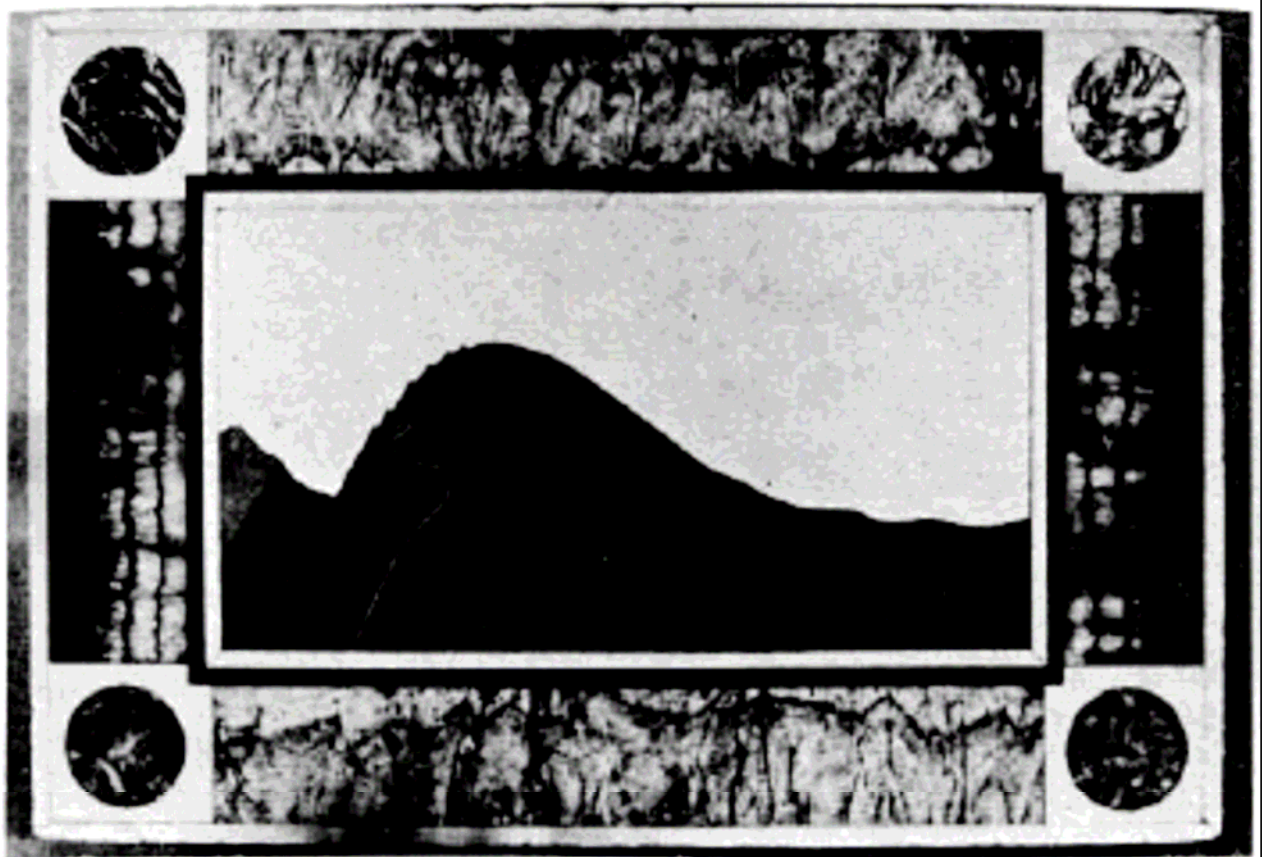


PLATE 2: A combined tablet by White Watson circa 1797

Above: A section of mountain in Derbyshire. The sky is Carrara marble slightly yellowed

Below: A section of the curious curvilinear strata at Ecton Hill. The strata is black marble with Carrara marble sky. The surround is made of Crich Spar (Fluorite) and Blue John roundles.



tablets in the Accession register can be found. To my knowledge there are no other White Watson specimens in the museum's collections, so presumably Bingham received back, the large portion of Watson's collection he had loaned. It may be this returned collection which was sold to the British Museum (Natural History) in 1914 (Sherborn 1940 p. 141).

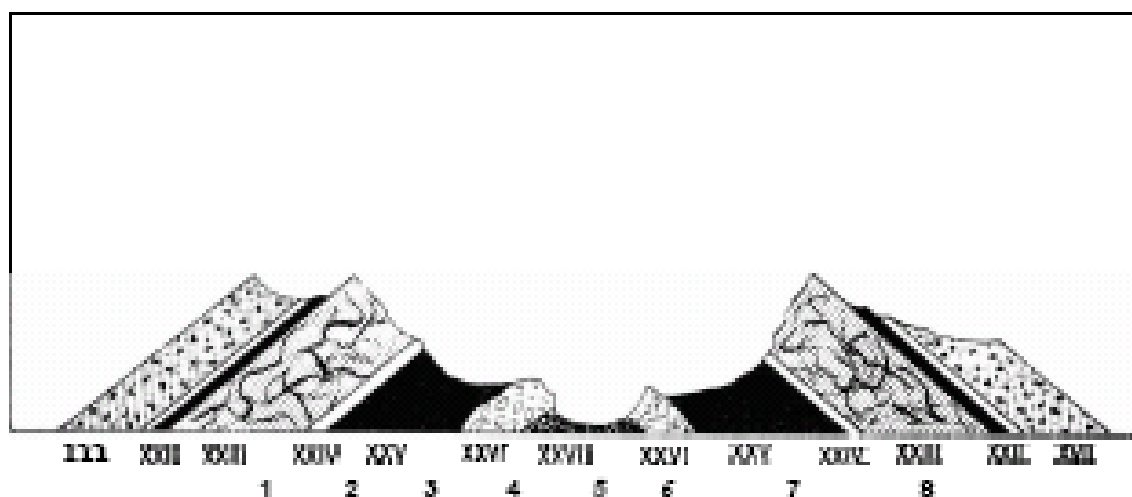
Ford listed 14 tablets in his 1960 paper and amended his list to 17 in 1973. He had apparently given a wrong location (British Museum Natural History) in 1960 for perhaps our finest example of Watson's skill, a combined tablet 'A section of a mountain in Derbyshire' with 'A section of the curious curvilinear strata at Ecton Hill' on the reverse (Plate 2). The other tablet belonging to Derby Museums (Ford only listed three) was found in the attic trunk in 1971 (see under Collections 3). It is the most common of Watson's sections at a scale of one inch to one mile as in the 'Delineation' (1811). This is the usual shortened title for 'A delineation of the strata of Derbyshire, forming the surface from Bolsover in the East to Buxton in the West, by a plate designed from a tablet composed of specimens of each stratum within the above line with an explanatory account of the same, together with a description of the fossils found in these strata and also the nature and quality of the respective soils' by White Watson F.L.S., Sheffield 1811 (reprinted 1973).

