

GEOLOGICAL CURATOR



Volume 5

Number 9



GEOLOGICAL CURATORS' GROUP

The Group is affiliated to the Geological Society of London. It was founded in 1974 to improve the status of geology in museums and similar institutions, and to improve the standard of geological curation in general by:

- holding meetings to promote the exchange of information
- providing information and advice on all matters relating to geology in museums
- the surveillance of collections of geological specimens and information with a view to ensuring their well being
- the preparation of a code of practice for the curation and deployment of collections
- the advancement of the documentation and conservation of geological sites
- initiating and conducting surveys relating to the aims of the Group.

1993 COMMITTEE

Chairman	Paul Ensom, Yorkshire Museum, Museum Gardens, York YO1 2DR (tel. 0904 629745, fax 0904 651221)
Secretary	Simon Knell, Department of Museum Studies, 105 Princess Road East, Leicester LE1 7LG (tel. 0533 523976, fax 0533 523960)
Treasurer/Membership Secretary	Andy Newman, Department of Archaeology, University of Newcastle, Newcastle upon Tyne (tel./fax 091 222 7426)
Editor	Peter Crowther, Bristol City Museum, Queens Road, Bristol BS8 1RL (tel. 0272 223592, fax 0272 222047)
Recorder	John Nudds, The Manchester Museum, The University, Oxford Road, Manchester M13 9PL (tel. 061 275 2634, fax 061 275 2676)
Public Relations Officer	Phil Doughty, Ulster Museum, Botanic Gardens, Belfast BT9 5AB (tel. 0232 381251, fax 0232 665510)
Minutes Secretary	Diana Hawkes, Haslemere Educational Museum, High Street, Haslemere, Surrey GU27 2LA (tel. 0428 642112)
Committee	Roy Clements, Department of Geology, University of Leicester, Leicester LE1 7RH (tel. 0533 522522, fax 0533 523918) Chris Collins, Geological Conservation Unit, Department of Earth Sciences, University of Cambridge, Madingley Rise, Madingley Road, Cambridge, CB3 0EZ (tel. 0223 62522, fax 0223 60779) Colin Reid, Dudley Museum, St James' Road, Dudley, West Midlands DY1 1HU (tel. 0384 453574, fax 0384 453576) Kate Pontin, Cultural Activities and Libraries Unit, Central Library, High Street, Uxbridge, Middlesex UB8 1HD (tel. 0895 250702, fax 0985 239794)
Co-opted	Rosina Down, (BCG), Department of Zoology, University College, Gower Street, London WC1E 6JB Tom Sharpe, (<i>Coprolite</i>), Department of Geology, National Museum of Wales, Cathays Park, Cardiff CF1 3NP (tel. 0222 397951) Simon Timberlake, 12 York Street, Cambridge CB1 2PY (tel. 0223 300616/081 938 9031) Gill Weightman, Leicestershire Museums, 96 New Walk, Leicester LE1 6TD (tel. 0533 554100)

The views expressed by authors in the *Geological Curator* are entirely their own and do not represent those of either the Geological Curators' Group or the Geological Society of London unless otherwise stated.

© The Geological Curators' Group ISSN 0144 - 5294

Cover: The Geology Store, Bristol City Museum and Art Gallery, drawn in 1993 by Bristol artist Rachel Hemming Bray. From the artist's exhibition 'Behind the scenes', in the Solaglas Gallery, Bristol City Museum and Art Gallery from 16 April to 22 May 1994. Curators Peter Crowther (at the computer *and* answering the telephone - if only that were possible!) and Roger Clark (seated) adopt typical curatorial poses...

THE GEOLOGICAL CURATOR

VOLUME 5, No.9

CONTENTS

CONTENTS	341
EDITORIAL.....	342
JAMES FREDERICK JACKSON 1894-1966 by S.R. Howe	343
BOOK REVIEWS	367
LETTER TO THE EDITOR	373
GEOLOGICAL CURATORS' GROUP - 17TH ANNUAL GENERAL MEETING	374

GEOLOGICAL CURATORS' GROUP

April 1994

EDITORIAL

This issue of *Geological Curator* is my last as GCG's Honorary Editor. Patrick Wyse Jackson (Department of Geology, Trinity College, Dublin) assumed responsibility for our illustrious organ at the AGM in December 1993, and the first fruits of his labours will soon be thumping on to your doormats in the shape of Vol.6, No.1. I wish Patrick the best of luck for the future and hope that he receives the kind of support and encouragement from GCG members that I have enjoyed during my eight years in post.

I will take this final opportunity to thank again some of the many people who have contributed to the production and distribution of the journal since 1986. Leicestershire Museums geologists have shouldered the burden of distribution for most of those years, thanks to the support of John Martin (Keeper of Earth Sciences) and successive Directors, Patrick Boylan and Tim Schadla-Hall: Chris Collins (now Geology Conservator at the Sedgwick Museum, Cambridge University), Mike Taylor (now Keeper of Vertebrate Palaeontology, National Museums of Scotland), Gill Weightman, Arthur Cruickshank, Grace Griffiths, and John himself, have all devoted much time to the efficient mailing of the journal.

Until 1990, I laid out and pasted up camera-ready copy page by page, using text typed to a very high quality by

Judy Marvin, also of Leicestershire Museums. Since then, although Judy has continued to word-process some material for every issue, the page make-up has been looked after by Monica Price at Oxford University Museum, using the desk-top publishing package 'Pagemaker'. Apart from two printed for the Group by Barnes & Humby of Nottingham, all other issues have been produced by the Reprographics Unit of Leicestershire County Council, to a good standard, on time and at a very competitive price.

Apart from the many contributors of articles, enquiries and news items, I must particularly thank Hugh Torrens and Mike Taylor for the time, knowledge and enthusiasm which they gave to coordinating *Lost & Found* and *Notes & News* at different times during my editorship.

Finally, as a last piece of self-indulgence, I reproduce below and on the front cover two works by Bristol artist Rachel Hemming Bray. Rachel worked as an artist-in-residence here in the City Museum & Art Gallery for several months, drawing and painting the museum staff 'Behind The Scenes'. An exhibition of her work is on show at the City Museum & Art Gallery until 22 May 1994; several pieces have been purchased for the permanent collection, including 'The Geology Store'.

23 April 1994

Peter R. Crowther



A watercolour and gouache by Rachel Hemming Bray, showing one of 3,500 drawers of fossils, minerals and rocks in the Geology Store, Bristol City Museum & Art Gallery. The drawer contains examples of the Inferior Oolite ammonite *Parkinsonia* and is accompanied by a Geology Register.

JAMES FREDERICK JACKSON 1894-1966

by Stephen R. Howe

Introduction

The richly fossiliferous Mesozoic rocks of the west Dorset coast have long been a major attraction for both professional and amateur collectors. Many spectacular and beautifully preserved specimens from this area now enhance the geological collections of museums throughout Britain and abroad. The National Museum of Wales is particularly fortunate in holding a large and fine suite of material from the area, due mainly to the efforts of one man - James Frederick Jackson.

Jackson was essentially a self taught, amateur geologist of very little financial means who had a passion for geology and for specimen collecting in particular. His association with the National Museum of Wales reaches back to the institution's earliest days and lasted for fifty-two years. Over this period the Museum's geological collections benefited to the tune of nearly 21,000 rocks, fossils and minerals, as well as numerous photographs, maps and publications. Reorganisation of the main palaeontological collections within the Department of Geology during the early 1980s allowed Jackson's Dorset coast material to be fully curated and incorporated into the main collections for the first time. This work necessitated delving into voluminous old correspondence, notebooks, catalogues and diaries from which emerged the picture of a fascinating and dedicated individual. F.J. North published an obituary of Jackson in the *Welsh Geological Quarterly* (North 1966) which, due to the nature of the publication, had a restricted distribution. It contains many details of Jackson's life that are not recorded elsewhere and has therefore been a major source of information for this expanded biography.

Note. References to NMW or NHM followed by a date refer to correspondence housed in the National Museum of Wales, Cardiff, or Natural History Museum, London, respectively. NMW followed by an abbreviated 'year.number' accession number refers to material acquired by the National Museum of Wales from Jackson, as listed chronologically in Appendix 2.

Early years in Mold, Clwyd, 1894-1901

James Frederick Jackson was born at 69 Wrexham Street, Mold, Flintshire [now part of Clwyd] in North Wales on 27 March 1894, the son of George William

Jackson, a Yorkshireman and master clogger, and Margaret Dorothea Lynott Cambridge, a native of South Runcton, near Downham Market, west Norfolk. Little is known of his early life as, according to North (1966), he was reluctant to speak of this period beyond hinting that his father had made it difficult and unhappy. As a young boy he suffered from poor health. Medical opinion directed that he was in need of an open air life in a drier climate and in 1901 (probably after his father had left home) Jackson and his mother moved to Hunstanton in Norfolk, which at that time was being promoted as a health resort, where Mrs Jackson ran a boarding house in Victoria Avenue. The house was easily recognisable by the large Chalk ammonites resting against the wall under the bay window in the front garden (M. Sexton pers. comm.).



Fig. 1. J.F. Jackson, aged 15 or 16 (from Anon. 1910).

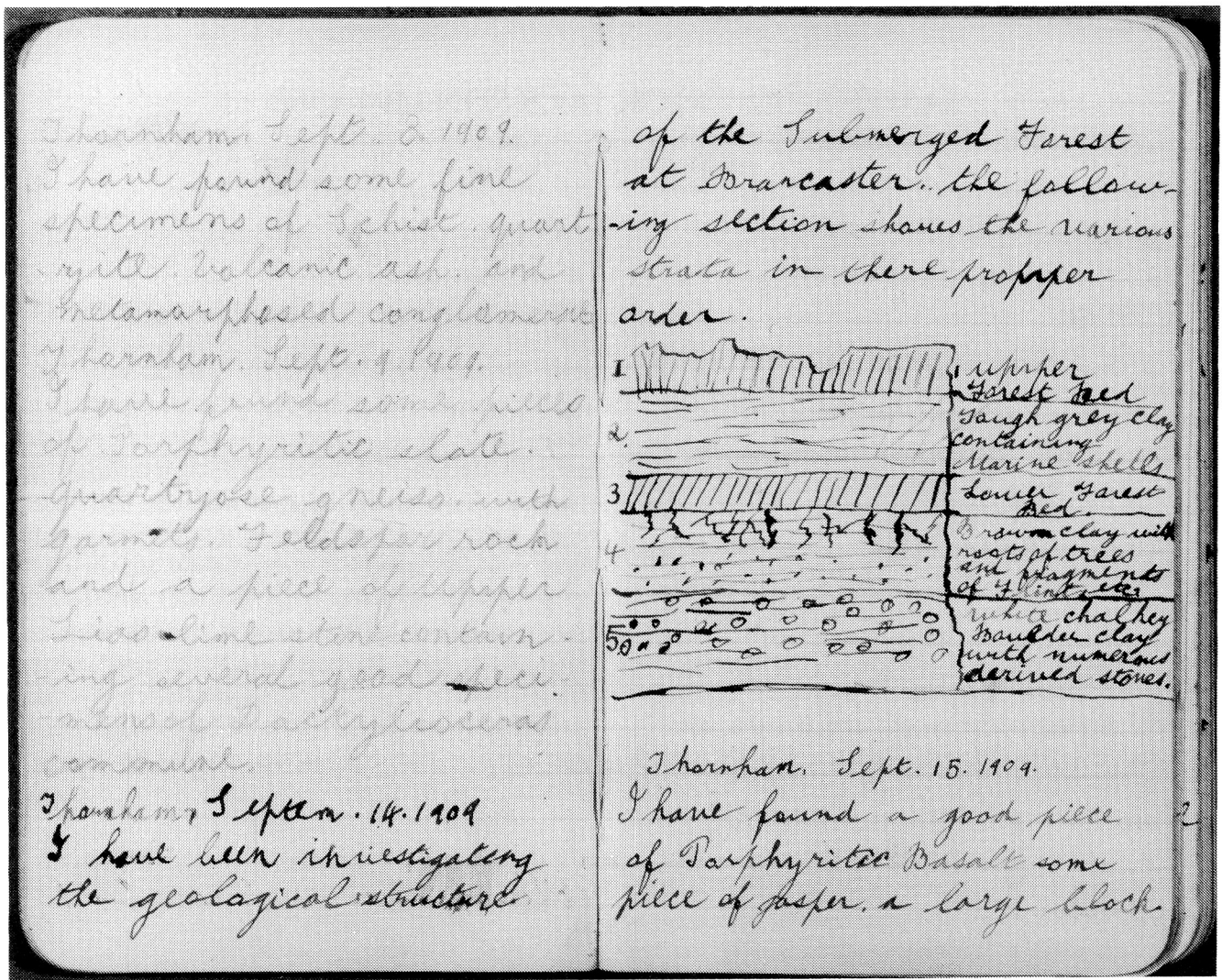


Fig. 2. Jackson's diary for September 1909, giving details of recent finds and a section of the Recent deposits at Brancaster, Norfolk.

Shortly before his death, in conversation with Errol White of the Natural History Museum, Jackson indicated that neither he nor his mother ever received further word from his father, a situation which even then left him still feeling very bitter.

Growing up in Hunstanton, 1901-1914

Despite the move to Norfolk, Jackson's bad health continued; this affected his schooling, to the extent that he was taught by his mother. She was the first to give him an interest in geology and particularly in fossil collecting, which would develop into a life-time's passion. Mrs Jackson's interest had come in turn from her father, Frederick Cambridge, a farmer in South Runcton who used to collect fossils and other geological specimens from the glacial deposits that were uncovered in the fields during ploughing. According to Mrs Jackson (Anon. 1910) her father's collection was eventually given to the Lynn Museum, Norfolk, although the Museum's records do not record its receipt.

Jackson's first geological forays were along the local cliffs where the young boy (then aged about six or seven) had taken to fossil collecting 'as a duck takes to water' (Anon. 1910). This interest flourished, aided in 1904 by the naturalist W.H. Hudson, a guest at his mother's house who, on returning to London, sent the young boy some geological text-books, drawing implements and paper to enable him to record and draw not only the specimens he found but also other geological features of interest (NMW 16 January 1961). His collecting wasn't only geological but included human artefacts, particularly worked flints, which occur in the local Recent deposits. His diary (Fig. 2) for the period 1908-1913 includes many lists of the specimens he collected and is also illustrated liberally with comments and descriptions of local geological sections, theories relating to the origin of the glacial erratics found on the beach, and the age of the Recent deposits. He was well aware of the rarity of certain fossils at different horizons and regularly recorded the discovery of a new species. His diary also

The Rocks of . . Hunstanton And Its Neighbourhood . .

BY

JAS. FREDERICK JACKSON

With a Map and Illustrations
and
Fore—and After—Words by B. L.

NETT :

1/- Interleaved, Cloth. 6d. Paper Wrappers.

LONDON :

THE PREMIER PRESS, Ltd., 52-56., Bartholomew Close, E.C.

1910.

Fig. 3. Title page to *The rocks of Hunstanton and its neighbourhood* (Jackson 1910).

gives an indication of the size and variety of his collection: for instance, in January 1909 an entry records that from the White Chalk alone he had managed to collect the following numbers of species - 'Pisces 13, Cephalopoda 7, Lamellibranchiata 20, Gastropoda 3, Brachiopoda 7, Echinodermata 12, Annelida 2, Polyzoa 2, Spongia 4 and Plantae 1'.

Sometime prior to October 1908, Jackson was fortunate to be seen collecting on the foreshore at Hunstanton by Bellerby (Harry) Lowerison, the Principal of the Ruskin School-House at nearby Heacham. Lowerison was fascinated by the knowledge that the young boy had of the specimens he was finding and visited Jackson's house to view his collection. Realising Jackson's situation, Lowerison began to encourage and assist him in his study, as well as inviting him to tea on Sunday afternoons and accompanying him on visits to local sites.

At about this time Jackson was supplementing the family income by working as a deck-chair attendant for a Mr Seaborne in the summer and as a house painter, probably for Mr Shanks the local builder, in

the winter (M. Sexton pers.comm.). He had been encouraged by Lowerison to write an account of the local geology in the form of a small book which, through Lowerison's efforts and donations and financial support from local businesses, was published in 1910 as *The rocks of Hunstanton and its neighbourhood* (Fig. 3). For a boy of fifteen and such a limited education this was quite an achievement, a fact which did not go unnoticed. The book describes the local rock formations from the Recent deposits down to the Lower Greensand and gives brief accounts of sections at different localities, as well as listing and illustrating the fossils that occur. A revised edition was issued in 1911, which contains an expanded introduction giving instructions on how to collect and store geological specimens, with special note being made of the importance of practical observations and of keeping detailed notes. He added a suggested reading list and incorporated new information about the postglacial peats, along with ideas on their formation.

In his *Afterwords* to the first edition (Jackson 1910), Lowerison brought the boy's plight to the notice of readers and appealed for help - urging that 'unless timely aid come, science will lose the best services of a born scientific man'. *The Lynn News and County Press* rallied to the cause, running an article on the boy and his book in July 1910 entitled 'A Boy - Geologist: Youthful genius unearthed at Hunstanton. Who will take up the case? A brilliant intellect is at present being wasted' (Anon. 1910) (Fig. 1). In a Postscript to the *Afterwords* in the second edition (Jackson 1911), Lowerison reported that his appeal had born fruit and that Jackson was '... now at school. He is working hard at mathematics and Latin and making rapid progress'. School records show that Jackson did not attend any of the local board schools. However, according to Prof. W.F. Reddaway, who had a holiday home in Hunstanton, he was a pupil at the Ruskin School, Heacham (M. Sexton pers.comm.). Although the Ruskin School records no longer exist there is circumstantial evidence to support this belief. Lowerison was very friendly with Mr Chilvers, the florist and nurseryman who advertised in Jackson's book, as well as Mr Holcombe Ingleby of Sedgford Hall who, amongst other cultural activities, was largely responsible for the opening of the Heacham Museum (M. Sexton pers. comm.). It seems quite probable that these, and other affluent friends connected through the Union Chapel and other philanthropic cultural activities, may well have funded Jackson's attendance at the Ruskin School.

Lowerison also records that the book had been well received by the geological community and that he had received letters of praise from 'many scientific men of great standing'. At this time a number of Cambridge



Fig. 4. F.J. North: Assistant Keeper and then Keeper of the Geology Department at the National Museum of Wales, 1914-1959.

Professors used to spend a deal of time in Hunstanton and took an interest in developing the cultural interests and activities of the town. The publication undoubtedly brought Jackson into contact with a number of people from the geological fraternity: Chilvers (one of the subscribers to Jackson's book) was a friend of Prof. T. McKenny Hughes (M. Sexton pers. comm.) who would presumably have been aware of the publication; amongst others was F.J. North, who would play a major role in Jackson's future.

Little is recorded of Jackson's life from 1910-1914. He is recalled as a shy, perhaps rather eccentric but clever boy by a neighbour (M. Sexton pers. comm.) and North (1958, 1966) noted that, despite working hard at school, his aptitude for geology was not matched in other subjects and he failed to obtain his matriculation certificate. This failing made employment as a field geologist with the Geological Survey, which was his desire, impossible (to which he would undoubtedly have been suited). Advertisements in Jackson (1910, 1911) show that he was already acting as a dealer in rocks, fossils, minerals and prehistoric implements, as well as hiring out sets of specimens, presumably for teaching purposes. He was not averse to purchasing specimens himself, notably from F.H. Butler (another advertiser in Jackson's book), and he broadened his geological background by visiting areas

farther afield, such as Whitby in Yorkshire, Dorset and London. His diary for this period contains no information relating to these excursions, but concentrates solely on geological activities carried out around Hunstanton.

Cardiff, 1914-1924

After the transfer of the collections of the old Cardiff Municipal Museum to the National Museum of Wales on 15 November 1912, the first geological member of staff to be appointed was F.J. North (1889-1968) (Fig. 4), as Assistant Keeper in March 1914: he later became its first Keeper from 1919-1959. At this time the Main Building in Cathays Park was under construction and the geological collections were housed close by in temporary accommodation at 35 Park Place, Cardiff. To assist with the work of unpacking and sorting the collections the Museum advertised for a general assistant, a post to which Jackson was appointed in October 1914. How he came to apply for this position is unclear but it was almost certainly due to encouragement from North. As well as assisting with the unpacking and organising of the transferred materials, the post also involved fieldwork to supplement these embryonic collections. To this end Jackson collected widely in South Wales, both officially and in his own time. In addition, presumably during holidays, he also collected in Derbyshire (NMW 15.209, NMW 16.136), the southern Cotswolds and Dorset (NMW 18.142); he paid particular attention to acquiring suites of typical rock types, having noticed that these were the least well represented parts of the Museum's collections.

