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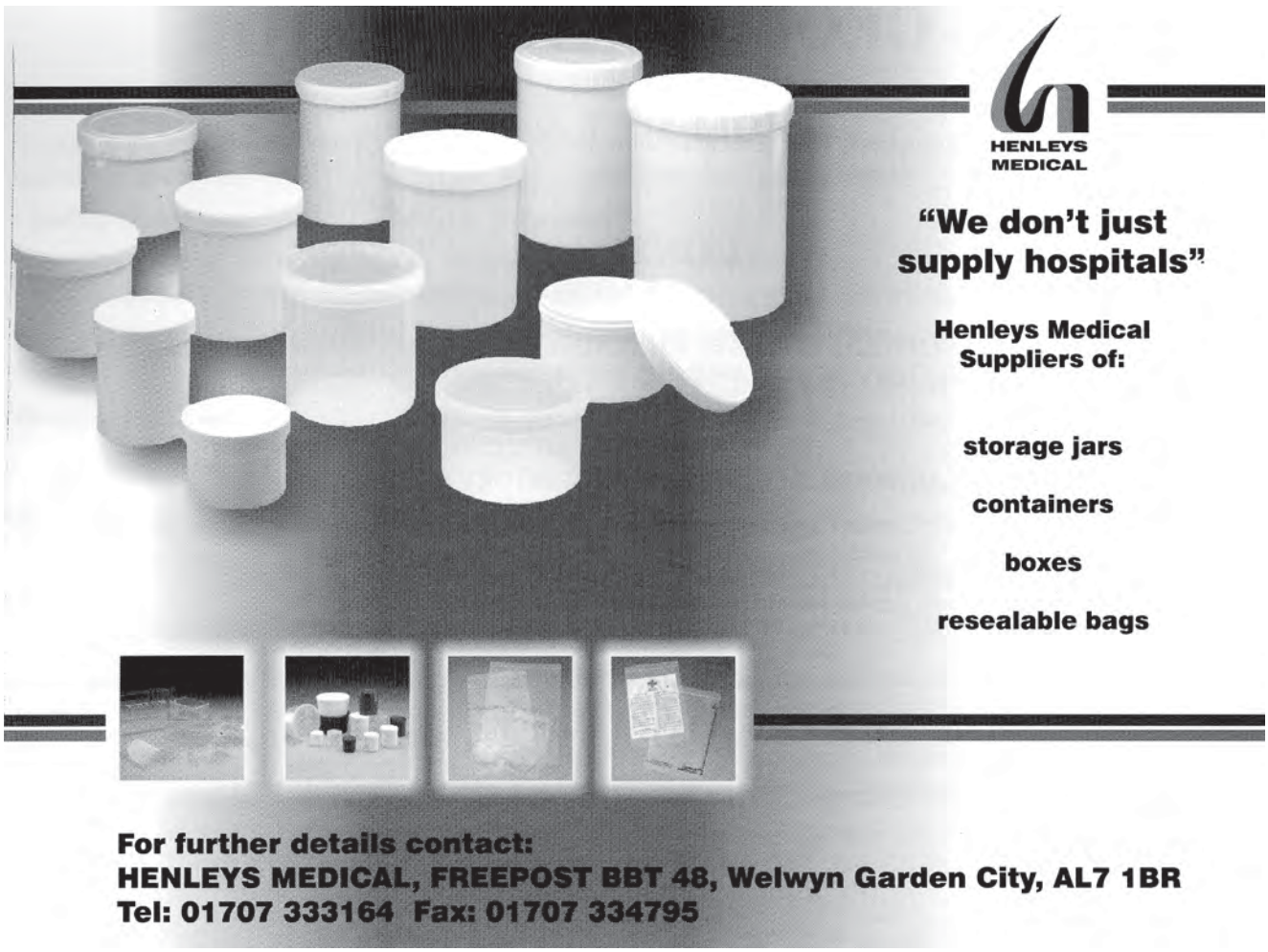

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3rd March 2000
Julie Rhodes

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

transcribed by Parry Thornton

Thornton, P. 2002. Three lectures on the life and literary character of the Rev. Dr George Young D.D., by Martin Simpson, February 1862. *The Geological Curator* 7(7): 235-261.

Introduction

The following three lectures on the Rev Dr George Young (1777-1848) were intended to be given, in 1862 to successive meetings of the Whitby Literary and Philosophical Society (founded 1823) by its then Curator, Martin Simpson (1800-1892). In the event only the first lecture was delivered, the mild criticisms of Dr Young voiced by Simpson on that occasion, which resulted in adverse press reports and the publication of letters of disapprobation, apparently being unacceptable to the Society's Council and Members. In fact, as will be seen, the subsequent lectures were not to contain any further criticism of Young; but Simpson had, it seems, seriously misjudged the temper of his audience. Delivered only fourteen years after Young's death, many who heard the lecture, or read the press reports, would have known him personally, and the 'historian of Whitby' was at that time, and for many years thereafter, held in such high esteem in the town generally as to be virtually beyond criticism. To provide the present reader with a context for the lectures, they are prefaced by brief biographical accounts of George Young and Martin Simpson, and a short historical note on the Whitby Literary and Philosophical Society.

George Young (Figure 1) was born the son of a Midlothian farming family about ten miles from Edinburgh and, but for the accident of being born without a left hand, would probably have managed the farm in his turn. His mother, and her schoolmaster father, were evidently able to turn this physical disadvantage to her son's intellectual advantage. His early introduction to the Bible, which he was reading at the age of six years, and to Latin and Greek, was sufficiently thorough to enable him to enter Edinburgh University at the age of fifteen He completed his University course in 1796 with high honours, having distinguished himself in literary, mathematical and philosophical studies and having fulfilled the requirements of his church preparatory to undertaking the theological studies necessary for entry into the ministry. The next five years were spent at Divinity Hall, Selkirk, where Young studied under to such good effect that he was licensed to preach the Gospel, by the Presbytery of Edinburgh of the Associate Secession Church, in March 1801.

It may be presumed that Young spent the next four-and-a-half years in some sort of 'apprenticeship' in the practical ministry or possibly being engaged, as was usual with young candidates for the ministry in Scotland, as a private Tutor, but where and when, and whether he was a candidate for, or held, pastoral any appointment prior to 1806 is not known. Young first visited Whitby in the summer of 1805. In January 1806 he was ordained as 'Minister of the Associate Congregation of Cliff Lane' – a position which had been vacant for two years, and which he then held for the next forty-two.

During those years, and without neglecting in any way his pastoral duties, Young found time and energy to become founder and first secretary, in 1812) of the short-lived Whitby Botanic Gardens (*Catalogue of Plants*, 1814); and also, in 1823, of the Whitby Literary and Philosophical Society, which still flourishes 178 years later. In addition to many published sermons, tracts, and scientific papers, he published, in 1817, a two volume *A History of Whitby* which immediately became, and remains, a standard reference for local historians.. This was followed, in 1822, by *A Geological Survey of the Yorkshire Coast* ('Assisted by John Bird, Artist' - second, enlarged, edition 1828). Between the two editions appeared A Picture of Whitby, 1824 (updated edition 1840) a condensation of his *History*, and during 1827 and

Figure 1. Rev. George Young of Whitby (1820)

1828 Young was editing the monthly *Whitby Panorama*. His last significant work was a paper submitted to the Geological Section of the British Association in 1838 – *Scriptural Geology; or An Essay on the High Antiquity Ascribed to the Organic Remains Imbedded in Stratified Rocks*.

Young married Margaret Hunter, a local woman from the nearby Independent congregation, in 1826. There were no children. Margaret Young died in September 1846; George Young himself, who became ill in November 1847, died in May 1848.

The title *Scriptural Geology* contains the clue to his approach to science in general and geological investigations in particular. He had a simple and unshakable belief in the scriptural accounts of both the creation and the deluge, and confidently anticipated that, whatever passing theories might emerge from discoveries then being made (and to which *Scriptural Geology* was intended to provide counter-arguments) the facts would ultimately, and inevitably, confirm his belief in the revealed word and expectation of salvation.

Whitby Literary and Philosophical Society

There can be little doubt but that it was the experience of studying Whitby and the Vicinity for the purposes of the *History* (which was also a topographical account) that persuaded him to promote so enthusiastically the foundation of the Whitby Museum, and to continue as one of its chief supporters for the remainder of his life. Nor can it fail to be the case that the reading of the *History*, of which above 850 copies were subscribed for, and about 1,200 printed, greatly influenced the 'Ladies and Gentlemen of Whitby and its Vicinity' whose 'approbation [as] friends of learning' was sought, at a public meeting on 17 January 1823, called to 'establish a Society for collecting and supporting a Whitby Museum'.

George Young was appointed a joint secretary of the new institution, and his collaborator on the *Geological Survey* its first curator. Young wrote the minutes of every meeting until 1831, and drafted 21 of the first 25 *Annual Reports* – the publication of his last, that for 1847 being delayed by his fatal illness. He also provided lectures, both for and in aid of, the Society; papers for its meetings, conducted its correspondence, and to Young were delegated many other tasks on its behalf.

Having started in two rented rooms over a shop, in January 1827 it moved to the second floor of the new building in Pier Road, on the ground floor of which were public baths, and on the first floor a subscription library (Figure 2). Young and Bird were charged with

Figure 2. Whitby Baths, Subscription Library and Museum in 1827 (From a drawing by John Bird).

Figure 3. Martin Simpson

overseeing the arrangement of the museum in the new rooms, and thereafter Young kept a keen eye on the state of the collection, which rapidly became a victim of its own success. New cases, new labels, new arrangements, and selective disposals were needed, and it was Young who arranged these matters, and proposed the 'engaging Mr. Martin Simpson, the Lecturer, for a limited time as Keeper of the Museum' - having already discussed the 'job description' and the 'very moderate' terms of remuneration with his friend.

In the late 1920s, rather than extend the Pier Road building, which had by then been purchased outright, the Society determined to build anew in Pannett Park – the size of the new museum being dictated by the wall needed to display *Ichthyosaurus crassimanus*. The Kendall Room (for the Library) was added in 1946; the Chapman Wing (for the Cook and Scoresby collections) in 1952; and a further extension (for additional display, research rooms and cafe) to be funded by the National Lottery Heritage Fund, is presently being planned.

Martin Simpson (Figure 3), by twenty-three years Young's junior, was born at Stainsacre, Whitby, and apprenticed to a cabinet-maker at the age of thirteen, but (in circumstances unknown) 'As a young man ... he was kindly taken notice of by Dr. Young, the historian, and it has even been said that he assisted the Doctor in his geological and scientific researches.' He may also in his youth have become known to Dr. Scoresby and John Bird, but at the age of sixteen, on the death of his master-mariner father, he entered Edinburgh University and, on completing his studies, having contemplated and rejected a career in the ministry, Simpson became a schoolmaster and public lecturer on many scientific subjects, principally in the West Riding.