The 'delineation' tablet was also produced at half inch scale. This together with six different tablets were displayed in an exhibition "200 Years of Derbyshire Geology" at Derby Museums in 1973 (Stanley 1973).

Watson drew over 20 different sections of strata in Derbyshire (one is reproduced as Plate 3), and one of Yorkshire and produced a hundred or so tablets between 1786 and 1827. During the preparation of this paper, Sue 'Turner of the Hancock Museum discovered a combined tablet 'Sections of Strata of Derbyshire' by White Watson F.L.S. 1800, in their collections. It is highly probable that with roughly 800 museums in Britain one or two others may have a Watson tablet. Dr. Trevor Ford and myself would be delighted to know of their whereabouts.

Dr. Ford has so far been unsuccessful in tracing Watson's main fossil and mineral collections (Ford 1960. 1973a). But again perhaps some museum has

specimens bearing 'White Watson Collection' labels.



A section of the strata of Ashover. White Watson, F.L.S. 1810.

Legend:

XVIII Grindstone Sandstone (Chatsworth Grit) XXII Shelly Rock Coal

XXIII Millstone Sandstone (Ashover Grit) XXIV Shale Grit

XXV Aluminous Shale XXVI Shell Limestone

XXVII Basaltic amygdaloid (Ashover Tuff)

1. Blakelow. 2. Overton Hill. 3. Gregory Mine. 4. Overton Hall.

5. River Amber. 6. Ashover. 7. Fabrick. 8. Alton.

Sections by White Watson MS9626 Derby Local Studies Library.

### Plate 3

#### 6. Trustees of British Museum (Natural History) 1880 – 1895

In 1881 Thomas Heath selected upwards of 7000 Natural History and geological specimens from the duplicates at B.M. (N.H. ). The following year the selected several thousand more "many of which are unique ..... special regard has been had to local objects .... through the energetic assistance of Mr. Bond, Dr. Woodward, Prof. Etheridge and Mr. Fletcher the committee have been able to procure a Natural History collection second to none in the provinces" (Annual Report 1882).

The donation list in the Annual Report for 1881 reads:- Mammalia 27; Birds 343; Reptiles 60; Fish 34; Insects 5500; Polyzoa 12; Mollusca 1600; Crustacea 70; Echinodermata 34 and Sponges 40.

We do have fossil fish in the collections, one still bears Trustees of British Museum - Egerton Colln. label. I feel sure that the majority of specimens in this list refer to Natural History rather than Geology. Unfortunately there is no list for the 1882 donations. However, Bemrose (1889) states that "the foundation of the mineral collection was a grant of

many hundred specimens by the Trustees of the British Museum". An initial search has revealed no specimens with British Museum labels. Hopefully a letter book search at the British Museum will be undertaken which may identify some material.

#### 7. Rev. Urban Smith 11807 - 1887)

was a minister at Stoney Middleton, Derbyshire. A part of his mineral collection was purchased from Mrs. Smith for £24 in March 1888 (Bemrose 1889, Annual Report 1888), but no specimens have been identified from this collection.

Tim Riley informs me that Sheffield Museum also have part of his collection.

Chalmers-Hunt (1976) lists p. 121 (f) Smith (Rev. U,) Stony Stratford at two sales of fossils and minerals on May 14th and June 25th-26th, 1888. It is more likely that the entry should read Stoney Middleton not Stony Stratford.

For further biographical information see Smith's obituary notice in Sheffield Telegraph, December 1887.

#### 8. James Adey Birds (1831 - 1894)

Birds was born at Preston Rectory, Salop and educated at Rugby and Christ Church, Oxford. He was descended from the Birds of Locks Park, Stanton Hall and Bakewell, Derbyshire. He contributed several papers to the Geological Magazine between 1866 and 1881 and was elected Fellow of the Geological Society in 1878. He bequeathed his large collection to Derby Museum in 1895. No specimens have been identified from his collection (see Collections 4 ) .

For further biographical information see his obituary notice in Q.J.G.S. 51, lxiv, 1895 and Geol. Mag. 2, No. 370, p. 192, 1895.

Three other collections were added during the period 1880 - 1895 but no specimens have been identified from these.

9. 1881. The Midland Railway Company donated a small geological and mineral collection.

10 1892. T.M. Gisborne (1824 - 1894) donated a small geological and

mineral collection.

11. 1893. The Trustees of Brampton Museum, Chesterfield sold a small geological and archaeological collection to Derby for £9. 10s. Od  
1900-1970

### 12. Hoe Grange Mammalia

Bemrose donated a representative collection of mammals from his excavations at Hoe Grange Quarry, Longcliffe, Derbyshire in 1911. There are 104 specimens in our Quaternary fossil collection but over 9000 specimens were obtained (Bemrose & Newton 1905). The remainder were given to the British Museum (N.H.) , Geological Museum, Buxton and Manchester Museums.

### 13. Horwood Collection of Coal Measure Flora and Fauna

In 1923 Derby Museum purchased a collection of the Coal Measure flora and fauna of North Derbyshire from A.R. Horwood (a curator at Leicester Museum from 1901 - 1922) for £25. (Full list in Museum correspondence Geology). None of the specimens were figured or listed in his major publication on North Derbyshire (Horwood 1908). Horwood notes (Museum correspondence Geology) that the specimens he offered for sale had been authenticated by Dr. Kidston, Dr. Hind and Dr. Smith Woodward. Between 300 and 400 specimens were purchased but many were lost in the 1932 flood; roughly 80 specimens remain including 30 at Derby College of Technology. Leicester Museum purchased the Leicestershire and South Derbyshire Coalfield fossils from Horwood's collection in 1923.

### 14. Osmaston Manor Mineral Collections (Francis Wright ? Collection)

Osmaston Manor, situated approx. 2 ½ miles S.E. of Ashbourne, Derbyshire built for Francis Wright (Smith 1873, Sample 1971) between 1846 and 1849, was demolished stone by stone in 1964 (Anon 1964) . A striking neo-tudor mansion, built of Kniveton Limestone with dressings of Stanton Moor Stone (Ashover grit) with H. I. Stevens of Derby as the architects. (Francis Wright became a partner of the Butterley Co. in 1830 with William Jessop III. Jessop died in 1852 and Wright had complete control until his death in 1873; Mottram and Coote, 1950) .