In May 1917 North was called up for military service and in his absence work in the Department of Geology was suspended. Jackson was transferred to the Department of Art where, according to North (1958), his service 'was not suited either by temperament or experience' and in March 1919 his services were 'dispensed with' officially because of 'rearrangements in the staff'. The exact reason is not recorded, but when in 1958 North compiled some biographical notes on Jackson he remarked that he could not explain the dismissal 'without washing 'dirty linen' involving people who are now dead'. He did comment, however, that the man had every reason to harbour strong resentment at the circumstances that brought about his 'resignation'. Despite his dismissal Jackson never held a grudge against the Museum as an institution, and continued to improve its collections until his death. His final remarks on the irony of this situation came a year before he died when, after the removal of the last of his collections to Cardiff, he wrote to North (NMW 15 October 1965), 'The Charmouth Collection

of fossils numbers 2,900 specimens; the total of my gifts are 10,000. They gave me the sack and I have given them the bag - what a joke'.

On leaving the National Museum of Wales, Jackson had to support himself and his mother through employment as a labourer in Cardiff docks for two years and as a jobbing gardener, but he suffered severe financial problems and was forced to sell his geological collections. Sets of specimens were bought by the universities of Aberdeen, Manchester and Reading, who appear to have incorporated them into their teaching collections, and by Newport Museum and Art Gallery, Gwent. Surprisingly, considering his situation, he offered to present the National Museum of Wales with a collection of over 400 specimens but this was declined by the Director, W. Evans Hoyle, who instead insisted on purchasing it (NMW 19.205). Both Hoyle and North appear to have been very saddened by the dismissal and kept a close eye on his situation, trying to help him whenever possible. Jackson was recommended, unsuccessfully, to the Geological Survey as a field collector by Hoyle, but in 1920, with North's help, he managed to persuade the Museum authorities to employ him on a casual basis to collect specimens from south-east Wales. A fee of ten shillings (£0.50) per day was agreed (Jackson's figure based on his lost income from gardening) but the Museum authorities stipulated that the total expenditure should not exceed £25. Later the same year the Museum received a donation of £7-2s-0d (£7.10) from S.L. and H.H. Porter of Cambridge to facilitate the employment of Jackson on a similar basis.

Despite his financial difficulties, Jackson managed to arrange holidays each year to different parts of the country. These included Dorset, Derbyshire and the Isle of Wight, which not only gave him the opportunity to collect specimens but also brought him into contact with other geologists. In 1919 whilst holidaying in Dorset, he met S.S. Buckman who at that time was working on the second part of his Jurassic Chronology (Buckman 1922). Buckman viewed Jackson's specimens, particularly those from the Junction Bed of Watton cliff near Eypesmouth, amongst which he noted several undescribed species and persuaded him to write an appendix to the paper (Jackson *in* Buckmann 1922). Buckman consulted Jackson's detailed sections and encouraged him to continue his studies of this complex formation. Jackson's initial enthusiasm for going into print became subdued in April 1922 when Buckman wrote to inform him that publication had been delayed and that the paper would not appear for some time. This disappointment was conveyed to North, although he added 'However, he [Buckman] urges me to carry on in my researches; and I have



Fig. 5. The Junction Bed *in situ* at Watton Cliff, Dorset, April 1925. A photograph taken and prepared by Jackson to illustrate his 1926 paper (NMW 66.102.1; Jackson 1926a).

already collected a good deal of material for some further notes on the Junction Bed, which ought to become quite famous when we have done with it' (NMW 14 May 1922). Buckman's paper, with Jackson's appendix, was eventually published in the *Quarterly Journal of the Geological Society of London* in December 1922. Jackson's researches on the Junction Bed continued and culminated in a more detailed paper (Jackson 1926a) in which he described and elucidated the complicated condensed sequences of this formation based on his own studies and his comprehensive collections (Fig. 5). Apart from some specimens which had been lent or given to Buckman for later description, the fossil collection associated with these two papers, amounting to over 700 specimens, was purchased by the National Museum of Wales in 1926 for £15 (NMW 26.135). Three collections of rocks illustrating the nature of the Junction Bed facies were either donated or purchased in 1923 and 1926 (NMW 23.177, 23.589 and 26.134).

After settling in Charmouth nearly thirty years later, Jackson had intended to work through the Middle Lias succession from the Junction Bed to the Three Tiers but found himself in little better condition for cliff climbing than 'poor old Buckman...when he made those guesses concerning the source of beach blocks and pebbles' (NMW 21 March 1958). By 1959 he was complaining that 'all the fallen blocks have been picked bare by successive waves of student collectors' (NMW 18 July 1959) and in the autumn of that year decided that there was little opportunity for further collecting and handed over the second collection containing over 300 fossils to the National Museum of Wales (NMW 59.410). The Middle Lias successions were eventually described by Ager (1956) and Howarth (1957), who both used information from some of Jackson's specimens in their studies.

The Isle of Wight, 1924-1944

Jackson was elected a Fellow of the Geological Society of London in March 1923 and by the summer was considering leaving Cardiff to return to Hunstanton. This move never took place because in December of that year one of his many geological contacts proved fruitful: he was offered the post of personal assistant to Frank Morey at Newport, Isle of Wight. Morey (1858-1925) was a Founder and Honorary Secretary of the Isle of Wight Natural History and Archaeological Society; on becoming chairman of a firm of timber merchants after the First World War, he was able to devote an increasing amount of time to his natural history studies. He had first met Jackson during one of the latter's geological excursions to the Island in 1913 (NMW 29 November 1923) and employed him to act both as his personal 'factotum' and to collect a range of fossils from throughout the Island for the local museums. Jackson took up his appointment in January 1924 and, although the salary would not allow 'any extravagant living', he was pleased to have secured 'something likely to be more congenial and less precarious' than his 'present unsatisfactory position' (*op. cit.*). He stopped dealing in geological specimens and sold the remainder of his collections; among these were a collection of 150-200 fossils and a set of rocks which illustrated his and Buckman's work on the Junction Bed, which were purchased by the National Museum of Wales for a somewhat bargain price of £2 (NMW 23.589).

Jackson's new employment included undertaking clerical work for the Society (to which he was elected Assistant Secretary in January 1924), putting a large, neglected geological collection in order, as well as collecting specimens and undertaking work for both the Carisbrooke and Sandown museums. He got on well with Morey, who he considered a 'pleasant and learned old gentleman' (NMW 13 February 1924) and, although finding himself working on average 60 hours per week, had no complaints as it was for 'scientific work'. His main concern centred on the length of time his employment was likely to last, recognising that it was 'entirely dependent upon the generosity of one old gentleman' (NMW 24 September 1924). He commented that collecting from the Tertiary strata was interesting work 'but the very abundance of the fossils tended to become a bit monotonous' (*op. cit.*). Although happy in his work, he complained to North about the state of the rocks, which he found 'horribly messy' when wet; these then had to be hardened, consequently involving a lot of extra time and effort. In June 1925 he was appointed Joint Curator (with the Rev. J.C. Hughes) of the Geological Museum at Sandown, but as the latter spent

most of his time at Shanklin, Jackson was effectively sole curator (Jackson 1944).

Frank Morey's death in December 1925 once again undermined Jackson's already precarious existence and he was given three months' notice. However, Morey's sister, Catherine (1855-1943), was able to continue the financial assistance provided by her brother, so enabling Jackson to stay in post; in January 1926 he was elected Secretary and Editor to the Society.

Jackson's role as Curator at Sandown involved the total rearrangement of the collections along more modern lines, as well as accumulating a representative fossil collection from the island's strata. Apart from the rearrangements, there was a need to update and produce new displays with labels written in such a way that they were understandable to the layman. To this end he used maps, sections and models, as well as palaeogeographical maps to indicate the conditions prevailing during the different periods of the island's geological history. The displays obviously succeeded because, when the Geologists' Association visited the Museum in May 1931, the President, W.W. Watts, commented on the arrangement, remarking that he had never seen one that got more rapidly to the point (Hall 1933). Jackson's programme of collecting also prospered: by late 1929 he was commenting that 'I seem to have searched the Isle of Wight strata so thoroughly that few new things fall to my hammer ...' (NMW 6 November 1929).

Jackson's work led to the publication of a series of seven catalogues in the Society's *Proceedings* about the fossils housed in the Museum, commencing in 1925 with a catalogue for the Eocene and Oligocene formations (listing 613 species, in tabular form, with their stratigraphical range indicated) and finishing in 1938 with a *Second supplementary list* (Jackson 1925a, 1928a, 1929a, 1930a,b, 1933a, 1938a). By this time the number of recognised species had risen to over 1,500. Jackson took an active role in the Society; although his formal lectures were not numerous (Hutchinson 1969), he led or co-led fieldtrips, produced small displays for indoor meetings and contributed regular papers on aspects of the Island's geology to the Society's *Proceedings*, culminating in 1942 with the publication of *The geological story of the Isle of Wight* (Jackson 1942a). In 1937, in recognition of his work both on the Island and on the Dorset Junction Bed, the Geological Society of London awarded him a moiety of the Lyell Fund (*Q. Jl geol. Soc. Lond.* 1937, 93, cxxxiv-cxxxv). He was certainly both very pleased and surprised with this award but concerned that 'there are no fearsome formalities about the business' (NMW 15 January 1937). The moiety (£30)

was greater than he had anticipated and was 'a very welcome encouragement (in a desert of discouragement)' (NMW 28 February 1937) for him to persist in his geological activities. He hoped that he would be able to put the money aside for future geological work and wouldn't need to call on it for other purposes.

Prior to Jackson's appointment at Sandown, most of the fossils in the collections had been named by A.G. Davis and A.G. Wrigley (Jackson 1932). During his term of office Jackson communicated and sought help from a wide range of experts with regard to specimens of note, particularly from W.D. Lang and W.E. Swinton at the British Museum (Natural History), and had no qualms in exchanging specimens of particular 'national' value with this institution if he considered that their scientific value merited such a course of action. He became friendly with Davis and kept up a regular correspondence with North in Cardiff.

Despite moving to the Isle of Wight, Jackson's contributions to the collections of the National Museum of Wales did not cease. Throughout this period he donated suites of rocks and fossils from the island and a wide range of other localities. Most years he took his holidays away from the island and their main purpose was to collect specimens, notably rocks, for the National Museum of Wales' collections. These excursions were unpaid, although North was normally able to persuade the Museum authorities to pay an honorarium in recognition of the time and effort expended, or to purchase some of the more spectacular specimens in lieu of expenses, as well as covering the costs of transport. This was an arrangement that Jackson was keen to conceal from his employer in case it affected his wages. All of his excursions were undertaken on foot and by public transport and the only restriction placed on the size of any individual specimen collected was whether he could carry it and, if so, how far. These holidays took Jackson to east Dorset (1925, 1928), the Lizard (1932, 1933) (NMW 32.253, 32.254, 33.399), Land's End (1934) (NMW 78.20G), St. David's (1935, 1936, 1937) (NMW 35.361, 35.362, 37.331, 37.332, 78.20G) and Aberdaron in Llyn (1938, 1939) (NMW 38.411, 39.350); he collected over 2,700 specimens, many of which were representative suites of rocks, along with specimens to illustrate particular sedimentary or structural features. Apart from these 'holidays', North persuaded the Museum to employ him on two official trips: one in 1929 to the famous O.T. Jones' graptolite localities of the Rheidol gorge, at Ponterwyd, in Cardiganshire (Dyfed) (NMW 72.51G); and another in 1930 to Scarborough, Yorkshire, to collect plants from the Middle Jurassic Estuarine series (NMW 30.432). However, he was certainly no better off financially

with these arrangements, as his salary was stopped for the duration of any absence from the Isle of Wight.

At the end of November 1935 Jackson was engaged for a fortnight at the Philpot Museum in Lyme Regis to rearrange and catalogue the geological collections. Why he became involved here is uncertain, although the former curator, Dr Wyatt Wingrave, was a friend who had been unable to attend to the collections for a couple of years because of illness. According to Jackson the Museum had 'fallen into a sad state of dust and confusion' (NMW 16 December 1935) due to Wingrave's illness and neglect by the Corporation. His time was fully occupied cleaning out a mass of rubbish, replacing original specimen labels, rearranging the wall cases in stratigraphical order, producing a fossil catalogue and adding several large explanatory labels and a series of palaeophysiographical maps to the displays - all in two weeks! Although the Committee had paid his expenses and at the end of his stay he was 9s-3d (£0.48) in credit, he told North that he didn't feel exactly a profiteer 'as I had spent about 36 hours here in the evenings' (*op. cit.*).

Soon after arriving on the Isle of Wight, Jackson purchased an inexpensive camera and began to compile a collection of photographs of geological features (North 1966). He constructed his own improvised dark-room but suffered problems with his developing and printing techniques. North recorded that, although able to collect and clean delicate fossils, Jackson could be extremely heavy-handed, and that the acquisition of adequate photographic skills was a struggle. During 1924-1925 he made a collection of 230 photographs which, on Frank Morey's death, were presented to the British Association for the Advancement of Science's Committee for the Collection, Preservation and Systematic Registration of Photographs of Geological Interest. He was invited to serve on this Committee in 1930 and donated all the negatives from these photographs, along with others from the Isle of Wight, Devon and Dorset, to the Association in 1940. The donation was recorded in the Association's report for 1940 thus: 'This very fine series, all fully described, is the most important that has been acquired by the Committee, with the exception of the Reader Collection presented in 1925 (Garwood 1940). Unfortunately both Jackson's and H.H. Reader's collections were among the material housed by S.H. Reynolds in Bristol when the University and City Museum were badly damaged during an air raid in November 1940 and, along with many of Reynolds' own photographs, slides, books and specimens, were destroyed. Many of Jackson's photographs were records of sections since changed by erosion and were effectively irreplaceable (Fig. 6).

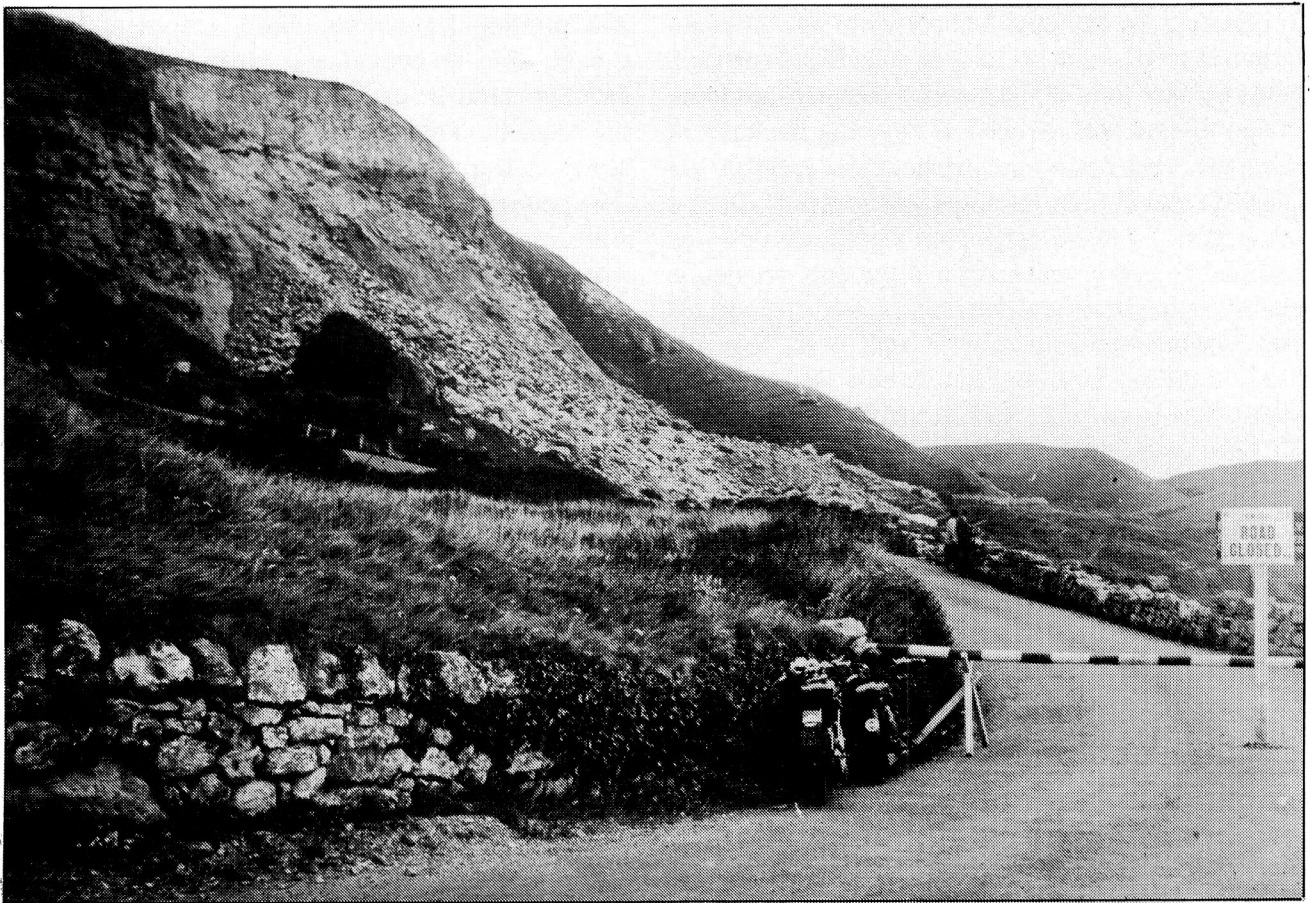


Fig. 6. Two of Jackson's early geological photographs. Ladder Chine, Isle of Wight, 15 August 1925 (above); and Windy Corner rock fall, Niton, Isle of Wight, 29 August 1928 (below).

Isle of Wight Natural History and Archaeological Society.

The Members of the Isle of Wight Natural History and Archaeological Society ask **Mr J. F. Jackson** F.G.S. to accept the accompanying gift as a token of their esteem and in recognition of the very efficient services he has rendered the Society during a period of nearly twenty years. For a great part of that time he has been virtually Secretary and Editor of the Proceedings of the Society, as well as its Meteorologist. He has done excellent work as the Hon. Curator of the Sandown Geological Museum and has arranged the collection there on an up to date and scientific basis. During his term of office he has done valuable work on the geology of the Island, which has earned the appreciation and recognition of the Geological Society, and this is sufficient evidence of the soundness of his researches.

The Members wish Mr Jackson every happiness and success in any work he may undertake in the future.

Signed Stonel E. Adams

March 27, 1943.

Vice President (in the absence of
Capt. G. C. C. Damant CBE, R.N. on
active service in the Middle East)

— Subscribers. —

J. C. Adams 5/-
M^{rs} Adams
Lady Baldwin
J. C. F. Barton
Miss M. J. Barton
W. Blizard
M^{rs} F. B. Blizard

M^{rs} E. Kemp (R.P.A.) 1/-
Mr Revd. R. M. Livers
J. H. Long
M^{rs} M. A. Long
J. Long
R. Y. Hawen
J. New

Miss G. Brandon
Miss G. Bullock
H. E. Burgess C.A.B.
E. H. J. Burton F.T.S. F.G.S.
J. B. Calkin M.A.
Miss E. C. R. Cooke
D^r J. Couper
Capt. G. C. C. Damant CBE, R.N.
W. C. Dolau
M^{rs} E. M. Drabble
Lieut. G. C. Dunning R.N.V.R.
W. R. J. Eldridge
M^{rs} A. G. H. Eldridge B.Sc.
Miss E. J. Field B.Sc.
Miss B. J. Gilly
W. E. Griffen
H. H. Hapgood
1st Col. Sir Isaac Hooper
J. Hogan F.T.S. B.Sc.
W. P. Hogan M.F.S.
Miss B. M. Hughes
H. B. Jeffery M.F.S.E.
Miss E. E. Johnson
Miss E. R. Johnson
S. W. Lokenutt F.G.S.
P. K. Milledge F.G.S.
M^{rs} H. M. Lush
Miss H. J. Lush
G. G. J. Siskill M.A. M.F.S.
E. H. Lollard B.Sc.
Miss E. T. Read
D. Roberts
H. G. Roberts
J. Rowley F.R.H.S.
M^{rs} E. J. Rowley
Miss J. A. Sherwin
J. J. Slade F.T.S.
J. C. Snow
J. W. Swanton M.B.E. F.T.S.
Miss B. E. Thornycroft
G. T. Upward
J. Nadham
Miss D. E. A. Nudd
J. E. O. Wallis
Miss E. Wilham F.T.S.
A. B. Woodyear
M^{rs} M. J. Woodyear
R. A. J. Hyatt

Fig. 7. The presentation to Jackson made by the Isle of Wight Natural History and Archaeological Society on the occasion of the termination of his employment with the Society, 27 March 1943.