Throughout this period Simpson and Young maintained a correspondence, and it was through Young's agency that he returned to Whitby in 1835 to give a short course of lectures and, two years later, as Lecturer and Keeper of the Museum, where he found:

> ... a large accumulation of fossils from the Yorkshire strata, chiefly the Lias, which, through want of means of displaying them had remained untouched for many years. As many of them had not been named, and others, though named, had been only imperfectly described, or described in books inaccessible, I

> resolved to make my own book and wrote descriptions of every fossil which came under my notice.

His *Monograph of the Ammonites of the Yorkshire Lias* was first published in 1843, and Simpson was accepted as the foremost authority on these fossils, which were the principal subject of his further studies and publications for the next forty years and more. (*The Fossils of the Yorkshire Lias*, 1855; *A Guide to the Geology of the Yorkshire Coast*, 1856.) But Simpson was nothing if not versatile - 'I must have variety of employments' he wrote: and indeed (comments Browne) they were employments and not dilettante dabblings.

Examples of his variety of interests include fully worked-out plans for a new Museum (70 years before their time); proposals for a reference library ('for that small but not altogether undeserving number of persons who devote their time to intellectual pursuits'); local topography (*A Guide to Whitby*); agriculture, horticulture, natural history, the history of England (*History of the Reign of William the Third*, published in 1881, with more volumes projected); and ... 'I take the deepest interest in everything which relates to the doctrines, ceremonies, and maintenance of the Established Church'

Simpson, described by the *Whitby Gazette* (Anon. 1893) as 'a man of sturdy, rugged independence of character, and of an almost primitive simplicity of life and manners' died on the last day of 1892 a 'poor, lonely and embittered' old man, still in harness at the age of ninety-two and still being paid his salary of £10 a year. He was buried in Sneaton churchyard, but no one now knows which is his grave. In Browne's words 'he had laboured for over fifty years in unravelling some of the secrets of the local rocks and fossils ... he had become well known to geologists from all parts of the world who visited Whitby to see the results of his labours ... he had built for himself ... a permanent and unassailable position as a geological pioneer, who will be always admired, respected, and honoured by those who follow after him.' That was Browne's view in 1946; in 1957 was published this tribute from the Whitby photographer, Frank Meadow Sutcliffe:

> Whitby Museum ... was fortunate in having three geologists who were in advance of their time - Dr. Young, [John] Bird, and Martin Simpson ... of the three, Martin Simpson was undoubtedly the greatest genius, today geologists speak of him with their hats off, in hushed tones.

In the transcripts that follow the numbers in parentheses refer to the footnotes given at the end of the text.

References and sources

ANON. 1849. Memoir of the late Rev George Young, DD, March, 1849. *The United Presbyterian Magazine*, 97-103.

ANON. 1849. Brief Notice of the Late Rev George Young DD, March 1849. *The Evangelical Magazine*, 113-117.

ANON. 1893. Obituaries. *Whitby Gazette & Whitby Times*, 6th January 1893.

BROWNE, H.B.B. 1946. *Chapters of Whitby history 1823-1946*. A. Brown & Sons, Hull and London, 339 pp.

HEMINGWAY, J.E. 1946. *In* Browne, H.B.B. *Chapters of Whitby history 1823-1946*. A. Brown & Sons, Hull and London, 339 pp (93-105).

HEMINGWAY, J.E. 1957. *In* Keighley, M. *Whitby writers: writers of Whitby and district, 1867-1949*. Printed for the author by Horne & Son, Ltd., Whitby, 240 pp (20-22).

KEIGHLEY, M. 1957. *Whitby writers: writers of Whitby and district, 1867-1949*. Printed for the author by Horne & Son, Ltd., Whitby, 240 pp.

MORTENSON, T. 1996. *British scriptural geologists of the first half of the Nineteenth Century*. Coventry University, unpublished thesis.

SMALES, G. 1867. *Whitby authors and their publications, with the titles of all the books printed in Whitby AD 670 to 1867*. Horne & Son, Whitby.

SUTCLIFFE, F.M. 1957. *Whitby writers: writers of Whitby and district, 1867-1949*. Printed for the author by Horne & Son, Ltd., Whitby, 240 pp (30-31).

WHITBY LITERARY AND PHILOSOPHICAL SOCIETY. 1924-date. *Annual Reports*.

A lecture on the Literary
character of the late Rev. G. Young D.D.

Man has always been considered
a proper study for man, and whe-
ther by this expression we understand
human nature in general, or the dis-
positions and actions of individuals,
the subject is replete with interest
and instruction; it is not only a
source of mental gratification and
power, but it assists us in forming
the true principles of religion and
morality, and trains us to the better
performance of the active duties
of life. If by the expression we un-
derstand a philosophical knowledge
of human nature, or the constitution
of man; still this kind of knowledge
can be obtained only by the study of
the lives of individuals, and by care-
fully watching the operations of our
own minds.

Figure 4. The first manuscript page of the first lecture.

[1][1]

A lecture on the Literary character of the late Rev. G. Young D.D. delivered to a meeting of that Society[2] on the evening of Tuesday, 11 February 1862.

Man has always been considered a proper study for man, and whether by this expression we understand human nature in general, or the dispositions and actions of individuals, the subject is replete with interest and instruction; it is, not only a source of mental gratification and power, but it assists us in forming the true principles of religion and morality, and trains us to the better performance of the active duties of life. If by the expression we understand a philosophical knowledge of human nature, or the constitution of man; still this kind of knowledge can be obtained only by the study of the lives of individuals, and by carefully watching the operations of our own minds.

But taking the expression in its more popular acceptation, as relating to the motives and general conduct of individuals, as they are manifested in the great drama of life, the subject is one of the deepest interest and importance; because whatever be our moral and religious principles the example of others has a very powerful influence upon the tener (*sic*) of our own conduct.

As this is the case in religion and morality, so also it holds good in the cultivation of the intellect and the pursuits of learning, to which our attention this evening must be chiefly confined. And whilst the lives of all men who have in any way been distinguished for learning, for intellectual vigour, or for the peculiar circumstances in which they have been placed in life, are proper subjects for our contemplation and study, the lives of those with whom we have been intimate, and who have been placed in circumstances somewhat similar to those in which by providence we ourselves are called to act a part, are peculiarly fitted for our instruction; though they may not have attained to the highest distinction for learning and intellectual greatness.

From such considerations as these, I thought it might not be improper, or unprofitable, to spend a short time in reviewing the literary character and pursuits of the late Rev. Dr. Young, who did so much in founding this institution, and who, with unwearied diligence and perseverance, watched over its interests, and preservation, during that season of apathy and reaction which generally follows the excitement raised by the formation of new institutions. To use the words of another of our deceased friends, who also materially contributed to the foundation and maintenance of this institution, he was "*one of the Secretaries and for upwards of a quarter of a century one of the most active and liberal supporters of the institution. He was a pious, learned, intelligent, and instructive Lecturer on popular scientific and antiquarian subjects; and it was mainly owing to his fostering care and direction, that the Museum attained so distinguished a reputation*"[3] In all this every one acquainted with the history of this Society will readily concur; and if we cannot claim for Dr Young, the highest distinction for genius and learning, which have gained for some men universal celebrity, and rendered them conspicuous in a nations (*sic*) history, he certainly occupies a distinguished place in the annals of the town in which he so long resided, and upon which he conferred substantial and enduring benefits.

Dr. Young first brought himself into general notice as a man of letters in 1817, by the publication of his History of Whitby. He had then been in the town 11 years and was[4] in the 40th year of his age. By this time he had acquired a very large amount of knowledge. Besides the Classical, Mathematical, and Scientific knowledge acquired at the University of Edinburgh, along with a respectable knowledge of French and Italian, he had also gained an extensive knowledge of the Hebrew, Chaldee, Arabic, Syriac and other oriental languages and dialects, necessary for the critical study of the Sacred Scriptures; and in the Anglo-Saxon language, he was appealed to by scholars as amongst the highest authorities; whilst he had explored with great diligence the Latin authors of the Middle ages.

His literary labours at this period of his life were excessive; and I have heard him say that he never took even a walk of recreation for many months together. When he took up any branch of study he pursued it with great avidity and perseverance, but in all his literary and scientific pursuits, he was very utilitarian; and perhaps he never pursued any branch of knowledge entirely for its own sake; but as an instrument for accomplishing some ulterior object. From this cause, and from having a multitude of things pressing on his mind at the same time, though a highly respectable scholar, he never attained the highest degree of excellency in any branch of learning. There can be no doubt that he might have stood amongst the highest rank, in mathematics; for when attending the mathematical class in the University, he had only one equal, but he told me that after leaving the class, he never once more directed his mind to the subject.

He[5] had excellent talents as a naturalist; patient and accurate investigation, a clear and discriminating mind, whilst method and lucid management characterized (*sic*) all his operations; and he had attained considerable knowledge of natural history, especially of Mineralogy, but he pursued it only so far as he found it necessary for the performance of other objects which he had in view.

With such knowledge, and with that industry and perseverance, which the acquisition of such knowledge manifests, he was well fitted for bringing to light the early history of a place hidden in the obscurity of dark and semibarbarous ages, when institutions for the promotion of learning and civilization were disturbed by internal commotions and civil war, or swept away by the devastations of foreign plunderers.

Great changes had also taken place in the trade and prosperity of the town, since the publication of Charlton's History, which opened a new field for the pen of the local historian, and there was much interesting matter connected with Charlton himself, and his contemporaries, and immediate successors, which could not have been introduced into Charlton's History. All this tended to render his work popular, and it was reviewed with general favour by all parties, and it greatly raised him in the esteem of men of learning and antiquarian research.

Young pursued all things very systematically, one pursuit rose out of another, and he was never satisfied with a superficial knowledge of any thing within his reach. His classical studies and his pursuits in oriental literature, no doubt led him to the study of antiquities, a branch of learning with which, above all others he considered himself the most familiar. The study of natural history necessary for drawing up an article on Mineralogy, and the Natural History of the district, inserted in the History, led to his undertaking the Geological Survey of the Yorkshire Coast; and that was interwoven with the formation of a Botanical Society, and the establishment of the Museum, in both of which he appears to have been the principal mover. He also tells us that the pleasure he experienced in preparing a sketch of the life of Cook, for the biographical department of the history of Whitby, led him to write the life of that celebrated navigator.

Upon these three works the literary character of the late Dr. Young chiefly depends; for although some of his theological works, exhibited considerable learning and talent, I do not know that we can gather much respecting his literary character from them, which we may not obtain from other sources; and any very particular reference to these works, might lead us into observations inconsistent with the restrictions observed by such societies as ours, and with that consideration and regard which we all wish to observe towards each others (*sic*) religious sentiments.