It is presumed that Francis Wright began the Osmaston Manor collection minerals, now incomplete in Derby Museums, about 1860. Several entries the accompanying catalogue are purchases in 1862 and 1864. Donations are received from many persons including his five sons, their tutors (Mr. Bury and Mr. B. Butcherby), Rev. G. Smith (curate at Osmaston Church - built by Wright) and Dr. William Adam of Matlock a well known dealer ( Ford 1973b).

Several specimens donated by the third son, Francis Beresford Wright, were exhibited in 1870 at the Midland Counties Exhibition held in the drill hall, Derby, now demolished (Exhibition Catalogue 1870).

Many specimens were purchased from Tennant (presumably James Tennant, 149 Strand, London) and there is a small Tennant collection with 6 trays of Minerals, Rocks and Fossils (in the geology collections) together with a catalogue dated 1859. Lack of data precludes a definite relationship with the Osmaston Mineral Collection but it is felt highly likely that it is part of the collection

Many more specimens were purchased from a B.W. possibly a Wright as the back pages of the catalogue list recent mollusks – donated (?) by Dawson and B. Wright. B.W. could well be Francis Beresford Wright as he is listed as Mr. Beresford Wright on the Mineralogy Committee of the Midland Counties Exhibition of 1870. But he also appears in the Osmaston Mineral catalogue as F.B. Wright Esq. No known Wright of the period has the initials B.W. other than Francis Beresford, (Gaskell 1908?). B.W. could also be Bryce Wright the mineral dealer.

571 minerals and 117 rocks are listed in the catalogue. I have been able to attribute some 20 specimens from our Mineral collection and a further 9 possibilities. All bear the original coloured numbering system.

John Wright succeeded his father in 1873 but changed his name by deed poll to John Osmaston in 1878. He re-married and removed to Kent. The manor remained furnished but unoccupied until December 1883 when it was purchased by Sir Andrew Barclay Walker, a Liverpool brewer. He gave Liverpool the Walker Art Gallery. John Osmaston sold the Gallery of Paintings

from Osmaston at an auction in Derby (1884). Several of the paintings were exhibited in the Midland Counties Exhibition of 1870 and one, 'The Orrery' by Joseph Wright of Derby, now hangs in Derby Museum.

Sir Andrew Walker who died in 1894 was succeeded by Sir Peter Carlaw Walker who was a keen sportsman. He travelled abroad in pursuit of his favourite sport of big game hunting. He died in 1915 and was succeeded by Sir Ian Walker, now Colonel Sir Ian Walker-Okeover of Okeover Hall. He moved to Okeover from Osmaston Manor just prior to its demolition in 1964. Derby Museums have received art, archaeological, ethnographical and natural history specimens from Osmaston all donated by Sir Ian between 1931 and 1938. I feel certain that all the specimens except the mineral collection (560 - 1935) were collected by the Walker family in particular Sir Peter.

These are the major collections which have been donated since 1870. There are some 1200 minerals, 1500 fossils and 200 rocks in the present collections. The number of specimens prior to the 1932 flood must have been considerably greater; I estimate over 2000 minerals, 4000 fossils and perhaps 300 rocks.

The reasons for the present small size of the collections have already been discussed but I should add that a further contributory factor is that there was no geologist on the staff between 1883 and 1970.

### Acknowledgements

I would like to thank my colleagues at Derby Museums, David Fraser and David Huntingdon for provision of the plates and Mrs. Lesley Bull for typing the draft. My thanks are also due to Ann Langworthy and Lynn Dowling of the Derby Local Studies Library, Derbyshire County Council for their time and patience during my research for this paper.

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The cover plate showing All Saints House, home of the museum from 1836-1840, and Plate 1, of the 1858-75 museum, are both from sepia drawings by S.H. Parkins in the Goodrey Collection, Derby Art Gallery.

THE WILLIAM PENGELLY CAVE STUDIES CENTRE  
BUCKFASTLEIGH DEVON

During the summer of 1939 a new bone cave (subsequently named Joint Mitnor Cave) was discovered in Higher Kiln Quarry near Buckfastleigh Church. This cave contained an accumulation of mammalian remains of a character previously unknown in Devon. Whereas most of the earlier finds in Devon had been of mammals which lived in Britain under a cold or temperate climate the Joint Mitnor fauna included such species as the straight-tusked elephant and hippopotamus which are usually regarded as indicative of an interglacial period. The importance of the new site was further enhanced by the enormous quantity of mammalian remains preserved there.

Subsequent excavation has shown the deposit to be of Last Interglacial age and is the richest interglacial cave deposit yet discovered in Britain. Twenty species of animal, which had apparently fallen through a hole in the roof of the cave have been recognised and these provide a valuable foundation for a general study of British Interglacial mammalian faunas.

In 1960 the cave was fitted with electric lighting and set up as a scientific demonstration site.

Also in the face of the same quarry are the quarried openings to four other caves, which together with Joint Mitnor form a single system that extends throughout the top of the Buckfastleigh hill.

The largest of the quarry openings in the quarry face is that of Reed's Cave. This large system was also discovered in 1939 when members of the subsequent Devon Speleological Society forced their way through a tight squeeze into a series of beautifully decorated chambers. The cave is noted for its variety of calcite formations, from scalenohedrons formed in the standing water to stalactites, stalagmites, flowstone and splash deposits resulting from films of moving water. In one of the terminating passages stands an unusual helictite which, because of its shape has been named 'The Little Man'.



THE 'LITTLE MAN' AN UNUSUAL HELICTITE FOUND IN REED'S CAVE,  
BUCKFASTLEIGH DEVON

At some time during the past some of these formations have been extensively shattered and partly re-cemented by subsequent deposition. It is not yet certain whether the shattering was due to frost, earthquake or the settling of the cave deposits.

A little further along the quarry face from Reed's Cave are the two entrances to Rift Cave. This is a short narrow cave of considerable height

which was formed along a near vertical fault traversing the limestone. This cave is often inhabited in winter by a colony of Greater Horseshoe bats and subsequently in 1974 both entrances were grilled to protect the hibernating colony from unwanted intruders. Financial assistance for the grill was kindly donated by the World Wildlife Fund. The cave for many years has been the locality for much important research on bat population movements by John and Winifred Hooper.