Furthermore, restricted access to three-quarters of the island's coasts due to war-time activities made further photography difficult and, with the death of his benefactress in 1943, too expensive; Jackson's photographic exploits were over.

Throughout his time on the island Jackson never felt his position to be secure; he was constantly aware that he was reliant on the goodwill of Catherine Morey, by this time an old lady with gradually deteriorating health. In 1934 he remarked that nine-tenths of his time was spent in all sorts of odd jobs 'including reading the newspaper to a dear old lady' (NMW 25 May 1934). Although desiring more secure employment, as her health and sight declined further Jackson felt more tied to his employer. He did 'not like to abandon an old lady who has treated me very well' (NMW 4 November 1934), despite knowing that she was making no provision for keeping him on the island to look after the museums and the Society after her death. Although a permanent job in any Museum would have sufficed, his ultimate wish was to be re-employed by the National Museum of Wales as some

form of geological collector-cum-assistant. This was an issue he raised with North on a number of occasions, despite accepting that it was never likely to be resolved: 'As I lack the academic qualifications necessary to securing any good curatorial post, the most that I can look forward to on the scientific staff of a museum is the humiliating position of an elderly man tolerated in a junior's low-paid job' (NMW 20 November 1934). However, despite an allegiance to his benefactress, Jackson was sure that 'Miss Morey would not regard it as a reprehensible act of desertion if I responded to a 'call' to return to Cardiff' (NMW 12 November 1934). In order to try and fulfil the requirements then being sought by the National Museum of Wales for the position of attendant, he was even prepared to try and learn Welsh, despite feeling that this would be beyond his abilities. All this was to no avail, and when Miss Morey died in January 1943 Jackson once again found himself unemployed (Fig. 7). This time the situation was even more desperate as, being a pacifist, he wanted nothing to do with war service in whatever guise. Miss Morey had left him 'her blessing, a few hundred pounds, and the necessity

of looking out for some new tolerable non-war-work occupation before Boss Bevin's 'Crimps' get too hot on [his] tail' and although 'the authorities of the National Museum of Wales, presumably will continue to refuse my employment ... as long as I live they will never get rid of me as a sort of unwanted poor relation on their august doorstep' (NMW 25 January 1943).

North Wales and Devon, 1944-1951

In 1944, after his mother's death in June the previous year, Jackson left the Isle of Wight (Lang 1968) and purchased a small, stone cottage on the mountainside at Waunfawr, near Llanberis, Caernarfonshire [now Gwynedd] where he stayed until the summer of 1945. He found the weather harsh, particularly in winter, and soon realised that such a climate would be a danger to his health. When North invited him in June 1945 to collect a series of rocks from the Snowdon and Nant Ffrancon districts, as a means of illustrating the geology described by the brothers Howel (1927) and David Williams (1930), he had to decline on the grounds that 'I ... have hardly the breath for prolonged scrambling over extensive and steep mountainsides' (NMW 14 June 1945). Furthermore, his collecting activities were limited to some extent by the problem of removing heavy crates from the cottage due to poor vehicular access. Despite these problems, a collection of nearly 250 rocks, fossils and minerals from various parts of Snowdonia, the Menai Straits and Anglesey was accumulated during his year in North Wales, for which Jackson was paid a £21 honorarium (NMW 45.252). As North reported to his Director, 'Many of these are from localities somewhat difficult of access and many are large specimens selected to illustrate the special character which some of the Caernarvonshire rocks present' (NMW 25 September 1945).

In the summer of 1945 Jackson moved to a small wooden bungalow at Goodrington near Paignton, Devon, where he obtained plentiful work as a self-employed gardener. It was after moving here that he finished his manuscript on *The fossils of the Isle of Wight: where and how to find them*, a project started a number of years before at Sandown. This 300 page document describes some of the classic localities of the island's coast, as well as giving practical advice on specimen collecting, the best fossiliferous horizons, a list of fossiliferous localities and an index of all the fossil species found on the island at that date. Unfortunately, when Jackson submitted the manuscript to the publishers in early 1947, the severe paper restrictions in force after the Second World War were causing many delays to printing schedules. The publisher, Thomas Murby, provisionally accepted it in April but, due to the situation, asked Jackson to re-

submit it in 18-24 months' time. Despite their hinted optimism, Jackson felt that the situation was not likely to improve in two years' time and, after unsuccessfully trying a few other publishers, he put it aside. In 1960 he revised and corrected the manuscript and offered it to another publisher, but it was rejected on the grounds that they considered the subject matter too specialised to make the book an economic proposition, an assessment understood by Jackson who was already accepting that it would never be published.

In 1946 Jackson joined the Torquay Natural History Society, despite the £1-5s-0d subscription (£1.25), in the hope that it might lead to some interesting and useful contacts. His gardening kept him busy and at times his geological collecting activities appear to have taken a back seat. Despite this, between 1945-1947 he still managed to assemble a collection of over 500 rock specimens that illustrated the character of the Devonian and Permian in south Devon (NMW 47.378). In summer 1947 he visited the Cromarty area of Scotland where he obtained, amongst other items, about 140lbs of Old Red Sandstone specimens containing fish remains that were sent to T. Stanley Westoll (then at Aberdeen) for identification before being donated to the National Museum of Wales. After a while, Jackson began making enquiries to North on the whereabouts of these specimens and later enlisted the help of Errol White. The last recorded comment on their whereabouts was in October 1954 when Jackson informed North that White had 'tackled his friend Dr Westoll about my long lost O.R.S. fish remains, and I hear from Dr Lang that Dr White has hopes that they may reach you after all' (NMW 1 October 1954). Sadly, this never occurred and what eventually happened to the collection remains a mystery.

By the late 1940s there were acute storage problems in Cardiff and, on receiving the Permian (NMW 47.378) and Cromarty (47.207) rock collections, North had to write to Jackson to discourage him from collecting such large quantities of duplicate and non-Welsh material. He explained that the accommodation problem meant that the Museum would no longer be able to readily accept such material, and would only be able to offer much smaller honoraria in acknowledgement. This change of attitude came as quite a shock to Jackson, although as always it was accepted with no offence taken. He approved of North's plain speech and replied that: 'Years ago in the Isle of Wight I drew up a sort of tentative plan for a course of collecting based on the assumption of annual holidays. About half the programme has been carried out and now it will never be finished, but perhaps it is just as well that I now have far less opportunity of running about the country after stuff or my disappointment would be the

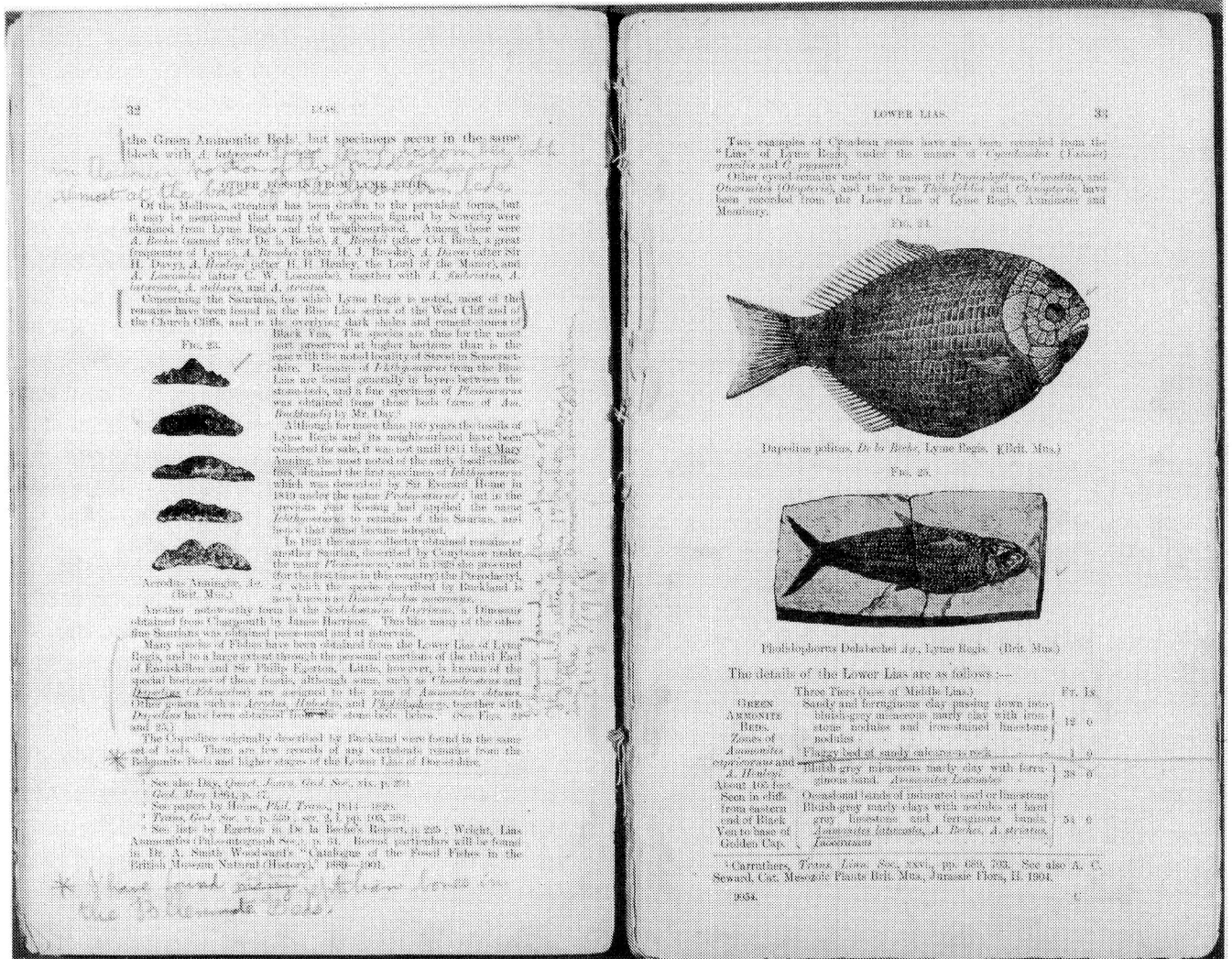


Fig. 8. Jackson's Geological Survey Memoirs were usually full of annotations that record new information and species found during his collecting activities (Woodward, H.B. and Ussher, W.A.E. 1906. The geology of the country near Sidmouth and Lyme Regis. *Mem. geol. Surv. UK* Expl. sheets 326 and 340, pp.32-33).

greater if it only proved embarrassing to you. Thus all things come to an end and perfection and completion is not to be found in this world' (NMW 28 August 1947). His disappointment was heightened by his state of health which again began to cause trouble. Being susceptible to extremes in weather, the bitterly cold winter of 1946-1947, followed by the surprisingly hot summer, began to take its toll, particularly as his little wooden bungalow was far from adequate. He was forced to begin to look for more satisfactory accommodation, and in 1950 he even considered the possibility of returning to the Isle of Wight 'in the unlikely event of hearing of a cottage not too dear for a man of very slender means' (NMW 19 November 1950). However, thoughts of returning to the Island were tempered by his ill-feelings towards the administrators of the Sandown Museum. Replying to Wyn Edwards at the BM(NH) in 1950 about the loan of some plant specimens from the Sandown Collections he complained: 'In all probability what is sent back will simply be left in its parcel in a store cupboard ... The remainder, of the G.W. Colenutt bequest of local

fossils reached the Museum after my departure and, I believe, was stored in some Corporation shed; but I have never been able to obtain any satisfactory news, the Librarian and Committee ignoring inquiries; I was once offered to visit the Island and incorporate and catalogue whatever remained to be done provided that my travelling expenses were paid but, believe it or not, I never even had an acknowledgement from the Committee - after over 18 years of voluntary work as Curator! Look not to public authorities for gratitude' (*op. cit.*).

Charmouth, 1951-1966

Jackson had long held a desire to retire to the Lyme Regis area, and his wish was fulfilled in March 1951 when he purchased a small asbestos-walled bungalow close to the River Char in Charmouth. This move was very much due to the help of W.D. Lang who, while Keeper of Geology at the BM(NH), had had frequent contact with Jackson and was well aware of his geological prowess. On retiring to Charmouth him-

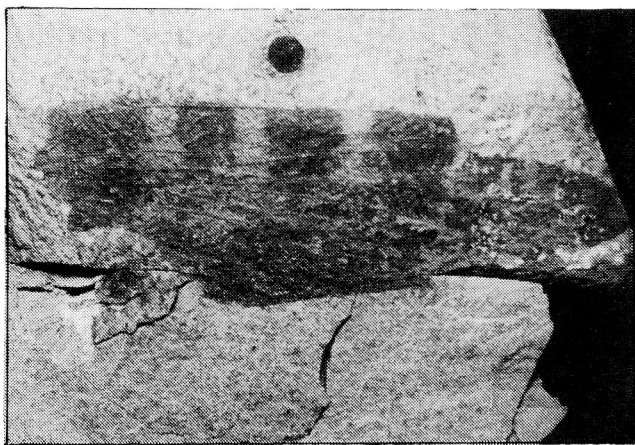


Fig. 9. *Protohagia langi* Zeuner, 1962. NHM In59018, holotype. An orthopteran wing from the collection of Liassic insects sold to the Natural History Museum between 1955-1965. Photo courtesy of Natural History Museum, London.

self, Lang had kept in touch. It was Lang, on Jackson's wishes, who found the bungalow and who was also able to help financially (J.B. Lang pers. comm.), taking repayment in the form of gardening duties. 'Charside' provided Jackson with far more space to store his geological specimens and gave him a permanence that he had not known for a long time. Writing to North in February 1951 he explained 'It has a decent bit of garden and is not more than a few minutes walk from the beach. A welcome change after nearly six years in a wooden shack no larger than one room in a good house - though how to furnish it will be a bit of a teaser!' (NMW 8 February 1951). With Lang's help he hoped '... to be able to pick up enough gardening and odd jobs to keep me going while I follow up a few loose ends left over from my geologisings of a quarter of a century ago. The Lyme Museum could do with a bit of curating at times, but alas there are no funds ... It seems to be my fate to acquire merit by working for impecunious museums' (*op. cit.*). After settling in, and in between gardening duties, he began collecting in earnest from the richly fossiliferous local coastal sections as well as renewing his acquaintance with the Junction Bed after a twenty-six year absence. Once again North began to receive a series of specimens, this time illustrating different geological phenomena including 'Beef' (NMW 78.20G), non-sequences, faulting, thrusting, concretions and nodular structures (NMW 54.349).

Despite the relocation, Jackson's financial circumstances had not really improved and, with thoughts of a state pension arriving soon, when he hoped to be able to drop an equivalent amount of gardening work, he asked North whether he knew anything about the Murdoch Trust (a charitable trust for the benefit of 'Indigent widowers and batchelors of good character

who had made significant contributions to scientific studies'), as he was wondering whether it would be worth his while applying. How Jackson had become aware of this Trust is unrecorded but, by sheer coincidence, as he was asking North of its possibilities, Errol White was sending Lang copies of the application form suggesting that Jackson should apply. With the help and support of North, Lang, White, W.E. Swinton and Lord Porter, a successful application was made to the Trust and in November 1954 he was granted a pension of £200 per annum, which was raised by a further £50 ten years later. This award was of immense value to him as he would now 'be able to shed the load of the more burdensome part of my gardening employment and thus have much more time and energy for geology for a few years, if health holds out' (NMW 10 October 1954).

On 4 November 1953 he began the accumulation of a collection of fossils from the Dorset coast and its immediate hinterland. This led him to search, often bed by bed, from the Blue Lias at Pinhay Bay, west of Lyme Regis, right along the coast and up through the stratigraphical column to the Fullers Earth at Cliff End, Burton Bradstock, as well as from the intervening Cretaceous outliers. Apart from the normal range of specimens that one would expect to come across, Jackson's eye for both the rare and spectacular was as keen as ever. In 1953-1954 he discovered the remains of some fossil insects in hard, limestone nodules from the Flatstones of Stonebarrow Hill. Although known from the Lias elsewhere in Britain, these were the first records from Dorset and, considering the popularity of this area with geologists for over a hundred years, Jackson found it surprising that no-one had found any before. He put this down to the fact that 'they occur in limestone nodules so huge and hard that few geologists visiting the region have possessed either the tools or the inclination to break them up' (NMW 14 December 1956). However, by June 1957, having collected nearly 300 specimens, he was complaining that for each find 'I have to break up many cwts. of huge and hard limestone nodules. Now I am bothered by shortage of raw materials, as I seem to have cleared the beach and will have to rely on further cliff falls, for which I pray' (NMW 22 June 1957). The insects, totalling 434 specimens, were bought by the BM(NH) through Errol White in a series of purchases from 1955-1961, and studied and published by F.E. Zeuner (1962) (Fig. 9). Zeuner's enthusiastic responses about the specimens were relayed to Jackson by Errol White, and appear to have maintained his enthusiasm. Zeuner only studied 65 of the specimens, 43 of which were Coleoptera and 22 Odonata and Orthoptera (Zeuner 1962), and it was not until much later that P.E.S. Whalley studied the collection as a whole. Whalley

found that the collection consisted of 404 insects (30 other specimens being determined as non-insect) representing twelve orders, of which the Coleoptera were the largest component (almost 40%), plus 90 indeterminate individuals (Whalley 1985). It is unfortunate that Jackson did not live to see the identification of one of the more surprising finds amongst this collection which only came to light in 1985. In 1958, after reading R.J. Tillyard's comments on the likelihood of finding fossil Lepidoptera in Jurassic strata (Tillyard 1933, p.73), Jackson wrote to White 'Dr. Tillyard has at any rate dispersed any airy visions I had of possibly finding a butterfly in Flatstones!' (NMW 27 October 1958). Whalley, while examining the collection in 1985, split open an offcut from one specimen and uncovered a small, scale covered wing of a lepidopteran which, although not a butterfly, is probably an early moth - which he named *Archaeolepis mane* (Whalley 1985). No doubt Jackson would have been satisfied with a moth.

Apart from fossil insects, Jackson continued to find rare and interesting specimens; purchases by the BM(NH) included ichthyosaur skulls, large slabs of *Pentacrinites*, plants, fish (including a *Dapedium granulatum* which Errol White considered to be the largest he had seen) (Fig. 10), and in 1954 part of the skeleton of a young *Scelidosaurus* in which developmental stages in the body armour could be observed.

Throughout his residence in Charmouth Jackson was often visited by, or was in contact with, other collectors and researchers. He would frequently offer advice and was always willing to lend material to *bona fide* research workers. As Lang became older and unable to collect material *in situ*, Jackson, no youngster himself by this time, acted as his 'legs' and would continually bring specimens to Lang's house and keep him informed of new cliff falls, etc. In later years Brenda Lang in turn kept an eye on Jackson as he aged (J.B. Lang pers. comm.). He still dealt in fossils, supplying specimens to places as far afield as Wards in Rochester, USA. In 1959 his activities received a wider audience when (through the suggestion of W.E. Swinton) BBC Television, whilst making an educational programme, filmed Jackson splitting open a nodule containing a fossil fish and then guiding the film crew along the coast towards Lyme Regis (Anon. 1959). This was followed in January 1961 by a short biographical review by F.J. North, on BBC Radio Wales, after the arrival of the first Dorset fossil collection in Cardiff.