His only remaining works of a literary and scientific character with which I am acquainted, are the picture (*sic*) of Whitby, which is an abstract of the History; and a paper on Geology read at Newcastle before the British Association for the promotion (*sic*) of Science,[6] and another written in defence of the paper.[7]

The History of Whitby[8] no doubt is his principal work, it was written in the best period of his life, and the subject was most in accordance with his previous studies and pursuits. Every one acquainted with this work will readily allow that it is one of uncommon labour and research: all available sources of information were sought out and scrutinized with the greatest care and perseverance; and if he has occasionally fallen into error, his conclusions are always expressed with the greatest clearness; so that no one can mistake his meaning; and every thing[9] relating to dates is brought out with mathematical precision. It was here that Young's talents met with a favourable field for exercise.[10] He possessed in a remarkable degree the power of separating every subject which came before him into its proper elements; and of viewing it with a clear and orderly mind. His plain style was also not unsuited for a work of this kind, and contrasts favourably with the florid diction of Mr. Winter, who commenced the History; so that though the subject may sometimes appear dry and some of the investigations tedious, the work to an inhabitant of this place, at least, is highly interesting; several errors of former authors have been corrected, and some additional light has been thrown on the early history of the northern parts of this country.

It was not to be expected that the History of a place so obscure as Whitby was at the time when it was published should attract any wide popularity, but it was favourably noticed by two of the principal journals of that day. In the Gentleman's Magazine for May, 1818, we find the following notice " *Mr Young has taken much laudable pains to produce a well digested History of a town of no small consequence, and has furnished a brief sketch of an extensive range of country, in what might with much propriety, be called the Terra incognita of Yorkshire*." The Monthly Review for Oct, 1819, says "*The entire work forms a learned and comprehensive account of the district to the topography of which it is consecrated, and it will be considered as a welcome addition to those libraries which are intended to include the voluminous set of our county histories. So much Saxon learning, indeed so judicious a criticism of monuments, so compressed a collection of materials, and so complete an inclusion of every expedient topic, are seldom to be found in the local chroniclers. We have only to wish that volumes so remarkably well executed, may speedily attain a second edition, and be reprinted in a more magnificent form, to which honour they are well entitled*.["]

The work was commenced by Mr Richard Winter, who had collected with great labour a considerable stock of materials, and had prepared a few pages for the press, when he was prematurely cut off by the hand of death. That his labours might not be altogether lost to his widow and family, Young undertook the work, with the assistance of Mr. Bird, who being a native of the place, and well acquainted with the neighbouring[11] district, was able to render important information: Mr. Bird[12] had also paid particular attention to its[13] antiquities, and natural history, and contributed a great part of the article on Mineralogy. The town appears to have taken a warm interest in the publication of the work for above 850[14] copies were subscribed for and according to the best information I can obtain, 1200 copies were printed.

The work appears to me the result of original investigation, and I cannot see that he has derived much assistance from his predecessor, Charlton.

Charlton's history possesses great merit, and it tended greatly to raise the literary character of the town. It is also written in a pleasing and vigorous style very remarkable as the production of one engaged in the laborious occupation of a schoolmaster. Charlton also appears to have had a competent knowledge of the ancient classic authors, and to have been a man of good literary taste, whilst[15] he pursued his subject with great assiduity and labour: but Young appears to have had access to all the orginal documents seen by Charlton, and many more both of a

public and private nature. Young also possessed a greater amount of knowledge, the result of a more extended academical education, and long continued and uninterrupted study; and he also brought to the task a larger amount of antiquarian lore.

On the Geological Survey of the Yorkshire Coast[16] I had an opportunity in a former lecture of making some observations, which need not to be repeated. It consists of Three Parts;

1st A description of the Strata.

2nd The petrifactions.

3rd Facts and inferances (*sic*); to which he has added some hints and conjectures.

The first part is undoubtedly the most valuable, and is the result of great labour, and considerable pecuniary sacrafice (*sic*). Mistakes in this part no doubt have been made; but with very little exception, it is exceedingly accurate; and is is still, as far as I am aware, the only detailed account we have of the western outcrop of the strata of Eastern Yorkshire; embracing the Howardian hills, and those overlooking the vales of Cleveland and York. The inferences also drawn from the facts are in general highly philosophical and correct. These two parts of the work , I conceive,[17] with a few omissions might very advantageously to science be republished. The discoveries made in Organic Remains since the work was published, have been so numerous, that the 2nd part has in a great measure been superseeded (*sic*). Still a considerable portion of this is highly valuable, both because the descriptions are original, and being made at an early period are necessarily refered (*sic*) to as an authority for names. If these descriptions were drawn up in a brief and tabular form, they would be the more valuable, because the more easily referred to. Whatever be the advantages to science by the publication of this work, or however much of reputation it may have added to the authors, in a pecuniary point of view, it was very unsuccessful; and all the profits of their previous labours were swept away. Some profits might have been derived from the 2nd edition, but the publication of it was so long delayed by some unhappy differences which had arisen between the authors, that the interest which had been excited by the 1st edition had subsided; and a new rival coming into the field proved fatal to its success.

Young's life of Captain Cook[18] was published in 1836, and dedicated to King William the fourth, but it appears to be little known beyond this neighbourhood, even to those who take the most interest in the fame of the great navigator; and the errors of Cook's early biographers are continually repeated. Some negotiations were entered into between the author and Mr. Murray the publisher, with the view of the life[19] of Cook becoming a volume in the family library, then under publication; but as Young had made some strictures on the slanderous statements respecting[20] the Missionaries who were labouring in the Pacific Islands, contained in a previous volume of that publication, and as he was not willing to suppress these strictures, the negotiation was dropped; and the work, like so many other Whitby publications, was published by subscription. Had the work formed a volume in one of those series which were then so much in vogue, its fate might have been very different from what it is a present, although many of the works then popular are now but little known or enquired after. As there were nearly 350 copies subscribed for, the author might perhaps receive what would cover the expense of publication, but he could scarcely obtain any remuneration for the labours of authorship.

Little was done at the time of publication to bring the work into public notice, and whether it will now ever become popular seems very questionable. The present attempt however to raise a national monument to the memory of Cook, may possibly lead to a republication of the work. Young's is the only correct account of Cook's early life; and considering his diligence and perseverance, and the favourable opportunities he possessed of obtaining accurate information, it is not likely that much remains to be discovered respecting the early history of the illustrious navigator. Young undertook the work with a true love of the subject, and pursued it with something like enthusiasm; and though it may not possess those graces of style which distinguish the works of genius, there is nothing in the style offensive to good taste, and whenever I have taken it up to read a few pages I have always found it highly interesting and edifying.

In epistolary[21] correspondence Young possessed great neatness, order, and good sense; and I suppose he would have made an excellent man of business, had his lot been cast in that direction. I may have had from him somewhere about 200 letters, which I thought highly of at the time when they were received, and I preserved them for many years; but afterwards, when I came to examine them carefully, they did not appear to possess that high literary merit which could render them models of epistolary correspondence, or relate to any important subject which could give them public interest; and I now possess only a few, which remind me of kindness rendered, and some which are testimonials of my own character.

Young's chief merits as an author consist in his originality, orderly arrangement of his subject, and the accuracy of his details. He never contented himself with copying the work of preceeding (*sic*) authors, but whenever it was possible had recourse to original documents, although this must have often been done with immense labour; and in his descriptions of natural objects, he stated only what he saw.

He did not appear to have that powerful grasp of intellect by which rapid inroads are made into the region of knowledge, or those inspirations of genius under which distant analogies and relations of things stand before the mind as it were by intuition. He did all things by small and repeated efforts, taking his subject to pieces and examining its component parts with careful attention and systematic order. In this way if he never penetrated so deep as some men have done, he was never far wrong. From this habit of minute scrutiny and analysis, he not only obtained a distinct view of his subject, but he had acquired the power of arranging his matter in a clear and lucid order. His views are generally correct, his matter is always interesting and

useful, his style is also neat and grammatical, and with fewer Scoticisms than are often found in the writings of those who have received their early education in the northern part of our island. His style however though always neat, seldom rises into elegance. His sentences always clear and intelligible, are often bald and deficient[22] in that fullness of expression which is necessary to make literary composition attractive to common readers.

Dr. Young possessed considerable talents and resources as a controversialist but he is not always honest, or perhaps the dupe of his own plausibility, and sometimes he appears more desirous of annoying his adversary than of establishing the truth by fair argument. He also seems to have fallen in some measure into the bad taste and punning method of some of our old writers, which lowers the dignity of his discourse. These blemishes however only appear sometimes, and the greater part of his works are [23] free from them.

As fair specimens of his literary composition one may take a few extracts from his works[.]

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Geo. Sur. Page 26 [24]

A writer in the Philosophical Journal had fancied that not only the overflowing of the intermitting springs called the Gipseys was caused[25] by the ebb and flow of the tide but that the whole bed of clay extending from Flambro Head to Spurn Point rose and fell with the flowing and ebbing of every tide. This idea is so preposterous that it might justly have been left to merited neglect. But the oppertunity (*sic*) was tempting and Young falls upon him with a good deal of zest. He commences with an apostrophe to Holderness

> Alas! poor Holderness, hard is thy fate! Other lands may be visited with earthquakes once in half a century: but thou art doomed to suffer an earthquake twice a day;- an earthquake which heaves thy bowels and makes thee vomit out thy waters, even at the distance of many miles from thy coast? Tough indeed must be thy clayey tunic, that has so long held together, under these daily convulsions. Well may historians report, that part of thy shore has been lost, and that some of thy towns have sunk in the ocean; for it is marvellous that such reiterated shocks have suffered even a fragment of thee to exist.
>
> The author of this hypothesis might almost as well have accounted for these phenomena, by adopting one of the fables of the ancients, and applying it to this district, He might have alleged, that a mighty giant, another Enceladus or Typhoeus, such an one as could set Ossa upon Pelion, or Rosebury Topping upon Black Hambleton, lies buried alive under Holderness and the Wolds, with the Wolds on his head, and the Spurn on his feet (and *spurn* seens to have a natural connection with *feet*); and that this son of Titan, whenever old Ocean lashes his sides, begins to puff and blow, trembles in every limb, sweats at every pore, and vomits forth, - not smoke, and flames, and liquified stones, like his brother who groans under the weight of Mount AEtna, - but streams of pure water!

His remarks on Dr Bucklan's (*sic*) views respecting Kirkdale Cavern are much in a similar style Page 305

> Some of Dr. Buckland's collateral proofs of his theory appear to be the offspring of fancy, rather than the result of accurate observation. Such are his arguments drawn from the broken state of the marrow bones, and the curved fractures of some of them. The marrow or hollow bones are the very bones that we might expect to find broken, by whatever agent they were demolished; and a curved fracture might be produced by dashing against the ledge of a rock, as readily as by the bite of a hyaena's jaws, with which he supposes the curvature to correspond. Among the many hundreds of bones which we examined, we never saw any vestige of the gnawings of hyaenas, which he speaks of, nor any marks of the action of teeth, save only of the teeth of Time.