At the end of Rift Cave is a small pool containing a colony of the blind cave amphipod *Niphargellus glenniei* which was described as a new species in 1951 and up until recently was not recorded outside Devon. Also present in the cave are the fungus gnat, *Speolepta leptogaster*, copepods, and a number of species of collembola (springtails). Parasites are sometimes found on the bats in the cave.

A further small cave in the quarry is Spiders Hole, named after the Cave Spider (*Meta menardi*) which occurs there in considerable numbers.

The whole cave system is part of a complex geological structure with Devonian Limestone resting on a bed of Devonian tuff which forms the floor of much of the cave system. Both limestone and tuff are repeatedly faulted and a lamprophyre dyke and veins of iron and manganese minerals associated with the Dartmoor mineralisation have been intruded into these faults.

The cave system lies between a series of terrace levels of the nearby River Dart, the study of which has given an important means of dating the formation of the caves which appears to have occurred mainly below the water table in the phreatic zone. The Buckfastleigh hill and terrace remnants are mantled by a layer of solifluction of probably Last (Weichsel) Glaciation age.

Although the flora of the quarry is not rich compared with other limestone localities in Devon there are great variety of habitats available. The southern end of the quarry received very little sunshine and is damper than the central part of the quarry. The small quarry corner contains a pool with willows and a wet quarry face with abundant ferns and bryophytes.

## PLANNING THE CENTRE

With the constantly increasing popularity of caving it became only too clear that caves such as these in Higher Kiln Quarry were threatened with despoliation; not so much by intentional vandalism but by well-meaning thoughtless people. For instance the town council which buries cave entrances beneath domestic refuse, the potholer who is careless where he places his feet or the inexperienced researcher who over-collects cave fauna. All this damage could be prevented if these people had been better informed of the likely consequences of their activities.

Some progress had already been made by such organisations at the Cave Research Group (now the British Cave Research Association) and the Nature Conservancy Council who together had provided a scientific information service to those concerned and assistance in protecting threatened caves. However there existed no centre in Britain with interpretative and research facilities to support the cave conservation cause and with the density of cavers in relation to available caves now greater in Britain than anywhere else in the world, it was logical that the establishment of such a centre was a matter of urgency.

In 1961 the opportunity to develop and establish such a cave studies centre became a reality; Higher Kiln Quarry came up for public auction.

By this time the scientific importance of the caves was well known and the area was already in course of being designated a Site of Special Scientific Interest by the Nature Conservancy. The Society for the Promotion of Nature Reserves authorised an agent to attend the sale to bid for the property on its behalf and within a week the SPNR had become the owners of Higher Kiln Quarry.

As re-consideration had been given to the future use of the property beyond ensuring the preservation of its scientific features from possible commercialisation a preliminary assessment of the potential of Higher Kiln Quarry was made in a meeting between the SPNR, the Devon Trust for Nature Conservation, Devon Speleological Society and other interested parties.

As a result of this it was decided to develop the quarry as a research and educational centre, to be named the Pengelly Cave Research Centre in honour of William Pengelly, pioneer nineteenth century excavator of Devon caves. A national association, the William Pengelly Cave Studies Trust was established to help support the Centre and two publications were launched; a duplicated newsletter and a printed journal 'Studies in Speleology'. The Newsletter is usually published twice a year and contains news of the Association and the Centre. The Journal is annual and contains papers of more general interest written by specialists from all over the world.

The principal resources of the Centre were two disused barns with a commanding view of the quarry and of the valley of the River Dart. The ground floors of these buildings had been used as cattle biers and the upper floors as haylofts. The roof of one of the barns was slated but in bad repair and the other poorly roofed with corrugated iron.

Since this combination of caves and buildings offered unusual opportunities for research and teaching it was agreed that the objects of the Centre should be threefold:-

- a) To conserve the existing features of scientific interest at the Centre.
- b) To develop and extend the scientific interest of the Centre and its surroundings.
- c) To provide adequate facilities for carrying out programmes of education in cave conservation and scientific research.

After assessing the types of visitor and the facilities they would require an examination was made of the design of the visitors centres of some of the National Parks in the USA. Plans were drawn up in 1969.

It was concluded that, taking into account the many factors involved the following units would be a reasonable compromise: A lecture hall, museum, a common room, kitchen/dining space, toilets and changing facilities, laboratory, workshop, small office and tool store. As most of the visitors to the Centre are likely to be day visitors based on scientific or educational

establishments there seemed to be no case for including large scale accommodation in the plan. There is however limited sleeping accommodation planned for those helping at the Centre and carrying out research work there.

The plan made the best use of the two floors of each of the existing buildings but it was obvious that a new single storey linking wing would need to be added.

Shortly after the acquisition of the property the southernmost of the two barns was cleared out, made secure and fitted with a water supply and primitive cooking and sleeping facilities in order to allow volunteers to work at the site. Attention was then directed to the north barn which was to be the museum. After structural alterations and interior decorating display cases were designed and constructed and the first exhibits installed on the upper floor. Display cases for the ground floor are nearing completion and when installed will cater for a variety of visitors: The ground floor displays will cater mainly for the general public and visiting school parties whilst those upstairs are of a more specialist nature to cater for the Further Education and research establishments. Pending completion of the lecture hall in the south barn the ground floor of the museum building is being used as a temporary lecture hall.

All the structural work and internal decor has been carried out by volunteers and a considerable part of the materials was donated. The museum cases and other furniture, including the staircase was made by Brother Joseph of the nearby Buckfast Abbey .

Work on the new extension wing is also well under way; the main structure has been built and services installed. Wring the next twelve months it is hoped to complete the domestic wing of the extension so that we may move out of the south barn and start work on the lecture hall on the ground floor.

Since the north barn has been opened as a museum and temporary lecture hall many parties have visited the Centre and guided walks have been provided around the caves. It is not open to the public a such and we do not charge a fee but the donations have been useful in assisting the day to day running



of the Centre. As yet there is no permanent warden but it is planned to appoint one when the financial climate is right.

Research projects are also being carried out at the Centre. These include further excavations in Joint Mitnor Cave, research on the structure of Buckfastleigh hill, water tracing in the caves, Bat surveys and the installation of a heated fish tank in Joint Mitnor cave demonstrating Blind Cave Fish.

At this stage in its development it is still too early to draw any conclusions concerning, the Centre's effect on Cave Conservation as a whole but traces of new awakened interest are slowly becoming apparent amongst local caving fraternities and the general public. It is apparent however that the influence of a Centre with such specialised interests will be slow to make itself felt and it will be some time before the Pengelly Cave Studies Centre achieves its aims to the full.