Although mainly concerned with the local area, Jackson still took annual holidays to more exotic locations, many of them in Scotland. As before, this allowed him to geologise in fresh areas and also provided the

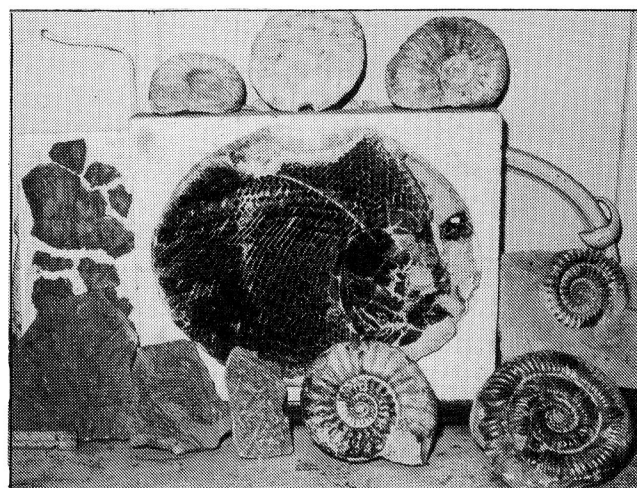


Fig. 10. The large *Dapedium* and other big fossils at Charside prior to 1960.

opportunity to collect specimens, notably suites of rocks, for the National Museum of Wales, for which North as usual arranged honoraria. He visited Eigg (1955) (NMW 56.66), Skye (1956) (NMW 78.20G), Arran (1957) (NMW 57.227), Dolgellau (1958) (NMW 58.397), Ardnamurchan and Durness (1959) (NMW 59.413), St. David's (1960), Iona (1962) (NMW 78.20G), Portsoy (1963) (NMW 63.255) and then Arran again in 1965 (NMW 65.344) which, at the age of 71, was to be his last long distance excursion. After this holiday he wrote that he had had 'the worst fortnight of persistent rain and rough winds I have ever had the bad luck to encounter on a holiday' (NMW 4 July 1965) and, somewhat apologetically, that due to the weather and his much reduced walking powers he had only been able to secure fifty rock specimens which he considered 'a sad decline on my customary 200 or more' (*op. cit.*). On these last nine excursions Jackson collected nearly 450 specimens, many from wild and fairly remote places, accessible only by foot, and all achieved by a man who had been troubled with delicate health for much of his life.

Towards the end of the 1950s there was a notable further decline in Jackson's health. In January 1957 he fell on slippery rocks on the shore whilst searching for new finds after recent gales and, much to his disgust, he was put out of action for a week or so. However, such incidents did not dampen his resolve and by July of the same year he reported that there had been one of the biggest landslides for many years on Black Ven and that he had been out 'on the shore at 4.30am, today, in the hope that the rough tides yesterday might have uncovered a treasure, but drew a blank. Such are the trials and triumphs of collecting' (NMW 18 July 1957). In 1958 he announced to North that he hoped to be able to carry on his collecting activities until 1965 in order to achieve his collecting Jubilee (1915-1965) for the National Museum of Wales. A year later,

in a cheerful reference to his impending 'Retirement', he wrote that although he would be very little better off financially, 'the great reduction in exertion will certainly be for the good of my health and should enable me to go on actually as a 'mere collector' for a few years longer' (NMW 19 March 1959). However, when invited by Dr D.A. Bassett, North's successor at the National Museum of Wales, to help him in searching for fossils in the Cambrian of the Hells Mouth area of Llyn, North Wales, he declined, explaining that 'My powers of walking, scrambling and carrying, and of enduring extremes of weather, have declined so much in the last few years and I get out of breath and exhausted so quickly that I have to be careful' (NMW 24 September 1959). Towards the end of 1959, despite the fact that his collections were already bequeathed to the National Museum of Wales, he felt that the time had come to consider transferring the Dorset coast material to Cardiff, while still capable of seeing to its packing and removal (Figs. 11,12). Despite transferring this collection of over 4,700 specimens in July 1960 (NMW 60.510), he had no intention of curtailing his geological activities, explaining to Errol White that, although having 'no intention of trying to accumulate another great hoard, I intend to go on collecting as long as I can' (NMW 21 July 1960).

On 30 July 1965 Jackson was knocked down by a car in Charmouth and spent two days in Lyme Regis Hospital. Although breaking no bones, he was badly bruised and the accident seemed to hasten his general deterioration. By September he decided that due to bad health and failing eyesight the time had come to transfer the second Dorset collection (over 700 specimens) to Cardiff (NMW 65.510). This included a number of particularly choice specimens collected years before which he had retained because of their beauty and sentimental value. Most of the specimens had been stored on wooden shelving around the bungalow (Fig. 11A) and he was deeply saddened to let them go. He wrote to North, 'Yes, the empty shelves, now used for apples, are a dismal reminder of the days that are over' (NMW 15 October 1965).

As his health continued to decline he suffered constant bouts of cardiac asthma and throat infections, and was often in considerable pain from stiffening joints; on top of all this, cataracts were affecting his sight. It would appear that he had already lost the sight in one eye years before, possibly from an accident (B. Lang pers. comm.), but this is something that he does not mention in any of his letters or diaries. As he lived alone and his independent nature made him reluctant to seek or accept help, living became ever more difficult and lonely (Lang 1968). He had been a cat-



A



B

Figs 11. A, B, parts of the first Dorset coast collection at Charside, sometime prior to its removal to Cardiff in 1960 (NMW 60.510.).

lover since boyhood and now took comfort in the company of his numerous cats (Fig. 13) - he was always taking in strays, many of which were often quite ill before he nursed them back to health - but despite this, his later diaries show that life had become a lonely struggle. He died suddenly and, as he would have wished, alone on Monday 19 September 1966, aged 72 (Lang 1968). His final wishes were for his ashes to be scattered on the slopes of Carn Llidi in

9 THE "SUPER-GLANSA" CASH BOOK (No. 23)											
RECEIPTS LOWER LIAS (Black Marl)						PAYMENTS					
No.	PARTICULARS	No.	Debit	Credit	Other Receipts	No.	PARTICULARS	No.	Debit	Credit	Balance
60.	Coprolite				Obtained from		Black Ven.				8 <i>Dufrenoyia</i> (split by B.S. White to both)
262.	"				very large, in module ? Flatstones		" "				9 <i>Dufrenoyia</i>
602	<i>Schthyosaurus</i>				vertebra		Obtained from				10 "
1273	778				Assoc. vertebrae		? St. Bar's Nodules				64 "
680a, b, c, d	"				2 small vertebrae		? Flatstones				376 "
1317	"				small skull		"				1115 "
1351	"				found in oval line		"				1934 "
1510	"				skull module		Put 4 ft. in Woodston				2178 "
1511	"				skull tip of most lat 3 ft below first with brachs		Black Ven (branch)				1550 <i>Fish</i> <i>Dufrenoyia</i>
1512a	"				part of 4/3 1510		Stonbarrow Cliff				2179 "
2071	"				small vertebra		Stonbarrow Cliff				691 <i>Chondrosteus</i>
1515	"				15 small assoc vert		Black Ven				729 "
1700	"				small <i>Parasabella</i>		Stonbarrow fore				
1701	"				small <i>Parasabella</i> in cement matrix 5/8 x 1/2 x 3/8		shale, in situ				
680a, b, c, d	<i>Schthyosaurus</i> , very immature.				large vertebra		Black Ven (branch)				
	[Ed & L to British Museum, £25; 1955]				Part of vertebra		Black Ven (take)				
2170	<i>Schthyosaurus</i>				vertebrae, ribs, phos.		Black Ven.				3523 <i>Pholidoph</i>
2178	"				stern in patches, most of same split, showing structure, " in all.		" "				594?
											661?
											662?
											616?
											682?
											683?
											918?
											1008?
											2077?

Fig. 12. Jackson's register for his first Dorset coast collection (NMW 60.510.) often contains cryptic comments about the fate of specimens, as in this case for specimens 1515 and 1700.

Pembrokeshire by the Keeper of Geology at the National Museum of Wales, and that the money from his estate should be split equally between the National Museum of Wales and the People's Dispensary for Sick Animals, with the Museum using the money to purchase mineral specimens to boost its then comparatively weak mineral collection.

Afterword

In total, Jackson provided the National Museum of Wales with almost 21,000 specimens. His Dorset coast and Junction Bed fossil collections are a meticulously collected, stratigraphical series which include a range of specimens from the most insignificant to the most obvious. His rock collections were always obtained so that they formed a good representative suite from the chosen area and most were well trimmed, clean examples as advised by the Geological Survey. He differed from many collectors in that he did not shy away from the collection of larger specimens, being

well aware of their display potential and, in particular, that certain characteristics of structure and sedimentation were not always obvious in small hand specimens. He would never hesitate to try and acquire such items, and it seems that the only criterion as to whether such a specimen could be collected was his ability to carry it back home (Fig. 14). These collecting attributes were admirably summed up by Lang who, in correspondence with Wyn Edwards in 1952, wrote of Jackson, 'He is a grand collector of striking and large stuff, as he goes out with a sledge hammer and breaks up large fallen blocks. These I can sometimes confidently place and he is quite alive to the importance of saving any fossil evidence from the block, especially ammonites, even if quite small' (NMW 8 January 1952). Throughout his life Jackson had never possessed much, but had always been 'anxious to share what little he had' (Lang 1968). In many ways he was the last of his kind: an extremely competent 'amateur' who suffered financial and physical hardships in the pursuit of his interest and who, despite all his difficul-

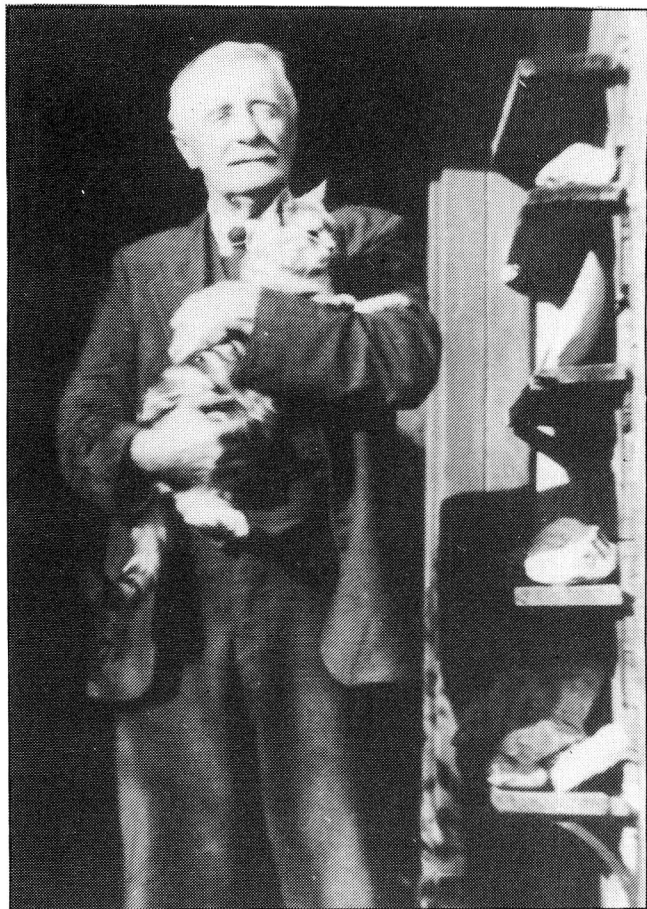


Fig. 13. Jackson at the doorway of Charside (date unknown) in his later years with Peter, the favourite amongst his many cats. Note the specimens on the porch shelves.

ties, managed to amass geological collections of both significant scientific importance and aesthetic value. These alone form a fitting tribute to his work.

Acknowledgements

I have drawn on the knowledge of many people and received much help in tracing both collections and correspondence relating to J.F. Jackson. In particular I thank: Dr M.K. Howarth, both for making the Jackson correspondence housed in the Natural History Museum available to me and for tracing specimens; Mr O.H. Fraser for providing further details of Jackson's period on the Isle of Wight; Miss J. Lineham for tracing the original newspaper article from Hunstanton (Anon. 1910) and for information on Bellerby Lowerison; Miss J.B. Lang, Miss M. Sexton, Miss Laura M. North, and Dr M.A. Arber for personal reminiscences and details about Jackson; and the myriad curators who I pestered in search of Jackson material.

I also thank Dr D.A. Bassett both for information and guidance on where to find the answers to unsolved questions, and together with Dr R.M. Owens for his constructive criticisms of the typescript. Last, but by no-means least, I am grateful to Mrs Paula Knapman who has typed and re-typed the numerous drafts.

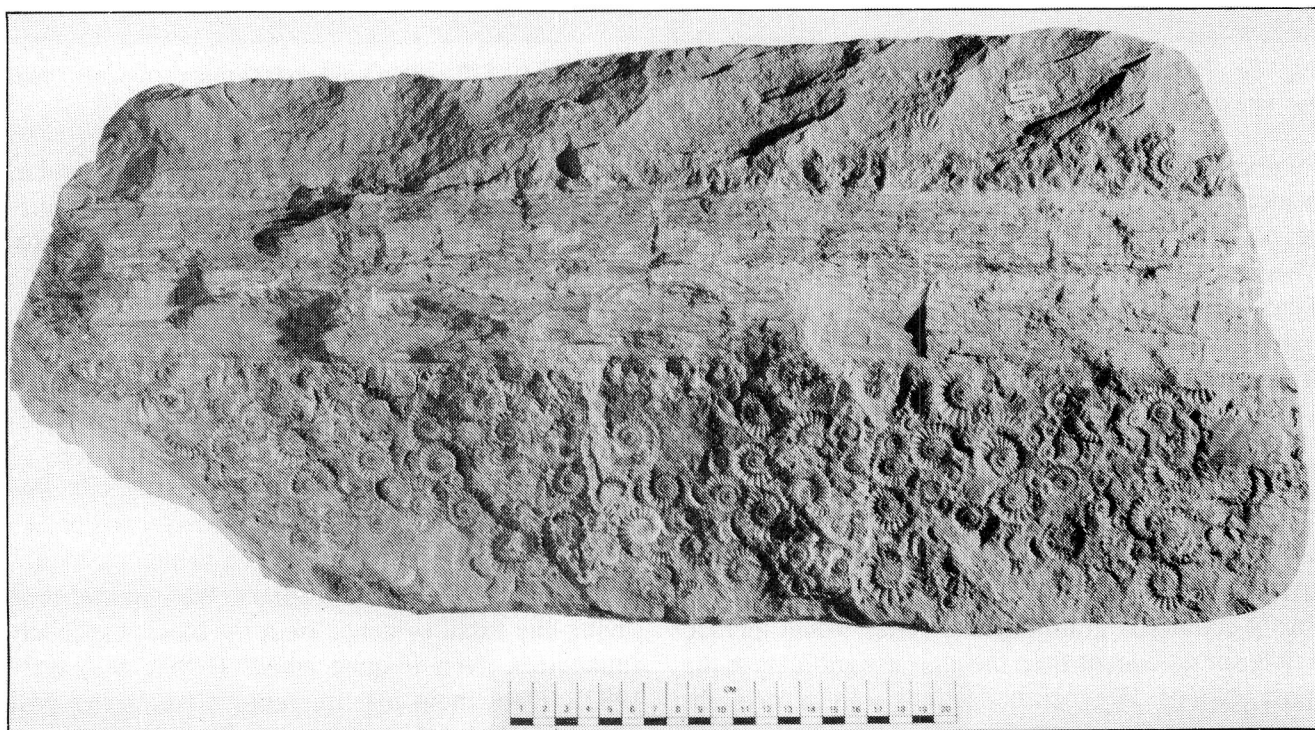


Fig. 14. If it could be carried, it was collected. One of the many large specimens collected by Jackson, this one from the Woodstone of Black Ven, Charmouth (NMW 65.510.G706).

References

- AGER, D.V. 1956. The geographical distribution of brachiopods in the British Middle Lias. *Q. Jl geol. Soc. Lond.* **112**, 157-188.
- ANON. 1910. A Boy-Geologist. *Lynn News and County Press*, 2 July 1910.
- _____ 1959. A film about fossils. *Pulmans Weekly News*, 28 April 1959.
- BUCKMAN, S.S. 1922. Jurassic Chronology II. Preliminary studies. Certain Jurassic strata near Eypesmouth (Dorset), the Junction Bed of Watton Cliff and associated rocks. *Q. Jl geol. Soc. Lond.* **78**, 378-451.
- GARWOOD, E.J. (Chmn). 1940. Section C (Geology). Photographs of Geological Interest; Twenty-ninth report of the Committee. *Advmt Sci., Lond.* **1**, 349-360.
- HALL, S. 1933. Report of the field meeting in the Isle of Wight, Whitsun, May 23-26, 1931. *Proc. Geol. Ass.* **44**, 184-186.
- HOWARTH, M.K. 1957. The Middle Lias of the Dorset coast. *Q. Jl geol. Soc. Lond.* **113**, 185-204.
- HUTCHINSON, A.L. 1969. *Botany, birds, bugs and barrows on the Isle of Wight: the jubilee history of the Isle of Wight Natural History and Archaeological Society, 1919-1969*. Isle of Wight Natural History and Archaeological Society, Shanklin.
- JACKSON, J.F. 1944. *A history of the Museum of Isle of Wight Geology in the Free Library, Sandown, I.W.*
- Unpublished manuscript, Isle of Wight Natural History and Archaeological Society and Dept. of Geology archives, National Museum of Wales, Cardiff
- LANG, J.B. 1968. In Memoriam: James Frederick Jackson (1894-1966). *Proc. Dorset nat. Hist. arch. Soc.* **89** (for 1967), 18-19.
- NORTH, F.J. 1958. *Biographical notes on J.F. Jackson* (October 1958). Unpublished typescript, Dept. of Geology archives, National Museum of Wales, Cardiff.
- _____ 1966. James Frederick Jackson, 1896-1966. *Welsh geol. Q.*, **2**(1), 19-25.
- TILLYARD, R.J. 1933. The Panorpoid complex in the British Rhaetic and Lias. *Fossil Insects*, **3**, 79pp.
- WHALLEY, P.E.S. 1985. The systematics and palaeogeography of the Lower Jurassic insects of Dorset, England. *Bull. Br. Mus. nat. Hist. (Geol.)*, **39**, 107-189.
- WILLIAMS, D. 1930. The geology of the country between Nant Peris and Nant Ffrancon (Snowdonia). *Q. Jl geol. Soc. Lond.* **86**, 191-233.
- WILLIAMS, H. 1927. The geology of Snowdon (North Wales). *Q. Jl geol. Soc. Lond.* **83**, 346-431.
- ZEUNER, F.E. 1962. Fossil insects from the Lower Lias of Charmouth, Dorset. *Bull. Br. Mus. nat. Hist. (Geol.)*, **7**, 155-171.

Typescript received 23 August 1991

Revised typescript received 7 March 1992

Stephen R. Howe
Department of Geology
National Museum of Wales
Cathays Park
Cardiff CF1 3NP

Appendix 1. Bibliography of J.F. Jackson

- JACKSON, J.F. 1910. *The rocks of Hunstanton and its neighbourhood*. Premier Press, London, 54pp.
- _____ 1911. *Ibid.* Revised, second edition, 65pp.
- _____ *In* Buckman, S.S. 1922. Sections of the Junction Bed and contiguous deposits. *Q. Jl geol. Soc. Lond.* **78**, 436-449.
- _____ 1924a. Notes on the Upper Headon Beds at Headon Hill, Isle of Wight. *Proc. Isle Wight nat. Hist. archaeol. Soc.* **1**, pt. V, 275-289.
- _____ 1924b. Description of the Pleistocene deposits near Bembridge. *Ibid.*, 290-291.
- _____ 1924c. Palaeolith near Cowes. *Ibid.*, 307.
- _____ 1924d. *Velella spirans* at Brighstone. *Ibid.*, 309.
- _____ 1925a. A catalogue of Eocene and Oligocene fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.*, pt. VI, 340-373.
- _____ 1925b. Notes on fossiliferous clays in the Bembridge Limestone, near Gurnard, Isle of Wight. *Ibid.*, 374-377.
- _____ 1925c. Mollusca: a supplementary list to the Mollusca recorded in "A Guide to the Natural History of the Isle of Wight", by F. Morey, 1909. *Ibid.*, 380-384.
- _____ 1925d. Sparrows' heads. *Ibid.*, 400.
- _____ 1925e. An accession to the Sandown Geological Collection. *Ibid.* **1**, 402.
- _____ 1925f. The Little Owl: a correction. *Ibid.*, 402-403.