After stating some objections to Dr Buckland's theory he goes on to say Page 307

> A stronger objection to Professor Buckland's notions, arises from the discovery of so many broken bones of birds, rats, mice, weasels, and other small animals, among the relics. Granting that hyaenas might feed on such small creatures, for lack of better prey, is it credible that they would tear their little carcases to pieces, break their bones, and scatter them all over the den? Supposing that the hyaenas would make a prey of a mouse as well as of an elephant, and feed on a rat as greedily as on a rhinoceros, can we imagine, that they would take the trouble to convey such minute creatures into their den? Or, if we grant that a hyaena might scamper home with a couple of rats or mice in its mouth, would a creature of such "omnivorous appetite" have the patience to dissect them, to break and gnaw their bones, and to suck out the marrow? Would he rather not snap them up like shrimps, at one morsel; and leave us no chance of finding any of their relices in the den, except as forming a component part of the balls of *album graecum*?[26]

As examples of a better style we may take the first two paragraphs in his *Picture of Whitby*[27]

> To inquire into the origin of cities and towns, to trace their progress or mark their decay, and to compare their present with their former condition, are exercises calculated not only to gratify a laudable curiosity, but to improve the mind and ameliorate the heart. While[28] creation presents a splendid volume of the works of the Deity for the perusal of the intelligent observer, the events of Providence unfold another volume, where we may read the most precious and salutary lessons; especially if we view it in connection with the volume of inspiration, by the pages of which it is richly illustrated.
>
> Next to our own personal or domestic concerns, it is natural for us to take an interest in the affairs of the

> place which gave us birth, or the spot where our lot is cast, the scene of our labours and pleasures. Our enjoyments are so much interwoven with the objects around us, that in many instances our happiness acquires a local character, and is materially affected by the interest which we feel in the places where we reside, and even in those which we occasionally visit. And this interest will be felt, not only in the presnt state and future prospects of such places, but also in their past history. We are prompted to inquire, by whom they were formerly possessed, what were their aspect and condition in ancient times, and what vicissitudes they have undergone in the lapse of ages.

History of Whitby Vol. 1. page 68 -

[Chap III. *Anglo-Norman, or English Period*.]

> When we review the period of barbarism through which we have waded, the incessant revolutions and tumults which have been recorded, and the frightful scenes of bloodshed and desolation which have been described, the mind must feel greatly relieved in anticipating an era of order and repose. Such an era begins to approach, but it is not yet arrived. The ill-fated province of Northumbria, and that part of it in particular which is the more immediate object of our researches, has still to experience consussions the most violent, and desolations the most deplorable, before it can enjoy a settled state of tranquillity.

[*ibid*.] page 102

> Upon the whole this portion of England has now for a long season been blessed with a state of tranquillity and happiness, far superior to what it has experienced at any former era. The calm that was enjoyed during the reign of monachism, was the dead stillness of slavery and ignorance; and though that period was vastly preferable to the ages of blood and horror which it succeeded, it can bear no comparison with the present age of freedom, light, and comfort. May the happiness of the district, and of Britain at large, continue and improve under our excellent constitution and mild government; and descend with increase to future generations!

[*ibid*.] pages 103-104

[Book II. Chap. I. *Introduction of Christianity, and of Monastic Institutions*.]

> It is not easy to ascertain, at what era the inhabitants of this country first exchanged the rites of paganism for the ordinances of Christ, or by whose ministry the blessings of christianity were introduced. The antiquities of the church are involved in as much obscurity as those of the state; and the historian, in investigating them, discovers numerous fables but few facts. To inquire into the authenticity of the traditionary tales respecting the visits paid to Britain by Paul or Peter, by Simon Zelotes or Joseph of Arimathea, would be to insult the understanding of the reader. Even the story of the conversion of Lucius, a British king, about the middle or end of the second century, though related by Bede, Nennius, and other reputable authors, is extremely suspicious; or rather it bears positive marks of forgery.
>
> When we recollect with what rapidity the religion of Jesus spread through the world, and consider the active zeal of the primitive disciples; we can have little doubt, that among the soldiers, or other subjects of the Roman empire, who settled in Britain in the second century, or even in the close of the first, there must have been several christians, and that some attempts might be made in that early age to convert the natives. We have authentic accounts of the existence of christianity in Britain in the third and fourth centuries, among the British as well as the Roman inhabitants; but by whom it was propogated, to what extent it spread, and whether it reached unto this district or not, are inquiries which it is impossible to answer. Of one thing we are certain, that whatever progress the christian religion may have made in this district during the Roman period, every single vestige of it was swept away by the irruptions of the Picts, and of the Saxons, and idolatry resumed its gloomy sway. Hence Gildas, in painting the miseries of his country, laments the destruction of the priests, the churches, and the altars, by the ravages of the sacreligious Saxons.

Dr. Young's works however are so well known to the members of this society that any further examples are unnecessary.

In Dr. Young's constitution there was a remarkable peculiarity, which is well worthy of observation, and without noticing this,[29] we cannot form a correct estimate of his character.

This peculiarity arose from his having very little power of expressing his feelings. This defect showed itself in all his literary compositions, and often made them to appear dry and imperfect in expression; to some subjects indeed, it was an advantage; and the uniform good sense and utility of his views and observations, always render his works interesting, but no author has ever become popular who was not able to express the passions, and the finer sensibilities of our nature.

This peculiarity had a still greater influence upon his personal intercourse with society, and greatly hindered his usefulness; although he thereby often escaped many indescretions (*sic*) of speech and deportment, into which men who use impassioned language often fall; whilst it also gave to his general conduct an appearance of great prudence and circumspection; but in friendly intercourse, and the more familiar relations of life, this peculiarity was exceedingly prejudicial. It was not that he was cold and unfeeling, as some thought; for he was a man of strong passions, but was unable properly to express them. When trying to be pathetic, he became ridiculous; and when attempting to console the distressed mind, the effect produced was often exceedingly harrowing; whilst his anger appeared of the coldest and most relentless character. Thus his motives were often misinterpreted, and he

sometimes excited bitter animosity, when his object was to confer a benefit.

To something of this kind I imagine we must impute the misunderstanding and breach of friendship which arose between him and his companion and intimate friend, Mr. Bird.

Between these two, there existed a friendship, which one would have thought could never have been broken, except by death. Their intimacy was of long continuance, their tastes were similar, they constantly met together in their private apartments, they had traversed the district together in geological and antiquarian pursuits, they had eaten their crust together upon the solitary moor, under the open canopy of heaven; taken shelter in the same hut, or under the same rock, whilst the thunder rolled majestic over their heads; explored together the sweet and endearing vallies (sic), or contemplated with sublime emotions, from the craggy cliff, the vast expanse of the ever restless and ever sounding ocean; they had endured together the toils, and divided the hard earned profits of their labours; but after all this, the silver cord of friendship snapped asunder, and Mr. Bird died under a bitter conviction that he had been deeply injured by his former friend and companion. When I mentioned this unfortunate circumstance to Dr. Young, he stated that in no instance had he ever wronged Mr. Bird; but that through Mr. Bird's neglect in getting forward the plates for the second edition of the Geological Survey, he had suffered a very great loss, and experienced some pecuniary embarrassment. All this I could readily believe; for Dr. Young was of too noble and generous a disposition to defraud his friend of any little profits which might fall to his share, and he always honourably acknowledges the part which Mr. Bird contributed to his publications. I cannot believe that their differences arose from any great injuries which they intentionally inflicted on each other, but from small irritations for which the formation of the Museum, and other literary and scientific operations would afford ample materials; and from what I know of Dr. Young's manner, when once a breach[30] was made in their friendship, it could never be healed, and the irritation upon a man of Mr. Bird's sensibility would become insupportable.

This it must be confessed is a melancholy termination to a friendship so sincere, and so long continued, and cemented by so many endearing circumstances, between two good men; and were it not that it affords us an instructive lesson, and shews the weakness of our best natures, we should gladly throw over it the veil of oblivion.

Between Dr. Young and myself, their existed a close intimacy and correspondence, which lasted for a quarter of a century, and though living at a distance the greater part of the time, we continued to do each other mutual benefits; and in youth I considered it a great advantage to have the friendship of so good and prudent a man.[31] All things went on agreeably enough, whilst I was residing at a distance, and only visiting Whitby for a few weeks in the year; but when I became Keeper of the Museum, and settled in the town, there arose many little differences, chiefly of a scientific nature, and his manner became so cold and at the same time so irritating, that I found it incompatible with familiar friendship, and indeed with the maintenance of health; and seeing that the same thing was going to take place between him and me, which had happened to him and Mr, Bird, I wrote a letter to him stating my feelings, and proposed that as we could not agree together, it would be better to part company, and he on his part coinciding in this view, and regretting that those who had done each other so many mutual benefits, could not live together in peace; we afterwards observed towards each other only those courtesies which members of this society expect from each other.

This I must confess is not the termination which society looks for to so long a friendship: but if there was not that familiarity of intercourse as before, there were no little bickerings and strife which too often grow up to bitter animosities; or undignified squabbles, which the world generally, and perhaps justly, treat with pity or contempt. For that kind of friendship which is so affecting in poetic description, and which we all so much admire, and fondly wish for, we shall find more readily in the more simple and rude states of society, or in the humbler walks of life, than amongst highly cultivated minds, or amidst the artificial forms and maxims of modern civilization.

Dr. Young as a public man was highly respected, and looked up to as a prudent leader, always ready to do his best in every good cause; and when he took up any business he pursued it with unremitting diligence and perseverance:[32] his pecuniary sacrafices (*sic*) for public objects were often far beyond his means, but notwithstanding all this, and his private benevolence, and goodness of heart, he had few personal friends; and towards the close of his life he was very much isolated, so that the business of the various institutions, with which he was connected, fell almost entirely upon his own shoulders, even to the collecting of subscriptions.

Dr. Young no doubt was a humble man, and I never saw in him any appearance of vanity, and he possessed sound principles of religion and morality; but he was exceedingly jealous and intolerant of any one who could be considered a rival, and those associated with him often complained that they were reduced to mere cyphers. This appeared to me to be his chief failing. Much of this may be imputed to his having too narrow a sphere of action, and to the systematic manner in which all his plans were laid, and the discomfit (*sic*) which he experienced when they were interfered with, or opposed by others. However this may be, I observed that when ever he left the town for any time, and his plans and associations were broken up, he returned, to all appearance, a better man, and a more agreeable companion.

In noticing the lives of departed associates the general practice is to use the language of panegyric; and there was ample room in this case to have done so, but it appeared to me the more useful and instructive to attempt something in the way of impartial criticism. If I have taken any erroneous views respecting Dr. Youngs (*sic*) character, or in any way wronged the dead, I shall be very glad to be corrected. I shall close my observations on this part of the subject with

a quotation from an anonymous writer, who appears to have known Dr Young well, and in whose views I readily coincide.