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## SOME THOUGHTS ON MINERAL COLLECTIONS

At the GCG meeting at York on 24th September I gave a talk entitled 'The role of mineral collections in museums', but which may not have been about that at all. Since I spoke from one or two jotted headings I cannot repeat it verbatim.

There can be very few museums, of any kind, that did not start growing from a nucleus of one or more private collections, and even fewer that have never at any time incorporated private collections. Certainly, I cannot think of a single example. Private collectors, as distinct from museum curators, have no restrictions on their activities other than the obvious ones of storage space and money; they can have narrowly specialised collections, or completely heterogeneous collections as their whims or fancies dictate, and there is nothing to say they shall not wake up one fine morning and dispose of a fine mineral collection to indulge a craving for floral chamber pots or (as in Cold Comfort Farm) unusual brassieres. In years gone by, and particularly in the last century when literary and philosophical societies were flourishing all over the country, small museums were very much in fashion, rents were cheap, and there was plenty of enthusiastic amateur help to keep them alive. Today the picture is very different, the majority of museums are run by hard-pressed and often uninterested local authorities, and even if a good collection is offered as a no-strings gift it may have to be refused for lack of space or curatorial staff. These same reasons and shortages apply equally to collections already in the museum, and in the search for practical answers to the problems we have first to ask what purpose the collections should serve. The private collector's answer, 'Because I like it and want it', is no answer at all in the public sector when committees are asking the question.

I like to think I know why a large national collection should be supported out of the public purse, after twenty years of being married to one, and would be quite happy to argue the case indefinitely if called upon to do so. The small collection, by which I mean something less than about two or three thousand specimens, needs to be judged by different criteria: for example, does

the curator know anything at all about the subject, or will the display stand up to comparison with the Roman coins and pottery or the mediaeval ploughshares in the next room? The specimens themselves, in a mineral collection, are very different in kind from the specimen material in most other branches of natural history and even of the earth sciences, a subject that I have treated at greater length in the introductory chapter I contributed to Chalmers-Hunt's "Natural History Auctions" (1976).

It is difficult to think of anything more dreary than an extended display of minerals as they commonly occur, with nothing but the naked eye to assess them. Polished slabs may be visually attractive, but a quick walk along the High Street is enough to show that these are not the rocks one usually sees in the countryside; one can learn a little about mica by looking at a chunk of granite, and a bit more by using a hand lens, but not nearly as much as one can from the large cleavage flake from a foreign pegmatite to be found inside an electric iron, or the front of a stove. Looking at a thin section of the granite through a polarising microscope adds a whole new world of interest and excitement, and the scanning electron microscope reveals shapes and textures in the most ordinary speck of earth. Mineral crystals with faces and edges clearly visible to the naked eye are very much the exception for even the commonest species, as anyone knows who has searched a limestone quarry for good calcite crystals: tons of rock for grams of crystals. In the biological world an individual of a species has to be nearly perfect to survive at all, and so this near-perfection is the norm and is in stark contrast to the basket-case cripples that populate the mineral world. No museum would dream of displaying butterflies with both wings missing, but how very many proudly display mineral specimens that are grossly damaged or defective! Of course we need to show minerals as they most commonly occur, if only to drive home the message that the whole of even-thing that we know rests firmly on a mineral foundation, but without fine specimens or pictures or explanatory and educational support the display is an exercise in futility.

Display and reference (or research in its broadest sense) are the two headings under which a museum collection should be assessed, and other

considerations such as education, cash value, or historical interest enter the picture under either or both. Pure sentiment - Granny gave it to me on a holiday in Brighton when I was six - has no place that I can see in a curator's thinking, a point that I shall return to later.

Fine mineral specimens are superb works of art in their own right, and I see no reason whatever why such specimens should not be displayed basking in their glory quite unashamedly, quite able to hold their own with any other masterpieces. Such specimens are rare, but a few well-displayed specimens are preferable from this point of view to many cases filled with dusty mediocrity. Even these are not beyond redemption, since cleaning, a little fresh paint or even paper, and new labels need not take too long; Letraset has removed any excuse for scruffy scribbles. Once we get away from the purely artistic, gee-whiz displays, there must be a theme for the exhibit; small collections cannot do justice to a systematic display, and should not try to. It is better by far to have a small exhibit of, say, local or regional minerals, economic minerals, rock-forming minerals, colour in minerals, or whatever, and do it well than to have a random ill-assorted jumble. If the physical properties of minerals are being shown, be selective; bad or ill-chosen examples are worse than none, and a photograph or diagram is worth pages of print that no-one will read. Fine specimens are expensive, but illustrative specimens are still relatively cheap if one or two gaps in a theme need to be filled (except for specific locality material).

On the reference side, a catalogue and finding index are essential. The arrangement doesn't matter too much - systematic, topographical, alphabetical, what you will - as long as it is convenient. If you don't know what you've got, or can't find it, it might just as well not be there at all. Type or described fossils are quite common in smaller museums, minerals very much less so, and should be kept separately. A list of type specimens of mineral species is being prepared by the Museums Commission of the International Mineralogical Association, and I shall be very glad to hear of any so that a record can be kept. Accurate identifications can be time consuming and require facilities and expertise that are not generally available, and from the

present point of view are not all that important since they can be made when the occasion demands. The vital information that must be kept with the specimens, with another copy on file, includes the locality, date, and source of acquisition: the essentials, in short, that cannot be determined scientifically. If specimens have to be kept crated, make sure that they are carefully packed with labels and that a list of contents is in the box, which should itself be clearly marked, on a visible surface.

Very careful thought should be given to the question of whether a particular museum should have a mineral collection at all. If it is a recognised feature of the museum, and can be properly cared for, well and good. If only part of the collection is appropriate - for example, there may be an excellent local suite of specimens - that part should be retained and thought given to arranging a transfer of the remainder to another museum that could better use or look after it. Even in the case of the locality material it might well be better to arrange to pool specimens from a number of small museums in order to build a really worthwhile area or regional collection and display. There will be difficulties of course, but imagination and cooperative goodwill could overcome most of these. A measure of rationalisation and specialisation, backed by the local authority, could work wonders in staffing, curatorial morale, and drawing the attention of both specialists and the general public. The best deployment of increasingly scarce resources should demand the attention of us all.