- _____ 1926a. The Junction Bed of the Middle and Upper Lias of the Dorset Coast. *Q. Jl geol. Soc. Lond.* **82**, 490-535.
- _____ 1926b. Notes on the base of the chloritic marl in the Isle of Wight. *Proc. Isle Wight nat. Hist. archaeol. Soc.* **1**, pt. VII, 444-451.
- _____ 1926c. Zones of life between tide marks. *Ibid.*, 465.
- _____ 1926d. A note on the Brockenhurst Bed. *Ibid.*, 465-466.
- _____ 1926e. Fossil pearls. *Ibid.*, 466.
- _____ 1928a. A supplementary catalogue of Eocene and Oligocene fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.* pt. IX, 571-579.
- _____ 1928b. Pressure-ridges in the Gore Cliff Landslide. *Ibid.*, 611-612.
- _____ 1928c. *Petricola pholadiformis* Lamark. *Ibid.*, 612.
- _____ 1928d. Snails washed up after the Blackgang Landslip. *Ibid.*, 613.
- _____ 1929a. A catalogue of Cretaceous fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. Part I: Upper Cretaceous. *Ibid.* pt. X, 659-682.
- _____ 1929b. Erosion channels and sun-cracks in Wealden Shales. *Ibid.*, 693.
- _____ 1929c. Lignite in Headon Hill Limestone: a correction. *Ibid.*, 693-694.
- _____ 1930a. A supplementary catalogue of Upper Cretaceous fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.* **2**, pt. I, 39-44.
- _____ 1930b. A catalogue of Cretaceous fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. II: Lower Cretaceous. *Ibid.*, 45-61.
- _____ 1931a. Chelonian skull from Atherfield. *Ibid.*, pt. II, 144.
- _____ 1931b. A non-sequence in the Bembridge Beds near Gurnard. *Ibid.*, 144-145.
- _____ 1932. An outline of the history of geological research in the Isle of Wight. *Ibid.*, pt. III, 211-220. (Also published in two parts in the *Isle of Wight County Press*, 6 and 13 May 1933.)
- _____ 1933a. A supplementary list of fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.*, pt. IV, 311-318.
- _____ 1933b. Oligocene insects. *Ibid.*, 325-326.
- _____ 1936. Museum of Isle of Wight Geology, Sandown. *Ibid.*, pt. VII, 615-616.
- _____ 1938a. A second supplementary list of fossils in the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.* **3**, pt. I, 58-72.
- _____ 1938b. Notes on the discovery of fossiliferous nodules in the Carstone near Niton. *Ibid.*, 73-80.
- _____ 1939. Hippopotamus found in the Island. *Ibid.*, pt. II, 147-148.
- _____ 1941. Discovery of a late Early Bronze Age hoard. *Ibid.*, pt. IV, 291.
- _____ 1942a. "The Geological Story of the Isle of Wight". An explanatory outline of the purpose and contents of the Museum of Isle of Wight Geology, The Free Library, Sandown. *Ibid.*, pt. V, 333-339.
- _____ 1942b. Capt. Arthur John Paris, C.B., C.B.E., R.N., M.A. *Ibid.*, 302.
- _____ 1942c. Gerald Ambrose Sherwin, F.S.A. *Ibid.*, 302-303.
- _____ 1942d. The Moon's Hill Hoard. *Ibid.*, 346.
- _____ 1966. Note on association of *Pentacrinus* with lignite. *Geol. Mag.* **103**, 365-366.
- MOREY, F. and JACKSON, J.F. 1925. Meteorological observations, in 1925, at Wolverton, The Mall, Newport. *Proc. Isle Wight nat. Hist. archaeol. Soc.* **1**, pt. VI, 390-393.
- REYNOLDS, S.H. and JACKSON, J.F. 1935. The Undercliff of the Isle of Wight. *Ibid.* **2**, pt. VI, 470-475.

Appendix 2. J.F. Jackson accessions in the National Museum of Wales

The following is a chronological list of all of Jackson's geological collections held by the National Museum of Wales. The first two digits of each number record the year when the collection was *accessioned*. At many times during the period covered by these accessions F.J. North found himself with little curatorial help and limited space. Some large collections, particularly of rocks, were unfortunately left packed up for many years. Inevitably some were never registered and others never issued with an accession number. In 1978, under a government-funded Manpower Services Scheme, the backlog of petrological curation was tackled and all unregistered specimens given a 78.20G prefix, irrespective of any originally allocated registration number. Most of the accession numbers from 1966 onwards refer to collections that had either never been allocated a number on arrival or had become separated from their original source and unknowingly been registered separately. It will be noted that in some cases there is a discrepancy between the number or composition of the specimens identified on the accession card with what has been registered, particularly in the earlier years. This is due to accessions being registered a long time after they

were acquired, which in turn led to the inevitable muddling of the contents as the original documentation associated with each accession became misplaced. In such cases the original accession card description is given first and commented on later.

Abbreviations: D, donation; P, purchase; C, collected officially

- 15.131. 18 Triassic and Liassic fossils; Lavernock and Barry area, South Glamorgan. D
- 15.143. 160 Red Chalk fossils; Hunstanton, Norfolk. Includes some specimens figured by Jackson (1910, 1911) P
- 15.209. 52 rocks from the Carboniferous Limestone; Derbyshire. D
- 15.282. A slab of ripple-marked Triassic limestone and 9 fossils; Lavernock, South Glamorgan. The fossils are unregistered. D
- 16.5. 9 Carboniferous Limestone fossils; Barry Island, South Glamorgan. Registered under 20.362. D
- 16.64. 1 rock and 4 Carboniferous Limestone fossils; Barry, South Glamorgan. The fossils are registered under 20.362. D
- 16.116. 20 fossils from the Silurian of Penylan, Cardiff, and the Carboniferous Limestone of Taffs Well, Mid Glamorgan. This accession contains 224 fossils, 208 of which are from the Silurian of Penylan and Roath Park, Cardiff (which probably include accession 21.336.). None are from Taffs Well, these having probably been registered under 20.362.. D
- 16.136. 140 Carboniferous Limestone fossils and Jurassic rocks; various localities. The Jurassic rocks have probably been registered elsewhere. The accession now contains 480 fossil specimens including 394 from Derbyshire, 30 from the Avon Gorge, Bristol, and 12 from the Isle of Man. D
- 16.240. A specimen of *Bumastus*; Penylan Quarry, Cardiff. D
- 17.6. A collection of Silurian, Carboniferous and Jurassic rocks, minerals and fossils; Mid and South Glamorgan. None of the 11 specimens registered are of Silurian or Jurassic age. Much of this collection has been incorporated under other accession numbers, notably 16.116. D
- 17.78. 6 rocks; South Glamorgan. D
- 17.9 50 rocks and fossils; Cardiff district. 48 rocks have been registered including 12 from the Dorset Coast, but no fossils. D
- 17.150 40 rocks and fossils; Cardiff and Bristol districts. 21 rocks have been registered, of which 9 are from the Avon Gorge, Bristol. The missing 19 specimens are probably under 78.20G. D
- 17.174 100 Carboniferous, Triassic and Jurassic rocks and fossils; Cardiff, Bath and Bristol districts. Only 13 specimens have been registered, 6 of which are from Bradford-on-Avon, Wiltshire, and 5 from Dorset. The remainder are probably registered under 78.20G. D
- 18.70. 65 rocks and fossils; various localities in South Wales. Not registered. D
- 18.142. An unspecified number of Jurassic and Cretaceous rocks and fossils; Lyme Regis district. 12 rocks have been registered, all of which are from South Wales. Most of the rock specimens are probably registered under 78.20G. D
- 19.205. A collection of rocks; Isle of Wight. Correspondence indicates that there were originally over 200 specimens but only 79 are registered, just 7 of which are from the Isle of Wight. The remainder include specimens from various parts of Britain. P
- 20.276. A specimen of lithographic limestone; Eype, Dorset. D
- 20.361. 111 rocks and 2 fossils; mainly South Glamorgan. Jackson correspondence indicates that this accession should total 456 specimens. It would appear likely that many of these have become incorporated in 20.362. C
- 20.362. A collection of fossils; Cardiff district. A total of 502 specimens have been registered under this number. G1-50 probably represents the original accession described in the Accessions register, as all are Lower Lias fossils from South Glamorgan, while G51-487 contain specimens from later accessions including 21.320., 21.321. and 21.518. C
- 20.432. 5 fossils; various localities. D
- 20.470. 37 Jurassic brachiopods; Dorset. 27 are from the Inferior Oolite of the Burton Bradstock area, and 10 from the Fullers Earth of West Bay and Eype. D
- 21.244. 8 Carboniferous Limestone fossils; various localities. Only 3 have been registered. D

- 21.276. A specimen of Triassic sandstone exhibiting suncracks and ripple-marks; Penarth, South Glamorgan. D
- 21.292. 30 specimens of calcite from the Carboniferous Limestone; Cwarre Glas, Taffs Well, Mid Glamorgan. Only 8 specimens, all from the Miskin area, Mid Glamorgan, have been registered. P
- 21.319. 38 rocks from the Carboniferous Limestone; Miskin area, Mid Glamorgan. C
- 21.320. 33 Carboniferous Limestone fossils (mainly brachiopods); Brofiscin and Delphines Quarries, Ystradowen, Mid Glamorgan. Registered under 20.362. C
- 21.321. 34 Carboniferous Limestone fossils; Alps Quarry, Wenvoe, South Glamorgan. Registered under 20.362. C
- 21.336. A fossil starfish and 3 other Silurian fossils; Penylan, Cardiff. Probably registered under 16.116. D
- 21.399. 9 Lower Lias rocks; Slanny Quarry, St. Fagans, Cardiff. C
- 21.400. *Gryphaea arcuata* and 28 other Liassic fossils; Slanny Quarry, St. Fagans, Cardiff. 19 fossils, mainly bivalves, have been registered. C
- 21.405. A specimen of fossiliferous Lower Lias shale; Charmouth, Dorset. D
- 21.518. A specimen of *Dielasma* from the Carboniferous Limestone; Cefn-Onn, Cardiff. Registered under 20.362. D
- 22.41. 4 Jurassic rocks: 2 from the Inferior Oolite of Somerset and 2 from the Junction Bed of Eype, Dorset. D
- 22.85. 3 fossils; Cardiff and Dorset. D
- 22.93. 5 Triassic rocks; various localities. D
- 22.124. 9 specimens of alabaster; Penarth, South Glamorgan. Unregistered. C
- 22.209. 141 rocks and minerals; various localities. Mainly rocks, including 83 from the south-east Wales coast and 39 from Cardiff. D
- 22.345. 200 Triassic fossils; Lavernock, South Glamorgan. A total of 569 specimens have been registered, of which 513 are from the Triassic and Jurassic of Lavernock. D
- 22.346. 47 rock specimens; various localities. Mainly from the Penarth-Sully area, South Glamorgan, including 7 specimens of Triassic bone-bed. D
- 22.347. 48 minerals; various localities. Mainly British but including 8 from Europe, 2 from Ceylon and 2 from North America. D
- 22.348. 273 Silurian, Jurassic, Cretaceous and Tertiary fossils; various localities (mainly Dorset). Includes 120 from the Inferior Oolite of the Bridport/Burton Bradstock area, 47 from the Great Oolite of Bradford-on-Avon, and 24 from the Kimmeridgian of Dorset. D
- 22.353. 150 Carboniferous Limestone fossils; various localities. Only 3 are registered under this number, the rest having undoubtedly been registered under other accessions, including 84.13G. D
- 22.430. 9 specimens of the Sutton Stone and other rocks; Southerndown and Cardiff districts. D
- 22.449. 2 Carboniferous Limestone brachiopods; Parwich, Derbyshire. D
- 22.468. A specimen of lithographic stone showing lamination and weathering; Watton Cliff, Eype, Dorset. Registered under 78.20G. D
- 22.509. 2 nodules of alabaster; Penarth, South Glamorgan. Unregistered. C
- 22.510. A specimen of Triassic bone-bed; Penarth, South Glamorgan. Unregistered. C
- 22.511. 4 slabs of ripple-marked sandstone; Lavernock, South Glamorgan. Unregistered. C
- 22.512. A slab of shale with veins of gypsum; Penarth, South Glamorgan. Unregistered. C
- 23.38. A fossil starfish and a bivalve specimen infilled with gypsum; Lavernock, South Glamorgan. D
- 23.147. 12 Triassic rocks; Penarth area, South Glamorgan. D
- 23.177. 28 specimens of the Junction Bed; Dorset. Specimens illustrating the facies of the Junction Bed as described by Buckman (1922) and Jackson (in Buckman 1922). D
- 23.249. 40 rocks; mainly Dorset and southeast Devon. Includes 32 from the Bridport and Burton Bradstock area. D
- 23.320. 3 glaciated pebbles from Switzerland and 5 rocks from various localities. D

- 23.322. A specimen of *Glyphioceras* from the Carboniferous Limestone; Castleton, Derbyshire. P
- 23.360. A specimen of Lias shale bored by *Pholas*; Lavernock Point, South Glamorgan. D
- 23.361. An abnormally developed specimen of *Gryphaea arcuata*; Fretherne, Gloucestershire. D
- 23.362. A specimen of *Illaeus*; Penylan, Cardiff. P
- 23.369. 36 soil and sub-soil samples; Cardiff district. Probably registered under 78.20G. C
- 23.589. 200 Liassic rocks and fossils illustrating recent research on Liassic rocks; Dorset. 197 specimens (all fossils) have been registered, of which 85 are from the Bajocian of the Burton Bradstock and Bridport area. P
- 25.65. 10 specimens of *Bicavea rotaformis* from the Upper Chalk; Isle of Wight. D
- 26.71. A collection of rocks. There are no details concerning this accession and no specimens have been registered. Correspondence indicates that this collection may consist of 300 rocks from the Isle of Wight. If this is correct these have probably been registered under 78.20G. D
- 26.73. 39 minerals; various localities. Includes 6 from Europe and 4 from North America. D
- 26.133. 57 minerals and rocks; various localities. Includes 13 from the Isle of Wight and 7 from Switzerland. D
- 26.134. 178 rocks illustrating the Junction Bed facies; Dorset coast. All except 2 specimens are registered under 78.20G. D
- 26.135. 755 fossils from the Junction Bed; Dorset. This collection relates to papers by Jackson (*in* Buckman 1922; 1926a) on the Junction Bed and contains much type, figured and cited material. P
- 26.199. A specimen of *Prestwichia*; Coalbrookdale, Shropshire. D
- 26.207. A specimen of *Pterichthys*; Altyre, Scotland. D
- 26.361. A specimen of Wealden sun-cracked, shelly limestone; Compton Bay, Isle of Wight. D
- 26.362. 16 fossils; various localities. Includes 11 from the Tertiary of the Isle of Wight. D
- 27.56. 2,147 Tertiary fossils; Isle of Wight. Mainly gastropods and bivalves, including 1,469 specimens of *Batillaria* spp. D
- 27.146. 4 graptolites from Ponterwyd, Dyfed, an ammonite from Burton Bradstock, and a specimen of *Pentacrinites* from Lyme Regis. D
- 27.300. 32 Tertiary rocks; Isle of Wight. Only one specimen is registered under this accession, the rest probably being under 78.20G. D
- 27.301. 29 Cretaceous rocks; mainly Isle of Wight. Registered under 78.20G. D
- 27.302. 87 Jurassic rocks; Dorset. Registered under 78.20G. D
- 27.458. Trilobites and other fossils; Llandrindod Wells, Powys. Unregistered. D
- 28.472. Cretaceous and Tertiary rocks; south of England. An unknown number of specimens of which only 3 have been registered. A note in the accession file states that most specimens have been registered under other Jackson accessions in error. D
- 28.685. 20 Purbeck and Chalk fossils; Durlston Bay and Swanage, Dorset. Unregistered. D
- 29.59. A specimen of Bembridge Marl containing seeds; Isle of Wight. D
- 29.178. 63 minerals and rocks; various localities. 48 specimens have been registered, including 3 specimens of Welsh gold. D
- 30.260. 110 rocks, fossils and minerals; various localities. Includes 54 minerals and 24 rocks, 26 of which are from Cornwall. D
- 30.432. 248 Jurassic fossil plants; Scarborough area, North Yorkshire. Fully registered. C
- 30.436. 104 Jurassic rocks; Scarborough area, North Yorkshire. Registered under 78.20G. D
- 30.521. A fossil fish from the London Clay; Sheppey, Kent. D
- 32.253. 6 rocks; the Lizard district, Cornwall. P
- 32.254. 340 rocks; the Lizard district, Cornwall. Registered under 78.20G. along with another collection (33.399.) from the same area from which they are inseparable. Altogether these collections total 740 specimens. D

- 32.422. 2 Silurian corals from Dudley, West Midlands, a *Ptychodus* tooth from the Chalk of Kent, and a Carboniferous Limestone bivalve from Barry, South Glamorgan. D
- 32.588. 32 minerals; various localities. Includes 3 from Africa. D
- 32.589. An unspecified number of rocks which illustrate stratification and the occurrence of fossils; various localities. Unregistered. P
- 33.399. 450 rocks; Lizard district, Cornwall. (See 32.254.). D
- 33.484. 53 rocks and minerals; various localities. Only 28 have been registered which consist of 6 fossils, 6 rocks (all from the Wealden of the Isle of Wight) and 16 minerals (7 from Australia). A note states that some have been registered under 34.651. D
- 34.651. 40 rocks and minerals; various localities. D
- 34.652. 7 fossils; various localities. D
- 35.4. 30 fossils; various localities. Includes 3 Miocene shark teeth from Malta and 5 trilobites from Gwynedd. D
- 35.361. A collection of c.50 Ordovician fossils; St. David's district, Dyfed. Only 6 specimens (mainly graptolites from Abereiddi) have been registered. D
- 35.362. A collection of c.300 rocks; Pembrokeshire (Dyfed). Jackson collected here in three successive years and all the rocks from these excursions are registered under 78.20G. There are a total of 934 specimens (see also 35.364. and 37.331.). No accession number was issued for the 1936 collection. D
- 35.364. A collection of c.45 specimens illustrating the characters and structures of igneous and sedimentary rocks; Pembrokeshire (Dyfed) (see 35.362.). P
- 36.1. 150 minerals and fossils; various localities. 106 have been registered, including 40 fossils (30 of which are from the Cretaceous of the Isle of Wight) and 66 minerals (17 of which are from South Africa and 8 from Australia). D
- 36.161. A series of geological maps and sections of Wales and the border regions. P
- 37.45. 45 rocks illustrating geological structures; Pembrokeshire (Dyfed). P
- 37.331. 300 rocks; north-west Pembrokeshire (Dyfed). Registered under 78.20G (see 35.362.). D
- 37.332. 165 Menevian fossils; St. David's area, Pembrokeshire (Dyfed). 105 are from Porth-y-Rhaw (which include 36 *Paradoxides davidis*), 33 from Caerfai Bay, and 27 from Solva Harbour. D
- 38.411. 300 rocks and fossils; Rhiw-Aberdaron area, Gwynedd. 257 rocks have been registered under this number and 16 fossils registered under 84.43G. P
- 38.412. 100 rocks and fossils; various localities. 170 specimens have been registered, of which 91 are fossils (including 50 from the Cretaceous), 43 minerals, and 36 rocks. D
- 38.686. 20 rocks and minerals and one fossil; various localities. A total of 87 specimens have been registered under this accession comprising 9 Mesozoic fossils from southern England, 9 rocks (7 from the Isle of Wight) and 65 minerals, many of which are from foreign localities. D
- 38.687. 25 fossils from various horizons and localities. 107 specimens have been registered, comprising 53 fossils, 29 rocks (mainly from the Isle of Wight) and 25 minerals. 45 of the fossils are from the Cretaceous and Tertiary of the Isle of Wight and include 14 specimens of *Lepidotus mantelli*. D
- 39.173. 4 trilobites from the Wenlock Limestone; Dudley, West Midlands. D
- 39.350. 340 rocks and minerals; Llyn peninsula, Gwynedd. Registered under 78.20G. P
- 39.509. A ferruginous concretion, resembling a fossil, from the Lower Greensand of Sandown, Isle of Wight, and 20 large rocks. A total of 32 specimens have been registered, including, in addition to the above, 11 minerals. D
- 40.224. 35 rocks, minerals and fossils; various localities. 104 specimens have been registered, of which 39 are fossils (21 from the Carboniferous Limestone of Northumberland) and 47 rocks. D
- 41.294. 100 minerals, rocks and fossils; various localities. A total of 901 specimens have been registered. Of these 803 are fossils and include 530 specimens of *Chara* which Jackson didn't count individually. There are 93 minerals from worldwide localities and 5 rocks. This collection includes some specimens from the old Ryde Museum, Isle of Wight, and Frank Morrey's own collections. D