> "A deep fountain of genuine kindness was in his heart, easily opened and ready to gush forth and flow on at the call of[33] philanthropy, friendship, or religion. Combined with this there was a manifest transparency of character, about which there could be no mistake; a perfect uprightness; and open abhorrence of everything crooked or disingenuous. Above all there was a singular simplicity of mind, and heart and manners; simplicity in all his tastes and pleasures; unaffected simplicity and absence of all pretence and assumption in his intercourse with others, which, to those who knew him most intimately, threw an indiscribable (*sic*) charm over his whole life"

(United Presbyterian Mag. March 1849)

It was my intention to have made some observations on Young's early education, and on the course of instruction pursued by students in Arts, in the University of Edinburgh, and I had prepared a few pages on this subject, but finding that it would extend this communication far beyond the bounds generally observed in these exercises, I have relinquished it for the present.[34]

> Considering the great benefits which[35] Charlton and Young, and other literary and scientific men have conferred on this town and neighbourhood; and the great difficulty which they have experienced in prosecuting their studies and investigations; and how much more they might have done if they had possessed the means, I would in conclusion most respectfully submit to the favourable consideration of the members of this society, the great importance of providing the means of knowledge and study for such persons, who being absorbed in intellectual pursuits, are often in straightened circumstances in life.
>
> No one is more desirous that I am, to see the artisan and the humbler members of society, intelligent, and with minds above low and degrading pursuits, and it is also very desirable that the tradesman freed from the cares and business of the day, should have the means of intellectual improvement and amusement; and that every thing should be done which can be done for elevating the state of society, and for promoting general civilization; but I hope I shall not be thought impertinent, if in connexion with the subject of this lecture, I particularly recommend to the kind consideration and sympathy of the members of this society, and of the public generally, the literary wants of that small but not altogether undeserving number of persons, who devote their time to literary and scientific pursuits.
>
> A Museum containing the works of nature and art is an important means of knowledge; and it is a matter of mutual congratulation that the foundation of such an institution has been laid by this society, upon what we may hope to be an enduring basis; but the great desideratum felt by the studious in Whitby, is a Library of standard works in every department of learning, to which easy access could be had for study and reference. To professional men, and especially to the different ministers of religion, who are often unable to provide themselves with books, such an institution would be invaluable; and the publick (*sic*) generally would indirectly derive much benefit.
>
> This object always very desirable, has of late years become still more so, on account of the many well educated strangers who take up their residence amongst us during the summer months, and whilst seeking health and recreation are still desirous of continuing their intellectual pursuits.
>
> The Subscription Library is an exceedingly valuable institution, and has done much to raise the intellectual character of the town, but like all circulating libraries many of the books are imperfect, whole volumes of a series are often wanting, whilst a great many of the standard works of our language have never been procured; and it very frequently happens, that the book which is wanted is in the hands of some other person and cannot be obtained without much delay. These circumstances render such libraries quite inadequate for the purposes of systematic study. As private libraries of any great extent are in general beyond the reach of most students, the only remedy is a public library of reference, where the books are kept with scrupulous care, and do not circulate. This object, so essential to the prosecution of any branch of knowledge, has been secured by all our institutions of learning, and by several of our commercial cities. In a comparatively small place like Whitby, operations on a large scale can not be[36] expected; but Rome was not built in a day, and what can not be done at once, may be accomplished by repeated efforts. The country is full of books, and there is no want of liberality and benevolence towards any good object, when a channel is made through which their[37] fructifying streams may flow.

[2]

Life of the late Rev G. Young D.D
Lecture 2nd

Having in a former communication reviewed the literary character and works of the late Rev. Dr. Young, it would have given me much pleasure if I could have obtained a particular account of his early education and youthful pursuits; but of these things I am sorry that my knowledge at present is exceedingly meagre and imperfect. But as I have some acquaintance with the system of instruction pursued by the faculty of Arts in the University of Edinburgh, where Young received the greater part of his education, I thought it might not be altogether unacceptable to this society, if I should attempt to give some account of that system, and to shew how an obscure and comparatively indigent boy, as Young describes himself to have been, could rise to literary eminence, and stations of honour and usefulness, in a country where there are few endowments, or public means of enabling youths in straitened circumstances to pursue literary and scientific studies.

From Dr. Young's autobiography[38] we learn that he was born of pious and respectable parents, on the 25th July, 1777, at a small farm house, in the thinly inhabited parish of Kirk Newton and East Calder, and at a considerable distance from any school. His father was a small farmer, who, like his ancestors for many generations, also carried on the trades of mason and wright; a practice at that time very common in Scotland. His mother had received a superior education, and from her he acquired the first elements of knowledge.[39]

Of ten children, Dr. Young was the fourth, and he tells us that he and all the other children were thoroughly instructed in the principles of religion and morality in their earliest age. One of his brothers, William, appears to have followed in some measure the occupation of his father, and emerging from this obscurity, became a respectable builder in Edinburgh, erected one side of London street, in the new town, and had an honourable place in the councils of that city: but Dr Young having the singular peculiarity of being born without the left hand, and on that account unfitted for any mechanical business, was designed by his parents either for the christian ministry, or for some sedentary or intellectual calling.

When Dr. Young was about 9 years of age, the family removed to another farm about a mile distant. To this place Dr. Young appears to have been peculiarly attached, it being not only the scenes (*sic*) of his youth, but also the place where he imbibed those deep sentiments of religion which so strongly marked his character in future life, and formed his consolation and hope when all earthly pursuits and enjoyments were coming to a final close. He charges himself with having been in his younger years, guilty of foolish and criminal rashness, but that his physical courage in after years had been of great service to him; enabling him to encounter the necessary hazards of duty and real life.

It does not appear[40] how Dr. Young acquired the first elements of classical learning; but as he speaks of his mother's father as an excellent scholar, who kept a school in the adjoining parish, it is not improbable that he received from him such elementary knowledge of Latin and Greek as would enable him to pursue has studies with advantage in the University of Edinburgh. As he was 4 years at the University, 5 years at the Divinity Hall, and completed his Theological course of study about the beginning of 1801, he must have entered the university in the autumn of 1791, or when he was little more than 15 years of age. This may seem an early age for such a step, but formerly it was the practice to enter the university at even an earlier age; and though this has since been discouraged, there is no absolute rule on this head in the university of Edinburgh; so that anyone can enter at any age.[41] I believe it is generally known that there are no Colleges, or common table connected with the University of Edinburgh, such as we have at Oxford and Cambridge; all the students being at home, or in private lodgings. There is also no preliminary examination necessary for Matriculation. When a student has paid a small matriculation fee, he becomes a member of the university; has the use of the college library, and can enter any class he pleases upon paying the customary fee. Thus Dr. Scoresby in his first session at the University of Edinburgh, attended the Chemical and Natural Philosophy classes; and in his second session, Natural History, Mathematics, and Logic, passing over entirely the Greek and Humanity instructions. Mr. Robert Stephenson also passed over the Greek and Latin and attended to Chemistry, Natural Philosophy and Natural History. This was a very exceptionable mode of proceeding, however well suited to the circumstances and tastes of the gentlemen who pursued it; but every one who wishes to obtain a sound and complete education, must pursue a very different and more systematic course. For promoting this object, the Faculty of Arts in the University of Edinburgh have appointed 12 Professors to give instructions in an equal number of departments of knowledge, but of these seven only are necessary to enable a student to obtain a degree, or enter the divinity halls. These are Latin, Greek, Mathematics, Logic, Moral and Political Philosophy,[42] Natural Philosophy, and Rhetoric; the remaining five, Universal History. Practical Astronomy, Agriculture, Music, and Sanscrit, being optional. Some students in Arts, also attend the Chemistry and Natural History classes, which are under the Faculty of Medicine, but every thing of this kind is quite optional. **Young was very fortunate in having excellent teachers during his academic course. Dalzel had become professor of Greek, Playfair was professor of Mathematics, Robinson of Natural Philosophy and Dugald Stewart of Moral Philosophy; all men of great and just celebrity.**

Some time previous to this Greek was taught so ill that students who were able engaged private instructors and did not attend the the (*sic*) class at all but Dalzel after his appointment had been labouring with great zeal and success to inspire a love for Greek learning both in the college and through the country, and we all know from his excellent Analecta Graeca Majora that he was not only extensively acquainted with the language he taught but also a man of good taste and erudition[.] **Dr. Young always spoke of him as a most excellent teacher and being a man of musical powers with much good nature sung to his class the Odes of Anacreon**[.]

In the University of Edinburgh there are three Classes of Latin and three of Greek. The Junior Latin and the Junior Greek spend two hours per day with each of the Professors the Second or Senior Classes meet for only one hour per day in each class; and the 3rd classes receive lectures from each of the Professors 3 times a week. The Juniors seldom attend more that[43] the Greek and Latin classes; 4 hours per day in close application before the Professors, with the study necessary to appear with respectability[44] is generally quite as much as most constitutions will bear. The Seniors spending only two hours a day on the Greek and Humanity Classes, generally also take Logic or Mathematics, or both.

It has been contended by some writers that these junior classes ought to be suppressed, that the exercises there pursued are beneath the dignity of a college, and more fit for the upper forms of a grammar school; but whatever truth there may be in this latter statement, nothing can be conceived better fitted to a systematic course of education than the exercises pursued in these classes, under the present state of school learning in Scotland; and it is through these means that young men with slender pecuniary resources, are able to acquire a competent degree of learning, and rise to stations of honour and usefulness.

Latin is taught in a certain rough way in the parochial schools throughout Scotland, but the[45] prosody and elegancies of the language are greatly neglected, whilst Greek except in the large cities is at the very lowest ebb. But the great difficulty which a young Scotchman has to contend with in commencing his academic course, is the want of correct English. Under such circumstances the Junior Greek and Humanity classes seem to me indispensable for supplying the deficiencies of school education. But that you may judge for yourselves in this matter, it may not be improper to give some particular account of the method of conducting these classes in 1825 & 26, which came under my own observation.

The system pursued in these classes was essentially monitorial, the students assembled in a sort of theatre, with graduated benches, in front of an elevated platform which was occupied by the Professor and the General Censor. Both the Greek and Humanity classes each consisted of about 150 youths who occupied 7 or 8 benches. To each bench 2 Censors who were appointed, whose business it was to note if any one was absent or misbehaved, and report the same to the general Censor, who having his eye on the whole of the class, also noted down in a book any inattention or misbehaviour. To each bench was also appointed 2 Inspectors of exercises, whose exercises were examined by the Professor, and those of the rest of the students were examined by the Inspectors, and marked according to their degrees of merit or demerit; and that there might be no injustice done, an appeal could at any time be made[46] to the professor, who kept a register of the merits or demerits of each student, during the whole session; and from this record a certificate was[47] given describing the merits of each. As there are no general examinations at the University of Edinburgh, such as we have in the English Universities, it is upon the character of these certificates that the Senate grant or refuse a degree in Arts, or that the students are admitted to the Divinity Halls.

For several weeks previous to the appointment of Censors and Inspectors, the students all underwent[48] a very rigid examination, especially in grammar and every means were employed to bring out the talents and acquirements of each student. Indeed the whole session might be considered as an examination; and the exercises were so varied[49] that every man's talents and acquirements were fairly brought out, and acknowledged.

The preliminary examinations having been gone through, and the Censors and Inspectors having been appointed, the regular business of the session commenced. This consisted in reading one of the first books of Livy, one book of the Odes of Horace, one book of the Aenead, and selections from Ovid. Along with Livy were required Latin or English essays on the government, military discipline, religion, and other subjects connected with the manners and customs of the ancient Romans.[50] Such for example as Marriage, with Nubo as a motto, a full explanation of the word being first given, and then whatever else could be said on the subject. Or the subject might be money, with pecunia for the motto. All such exercises were of great utility, not only in familiarizing the student with literary composition, but also in promoting habits of accuracy and neatness on paper, strict regard being paid to punctuation, spelling, and penmanship.