I return to the question of whether a collection should be split, provided of course that there are no covenants or other legal restrictions on doing so, and this touches on sentiment. I think that the sole criterion is coherence, which may be of different kinds. Most mineral collections are pretty haphazard assemblages of specimens, acquired in a variety of ways from a larger variety of sources and localities, and the collection that consists solely of specimens from a particular mine or area, or of specimens collected entirely in the field by a single individual, or of different forms or localities of a restricted number of species, is rare indeed. A collection of uniformly high quality, or of carefully selected micromounts, or of single

examples of as many different species and varieties as the owner could obtain, each has its own measure of coherence but few collections are like that in practice. Even a thoroughly heterogenous collection has its individuality as long as it remains in its original owner's hands, but when it joins other collections it loses this and I feel I can instance no better authority than the late Sir Arthur Russell. In addition to the very many specimens that he collected himself during more than seventy years in the field, he tirelessly hunted down and acquired other private collections. He selected the specimens that he thought would improve his British collection, and the remainder he used for exchange or sale to continue the process. He helped Ruskin's heiress to dispose to best advantage of the specimens that she had inherited, and did not feel himself bound by sentiment to keep them together for no better reason than that they had belonged to the great Ruskin.

A more difficult problem arises when we try to decide what a duplicate specimen is and whether it can safely be exchanged or otherwise disposed of. I freely confess that I cannot define it, since everything depends on what one considers to be one's ultimate aims and therefore becomes a matter of judgement. Even at the most fundamental level, electrons are interchangeable but not identical. Philosophical quibbles aside, no two mineral specimens are the same even to the eye: there is no such thing as a 'standard' size of crystal, which may range from a few tens of angstroms to tens of metres in exceptional cases, and variations of composition and freedom from inclusions, shape and perfection, number and association, all these contribute differences. Differences may be easy to spot, but relative quality can be much more difficult and I shall not try to lay down any rules for its assessment.

I shall conclude by considering a question that is often asked: 'What should I say in my will about my collection, and where should I leave it?' The where or to whom is quite easy, if you are not greatly worried about the money it might fetch (if you are, that is yet another question): 'Wherever or to whomsoever will look after it and make the best use of it'. If it is a large collection, there is no point in leaving it where there are neither facilities for curation nor reasonable assurances of continuity. As for

conditions, I can suggest none better than those stipulated by A. F. Holden (1866-1913) in his bequest to Harvard University: "In regard to the mineralogical collection. There shall be no obligation on the Museum authorities to keep any of the specimens when they have lost their scientific interest. There will be many duplications as the result of taking over my collection. All duplicates, if from my collection, may be sold, exchanged, used for scientific purposes, or given away. I only ask that specimens shall not be removed from the collection until others as good or better have been provided. It is my desire not to handicap the development of the Mineralogical Department. I wish to aid in bringing the Harvard Mineralogical collection to the highest possible standard." [Mineral. Mag. 1914, -17, 119] . To which I can only add, if you don't trust the judgment of the person or institution you shouldn't be thinking of leaving your collection there anyway!

Peter G. Embrey.

SIR HUMPHREY DAVY'S SENTIMENTS ON THE STATE OF THE  
BRITISH MUSEUM (early 1829)

"I believe no country can be placed lower than our own, in respect to collections in ancient art , or modern science. A few liberal-minded patriotic men have done much by their private collections; and some particular institutions or colleges, by their private means, have afforded resources to scientific men; but our national establishment, the British Museum, is unworthy of a great people, - and is even inferior to many of those belonging to second-rate states on the Continent; yet there have been considerable sums of money devoted to the objects of this collection, and it contains some choice marbles, and some interesting specimens in natural history; and far more might have been done with the' sums voted for the purpose by Parliament, had they been judiciously applied.

When the British Museum was first established, in consequence of the bequest of Sir Hans Sloane, President of the Royal Society, of his splendid collections to the country, the trustees were either great officers of state, owing their situation to their office, or some persons of science, arts, and letters, associated with them elected by the principal trustees. At first the principal trustees of the elected class, were either distinguished members of the Royal Society, or highly accomplished noblemen and gentlemen, possessed of refined knowledge in a r t , or profound knowledge in science. The last scientific trustee elected, was Mr. Henry Cavendish. Lately the elections have been almost entirely made from branches of the aristocracy, or gentlemen of some parliamentary influence. The Archbishop of Canterbury, the Lord Chancellor, and the Speaker of the House of Commons, are considered as the really active members of the trust; and over-powered as those great officers must be with the religious, legal, and legislative affairs of the country, it cannot be supposed that they can have much leisure or much opportunity to attend to the government or arrangement of the national collections.



All the officers of the Museum, who ought to be either efficient librarians, or curators of the house, used to be elected in turns, by the Archbishop of Canterbury and the Speaker of the House of Commons; for the late Lord Chancellor Eldon, always refused to act as trustee, considering probably, with great propriety, that he had other duties, more essential to his office, to perform. It is not, therefore, to be wondered at, that amongst the curators, assistant librarians, and sub-librarians, there should be found many persons taken from the inferior departments of the church, and of the public offices; places abounding with respectable well-educated men, but not the natural seminaries of either naturalists, or of persons of profound and refined taste in antiquities, collections of the works of art, and monuments of the genius of the great people of antiquity.

If men of the highest distinction as to scientific character had always occupied the most exalted offices in the museum, either as curators of the collections, or as zoologists, ornithologists, entomologists, mineralogists, botanists, and superintendents of the ancient collections of sculpture and painting; and if the salaries of such officers had been made respectable, and their rank a gratifying or enviable one, there would have been always a sufficient number of aspirants after such situations, and we should not: have required the assistance of foreigners in that establishment which ought to be the national school of our academies in science and art. But unfortunately, in England science is not the taste either of the court or of the government, and what might be the most magnificent collection of the beauties and wonders of nature and art, formed from every quarter of the globe, and containing the most splendid monuments of the glory of the most powerful of the ancient nations of the earth, does in fact represent little more than a series of quaint collections in vertu, where illustrations of the history of medals, and the most exquisite specimens of the bronzes of *Magna Graecia* are found in the same room with the sledges and dresses of the *Esquimaux*, the canoes, arms and dresses of the people of *Australasia*, and the wildest ornaments invented either by the capricious or diseased fashions of folly in almost

every climate and age. Even the first and most perfect part of the marbles brought from Athens to enrich the Hotel of Montague-house are out of place.

There must be a general system of change in everything belonging to this institution, before there can be any system of radical improvement. Each department must be preserved separate and distinct from the other. The sculpture must be judged by men who have shown their knowledge of taste with regard to this branch of the fine arts. The collection and arrangement of paintings must be trusted either to artists themselves or to refined judges of the art. The geologist should have his department entirely to himself, and the mineralogist would not find even the present treasures of the British Museum too extensive for much active labour, philosophical research, and even useful discovery in the variety of their arrangements and bearings; and a good geologist by connecting the history of the specimens of inorganic nature with those of living animals, might open to the world a number of curious and very extraordinary truths. Then the libraries should be kept perfectly distinct from the other parts of the museum; and there should be at least four enlightened and literary men of ability to take charge of these treasures now made so magnificent by the royal gift, and to lay them open to the public.