43.29.	150 semi-precious faceted gemstones. Unregistered.	D
44.273.	4 specimens of iron ore; Bettws Garmon, Gwynedd.	D
44.274.	5 rocks and fossils; various localities. A total of 13 specimens have been registered, 4 of which are from the Isle of Wight.	D
45.252.	230 rocks; Gwynedd. A total of 268 specimens have been registered, mostly under 78.20G.	P
46.129.	A series of 20 specimens showing the conversion of limestone into beekite. Unregistered.	D
47.207.	22 rocks; Cromarty, Scotland.	D
47.378.	351 rocks illustrating the geology of the Permian of Devon.	P
52.4.	Part of a septarian nodule from the Lower Lias; Charmouth, Dorset.	D
52.221.	23 specimens illustrating pyritization in ammonites; Charmouth, Dorset.	D
52.222.	A map of Jersey published about 1856.	D
53.107.	36 Liassic rocks and fossils; Dorset. Unregistered.	D
53.108.	33 rocks and fossils; Gwynedd. Registered under 78.20G.	P
53.434.	50 Cambrian and Ordovician fossils; St. David's area, Dyfed. 161 specimens have been registered, including 118 from Porth-y-Rhaw, of which 46 are <i>Paradoxides davidis</i> .	P
53.435.	9 rocks; St. David's area, Dyfed.	P
53.436.	12 Cambrian fossils. Transferred to the Museum Schools Service.	P
54.347.	50 Liassic rocks and fossils; Dorset. Transferred to the Museum Schools Service.	D
54.348.	100 specimens illustrating the preservation of fossils (mainly ammonites and corals); various localities. A total of 83 specimens have been registered to date.	D
54.349.	100 rock specimens illustrating sedimentation and concretionary structures; various localities, mainly Dorset. A total of 18 have been registered under this number, the rest under 78.20G.	D
54.438.	A large crinoid, <i>Pentacrinites fossilis</i> from the Black Ven Marls; Charmouth, Dorset.	P
56.66.	32 rocks; Isle of Eigg, Scotland.	D
57.227.	79 rocks and minerals illustrating the geology of the Isle of Arran, Scotland.	D
57.228.	7 fossils; Dorset. Consists of 6 specimens of <i>Asteroceras stellare</i> and a specimen of fossil wood encrusted with <i>Inoceramus</i> .	P
57.487.	13 ammonites from the lithographic limestone of the Dorset coast referred to by Jackson (1926).	D
58.397.	68 specimens of iron and manganese ore and associated rocks; Dolgellau district, Gwynedd.	D
58.398.	20 ammonites and other fossils illustrating modes of preservation from Charmouth, Dorset, and examples of polished serpentine. A total of 27 specimens have been registered, of which 14 are fossils (including 7 ammonites and 4 crinoids from the Black Ven Marls) and 13 rocks.	D
58.403.	A group of <i>Pentacrinites fossilis</i> from the Black Ven Marls; Charmouth, Dorset.	D
58.552.	A part and counterpart of the elytron of a beetle from the Black Ven Marls; Charmouth, Dorset.	D
59.410.	300 fossils from the Junction Bed; Dorset. This is Jackson's second Junction Bed collection, comprising 342 specimens.	D
59.413.	36 Lewisian rocks and 14 specimens of Durness Limestone; north-west Highlands, Scotland. Registered under 78.20G.	D
60.510.	A collection of fossils mainly from the Dorset Lias. This is Jackson's first Dorset coast collection, comprising 4,796 specimens (Figs. 11,12). Fully registered.	D
63.255.	86 sedimentary, metamorphic and igneous rocks; Portsoy area, Banffshire, Scotland. Registered under 78.20G.	D
64.545.	14 rocks and 6 fossils; Dorset and Devon. Unregistered.	D
65.344.	52 rocks; Isle of Arran, Scotland. These specimens have been mixed with 52.227 and registered under 78.20G. Only 20 can be positively identified as being from this collection.	D

- 65.510. 712 fossils, mainly Liassic; Dorset. This is Jackson's second Dorset coast collection (Fig. 14). Fully registered. D
- 66.102. 12 photographs of the Junction Bed at Watton Cliff (taken by Jackson; Fig. 5) and a coloured sketch by his mother of Fault Corner, Watton Cliff, Dorset. D
- 72.51G. 159 graptolites from the Cardiganshire area (Dyfed), mainly from the Rheidol Gorge. Collected in 1929. C
- 75.36G. 32 fossils; Bala district, Gwynedd. Collected in 1930. D
- 78.20G. As explained above, this accession contains a multitude of specimens from numerous earlier accessions that had remained unregistered prior to 1978. The following are Jackson collections that were not given an accession number on their arrival and are not included elsewhere in this list.
- 1930 28 rocks; Bala district, Gwynedd. D
- 1934 410 rocks; Land's End district, Cornwall. From Jackson's notebooks, 336 specimens belonging to this collection can be identified. D
- 1936 357 rocks; St. David's, Abereiddi, Goodwick and Treffgarne districts, Dyfed. From Jackson's notebooks, 299 specimens belonging to this collection can be identified. D
- 194? Devonian rocks; Devon. To date 175 specimens have been identified. D
- 1952 A collection of 'Beef' from the Dorset coast. 20 specimens have been identified. D
- 1956 19 rocks and fossils, including large corals, from the Lower Lias coral beds; Lusa and Ob Breakish, Isle of Skye. D
- 1962 62 rocks; Iona, Scotland. D
- 84.13G. Carboniferous Limestone fossils; Tynant Quarry, South Glamorgan (see 22.353.). D
- 84.43G. 16 fossils; Rhiw-Aberdaron area, Gwynedd (see 38.411.). D

Notes. 20.361. and 20.362. were probably purchased. The Department of Geology also houses a wealth of Jackson's correspondence and some of his diaries, along with notebooks, books, journals, maps, photographs, manuscripts, and funeral urn. Apart from the above, there are a further eleven accessions of other material housed in the Departments of Archaeology and Zoology, and in the Welsh Folk Museum.

Appendix 3. Other Jackson Collections

Natural History Museum, London. Jackson made a series of donations and sales which include the 404 Lias insects from Charmouth purchased by the NHM in eight accessions from 1955-1960 (see Zeuner 1962; Whalley 1985). The NHM also holds numerous other vertebrate and invertebrate specimens, including some from the Junction Bed, along with a considerable amount of correspondence.

The Geology Museum, Sandown holds 600-700 specimens collected by Jackson from 1924-1943. Many others were among the 900+ specimens stolen from the Museum between 1946-1948 (S. Hutt pers. comm.). The Museum also holds some Jackson correspondence, particularly that relating to the thefts.

The British Geological Survey holds six Jackson specimens, five of which are *Semuridia jacksoni* and one *Anningia faberi*, from the *obtusum* Zone, Black Ven Marls, Dorset.

Bridport Museum. According to Jackson's correspondence, he donated a set of specimens illustrating the lithographic limestone of the 'Watton Bed' facies of the Junction Bed from Eypesmouth on the opening of the Museum in 1934. At present it has not been possible to locate these specimens.

Universities of Aberdeen, Manchester and Reading. According to Jackson's correspondence, parts of his first collection were sold to the universities in the early 1920s. It is likely that these were incorporated into their teaching collections and are now untraceable.

Newport Museum, Gwent. The Museum purchased a 'small collection of named British Fossils' (21.44.) from Jackson in 1921.

University of Aberystwyth. The University holds 280 rock specimens from the Isle of Wight which illustrate the geology of the island, donated by Jackson in 1927.

BOOK REVIEWS

Palmer, D. C. and Rickards, R. B. (eds). 1991. *Graptolites: writing in the rocks*. Fossils Illustrated, Vol. 1. xvi + 182 pp., 138 pls. Boydell Press, Woodbridge. ISBN 0-85115-262-7. Price £39.50.

The publication of this volume dealing with graptolites, as the first in a new series, should be regarded as a bold step. The spotlight is on a still incompletely understood group of organisms which, as the editors point out, is seldom presented in anything like an attractive format 'except perhaps at lectures'.

For starters the image of graptolites will have suffered no harm from the striking dust jacket - a colour illustration of pyritised specimens of *Petalograptus ovatoelongatus*, sweeping aside the image of the black or white smudge on a bedding plane which was worse than impossible to split in the first place. Edge on, the book dramatically reveals the feast in store: main course and dessert, an almost 50:50 split of text and black and white figures (i.e. plates), the latter grouped together and bled in marked contrast to the white of the text. If the initial impression is one of surprise, wait until you look at the figures. You will be bowled over by the variety, quality and beauty of the specimens represented.

The editors explain at the outset that the book's fourteen chapters, each written by either one or more of a group of fourteen specialists (unquestionably enthusiasts - who else would calculate that the graptolite content of the Skelgill Beds runs to some 40,000 million!), closely related to those questions most commonly asked of graptolite workers. They accept that, from time-to-time, there will be repetition of some of the subjects discussed as the contributors bare their scientific all. Controversies are mentioned where appropriate in the various chapters, and are given a more general airing in Ch. 14. The contributors' willingness to discuss those areas of disagreement, to admit that there are gaps in their understanding of these much misunderstood colonies of animals, and to do so with humour and an unusual robustness of phrase provides a stimulating text.

Graptolites have never held any great fascination for me, although I have been privileged to find and collect some - apparently a gap on many professional palaeontologists' 'tick-lists'. Having read the book I am better acquainted with their biology (affinities, structure, lifestyle including sex-life, ecology, biogeography, evolution and classification), the taphonomic processes acting on them after death (we are told that much remains to be learnt in this field), and the all-important aspects of collection and preparation. In addition we

are given brief biographies of eight famous graptolite workers.

Practical advice on collecting and preparation is presented in Ch. 11, supported greatly by Appendix 2 'Where are the good places to collect graptolites?' Appropriate emphasis is given to matters of access to sites and the maintenance of good relations with owners. How to prospect for graptolites, the equipment for and the practical aspects of extraction, the importance of recording and the wrapping of specimens are all considered. 'Preparation' provides information about the often hazardous techniques employed to extract or improve the specimens for research. Here I did wonder what danger there was in supplying information, all be it with words of warning, which in the wrong hands could be dangerous? The use of concentrated acids and bleaching agents are techniques for the trained with suitable clothing in safe facilities. That said, how refreshing in the age of COSHH to be regaled with an anecdote about Professor Bulman carrying a bowl of hydrofluoric acid down the stairs of the Sedgwick to pour down an outside drain during a severe winter (the fume cupboard's sink outlet was frozen). This section includes a useful account of the methods used to illustrate graptolites for publication.

Throughout the text, reference to the figures is given and none more so than in Appendices 3 and 4 dealing with classification and evolution. Here, at a glance, we can see where to find the appropriate illustrations which in turn have up to fourteen lines of description each.

The volume has an excellent, though slightly idiosyncratic index which, with the glossary 'What does that term mean?', should provide answers to all your questions - well, almost all. Thrice the term graptoblast appears in explanations in the glossary but is nowhere defined. What is a graptoblast? I had to refer to the *Treatise* (Bulman 1970) to discover this.

So in a book which is stimulating, highly informative and reads well, is there anything which can be faulted? While admiring the editors' courage in avoiding text figures, I would have found an illustration locating the morphological terms used helpful. There are a few minor errors or omissions; a reference to the wrong appendix; the biographical note on p.000 [sic]; a scale bar omitted in Fig. 73; and several references to Fig. 1 which should read Text Fig. 1. Some inconsistencies occur in the format applied to grid references in Appendix 2 and on p. 104 two different Welsh localities are run together. The provision of addresses or phone numbers which are of a transient nature is inevitably

risky. In this case the Palaeontological Association's Treasurer now resides in Durham, and the London telephone codes have been altered. These are minor quibbles for which the accusation of 'nit-picking' might not be unreasonable. I only wish I could say that was the end of it.

Each chapter and two of the Appendices have reference lists in Appendix 6. 'We have given below all the references quoted in the text, .. we have in addition listed useful papers not specifically quoted.' Of the 128 references given in Appendix 6, 88 appear in the text, amongst which 25 errors/inconsistencies were noted. These ranged from omissions: Crowther & Rickards 1984 in Ch. 3 and Dumican & Rickards 1985 in Ch. 11; wrong initials: R. R. Crowther in Ch. 1; wrong dates: Kozlowski normally recorded as 1949 in the text and 1948 in the references (the volume was published in 1949 for 1948 presumably), and Skevington 1973 (text) or 1974 (references) in Ch. 6; wrongly ordered and dated: Kirk & Bates 1986 in Ch. 1 and Bates & Kirk 1987 in references, and Rickards & Dumican 1984 in Ch. 2 and Dumican & Rickards 1985 in references. Perhaps most confusing were the references to Bates & Kirk 1984 and Kirk & Bates 1984 on p. 84. I was left wondering what frustrations lay ahead for the librarian and myself when trying to obtain the originals.

When all's said and done, this is a fine book, which will be valued by a wide variety of people, not least those working in museums where collections exist and where enquiries are answered and displays mounted. Attention is drawn to museums and the help many can provide. I fear that the price may discourage wide ownership, which is a pity. However, at a time when we hear that the Eisenhower Library (John Hopkins University, Baltimore) is about to spend \$11 a volume for deacidification of thousands of books, one printed on acid free paper is an investment ensuring a place for graptolites in the literature, as in the rocks, for almost all time. Let's hope that this 'pilot' issue really does give notice of a whole series of equally exciting volumes dealing with the plant and animal kingdoms in the fossil record.

Congratulations to the editors, BIG G and Boydell Press for the impressive start they have made.

Bulman, O. M. B. 1970. Graptolithina with sections on Enteropneusta and Pterobranchia. In Teichert, C. (ed.). *Treatise on invertebrate paleontology*, pt V (2nd Edition). Geological Society of America and University of Kansas Press, Boulder, Colorado and Lawrence, Kansas, xxxii + 163 pp.

Paul Ensom
The Yorkshire Museum
Museum Gardens
York YO1 2DR
6 July 1991

Taylor, M. A. and Martin, J. G. 1990. *Big mouths and long necks*. Leicestershire Museums Publications No. 110, 24 pp. ISBN 0-85022-287-7. Price 75p.

This short, very reasonably priced publication gives a simple summary of the lifestyle and evolution of plesiosaurs, with additional sections on early collectors, where to find such fossils and speculation on the Loch Ness Monster. The booklet appears to be aimed at both the interested visitor and 'A-level' students.

The authors describe clearly how the creatures may have swam and how modification to their anatomy improved their efficiency as predators. The historical section will be of interest to the general historian as well as geologists. We are told how the early quarrymen were paid to look for fossils and how the pioneer geologists were fallible and made mistakes. This section also includes one splendid anecdote on the unending saga of conflict and 'dirty tricks' between O. C. Marsh and E. D. Cope in the late nineteenth century simply because Marsh had the nerve to suggest (correctly) that Cope's first interpretation of the plesiosaur's skeleton had been wrong.

The work is profusely illustrated with line drawings backed up with some black and white photographs. A few of the drawings suffer from excessive shading which, when combined (at least in the review copy) with over-inking by the printers, has led to some of the details filling in; this is particularly true of the illustrations for the time-scale.

One unusual aspect of this publication is the use of linked titles between successive pairs of sections. The idea generally works well, but I was less happy with 'How Plesiosaurs Began.....' '... And Ended (Perhaps)'. This arrangement results in the early evolution of these creatures being dealt with towards the end of the book, which I found a little irritating. Similarly, I would have preferred the section on early discoveries to precede those which delve into lifestyle and morphology.

There is one puzzling inconsistency: on p.3 plesiosaurs are described in general terms as probably being powerful manoeuvrable swimmers, yet on p.6 they have become unsteady and probably fairly slow. Surely one statement is incorrect? As a non-specialist, I find myself asking why the plesiosaurs are described as having far greater swimming abilities than the plesiosauroids. Does a long neck and a small head slow the creature down so much? Logic would suggest that the swimming power would come from the paddles, which appear similar in both. Perhaps some important explanation has been edited out.

The Mesozoic reptiles have always been greatly overshadowed by their distant terrestrial relatives, the Dinosaurs, which has resulted in a paucity of literature

on the topic. This book contains a lot of useful information that could not be gleaned elsewhere without considerable effort, and it would certainly make a useful addition to any library. It may well inspire young students to carry out further research into this relatively neglected area of our science.

John Crossling
Warwickshire Museum
Market Place
Warwick CV34 4SA
27 January 1992

Dodd, M. (ed.). 1992. *Lakeland rocks and landscape: a field guide* (revised edition). Ellenbank Press, Maryport, Cumbria, x + 150pp. ISBN 1-873551-03-7. Price £7.99 (softback).

The English Lake District has some claim to be our most beautiful National Park and is visited by thousands every year. For many - especially those who are attracted by hill-walking - a guide to the landforms and rocks of the area can give an added point and interest to their recreational activities. This *Guide*, prepared by the Cumberland Geological Society, is clearly written with such visitors in mind and, although I myself have not yet had the opportunity to put it to use in the field, I think it will serve its purpose admirably.

After a brief summary of the geological history of the Lakeland area, the *Guide* gives eighteen itineraries, contributed by fourteen authors, and covering the whole of the area from St Bees Head to Cross Fell and Furness to Caldbeck. Despite the many authors, there is a general uniformity of style and content. The itineraries cover all the main rock groups present (mainly of Lower Palaeozoic, Carboniferous, Permo-Triassic and Quaternary ages) and are evenly scattered throughout the area, ensuring that there is something of interest, whoever or wherever you are.

Each itinerary is introduced by a statement of the purpose of the excursion, followed by 'Practical Details'; this valuable section (the best I have seen in a geological guide) tells you how long the excursion takes, whether it is arduous, which OS maps you require, advises on clothing and gives all the information you need on transport, parking, access and availability of such facilities as shops, pubs or toilets. Next follows the 'Geological Setting', followed finally by the 'Excursion Details'; this last section directs you to each locality in turn, giving notes (generally rather brief) on the geology or geomorphology of the locality, followed by instructions how to reach the next. Each excursion is accompanied by one or more sketch-maps, and in some instances photographs or diagrams.

On the whole the *Guide* will appeal most to amateurs and the interested layman. There is little in the way of highly

technical information or elaborate or detailed descriptions. Many geological terms are used but these, printed in bold type-face, are briefly explained in a glossary - I found this to be a good system in practice (though happily I did not have to resort to the glossary very often!). The excursions concentrating on the Quaternary are the most explicit, in that the visitor is invited to follow through aspects of the geomorphological history of the areas selected - in Borrowdale and around Keswick. The attention paid to glacial and geomorphological features in the other itineraries is valuable.

An excellent feature of this *Guide* is the care given to the safety of the visitor and the needs of geological conservation. No mere general statement in the introduction suffices here; the dangers of quarries, shafts or adits are mentioned in italics at each appropriate point in the text, as is the request not to hammer at precious sites.

If I have a reservation, it is that no excursion gives a closer description of the strata of the Dent and Stockdale subgroups (a very up-to-date terminology used in this guide for the Coniston Limestone, Ashgill Shales and Stockdale Shales); these, which provide a beautifully varied stratigraphical and faunal succession within a restricted thickness, are partly covered in Excursion 3 (Tarn Hows), but that is a 'no hammering' locality. Bearing in mind the great contributions made by the amateur geologists of the past to Lower Palaeozoic palaeontology in the Lake District, it is a pity that the present guide does not encourage visitors to look out for fossils at appropriate localities - especially for graptolites in the Skiddaw Slate Group, where we need all the help we can get! There are however, suitable references to the fossils of the Carboniferous Limestone.

How does the *Guide* compare with other guides to the Lakeland Area? It scores well from the point of view of practicality: it is of anorak pocket-size, has a durable cover and is well bound. It is straightforward, easy to read and very well edited. Unlike E. H. Shackleton's delightful but highly discursive *Geological excursions in Lakeland* (1975), it is brief and very down-to-earth (or rather down-to-rock). The Geologists' Association's *Guide* (1990) is considerably more advanced in the geological knowledge it demands. I therefore think that this guide will suit a wider public, and I hope that it inspires many a budding enthusiast to explore the geology of the Lake District further.

A. W. A. Rushton
British Geological Survey
Keyworth
Nottingham NG12 5GG

18 May 1992

Hutchinson, R. and Graham, A. 1992. *Meteorites: the key to our existence*. Natural History Museum, London, 60pp. ISBN 0-565-01124-3. Price £4.95.

Question: What do you call someone working on meteorites? Answer: I don't know

In the best traditions of academic book-reviewing, it is always nice to start with a bit of 'knocking copy'. It is much easier (and more enjoyable?) as a reviewer to find fault than to praise. A degree of intellectual superiority can effortlessly be banded about, and you can imply that you (a) have read the book in minute detail, and (b) know more about the subject than the authors. While in this case I have actually read the work, I read it as a humble and ignorant mineralogist while watching Coronation Street. I still do not know what to call a 'meteorite-ologist', but in most other aspects I found this an excellent little book.