Along with the Odes of Horace, were exercises in verse-making, in the various Horatian meters, and with the Aenead were essays on Epic poetry. The students were not restricted to the use of any particular grammar. Some gave rules from the Eton or Charter-House grammars, or from some other grammar used in the English schools, but Ruddiman's institutes (*sic*) was the book chiefly appealed to, and best known to the students.

The Humanity classes were every morning opened with a[51] prayer in Latin by the Professor, and after the business connected with the exercises was finished, every one was required to state any difficulty he might find in the prescribed lesson. Those who had no difficulty, were supposed to have mastered the whole, and were called upon to solve the difficulties of others. It however often turned out, that those who had no difficulties were the worst prepared, the whole being a difficulty. This method of distinguishing the real difficulties in a classic author appears to me a thing of great utility in the pursuits of

learning, and a strong preservative from a careless and desultory mode of reading, and such as any one may pursue with advantage in future life.

All difficulties being cleared up, each student was called upon to read and construe in turn a portion of the lesson, but whilst this was done in rotation, any one might be called upon promiscuously to read, if the Professor suspected a want of preparation. Through these precautions it was almost impossible for a student to neglect preparation without being detected, whilst by reading in rotation no one was overlooked, or neglected. It is through such means as these that many youths at the University of Edinburgh who have had an imperfect school education, are introduced to a systematic course of learning, and by diligence and perseverance have far outstripped those who have commenced their career with greater advantages. **With such means of improvement there can be no doubt that however far behind the late Dr. Young might be on entering College, he would by the end of the session be struggling hard after the foremost.**

A very similar course was pursued in the 2nd Humanity Class, but less care was taken to bring up those who were laging (*sic*) behind; longer and more difficult exercises were required in Latin prose and verse, and the whole proceedings were of a more erudite character. Livy[,][52] Tacitus and Cicero occupied a prominent place, with the Satires and Ars Poetica of Horace.

Besides these regular exercises there were[53] Private Studies which were entirely voluntary,[54] to be pursued not only at College, but during the Vacations, and to be continued during life.

These Private Studies consisted chiefly in reading the Classic Authors, and keeping a register in which were recorded all difficult passages, with blank spaces for their solution. It also contained translations, with critical notes and comments on the works read, with the date of each exercise. Whilst the students remained at College, these Registers were submitted to the Professor, who took notice of their merits; and the difficulties were solved either by the students, or by the Professor. On leaving college, it was supposed that many of the difficulties which occurred in the beginning of an author, would vanish after a more intimate acquaintance with his style of writing. and further assistance might be got from commentators.

The Greek classes were constituted on the same monitorial plan as the Latin, with Censors and Inspectors, but as Greek in Scotland was still at a very low ebb, at least in the provinces, the Junior class was divided into two sections. One section consisted of those who were only commencing Greek. It comprised about 50 students or 1/3 of the whole class, and what appeared strange, at least to an Englishman, among these there were some excellent Latin scholars. But in the Scottish schools it has been the practice not to commence Greek until the pupil had so far mastered Latin as to be able to translate with ease such authors as Virgil and Horace, and thus the opportunity of learning Greek in early youth was often lost, and only taken up when the acquisition of it became necessary. Every assistance practicable was afforded this section by the Professor, but they were obliged to follow the same course as the more advanced students, and flounder through their lessons as they were able.

When the late Dr. Young was at College, Dalzel's Analecta Graeca Minora was the Class-book, but during the quarter of a century which followed considerable advance had been made in Greek learning in Scotland, and more copious readings had been introduced into the Junior Greek class, consisting of the first book of the Iliad, part of Xenaphon's Cyropaideia, (*sic*) selections from what are called the minor poets as Anacreon, Tyrtaeus, and other classic authors, with portions of the Septuagint and the New Testament.

Amongst the Seniors the well known and excellent Analecta Graeca Majora still continued to be the class-book, and an additional volume had been added by Professor Dunbar for the use of the 3rd Class. These readings from the Greek Classic authors were interspersed with lectures from the Professor, a strict regard was paid to grammatical analysis, with constant exercises tending to unfold the principles of the language.

In this way many young men who go to college with but little preparation, become by great labour and perseverance respectable Greek scholars, and a few attain the highest ranks of excellence; but it may be observed, that those who commence Greek in manhood seldom if ever attain that fluency and ease sometimes to be observed in men educated in our best schools, where Greek seems to be almost vernacular.

The Junior Mathematical course, when Dr, Young was at College, consisted of the demonstrations of Euclid's elements of Geometry, with Trigonometry and Conic Sections demonstrated after the Euclidean method. For although Playfair was one of the first to introduce the continental modes of demonstration and analysis, in the Junior class he still adhered strictly to the Euclidean method, and in analysis the students confined their attention to the ordinary algebraic computations; and although Dr. Young had only one equal in his class, I have heard him say that after the first session, he never once more gave his mind to the subject.

In a regular course of instruction, Natural Philosophy follows Mathematics, for some mathematical knowledge, at least, is necessary for properly understanding the laws[55] and operations of material nature.

I believe that in all Scottish colleges, and also in University College, London, the popular method by experiment is combined with mathematical demonstration; but it will be evident that in the short space of 6 or 7 months, the same mathematical course cannot be pursued as at the tutorial colleges of Oxford and Cambridge. At Edinburgh there is a full and clear exposition of the laws and operations of mathematical nature, with such applications of mathematics as would enable the student to pursue the subject in after life to any extent he may choose. We all know from Dr. Robinson's writings, who was Professor in Young's time, that he was an able and zealous teacher, and the Newtonian doctrine of Universal Gravitation, with all those grand

discoveries which had made a complete revolution in Physical Science, were then fully taught in the University of Edinburgh.

I am not aware the Dr Young ever pursued such studies after leaving college; but he had correct views of nature and was always zealous in promoting lectures on Physical Science in our Society.

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The lectures on Logic are generally taken early in the course; for it is very desirable that young men just entering on their philosophical studies, should have impressed on their minds, rules for directing them in their pursuits after moral and physical science, and for teaching them how they may best reduce their acquirements to order, and render them useful in their future studies, and in the general business of life; and also for cultivating and bringing their intellectual powers into vigorous exercise. Every person of ordinary observation, will acknowledge that the mind is greatly improved by proper discipline; and how many an ardent student has to lament the time he has lost by pursuing knowledge in an erroneous and unsystematic manner!

In the pursuits of classical learning, we have the best thoughts expressed in the best and purest language, and the mind by long attention to this kind of learning, is insensibly led into similar modes of thinking and expression, so that by habit and taste, we are predisposed to correct thinking, whatever may be the subject which comes under our investigation.

In mathematics we go step by step, and when we have mastered one proposition it enables us to solve another of greater difficulty; so that the mind cannot in such exercises wander far into any erroneous or desultory pursuit; and by this means also we acquire habits of order and precision, which are of the greatest utility in the pursuit of other objects of learning. But notwithstanding these great advantages arising from a course of classical and mathematical learning, a more particular course of mental discipline is necessary for the acquirement of philosophical knowledge; for classical learning is more popular than scientific, and the investigation of the phenomena of Moral and Physical science requires a very different exercise of the mind than that of mathematical demonstration.

Besides training the mind, thus early, in the proper method of acquiring knowledge, another great object which we can scarcely overvalue is that of arranging and classifying our knowledge, so as to communicate our ideas to others in a clear and convincing manner. These seem to be the great objects kept in view in the Logic class in the University of Edinburgh.

The syllogistic method of Aristotle was originally taught in this University, as in all the other schools in Europe; and some of the Scottish logicians obtained great eminence, but after Bacon had published his grand views respecting the proper method of philosophizing, and the surprising scientific discoveries which had been made by pursuing his directions, the syllogistic method, or any thing approaching to pure logic, seems to have been banished from this university, and a highly metaphysical system was introduced, differing little from the views first promulgated in Locke's famous essay on the human understanding.

It was quite evident that the syllogistic method as an instrument for the discovery of truth, had entirely failed, and had been greatly degraded during the dark ages which followed the breaking up of the Roman empire; but whether it was wise entirely to exclude the syllogistic method from the instruction of youth, may admit of some question. It may be freely acknowledged that the syllogistic method is of no use in discovering new truths, the great object of modern philosophy; yet[57] it may be useful in the investigation of thought and languate.[58] Grammar indeed teaches us much respecting language, but a sentence may be grammatically correct, yet logically wrong. A logical investigation therefore of terms and propositions is desirable, and the syllogism, though generally so clothed in popular language as not to be commonly perceived, is still the foundation of all argumentation. It has also been observed that men accustomed to dialectics often acquire great acuteness of mind; so as a means of cultivating the intellectual faculties, this method may be useful. The syllogism may also enable us to detect sophisms, and is considered useful in forensic exercises. As the syllogistic method was pursued by the learned for so many ages, and had so great an influence for good or for evil, a knowledge of it seems necessary as a matter of history.

It also seems to me questionable, whether some of the Scottish teachers in discarding pure logic, have not erred in leading their pupils too far into the barren regions of metaphysical discussion and speculation; but the science of logic is very ill defined, and the Professors at Edinburgh are left very much to their own particular views and discretion. **Dr. Finlayson was professor of Logic in Dr. Young's time, but I have not been able to learn any thing respecting his views or manner of teaching.**

Different opinions will be entertained respecting the best method of training the minds of young men, for acquiring philosophical knowledge; but of the importance of giving directions for that object no one can doubt; or of the still greater importance of putting them in the way of reducing their acquirements to systematic order, and constructing their discourse in a lucid and convincing manner.

For my own part, I know of no instructions so well adapted for these objects as those given in the well known and popular introduction to Logic by Dr. Watts; but it appears to me that either previous to a course of Logic, or along with it, it would be highly advantageous to pursue a course of systematic Natural History and Chemistry. The systematic classification of natural objects, is practical logic, requiring definition, abstraction, and methodical arrangement. By first acquiring the power of defining material objects we obtain the power of defining with greater precision things of a moral and immaterial nature. In the classification of things of a material nature, it is necessary to separate and compare the characters of

different objects, and thus we acquire the power of abstraction, and obtain a clear notion of the nature of abstract ideas. For example whilst we contemplate vertebrate animals, we observe that whilst they differ very materially in some respects, a great many of them agree in this, that they have four legs or feet; seizing upon this character, and neglecting all others, we obtain a class of animals to which we give the appellation of quadruped. In like manner we see other vertebrate animals, agreeing in this, that they have four hands, and we constitute another class which we call Quadrumina[.][59]

Thus we form a classification of vertebrate animals which is of extreme utility in the acquisition of knowledge, as it enables us to attend to each class seperately. (*sic*) In contemplating the Quadrupeds, we see that although they all agree in having four legs, many of them differ very materially in other respects; but observing that there are certain characters which are common to a considerable number we seize upon these characters, and form groups of four footed animals, which we call genera. Thus the mind being exercised first in rigidly defining material objects and then in contemplating their characters either separately or combined is I conceive better fitted for the contemplation of things of an immaterial or moral nature, and for understanding some of those subject which form an important part of course of Logic. In like manner I conceive, that the habit of thought acquired in contemplating the Chemical analysis and recomposition of substances, enables us the more readily to analize (*sic*) and arrange things of an immaterial nature. Neither Natural History nor Chemistry however come under the faculty of Arts in Edinburgh[.]