It appears to me that the present is the best moment for attempting a radical and fundamental change in everything belonging to this ancient, misapplied, and, I may almost say, useless institution. In every part of the metropolis people are crying out for knowledge; they are searching for her even in corners and byeways, and such is their desire for her that they are disposed to seize her by illegitimate means if they cannot obtain her by fair and just ones. This then is the moment to give energy to their efforts, and for the legislature to sanction what reason has so long required. The King's College is about to be formed, as a sort of counterpoise to the London University. Both must do good: and if the most useful part of the treasures of the British Museum, and of the Royal library could be transferred to Somerset House, and with the remains of the Royal Society, its books, its

MSS., and its collections, form a Newtonian College, founded by his Majesty George IV., intended to perpetuate the memory and exalt the glory of the science which stands alone in the world, no higher boon could be given to posterity, for it is one in which not only Britain, but even Europe is interested."

Written from his dictation during his last illness in Rome.

Taken from "The Collected Works of Sir Humphry Davy, Bart." Vol. VIII, p.361-5.

Edited by his brother John Davy, M.D. ,F.R.S.

Published by Smith, Elder and Co., Cornhill, London, 1840.

COLLECTIONS AND INFORMATION LOST AND FOUND

A. COLLECTIONS AND INFORMATION CURRENTLY SOUGHT

20. CRESWELL CRAGS COLLECTIONS

R. JENKINSON of CRESWELL CRAGS Interpretative Centre, Craggs Road, WELBECK, WORKSOP (Notts.) Tel: WHITWELL 378 is surveying the wealth of Palaeolithic material collected in the past from this site on the Derbyshire - Nottinghamshire border. Most of the known sites were excavated by the following workers

i) about 1874-1875

a) Rev. John Magens MELLO (1836-1914)

see Q.J.G.S. 71 LIX

b) Sir William BOYD-DAWKINS (1837-1929)

see Q.J.G.S. 85 LIX and D.N.B.

ii) in the late 19<sup>th</sup>

c) Dr. Robert LAING of Newcastle

iii) in the 1920-1950 period

d) A. L. ARMSTRONG

Much of the material recovered from these excavations has been dispersed and whilst the principal collections are known, the locations of many smaller collections, particularly memorial collections, distributed by some of these researchers, and related manuscript material, are unknown.

If you have or know of any Creswell Crags material or manuscripts please report details. For a short summary of work on the Creswell Crags see R. A. Eden et al 1957, Geology of the Country around Sheffield. Mem. Geol. pp. 162-165.

21. W. BROCKBANK FGS, FLS.

Bolton Museum have 30 specimens of graptolites of his collecting from the Moffat Series. He was a fellow of the Geological Society but other information about him and his collections is sought. He wrote various articles on the geology of Cumberland, and came from a well known Cumbrian family.

22. R. C. WALSH

The Earth Sciences Section of Leicestershire Museums holds a file containing substantial information relating to a collection of British and foreign minerals "...viz 76 specimens of Crystals and 99 specimens of minerals", made by R. C. Walsh who, in the 1940's lived in Blackpool before emigrating to South Africa. This collection was loaned to the East Midlands Federation of Museums and Art Galleries in 1946 for display purposes but at Walsh's request eventually passed into the personal possession of Hubert H. Gregory, Keeper of Geology at the Leicester Museum. Gregory died in 1950 and the subsequent fate of the Walsh collection remains unknown. Should anyone possess a part or the whole of this collection, they may be interested to see this documentation and should therefore contact: John A. COOPER, Leicestershire Museums, 96 New Walk, LEICESTER, Tel: 0533-539111. Any information concerning the fate of this collection would also be welcomed for these columns.

B. COLLECTIONS FOUND13. David Christopher DAVIES

We were obviously guilty of misusing the English language listing this collection as 'FOUND' in our last issue, p. 346. More information has emerged from which it now appears certain that this collection was indeed thrown out between 1954-1956.

M. J. Roff, Oswestry Area Librarian kindly writes (18 Oct. 1976) as follows:

"We have checked back through the files relating to the museum collection, and it appears that, by the time Mr. Henry Jones took over as Borough Librarian in 1956, the fossils no longer formed part of the collection. In 1957, after taking expert advice on the remainder of the collection, the Borough Council disposed of all but a few items."

Confirmation that the Davies fossil collection was not in the Oswestry library when it was moved from the Old Town Hall comes from Ron James, Curator of Clive House Museum in Shrewsbury, who writes (1 Nov. 1976):

"Prior to the removal of the Oswestry Library from the Old Town Hall c 1957 I visited the Library to advise on the retention or dispersal of the contents of the museum. There was very little material left - some stuffed birds which were moved to Shrewsbury and some oddments. There was no sign of a geological collection. Had there been, we would have taken it over and brought it to Shrewsbury. Unfortunately Henry Jones the then librarian died some years ago."

It is thus obvious that the D. C. Davies collection had indeed been disposed of before 1957 and provides another example (if one was needed) of what the G.C.G. must ensure does not happen in future.

#### PUBLICATIONS

A Catalogue (September 1976) of the Minerals listed in the Index at the Hancock Museum, Newcastle-upon-Tyne has been prepared by Susan Turner and John Mennear together with a brief account of its anomalies.

The catalogue is available on request.

BOOK REVIEW

## FOSSIL ANIMAL REMAINS: their preparation and conservation

A. E. Rixon Athlone Press: University of London 1976

viii + 304 pp., 13 pls., 35 text-figs. Soft back £5.25.

The great advances in palaeontology in the past three decades have depended on several factors, and amongst the most important of these are advances in techniques of preparing fossils for examination, so that many which could only be seen in 2 D before can now be studied in 3 D, and in a detail and quantity never before imagined. One of the great pioneers of the revolution is Arthur Rixon, the author of this volume. Rixon was for many years head of the Palaeontology laboratories at the British Museum (Natural History): there he experimented and developed many innovations now in common practice throughout the world. We are grateful that he has now given us the distilled essence of his vast experience in permanent form.