The format is the same as the other Natural History/ Geological Museum publications on gemstones, agates, crystals, earthquakes, volcanoes and the like. These books, despite their common format, seem to have a diversity of aims. Some are very much introductory texts for general consumption, while others are rather more specialized in their appeal. The meteorites book seems to me the most ambitious in the series so far, in its attempt to communicate state-of-the-art science. Largely I would say it succeeds very well, although I found obscure the treatment of the pre-Solar System plutonium formation interval. This, however, is a challenging thing to explain!

Generally, the book handles difficult topics clearly and informatively. The organisation and layout are excellent - the running headings at the tops of the pages work very well. I particularly like the use of field photographs with people in them - in many the people seem as (or even more) significant than the meteorites. This intimate touch enlightened the tone of the photographs: meteorites (including most of those illustrated) are not the most visually interesting of objects.

Many museum shops sell Natural History Museum publications. I am sure that this will prove a successful addition to the list. There is a lot in this book: it will appeal mainly to the enthusiast, at whatever level, but almost anyone would get something out of it. The book answers most of the obvious questions about meteorites - what are they? Where do they come from? How many hit the Earth? How old are they? What are they made of? How do they relate to comets? The book is, in fact, largely organised around such questions as these. It also places the study of meteorites firmly at the centre of investigation into the origins of the Solar System. The role of meteorites in extinctions is dealt with in a markedly low-key and non-contentious way.

Naturally, the reviewer must reveal some quibbles. Several of the thin-section photos are not very sharp. The photograph claiming to be a Skye basalt (Fig.31b) is hardly typical; if it was ever a true basalt it has at least suffered severe thermal metamorphism. The colour overlays for the picture of Halley's Comet are badly out of alignment. The treatment of tektites seems a bit skimpy. Probably 'meteorite-ologists' are a bit snooty about tektites, but the rest of us tend to associate them with the true meteorites. There is a statement that the Earth's atmosphere and hydrosphere were entirely built up from asteroidal and cometary water, following early planetary degassing. I do not know the current state of play on this controversy - but I don't think the issue is yet as cut and dried as this implies.

Finally, one photograph features a **can of beer** for scale. Bearing in mind the possible utilisation of this book by the young, I prepared to adopt a stern presbyterian tone. Impressionable young minds might get the idea that those studying meteorites partake of intoxicating liquor while working. However, close examination of the photograph revealed that the substance inside was merely a low-alcohol bitter - the good name of 'meteorite-ologists' lives on, and is indeed enhanced by this book!

John Faithfull
Hunterian Museum
University of Glasgow
Glasgow G12 8QQ

28 August 1992

Grayson, A. 1992. *Rock Solid - Britain's most ancient heritage*. The Natural History Museum, London, 72pp. ISBN 0-565-01108-1. Price £6.95.

In 1970 the Geological Museum of the British Geological Survey published *Geophysical exploration*, the first in a series of a dozen or so small, inexpensive books which have gained a high reputation. It includes such titles as *The story of the earth* (1972), *Britain before man* (1978), *Earthquakes* (1983), *Crystals* (1990), *Volcanoes* (1991) and recently *Meteorites* (1992) - all written and commonly produced by members of the Geological Museum. Fortunately, the series continued after the merger of the Geological Museum with the British Museum (Natural History) in 1987; it survived the loss of that internationally renowned name, continuing under the imprint of a Natural History Museum Publication.

Like many of its predecessors, this 72 page book is lavishly illustrated by good colour photographs, drawings and diagrams. The text, however, differs somewhat in its style from previous books in the series in that it derives from a BBC Radio series and is presented in

a more chatty fashion. This may irritate some, but bearing in mind it is designed to interest and inform those new to geology, the text is relaxed, easy to follow and presents information clearly and without fuss.

The book is divided into 7 chapters, a glossary and index. The chapters do not all follow each other chronologically but, in describing particular areas of Britain, they deal with the main geological events leading to Britain's scenery and earth-based economy. An introductory chapter deals briefly with our Precambrian geological history, introducing the concepts of continental drift, plates, terrains and geological time, but it is a pity not to see references to earlier books in the series from which extra information can be found.

Edinburgh is the focus for Chapter 2 (the longest), dealing with: the Carboniferous history of the area; some of James Hutton's ideas; the main groups of rocks and the Rock Cycle; Stan Wood and his fossil discoveries; the influence of ice on the landscape; and how geology affects land use today. Finally, the Edinburgh seismic monitoring centre provides a lead into earthquakes and what they tell us of the earth's interior.

Chapter 3 is about: the Palaeozoic of Wales; the closure of the Iapetus Ocean; slate; and a brief run through Precambrian and Palaeozoic life (including some elegant pictures of early plants from the work of Dianne Edwards). Then back to the Carboniferous in Chapter 4, and the Pennines. Here the emphasis is on the economic importance of the rocks and minerals of the area, the wide range of uses for limestones, the ores of the area and coals.

Chapter 5 takes the reader around Cornwall to consider the Variscan orogeny, granites, mineralisation and mining, their effects on the landscape and the more modern applications of geothermal energy. The Jurassic, its fossils, Mary Anning and John Fowles enliven Chapter 6, set in Dorset. The stratigraphical importance of ammonites is stressed; marine reptiles and dinosaurs are touched upon, along with the ethics of collecting. Again the chapter ends with present-day economic matters, describing the Wytch Farm oilfield.

The last chapter is on the London Basin, its structure and composition; ground water and the last ice ages are discussed, as well as the arrival in the area of early man. The general long-term rise in sea level in southern England is sweepingly attributed to the 'greenhouse effect', but we are reassured that this impending inundation may be countered by the onset of the next glacial advance! The last few pictures and sentences of text display some of the varied rocks used to pave and clad parts of London, while the ultimate Figure (138) is of rocks not found in Britain - kimberlite and three different fine diamond crystals - but we are told how

80% of the world trade in diamonds is conducted in London. A short glossary, picture credits, an index and brief reference list complete the book.

As in others of the more recently published books in the series, many of the pictures are excellent. However, for a book aimed at those new to geology, I am surprised at the scant captions with some figures. For example in Fig. 20, of 'Lizzie the lizard' there is a drawing showing what *Westlothiana* might have looked like, but an inset photograph shows a pair of hands holding what appears to be a couple of lumps of pith. On close inspection it is possible to distinguish the two parts of the complete 'Lizzie' fossil on the rock; this should be explained. Also it would be helpful to have some idea as to the magnifications of the SEM pictures in Fig. 50. In Fig. 79 the positions of the Cornish granites and mineralisation zones relate only with difficulty to the present topography. On some diagrams (e.g. Figs. 118, 119, 132) the lettering becomes almost lost on their backgrounds.

Compared with several of its predecessors, which were detailed books on relatively narrow subjects, this book is a light-weight run through a very wide set of geological subjects, related within Britain. It conveys information well and should provide a very readable introduction to geology and its role in the heritage of Britain.

Dr C. Howard C. Brunton
Department of Palaeontology
The Natural History Museum
London SW7 5BD

10 October 1992

Kabat, A. R. and Boss, K. J. 1992. An indexed catalogue of publications on molluscan type specimens. *Occasional Papers on Mollusks*, Volume 5, number 69, pp.157-336 (no figures). Department of Mollusks, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138. Price \$18 (postage extra), from MCZ.

This work is 15 cm x 23 cm and 1 cm thick, and being a 'paper', has no covers, which if provided would enhance the selling points and longevity of this important compilation. The authors delayed its publication until the appearance of a similar, long-awaited work by Wiktor and Rydzewski (1991). I had hoped to review the latter publication as well as that of Kabat and Boss (1992) but I regret to say that, although Wiktor and Rydzewski (1991) exists as bits and bytes in the library computer catalogue in The Natural History Museum, London, the actual *book* cannot be found: whatever happened to the good old 3" x 5" record card cataloguing system? However, it would appear that Kabat and Boss

(1992) need not have wasted time: their work includes all but four of the 400 relevant malacological titles listed by Wiktor and Ryzewski (1991), and they list an additional 750 papers. The acronyms of the museums given by Wiktor and Ryzewski (1991) are quite extraordinary, perhaps due to being translated from the Polish. Nevertheless, this book would be worth seeing.

Coming back to Kabat and Boss (1992), the paper is divided into five sections: 1, Introduction (6pp.); 2, Author Index (24pp.); 3, Museums Index (45pp.); 4, Systematic Index (11pp.); and 5, Bibliography (91pp.). The paper provides a cross-referenced compilation of over 1,150 type catalogues (and related papers) of Recent and fossil molluscs (or mollusks).

The Introduction makes useful recommendations for the compilers of future type catalogues, principally that species are best arranged by their '*original binomen*: alphabetically by specific name' (p. 161) - a proposal I endorse heartily.

They further emphasise (p. 162) that type catalogues are best restricted to *name-bearing types*: holotypes, lectotypes, neotypes and syntypes. I blushed with shame to find my own complete but unpublished catalogue of World Cainozoic non-cephalopod Mollusca listed on p. 261 of the Bibliography: this catalogue contains *all* kinds of types as well as figured (non-type) molluscs, as it is my experience that one is often asked about 'types' that are *not* in the usual catalogues. Such folkloric information, gained during a curator's lifetime, ought to be recorded for posterity - especially in these days of redundancies which result in long gaps in the continuity of curatorial posts. To elaborate: a peculiar problem with English Palaeogene molluscs is that we use many names for which there are no types. These are 'cheirotypes', i.e. manuscript listed names, mainly of Frederick Erasmus Edwards (1799-1875), most of which were listed in Newton's catalogue of 1891. Arthur Wrigley (1885-1953) attempted to validate these names, which had a kind of currency amongst collectors, and this tradition continues to this day (hence their inclusion in *my* catalogue). There seems to be a 'jinx' on the study of English Tertiary molluscs, as no author has yet lived long enough to complete his allotted task.

2. The Author Index is arranged alphabetically by the author of new type taxa, followed by authors whose works have commented upon these. These names provide the key to the Bibliography where full details

are given. It does not include biographies or obituaries, which can be found in the *Zoological Record*. Page 164 sets out the limitations of the 'Author Index' and large works are cited and not cross-referenced.

3. The Museums Index occupies a sizeable chunk (45 pp.) of the *Catalogue*, and could have been more closely typeset or put in smaller type to save space. Although it is a vital and integral part of the paper to give full institution addresses, it will perhaps be the least consulted part, and is likely to become outdated the soonest.

4. The Systematic Index is arranged by molluscan Class with the Families in alphabetical order for the Bivalvia, Gastropoda (Prosobranchia and Opisthobranchia) and Gastropoda (Pulmonata); the 'minor' Classes (Aplacophora, Cephalopoda, Polyplacophora and Scaphopoda) are listed alphabetically by author. For many users, this section will be the primary pathway into rapidly gaining access to the works of their research topics. This section leads naturally into the last, the Bibliography, a massive listing of over 1,150 type catalogues (including some unpublished ones). Not all of these entries have necessarily been cross-indexed into the main text, if they themselves contain many citations, as is explained on p. 160.

This *Indexed Catalogue* is thus an essential working tool for the molluscan curator and taxonomist. It is reasonably priced, when considered as buying-in the expertise of the two authors.

Newton, R. B. 1891. *Systematic list of the Frederick E. Edwards Collection of British Oligocene and Eocene Mollusca in the British Museum (Natural History), with references to the type-specimens from similar horizons contained in other collections belonging to the Geological Department of the Museum*. British Museum (Natural History), London, xxviii + 365pp.

Wiktor, J. and Ryzewski, W. 1991. *Bibliography of catalogues of type specimens in [the] World's zoological and palaeozoological collections*. Wrocław University Press, Poland, 308 pp. Paperback (in English).

John Cooper
Invertebrates B Team
Department of Palaeontology
The Natural History Museum
Cromwell Road
London SW7 5BD
18 November 1992

LETTER TO THE EDITOR

Dear Editor,

In my account of 'The palaeontological collections of the Geological Survey of Ireland' (*Geological Curator*, 5, 283-291) I referred on p.286 to the extensive drilling programmes undertaken by the Survey in the Leinster Coalfield after 1919 and in the early 1960s, as a result of which a substantial number of Namurian and Westphalian goniatites, bivalves, and plant fossils were collected. These were later shown to be no younger in age than Westphalian A. I should have added that both the core data and the fossils were used by Nevill (1956, 1961) and Eagar (1956, 1962) to establish the age of the Leinster Namurian and Westphalian. The cores, including those from the shallow bores in the Kingscourt outlier, Co. Cavan (Jackson 1965) were still later used to correlate all the Westphalian successions of Ireland with those of Great Britain and of the Ruhr (Eagar 1964, 1975).

Incidentally, on the same page of my article an unhappy phrase may well have left the reader with the impression that some Irish Geological Survey specimens were still lurking unrecognised in the Manchester Museum. In fact Dr Eagar has been most diligent in returning all our specimens, not only as received but also with complete documentation.

Eagar, R. M. C. 1962. New Upper Carboniferous non-marine lamellibranchs. *Palaeontology*, 5, 307-339.

Eagar, R. M. C. 1964. The succession and correlation of the Coal Measures of south eastern Ireland. *C. R. 5me Cong. int. Strat. Geol. Carb.* (Paris 1963), 359-374.

Eagar, R. M. C. 1975. Neuere Arbeiten uber das Westfal in Irland. *Zbl. Geol. Palaont.* 1, 291-308.

Jackson, J. S. 1965. The Upper Carboniferous (Namurian and Westphalian) of Kingscourt, Ireland. *Scient. Proc. R. Dubl. Soc.* 2, 131-152.

Nevill, W. E. 1956. The Millstone Grit and Lower Coal Measures of the Leinster Coalfield, with an Appendix on the non-marine fauna by R. M. C. Eagar. *Proc. R. Ir. Acad.* 58, Sect. B, 1-16.

Nevill, W. E. 1961. The Westphalian of Ireland, with a note on the non-marine lamellibranch faunas and their zonal significance in the Leinster, Slievardagh and Kabturk Coalfields by R. M. C. Eagar. *C. R. 4me Cong. Strat. Geol. Carb.* (Heerlen 1958), 2, 453-460.

Ramsbottom, W. H. C., Calver, M. A., Eagar, R. M. C., Hodson, F., Holliday, D. W., Stubblefield, C. J. and Wilson, R.B. 1978. A correlation of Silesian rocks in the British Isles. *Spec. Rep. geol. Soc. Lond.* 10, 82pp.

Yours faithfully,
Andrew Sleeman

Geological Survey of Ireland
Beggars Bush
Haddington Road
Dublin 4.

GEOLOGICAL CURATORS' GROUP

17th Annual General Meeting

6 December 1990 at the Yorkshire Museum, York

1. Apologies for absence

Alison Armstrong, Michael Boyd, John Crosling, Tony Cross, David Devenish, Dorothy Hardy, Di Hawkes, John Martin and Ian Rolfe.

2. Minutes of the 16th Annual General Meeting 1989

They were approved and signed by the Chairman.

3. Matters arising

There were none.

4. Chairman's Report - from John Cooper

'In this my first year as Chairman of the Group I am humbled by the continuing success achieved in our various endeavours by the Officers of the Group and its Committee members. I must single out the untiring efforts of the previous Chairman, Mick Stanley, who will doubtless be a role model for us all to follow and I am glad to have him on Committee for his continuing advice. I also want to mention the six years service by Chris Collins who retires from Committee at this meeting and who has contributed greatly to the Group's achievements, particularly in the fields of conservation and training. I am sure that we will continue to receive Chris's help on such matters from the back benches and that we shall see him again on Committee in the future.

A new era for the Group began in February with the publication of *Coprolite* which, thanks to the ministrations of Tom Sharpe and Monica Price, will benefit all members greatly. It is, of course, an adjunct to *Geological Curator*, our flagship which Peter Crowther admirably captains. This year has seen the publication of the splendid *Index to Volume 2*, the result not only of Peter's hard work but especially that of Justin Delair.

On the Group's behalf your Committee's Working Party on Training has produced a report, being a *Proposed training schedule for museum geologists*, for much of which we are indebted to Chris Collins. This report has been sent to the Museum Training Institute and we are optimistic that our conclusions will be heeded. Members of the Committee, particu-

larly your Chairman and Mick Stanley, have made significant comment on the NCC's *Earth science conservation - a draft strategy*, the final version of which was launched in London yesterday.

Consultation by Committee members was also sought by the Geological Society for its draft *Earth science education directory*, to which the Group contributed a section, largely taken from the 'Thumbs Up' leaflet; it is aimed at school teachers implementing the Earth Sciences component of the National Curriculum. The *Directory* has now been published and, in support of its recognised need, the Group contributed £100 towards production costs.

The dedication of David Price to the Sedgwick Museum's collections and their proper care has contributed greatly to the success of our efforts to commemorate the work of Bertie Brighton (1900-1988), Curator of the Sedgwick from 1931 to 1968. The 'A. G. Brighton Fund' now stands at over £2,000 and details of the commemorative medal and award to be supported by this fund will be announced in due course. We are grateful to David for his work.

The Group continues to contribute to the machinations of the Geological Society's Conservation Committee. The year ahead will include action on mineralogical conservation, the conservation of Quaternary, tectonic and metamorphic sites, and site conservation for education.

Members of Committee have made comment on two issues which have aroused much anxiety throughout the year. First, the trials and tribulations suffered at the British Museum (Natural History) have marked what is perhaps the greatest calamity yet to befall our profession. Among the protests was one in *The Independent*, co-signed by your Chairman together with Presidents of the other major British scientific societies. The proposals in the Corporate Plan are now being implemented, despite all protests. Those reversals of stated policy which have occurred (notably the saving of two posts in palaeontology) are the result of enforced financial re-thinking, rather than any change of heart. There have been no reprieves in mineralogy, botany, entomology or the library. The Group must now concern itself with the succeeding annual plans in continuing attempts to influence decisions.

Second, the Committee has deliberated on the case of 'Lizzie' (*Westlothiana curryi* in litt.) and its implica-

tions concerning the export of important natural history objects. Committee asked Mike Taylor (Leicester) to present a briefing document on this subject and we are very grateful to him for his help. Our view, communicated to Ian Rolfe for inclusion in the debate, is that we are generally in favour of fossils and minerals being included in a control system for the export of heritage items but that we have grave reservations as to the practicality of any system we could envisage. We look forward to seeing the considered response of the OAL and DTI to this question.

The Committee has dwelt on two further issues of note, both contributing to the current general air of despondancy. First, the University Funding Council (UFC) continues to stall in its supplying of finance for the 'strengthening' of care for university museum collections. We have been waiting patiently for progress in this matter but will soon need to take further action. John Nudds (Manchester) is keeping tabs on this situation on behalf of Committee. We are also concerned with unhappy developments in the staffing arrangements that have recently been unveiled in some university museums and hope to be able to address these issues when the situation permits.

Secondly, we are concerned to hear of the difficulties faced by several museums as a result of their local authorities being poll-tax capped. As usual, museums take the brunt of any cuts. We will be keeping these developments under review until action is required.

Of new initiatives, the first meeting of a Terminology Working Party will shortly be held, comprising your Chairman, John Martin, Nigel Monaghan and Philip Phillips, in an attempt to produce a standard terminology for geological specimen curation (following on from the the *Guidelines*).

With the help of Simon Timberlake, the Group is well on the way to finalising details of an annual Geological Collector of the Year competition and we are very grateful to the Geologists' Association for the financial assistance that has been made available from their Curry Fund for this purpose.

We have an agreed text for a new publicity leaflet which is now at the design stage. With the assistance of Brighton designer Nigel Cunningham the Group has taken on an improved image with the redesign of its letterhead, compliments slip and the cover of *Coprolite*. The next issue of *Geological Curator* will also benefit from redesign.

I am very much looking forward to another fruitful year in 1991.'

Congratulations were passed to the designer of the new headed notepaper. The Chairman reported with pleasure that C. J. C. Burhouse Ltd., mineral wholesalers of Huddersfield, had offered £500 sponsorship for *Coprolite* in the coming year.

Bryan Meloy asked if the *Proposed training schedule* would be made available to members. John replied that it could be obtained on application to the Committee. There had been no official response yet from the MTI, although unofficial response indicated that it had been well-received. John thanked the members of the working party, especially Chris Collins, for their work on the proposals.