The artificial debates or disputations which for ages held a prominent place in all schools of learning, still lingered in Edinburgh after the overthrow of the Aristotelean Logic; but there also gradually gave way to the more serious pursuits of true knowledge. Exercises of this kind, no doubt, promote quickness of apprehension, a rapid arrangement of sentiment, and fluency of speech. But those who dispute for the sake of disputation unfit themselves for the patient investigation of truth, and often become converts to error, or of no settled opinion. It has also been observed that those who have for any length of time pursued artificial debating, have never been able to throw off their artificial manner of speaking, and have never gained any great influence in our national councils.

Thirty years ago debates of this kind were not uncommon in such societies as ours, but they[60] have now become almost obsolete, and only practiced in societies formed for that express object. All literary and scientific societies are now so much engaged either in discovering new truths, or in disseminating a knowledge of truths already known, that they have no great tendency to idle disputation; and the sources of true and useful knowledge are so vast and multifarious, that it appears almost criminal to waste time on discussing questions of no practical utility. In such societies contrary opinions are freely expressed, but those opinions are in general the offspring of conviction. This is a great improvement upon the old method, and although it is much more difficult to speak on those miscellaneous subjects which come before literary and philosophical societies, than on some particular thesis or subject, such as were formerly proposed for disputation, I imagine that those who are accustomed to speak from conviction on literary and scientific subjects, will be better fitted for the general business of life, though they may not attain that fluency of speech often acquired in the practice of artificial debate.

It still remains to consider the Moral Philosophy and Rhetoric taught in the University of Edinburgh; and it was also my intention to have said something respecting the cost of education at this institution; and also to have made some observations on the respective merits of the professorial and tutorial systems, but I must defer these topics to another opportunity.

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Life of Dr Young Lec. 3.

In two previous communications we reviewed the literary character of[61] our late fellow townsman and member of this society Dr. Young and then proceeded to consider the course of[62] study pursued in thi (*sic*) University of Edinburgh where Young received the chief part of his education. In this pursuit we have already gone over[63] the Classical Mathematical Natural Philosophy and Logic courses given in the University of Edinburgh, we have now to consider the Moral Philosophy and Rhetoric taught at this school of learning.[64] **In**[65] **Moral Philosophy Dr Young had the advantage of being under the instructions of the able and eloquent Dugald Stewart.** But whilst he justly admired the great talents of this celebrated teacher, he strongly condemned the system of morals which Stewart and most others of the Scottish Philosophers then pursued, as a system of heathen philosophy, from which christianity was entirely excluded. That this was the character of the system pursued by the Scottish philosophers, towards the latter part of the last century, and at a much later period, every one must be aware who has read their published discourses. Their quotations are nearly all from the ancient heathen moralists, and when they cite the works of Christian authors, every reference to Christianity appears to be sedulously avoided. Even so late as 1825, Dr. Walsh, who was professor of Church History in the University of Edinburgh, wrote the[66] life of Dr. Thomas Brown, famous for his lectures on Moral Science, but whilst he reviews with much particularity the life and writings of this author, with whom he was on terms of intimate friendship, there is no reference made to christianity, so that you might be led to believe[67] that both Brown and his biographer were nothing more than heathen moralists. There is however no necessity to consider the Edinburgh Professors as men of this character[68] and, until very recently, it was necessary that all the Professors should make an open profession of christianity, and[69] I believe also to be members of the Established Church; so that to consider them as Deists would be not only to charge them with infidelity, but also with hypocrisy.[70]

As regards Dugald Stewart, Professor Blakey imputed much of this defect to timidity, and morbid sensitiveness. He says that "*On all those disputed parts of metaphysics which are closely and necessarily allied to the more serious and important doctrines of morals and theology, he seems to approach with a timid and irresolute spirit; with a morbid sensitiveness that his reputation might possibly get damaged by the inquiry, and with an evident predetermination to compromise, to a certain extent, his own private opinion, rather than run a risk of coming in angry collision with other minds. This spirit , says he,*[71] *is visibly imprinted on all his writings; and it doubtless derived its existence from the constitutional peculiarity*[72] *of his mind, joined to the particular situation in which he was placed as a teacher of moral philosophy, in one of the leading universities of Europe. He lived under constraint all his life, and never fully breathed the air of intellectual liberty. This mental subserviency, if we may be allowed to term it such, was as we have just observed greatly fostered and strengthened by the circumstances of the Professor's position in the College of Edinburgh. It is a well known fact that he appeared always under a cloud to many of the clergy of Scotland, in reference to his own religious opinions and sentiments. He was considered not orthodox in the Presbyterian faith. This made him an object of suspicion; and as the power of the Scottish clergy is very great over all seminaries of learning and instruction; and every authenticated instance of infidelity in the heads of colleges is certain to incur public displeasure and odium and is followed often by immediate expulsion from office; it is easy to see that in such a gentle and timid mind as Mr. Stewart's and yet panting after popularity, these circumstances would induce him to contract a cautious demeanour, and to avoid, as far as possible handling those topics of controversy which might lead to a test of the soundness of his faith. Nor can it be alleged that these suspicions were hastily taken up and erroneous retained. There was always something in the Professor's public conduct, as a teacher of moral philosophy, which gave a countenance and colouring to them. In his lectures he studiously avoided alluding, even in the most distant manner, to the general principles of the Christian dispensation, though this was in many cases, almost forced upon him, by the particular nature of the subject under discussion. And we find in all his writings especially those published in early life an almost total silence upon the principles of theology, whether natural or revealed. Besides, we must add to all these considerations, the circumstance, that though he occasionally attended public worship in the National Church, he never partook of the sacramental ordinance. This, continues Blakey,*[73] *may be considered a trifling circumstance in most other christian countries; but in Scotland the case is different. There almost every nominal member of the church engaged in this solemn ceremony; and the omission of it, particularly in a person filling the important situation of qualifying young men for the ministry of that same church, could not fail to give rise to public suspicion, as to his real sentiments in reference to the system of Christianity in general, and the doctrines of the Church of Scotland in particular*."

Sir James Mackintosh says "*He took precautions against offence to the feelings of his contemporaries, more anxious and frequent than the impatient searcher for truth may deem necessary. For the sake of promoting the favourable reception of philosophy itself, he studies, perhaps too visibly, to avoid whatever might raise up prejudices against it. His gratitude and native modesty dictated a*

superabundant care in softening and excusing his dissent from those who had been his instructors, or who were the objects of general reverence. Exposed by his situation both to the assaults of political prejudices and to the religious animosities of a country where a few sceptics attacked the slumbering zeal of a Calvanistic people, it would have been wonderful if he had not displayed more wariness than would have been necessary or becoming in a very different position." There is I conceive also another view of this subject.

It must[74] be taken into consideration that religious topics at that time were almost excluded from polite circles and it is not to be wondered at if the frequent intercourse with philosophers of great talent and amiable manners but of sceptical or deistical tendencies did in some measure enervate the Christian principles of one who was too timid openly to profess them. We must also take into consideration that during the[75] last century a debasing materialism had sprung up in the intellectual philosophy of France, which had led to the most fatal consequences, and poisoned more or less the morals of every country of Europe. The Scottish metaphysicians had set up a more spiritual system of intellectual philosophy, founded upon what has been[76] called the principles of Common Sense, or the general sentiments of mankind. Being very ambitious to advance their system, and to gain over the French philosophers to their views, they were induced to avoid as much as possible all reference to the sacred writings, which would have been fatal to the reception of their system amongst men who openly denied their truth, and were violently hostile to their influence.

It was under such circumstances that the Scotch metaphysicians endeavoured to form a system of morals independent of the sacred scriptures; and it is generally admitted that they have contributed largely towards bringing about an improved state of moral sentiment both in our own and other countries.

Some have entirely condemned all attempts to found a system of morals upon nature alone, as only another phase of Deism. But however objectionable such a course may be in the instruction of youth, I do not see that it is necessarily of a deistical character. For the book of nature being as has been often observed as much the book of God, as the book of revelation is[77] the book of God, they cannot teach different things; so the investigations of nature, whether moral or physical, tend to confirm the truth of revelation; and thus philosophy becomes the handmaiden of divinity; and I think we may go further and say, that we are highly reprehensible if we neglect the study of nature. I therefore do not see that there can be any valid objection to an endeavour to derive the principles of Right and Wrong, and Moral Obligation, from the constitution of nature; and in writing for those who denied the truth of revelation, it might be prudent to avoid all appeals to its authority. Yet it must be confessed, that as modern philosophy has been greatly assisted by the light of revelation, it is scarcely honest in any general discourse on the constitution of nature, not to acknowledge its obligations. Such a course in the instruction of Christian youths was certainly blameable, and must have been very displeasing to those whose minds had been early embued with christian views and principles.

Dr. Cumberland, Bishop of Peterborough, appears to have been the first Christian author who endeavoured to found a system of morality upon nature, independent of the scriptures. Previous to his time all moral questions were settled by authority; either by a direct appeal to the sacred writings, or to the opinions of distinguished men, which had accumulated to an enormous extent; but laying aside all authority, and the casuistry of former periods, Dr. Cumberland endeavoured to form a system of morals upon the principles of benevolence, making the Common Good the rule of men's actions; and thus anticipated in a great measure the views of Paley and other authors. Many other writers of great talent and learning, both ancient and modern, have treated on morals, with great capacity and force, in reasoning a priori, and have promulgated sentiments of inestimable value to mankind. But all reasonings on the nature of Virtue and Vice, and Moral Obligation, founded on any assumed natural principle, as on Utility, Self love, or Sympathy, when carried to their ultimate limits, are found to be fettered with great difficulties, and lead to obscurity and doubt, which greatly enervate the whole process. Reason however valuable can carry us but a short way either in[78] morals or religion. It cannot even demonstrate the existence of matter, and by unassisted reason we cannot obtain any definite idea of an increate Deity, so that pursuing reasonings a priori into these subjects we soon arrive at the dark and troubled regions of doubt and Atheism.

In moral science the Scottish philosophers pursued the inductive method, which had proved so beneficial in physical science, and endeavoured to found a system of morals upon man's nature, and the conditions under which he is placed. They therefore analized (*sic*) with great care the phenomena of human thought, constantly appealing to the general sentiments or common sense of mankind, considering that to be true which all men in every age have considered to be true, and which unsophisticated reason approved.

Although by this method we do not arrive at absolute demonstration, as in pure mathematics, yet we obtain a better foundation for belief than we can obtain by any process of reasoning, and less liable to be shaken by scepticism.