The book describes all the techniques and materials needed to excavate, concentrate, consolidate, develop and preserve fossils, with sections on casting and mounting for exhibition. All major substances used for strengthening fossils and reassembling broken bones are described, with their properties, uses and obtainability. The author also mentions old-fashioned adhesives and how to remove them. He tells us not how to find fossils, but how not to destroy them having found them, and about the tools and techniques for excavation in the field, with the first aid dressings necessary for safe transport back to the laboratory. He deals with the methods of mechanical development from the old swipe and hope attacks with hammer and chisel to the refinements of ultrasonic probes - an evolution in techniques very parallel to those of dentists whose tools are so frequently modified for use on fossils. Rixon treats in detail with the use of acid development, playing on the chemical differences between the fossil and its matrix - a field in which he himself has made such significant advances. These advances

became possible by the development of a range of acid-resistant plastics to consolidate the now fragile and exposed fossil. He treats, perhaps too briefly, with the concentration of microfossils from bulk matrix; these techniques date back over a century, but only recently have they been exhaustively applied to yield everything from forams. to mammals.

A chapter is devoted to the treatment of fossil cancer (in pyritised specimens) - every curator's nightmare, and despite numerous recommended cures, no panacea is yet known. If you want to know how to mount a dinosaur or mammoth for exhibition, chapter 8 tells you how to do it. There is an important chapter on casting techniques, where again plastics have revolutionised methods and results, with fibreglass heading the list. Casts can often be so good nowadays that they are essentially indistinguishable from the original and this has important consequences for the museum curator; he can conserve his precious unique original from the constant wear and tear of borrowing and handling.

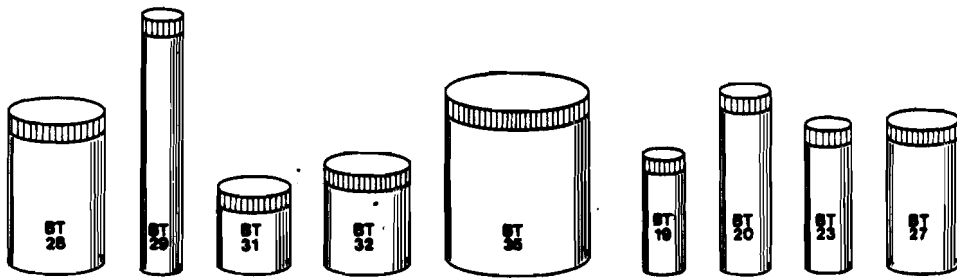
The volume ends with lists of chemicals and other substances used, their properties and hazards, and details of suppliers. Each chapter is adequately illustrated with diagrams and photographs, and a bibliography. The index provides easy and quick reference. The style is at times a little stilted, but one soon forgives that for the wealth of accurate and detailed information set down. Throughout Rixon has drawn heavily on his own vast experience, with emphasis on fossil vertebrate examples.

This book is a must for all museum curators and technicians in palaeontology, and for many in archaeology and allied fields. University staff, school teachers and research students will find it hard to be without this excellent, well produced and reasonably priced compendium.

R.J.G. Savage.



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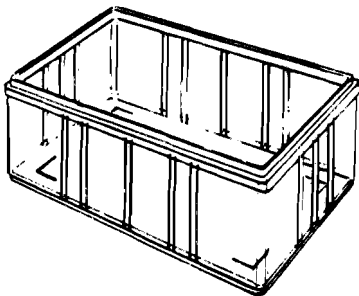


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BT-27	26 mm	50 mm	20 ml
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BT-29	15 mm	89 mm	10 ml
BT-31	26 mm	26 mm	11 ml
BT-32	30 mm	34 mm	15 ml
BT-35	51 mm	57 mm	100 ml

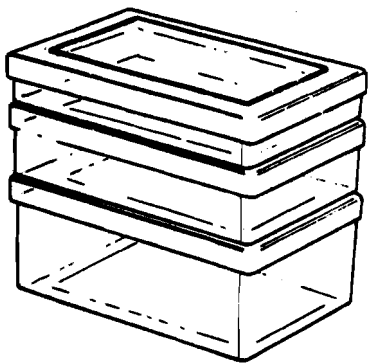
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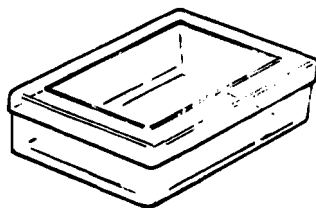
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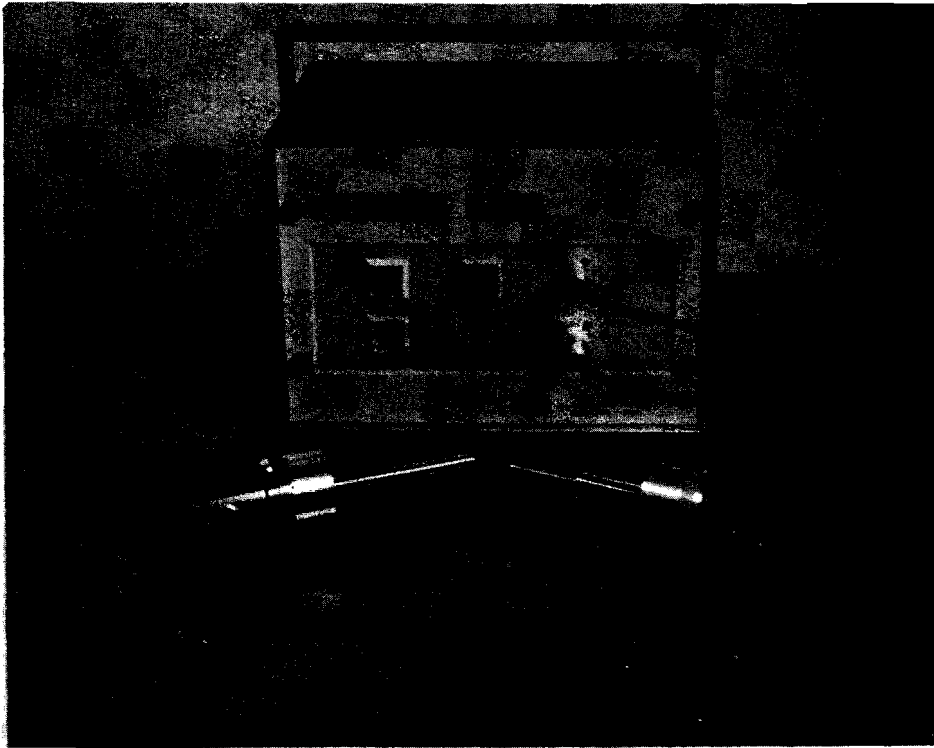
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