Roy Clements asked if the submission to Ian Rolfe about the export of fossils was the Committee's view on the subject. John confirmed that it was the Committee view. Roy warned that 'Lizzie' could set an unpleasant precedent within a wider scientific arena and that legislation may not be desirable to the worldwide geological community. John replied that legislation would apply to high-value objects only, and would not actually prevent export of specimens. Wider consultation would take place in due course.

5. Secretary's Report - from Simon Knell

(i) Committee Meetings

'The Committee met five times in 1990: 8 February (Burlington House); 26 April (MGC); 5 July (Burlington House); 2 October and 22 November (Leicestershire Museums). Mike Taylor and Kate Pontin joined one of these meetings to present reports on the export of fossils and museums and the National Curriculum respectively.

(ii) Training

The BCG/GCG/University of Sheffield Natural Sciences Curatorial Course took place in Sheffield on 18-23 March. The course was well received and gave a thorough introduction to the collection, preparation, conservation, identification, storage and use of biology and geology collections. with an emphasis on hands-on activities. Peter Davis (Hancock Museum) once again acted as course tutor and Bob Toynton as course administrator. The course will be run again on 14-18 April 1991 and we are currently seeking MTI accreditation.

(iii) Seminars

'Steneosaurs, sunflowers and schools' took place at Peterborough City Museum and Art Gallery on 22 March. This was a joint meeting with the BCG and

provided an opportunity to see the Museum's excellent new Geology and Wildlife Gallery. Martin Howe explained something of the history of the service while Gordon Chancellor, the meeting's organiser, described the ideas behind the new displays. Kate Pontin spoke on education in museums and Rosina Down on the BCG's 'Sunflower Campaign'.

A three-day meeting discussing 'Geology in Irish museums' took place in Dublin on 20-22 June. This, the Group's first international meeting, was well attended by geologists and curators from Great Britain and Ireland. The first day allowed delegates to make arrangements to see geological collections in Dublin. On the second day, following a welcome by Prof. Charles Holland of Trinity College, Patrick Wyse Jackson (the meeting's co-organiser), spoke on the College's collections, David Harper on the Mitchell Museum, University College, Galway, and Phil Doughty on the Ulster Museum. Following a tour of the College's collections, the meeting moved to the Geological Survey where Andy Sleeman spoke on the geological collections. The National Museum of Ireland formed the third venue for the day with Nigel Monaghan (also the meeting's co-organiser) speaking. Prof. Gordon Herries Davies gave an entertaining evening lecture on the history of Irish geology. The final day was spent in the field with a trip to Glendalough.

The Cromer Museum played host for the Group's two-day seminar on 'Collecting and identifying Pleistocene material' on the 10-11 October. Tony Stuart talked on collecting and identifying Pleistocene material, David Ward on his experiments with collecting technology and sieving massive samples, John Wymer on man in the Pleistocene, Bob Markham on the mystery of the Foxhall Jaw, and Martin Warren on making soft sediment peels. On a gloriously sunny second day Martin Warren, the meeting's organiser, led a field trip to West Runton and Sidestrand.

The Group's AGM took place at the Yorkshire Museum on 6 December with Paul Ensom organising a meeting entitled 'Recapturing the Initiative'. Following a welcome by Brian Hayton, Dr J. Morrell started the proceedings by examining the 'Heroic Age' of geology. Dr P Addyman then discussed the popularisation of archaeology, and Ian Rolfe spoke on some recent successes in geology. Graham Durant told the Group of his experiences of outreach to schools and Phil Phillips on successes in Merseyside.

(iv) Future Meetings

Four seminars are planned for 1991. In a joint meeting with the Group for Education in Museums in Haslemere

on 14 March we will be examining the role of museums in the National Curriculum. 'The Words and the Stones: geology displays for the general public' will take place in Perth on 5 June. A seminar in Plymouth will examine issues in vertebrate palaeontology and will probably follow the British Association meeting in the last week in August. The 1991 AGM will be held in Dudley on 5 December, with a field trip on the preceding day. The meeting will examine the many developments currently taking place in Dudley.

The Group plans to organise its next international meeting for 1992 probably on conservation. GCG also plans to be involved in the International Commission on the Geological Sciences' 16th International Symposium on 'museums and collections in the history of mineralogy, geology and palaeontology' on 9-15 September 1991, and in the Society for the Preservation of Natural History Collections (SPNHC) meeting in Ottawa on 6-11 May 1991.'

Simon thanked all the organisers of meetings during the past year. Bryan Meloy requested that proceedings of meetings be made available to those who could not attend. It was agreed that proceedings should be reported in *Coprolite*, Martin Warren to report on the York meeting. Steve Howe requested that the March meetings be in future moved to April, and so into the new financial year; this was agreed.

The Chairman thanked Simon for his report.

6. Treasurer's Report

(i) Membership

16 new subscriptions joined the Group this year (11 UK Personal; 4 Overseas Personal; and 1 UK Institutional). Total Membership is 464 and comprises:

UK Personal Members	258
Overseas Personal Members	45
UK Institutions	103
Overseas Institutions	58

In addition, the Group distributes 14 complimentary and copyright copies of *Geological Curator*.

(ii) Finance

The accounts for the period 16.11.89-6.12.90 appear below.

The most significant aspect of these accounts is the large drop off in subscription income between the 1989 and 1990 figures. It is vital that members pay their subscriptions on time and without being prompted. Those of you who have not paid will be hearing from me soon.

Printing of the *Geological Curator* continues to be our greatest expense but a very competitive price has been negotiated with Leicestershire County Council, which keeps costs as low as possible.

I would like to thank Tim Pettigrew and Ken Sedman for their annual audit.'

Margaret Green requested an earlier subscription reminder than the stiff letter which arrived towards the end of the year. Andy apologised, explaining that the transfer between Treasurers had caused some problems. Roy Clements asked if subscriptions could be paid by Bankers Order, and Andy agreed to investigate. Tom Sharpe pointed out problems persuading members to change their Orders when subscriptions were raised. Direct debit was too complicated to set up.

The Chairman thanked Andy for his report.

7. Editor's Report - Peter Crowther

(i) 1990

'Only one issue of the *Geological Curator* has been published this year, together with a separate *Index to Volume 2* which went to all subscribers. Vol.5, No.5 (Issue 2 for 1988), pp.173-216, was published 27 September, and the *Index to Volume 2*, pp.i-xlvi, was published 2 October. You will be surprised by the publication dates quoted above. Some copies were hand delivered on these days, but our bulk mailing for both Vol.5, No.5 and the *Index* was delayed until November due to (temporary) problems with the production of mailing labels from our computerised address list.

What the 1990 output lacked in quantity, it certainly made up for in quality. Vol.5, No.5 was devoted almost entirely to an important record of the varying fortunes of geological collections in Cheltenham by Hugh Torrens and Mike Taylor - from the heroic age of geology to the rescue curation of modern times. Cheltenham Art Gallery and Museums have purchased a number of run-on copies of this issue for sale in their shop. Justin Delair's *Index* is a triumph and represents a remarkable effort on his part which will undoubtedly make the contents of Volume 2 much more accessible to users - and perhaps even tempt a few people to purchase some back issues?

(ii) 1991

Papers due to appear next year include: 'The F. A. Paneth Collection of East Prussian Amber' by G. A. L. Johnson and D. L. Schofield, 'The Storeton Quarry discoveries of Triassic vertebrate footprints - John Cunningham's account' by Geoff Tresise, and 'John Watson and the Cambridge Building Stone Collection'

by Kate Andrew. There will also be an issue devoted to papers given at GCG's Dublin meeting in June 1990 with an introduction by the convenor, Patrick Wyse Jackson. Another four papers are presently going through the refereeing procedure. There is also much to go in the various columns and regular features, since these have not appeared since mid-1989.....

(iii) Production

Having reported with regret to the 1989 AGM a change of printer, following the general withdrawal of Leicestershire County Council's Reprographics Unit from non-council contracts, I am delighted that this policy was reversed early in the new year. Consequently, Vol.5, No.5 and the *Index* were printed in Leicester by Reprographics, to their usual high standards and extremely competitive rates. We are about to experiment with the production of camera-ready copy via the 'Pagemaker' desk-top publishing package and laser printer which, by doing away with the time consuming paste-up stage, should speed things up significantly.

(iv) Thanks

The Group owes particular thanks to John Martin (Keeper of Earth Sciences, Leicestershire Museums) for negotiating us back into the fold with Reprographics and also for taking on once again the onerous job of distribution. Dr Patrick Boylan's recent departure from Leicestershire Museums to City University gives me a final opportunity to thank him on the Group's behalf for all the encouragement he has given to GCG and its publishing activities during his Directorship. We look forward to many more years of cooperation under the new regime and thank Tim Schadla-Hall for his support thus far. Alongside John Martin in Earth Sciences, we must also thank Chris Collins, Gill Weightman and Mike Taylor for organising distribution, while in the office Judy Marvin continues to word process material for us accurately and quickly. Thanks in advance are also due to Monica Price (Oxford University Museum) who has rashly volunteered to apply her skills with 'Pagemaker' and an Apple-Mac to our journal next year.

Finally, many thanks to all who have contributed material for publication this year - without you there could be no *Geological Curator*!

The Chairman thanked Peter for his report.

8. Recorder's Report - from John Nudds

'The change of Recorder has again brought a change of emphasis in the Recorder's work. Very little has been added to the CING database, mainly due to the feeling expressed by many museums that they had had

a surfeit of requests from GCG in recent years for a variety of information. The database still resides in usable form at Leicester and copies exist with various committee members. New or updated returns can easily be added.

It was decided instead to embark on a new project which it is hoped will eventually result in the GCG publication of a *Directory of British and Irish geological museums*. This will include only those museums with significant collections and as an initial survey the 68 institutions listed on the 'Thumbs-Up' leaflet have been contacted. Replies have so far been received from 43 museums. Entries will be edited after Christmas to ensure a level of consistency, and will appear in the *Directory* in similar format to the 'Museum File' in *Geology Today*. I would still be glad to hear from any additional institutions not included in my initial survey.'

John requested the names of additional museums, not listed in the 'Thumbs-Up' leaflet, that should be included in the *Directory*.

John also reported on university museum developments. Since his last report in *Coprolite* the UFC has put its commitment to fund the exercise in writing. It is possible that funds will be released on 1 April 1991 but there is still no guarantee of this. He suggested a non-aggressive campaign directed at persuading Swinnerton Dyer, Lord Morris, the President of the Geological Society and the Chancellors of the five Collections Centre universities to put pressure on the UFC to release funds. There was general concern that time was running out and that a more aggressive campaign may be in order.

The Chairman thanked John for his report.

9. Public Relations Officer's Report - from Phil Doughty

Phil apologised for the absence of a typed report. His main role during the year had been to get factual information on the problems at the British Museum (Natural History). He had compiled a large file which had been used by the Committee and other Group members. He again raised the issue of the role of the PRO, pointing out that it was not being used to put museums in touch with the media. Both Phil and Simon would welcome ideas on what the PRO role should be.

10. National Scheme for Geological Site Documentation Coordinator's Report - from Mick Stanley.

(i) Geological Records Centre

'The database at the British Geological Survey now has some 11,000 records on file from 22 of the 53 Geological Locality Record Centres. 650 records are currently awaiting input and 3,600 are held in machine readable form by 6 Centres. There are still over 4,000 records held at Centres which should be forwarded to BGS by the end of December 1990. If you have not sent copies of your records, then please do so urgently. Please do not let the golden opportunity of providing a centralised record of sites be missed! The contract to BGS from the Nature Conservancy Council runs until mid-1991, but the last few months are to be used for the return of corrected data and the development and implementation of management, maintenance and access arrangements to the data. Most Centres will by now have received print-out for checking and approval; if you have not then please contact Alan Clayton at BGS.

(ii) Geology Locality Record

At the launch of the NCC's *Earth Science Conservation Strategy* on 5 December the RIGS scheme and the new Geology Locality Record were also launched. The Record is the first recording format to be made available nationally to both amateur and professional earth scientists to enable them to record sites in a structured, easy to follow and succinct manner. It is hoped that the Record will be used by RIGS groups, school and college students, geological societies and professionals and then forwarded to the appropriate Local Record Centre or direct to BGS where a Centre does not exist. The RIGS initiative will materially help Record Centres in providing new records for their files, but the scheme is not just one way as Centres will hopefully be intimately involved with RIGS groups and provide data to enable RIGS to be designated.

(iii) Field Recording Guide

Another benefit of producing the Geology Locality Record has been the realisation that a field recording guide was necessary to standardise data recorded in the field. Frequently it has been noted that two earth scientists, provided they were trained in different institutions, will record a quarry face in different ways. The guide should structure data recording along a consensus path, so that one earth scientist will know exactly what was recorded by another.

(iv) New Centre designated

No.53, Powys (Brecknock Wildlife Trust, Lion Yard, Brecon, Powys).'

Mick reported that the Open University would be producing a beginners' guide to field recording. He reported the successful launch of the *Strategy*, which had largely superseded the proposed 'Ways and Means' publication of the Conservation Committee of the Geological Society.

John Cooper said that it was up to Group members to set up their own initiatives to promote Earth Science Conservation using the *Strategy*, and county trusts must become more active. Leaflets were freely available to the public. Bryan Meloy questioned whether work had been done on the proposed development of 'Recorder' for geological sites since the NCC had been split up. Mick said that this was in hand.

Roy Clements asked whether it was time to establish a full-time post to promote RIGS and site documentation. Mick replied that Mike Harley had been appointed RIGS Officer for England from April, although there were no officers for other parts of the UK. This was not a responsibility for GCG.

The Chairman thanked Mick for his report.

11. Election of Officers and committee

All Officers agreed to remain in post for 1991 and, there being no other nominations, they were declared elected. The Committee nominated Tony Cross as an

ordinary Committee member and, there being no other nominations, he was declared elected.

12. Nomination of Auditors

Mick Stanley nominated Ken Sedman and Peter Davis as Auditors for the coming year; Roy Clements seconded and the proposal was carried.

13. Any other business

(i) John Cooper reported that he had heard strong rumours that Ludlow's natural history and geology collections were to be transferred to Shrewsbury where they would not have curatorial cover. This was especially a cause for regret after the excellent care given to the collections by John Norton before his retirement. John Cooper agreed to monitor the situation.

(ii) Mick Stanley (on behalf of Alan Cutler) raised the point that institutional members do not receive *Coprolite* (unless they specifically request it) and consequently do not get notification of meetings. It was agreed that Committee would try to resolve this problem.

14. Date and venue of 18th AGM

5 December 1991 at Dudley Museum.

Annual Accounts 1990 (16 November 1989 - 6 December 1990)

	1990	1989
<i>Current Account Income</i>		
Subscriptions	2234.50	3477.16
Sale of backnumbers	274.89	193.32
Advertisements	50.00	-
Sale of reprints	5.00	23.38
Meetings fees	158.30	90.00
<i>Guidelines</i> order	-	11.00
Donations	-	220.00
Cheque conversion	-	5.00
Inserts	60.00	-
'Thumbs-up' sticker	2.00	-
Sale of Vol. 5(5)	180.00	-
Reading Borough Council	180.00	-
Transfer from Premier Interest Account (PIA)	1900.00	1000.00
Balance	350.81	1203.08
	<u>£5395.50</u>	<u>£6222.94</u>

<i>Premier Interest Account Income</i>		
Interest	1292.92	1126.87
Transfer from current account	-	2200.00
Balance	10910.20	8583.33
	<u>£12203.12</u>	<u>£11910.20</u>

	1990	1989
<i>Current Account Expenditure</i>		
<i>Geological Curator</i>		
Printing	2445.63	1770.94
Postage	508.15	388.89
Typing	399.00	242.00
Handling	-	119.37
Stationery	-	154.08
Other expenses	-	18.00
<i>Meetings</i>		
Printing meetings cards	-	33.35
Post	-	134.90
Committee	146.30	70.40
Oxford	75.00	-
Cromer	105.00	-
<i>Coprolite</i>		
Print and distribute	771.36	-
<i>Other expenditure</i>		
CING expenses	-	43.65
Disc transfer	43.13	-
Sundries	31.11	-
Walks leaflet printing	-	615.25
'Thumbs Up' expenses	-	6.30
<i>Guidelines</i> order	-	11.00
NMW fee	-	50.00
Returned cheques	-	14.00
Bank charges	9.94	-
Design costs	112.50	-
Print new stationery	255.30	-
A. G. Brighton Fund donation	250.00	-
Geological Society	100.00	-
Transfer to PIA	-	2200.00
Balance	143.08	350.81
	<u>£5395.50</u>	<u>£6222.94</u>

<i>Premier Interest Account Expenditure</i>		
Transfer to current account	1900.00	1000.00
Balance	10303.12	10910.20
	<u>£12203.12</u>	<u>£11910.20</u>

Total Income	4437.61	5146.73
Total Expenditure	5252.42	3672.13
Surplus [Deficit]	<u>£814.81</u>	<u>£1474.60</u>

[signed] A. Newman *GCG Treasurer*

[signed] T. Pettigrew and K. Sedman *Auditors*

GEOLOGICAL CURATOR

Publication scheme

Three issues of the *Geological Curator* are published for each year; a complete volume consists of nine issues (covering three years) and an index.

Notes to authors

ARTICLES should be submitted typed on good quality paper (A4 size) double spaced, with wide margins. Two copies should be sent to the succeeding Editor, Patrick Wyse Jackson, Department of Geology, Trinity College, Dublin 2, Ireland. Line drawings should be prepared in black ink at twice desired publication size. Photographs for halftone reproduction should be printed on glossy paper. Both drawings and photographs should be proportioned to utilise either the full width of one column (85mm) or two (175mm). References in the text follow the Harvard system, i.e. name and date '(Jones 1980)' or 'Jones (1980)'. All references are listed alphabetically at the end of the article and journal abbreviations should follow the *World List of Scientific Periodicals* where appropriate. Authors will normally receive proofs of text for correction. Fifty reprints are supplied at cost. Major articles are refereed. Copyright is retained by authors.

WORD-PROCESSED ARTICLES: please also send your article on disk specifying your computer make/model, your operating system (e.g. MSDOS5.0), the word-processing package you use, and the document name. Further guidance on word-processed articles can be obtained from the Editor. Your disk will be returned to you after use.

Regular features

LOST AND FOUND enables requests for information concerning collections and collectors to reach a wide audience. It also contains any responses to such requests from the readership, and thereby provides an invaluable medium for information exchanges. All items relating to this column should be sent to the Editor (address above).

NOTES AND NEWS contains short pieces of topical interest. Please send contributions to the Editor (address above).

CONSERVATION FORUM helps keep you up to date with developments in specimen conservation. Information on techniques, publications, courses, conferences etc. to Christopher Collins, Sedgwick Museum, Department of Earth Sciences, University of Cambridge, Downing Street, Cambridge CB2 3EQ (tel. 0223 62522)

BOOK REVIEWS contains informed opinion about recently published books of particular relevance to geology in museums. The Editor welcomes suggestions of suitable titles for review, and unsolicited reviews can be accepted at his discretion. Publishers should submit books for review to the Editor.

INFORMATION SERIES ON GEOLOGICAL COLLECTION LABELS consists of loose A4 size sheets, issued irregularly, which carry reproductions of specimen labels usually written by a collector of historic importance. The aim of the series is to aid recognition of specimens originating from historically important collections.

Advertisement charges

Full A4 page £60 per issue

Half A4 page £40 per issue

Quarter A4 page £25 per issue

Discounts for space bought in three or more issues

Further details from the Editor.

Inserts such as publishers' 'flyers' can be mailed with issues of the *Geological Curator* for a fee of £60. 550 copies of any insert should be sent to John Martin, Leicestershire Museums, Arts and Records Service, 96 New Walk, Leicester LE1 6TD.

Subscription charges

UK Personal Membership £7 per year

Overseas Personal Membership £9 per year

UK Institutional Membership £10 per year

Overseas Institutional Membership £12 per year

All enquiries to the Treasurer/Membership Secretary, Andrew Newman, Department of Archaeology, University of Newcastle, Newcastle upon Tyne (tel./fax 091 222 7426)

Backnumbers

Backnumbers of the *Geological Curator* (and its predecessor, the *Newsletter of the Geological Curators' Group*) are available at £2.50 each (£5.25 for the double issues of Vol. 2, Nos. 9/10 and Vol. 3, Nos. 2/3; £7.50 for Vol. 4, No.7 Conference Proceedings) including postage. Orders should include payment and be sent to John Nudds, The Manchester Museum, The University, Oxford Road, Manchester M13 9PL (tel. 061 275 2634)