The teachers of this school of morals all commence their course of instruction by an examination of our perceptive faculties, and then proceed to the consideration of the various passions or motives powers of the mind. They then examine the directing powers of the mind the Reason and the Will.

Thus investigating and collecting together the phenomena of the human mind, and considering the conditions under which man is placed, they form a system of

Ethics.

Upon the phenomena of the mind they have dwelt at great length, it being that part of moral science for which they were the most distinguished, and upon which they entered

with great enthusiasm. Dr. Brown has seventy two lectures on this part of moral philosophy, and only twenty seven on Ethics. Considering that by far the greatest part of the students who[79] form the moral philosophy class in Edinburgh intend to study either Law or Divinity, this is allowing but a very short space to Ethics; for ethics is a very extensive and important branch of study, embracing all our duties, not only towards the divine being and ourselves, and those with whom we are more intimately connected, but also Civil and Political Science, and the law of nations. Such an extensive subject might entirely occupy a whole session, but Mataphysics (*sic*) has been for a long time the favourite pursuit of the Scottish philosophers; it forms the principal topic of conversation amongst the Edinburgh students, and gives a distinctive character to the place, as I suppose Mathematics do to Cambridge, and Classics to Oxford.

Dr Young however had no great love for metaphysical studies, and in morals preferred the more scriptural method of such authors as Paley, and seemed to have imbibed much of the utilitarian views of that author.

Perhaps there can be no very strong object to Utility as a philosophical principle in morals, for what is useful is good, and it is only a matter of prudence to consider the utility of our actions. We are however all but short sighted creatures, misled by many prejudices, and blinded by passion and self-interest; so that by pursuing our own views of utility in the common affairs of life, and our intercourse with our fellow men, there is a constant danger of subverting the principles of integrity, justice, and benevolence; which all the best moralists, and mankind generally, regard as cardinal virtues, even when they do not practice them. Good men strongly embued with the principles of christianity, but who act in the ordinary affairs of life ostensibly and systematically from considerations of utility, may not commit any great fault, yet their example is undoubtedly pernicious to men of lax morality who may consider the accomplishment of their own ends, and their own gratifications, as the most useful thing in the world. It may also be observed, that although, men who consider most carefully the utility of their actions generally escape many indiscretions, into which others fall, they seldom gain the sympathy and affection of their fellow men, and thus their influence in society is greatly injured; for we are much more ready to forgive the ebullitions of passion in the hasty and warm hearted, than to sympathize with the cold and calculating. It is also curious to observe, that men of cold and unexcitable natures most readily fall into a utilitarian line of conduct, and to them it is the most injurious, whilst to the rash and inconsiderate it might form something like a panacea.

Political Science

Political Science is almost a new branch of study, which has arisen from the peculiar circumstances of Modern European nations. The ancient forms of Government, particularly those of Greece and Rome, with their merits and defects form an important part of Political Education, and from these much valuable instruction may be derived. But the ancient republicks were in general of small extent, and always carried within them the seeds of their own dissolution; and whilst the citizens themselves enjoyed great freedom, the[80] mass of the people were in a state of low servility. Constitutional government, and the vast commerce of the present day, are new things in the history of the world, and their effects and tendencies are only now beginning to be manifest. The eternal principles of Integrity, Justice, and Benevolence, are the same in all ages, and are equally applicable to national polity, as to private and domestic transactions, and many valuable rules called the Laws of Nations, have been laid down by able men. These form a valuable lesson in the moral and political education of youth. But in the operations of a great nation, and in an extensive commerce, there are so many things which influence and oppose the practice of these principles, that it is only under very favourable circumstances that they can be fully enforced. There may also be many measures which may be equally sincere, equally just, and equally benevolent, which may not be equally prudent and advantageous. We are therefore in a great measure left to grope our way by the slow and costly means of experiment, and we all know from our own limited experience, that public measures[81] often have effects very different from those anticipated. Thus it is well that this subject should be made the concluding part of an academic education, when the mind may be less liable to give implicit cedence[82] to the dogmas of schools, or be led away by the prejudices of teachers.[83]

Rhetoric

Intimately[84] connected with Moral Philosophy is the Science of Rhetoric; and some teachers have comprehended it under that head. For it has its foundation in the passions and feelings of our nature. Besides being an elegant accomplishment in every academic course, it is exceedingly useful, and indeed almost essentially necessary to those who have to plead at the bar of Justice, to maintain their country's cause in the senate, or are engaged in the still more solemn exercise of promulgating and enforcing the truths of religion, and exhorting their fellow men to lives of piety and virtue.

As it is the object of Logic to convince by clear and cogent argument, and to arrange the subject of a discourse in a lucid and natural order; so it is the object of Rhetoric to persuade, and to enlist the Passions in the cause of truth and goodness. If Logic is necessary to form the stem and branches of a discourse, Rhetoric teaches how to clothe it with foliage and flowers, and to render it attractive. Logic has been debased into mere quibbling, and Rhetorick (*sic*) has been degraded into the service of the vilest sophistry. They are still both noble branches of human knowledge, and have been cultivated by the greatest and best of men.

Rhetoric has been considered by some as synonymous with Oratory, of which it certainly only forms a part, and is often used with great effect in literary compositions of a very different character. No doubt it is in the publick assembly, that Rhetoric exercises its greatest power and influence, for it is there that the passions of men are most vehemently excited by mutual sympathy; but the soft and persuasive accents of Rhetoric often steal over the mind in

compositions of a calmer and more private character, and there produce the most permanent effects. Even in our common intercourse with mankind, and in the general business of life, the rules of Rhetoric are of great utility, and a due regard to the prejudices of our fellow men, is only a duty we owe to each other. It must also be confessed, that rhetorical orations have not the same power over the inhabitants of this country, which they had over the easy and imaginative Athenians, or the venal[85] and corrupt Romans. In our own senate they no doubt give great personal influence, but it has been said, and with apparent truth, that no speech in our own parliament, however impassioned, over gains a vote; and many speeches from which every thing like pathos or rhetorical ornament, has been sedulously excluded, as some of our financial statements, are listened to for hours with the deepest of interest. At the bar there are no doubt cases where passionate appeals to a jury may have an influence on the verdict, but the decisions of our courts of Justice are generally given in accordance with the evidence, and with the dry and technical expositions of the law.

It is in the pulpit that the power of Rhetoric has its most unfettered sway, and where it may be exercised with the greatest benefit to mankind. This field of usefulness was almost unknown to the ancient Greeks and Romans, and was opened out only in Christian times. Some appear to despise or at least to neglect this instrument of usefulness, and thus we find that men of very inferior knowledge, by studying the passions of mankind, and entering into their feelings, often gain a power over the multitude which men of great talent and learning might envy, but never obtain. As the great mass of students who attend the literary classes in the University of Edinburgh, are either looking forward to the christian ministry, or expecting to become advocates in the courts of law and justice, or to be independent[86] gentlemen, who may be called upon to exercise some public function, a course of Rhetoric forms an important element in their education.

Whilst passion is the very soul of eloquence, and there can be no Rhetoric without feeling, yet the expression of our passions and feelings can be greatly improved by art, and many rules have been laid down for this purpose. This constitutes the scientific part of Rhetoric.

The rules of Rhetoric are important not only in teaching how to use such imagery and expressions as may best affect the feelings of mankind, but also how to restrain and chasten our expressions, so as not to wound the feelings of the hearers. How very little of rhetorical ornament do we find in some of the famous orations of Demosthenes, but how careful is he to exclude all irrelevant matter or unnecessary words, and expressions; and though under the influence of strong feeling to touch with the greatest delicacy upon every thing which might give offence. Indiscrete and illiterate persons often use strong figurative language, which always makes more than an ordinary impression upon their audience, but their language and imagery are generally imperfect and discordant, and though powerful to awaken attention, more frequently give pain than pleasure, or render important sentiments ridiculous. It is the object of Rhetoric to teach how to introduce and manage figurative language, so as to lead the mind captive by pleasurable sensations.

It is therefore necessary to enter into a technical examination of the various figures of speech, such for example as Metaphor, Allegory, Personification, and other figures of speech and modes of expression, and to point out the styles suited for particular subjects.

Much that is taught in the Rhetoric class in Edinburgh belongs strictly to Grammar; such for example as purity and accuracy of expression, the construction of sentences, and what relates to language in general. But correct grammar is of great value in the art of persuasion, even the uttering of a false quantity in a Latin quotation has exposed a public speaker to such ridicule, as to put him to silence. Every thing connected with language and polite literature is indeed of great service in our intercourse with each other, not only in public speaking, for which only few have the natural talents, and still fewer an opportunity of exercising them, but also in the more private transactions of life, as nearly all men living in society must have verbal intercourse with each other; and it is here that correct speaking is the most extensively useful and influential.

In the Edinburgh Course Belles Lettres, or General Literature, is associated with Rhetoric.

This consists chiefly in an exposition of the different kinds of literary composition, and critical examinations of the works of the best authors. The nature of Epic and Dramatic compositions, the chief characteristics of the different kinds of Poetry; Historical, Epistolatory, and other kinds of Prose composition, are examined in detail, and illustrated by copious selections from the best works both ancient and modern, with which the student is supposed now to have become well acquainted.[87]

This kind of instruction may be considered a useful embellishment to the whole academic[88] course; for ignorance of any department of general literature is a great hinderance (*sic*) and injury to the usefulness of a man who has to sustain any public character, or to move in the society of well educated people.

Much that is here brought under the head of Belles Lettres, has been already commenced in the Greek and Humanity Classes. No one can pursue the Greek and Latin classics, for any great length of time, without becoming on some measure acquainted with the different kinds of Poetry, and other kinds of literary composition; and any one familiarized with the orations of Cicero and Demosthenes, must have become in some measure imbued with the spirit of public eloquence. But under the head of Belles Lettres these subjects are taken up in a more systematic manner. Those notable productions of human genius, the Epic and Dramatic Poems of ancient and modern times, are here fully examined and compared with each other; and in short all the best portions of the literary compositions of our own and other countries are commented upon with critical particularity.

In all discourses on[89] Rhetorick (*sic*) strict attention to pronunciation and delivery are strongly insisted on, as necessary to success in public speaking; and it is said both

by Cicero and Quintilian that when Demosthenes was asked what was the first point in Oratory, he answered Delivery, and when asked what was the second, and also the third, he still answered to both questions, Delivery. This is undoubtedly true, and every imperfection in delivery, whether it arise[90] from improper gesticulation, imperfect utterance, or from vulgar and provincial pronunciation, greatly injures the otherwise best oration, and though nothing can be a substitute for good sense, good pronunciation covers many faults; yet it is very remarkable that no provision is made in the University of Edinburgh for teaching this very necessary art; and I am not aware that any permanent provision is made for this object, in our own English Universities, except it be in King's College, London, and thus one of the most essential parts of education is unaccountably neglected.

We have now brought under review the course of Education pursued by the students of Arts in the University of Edinburgh.

Its deficiency in Classical and Mathematical learning is chiefly to be imputed to the want of previous school education, and to the prevailing tastes, manners, and institutions of the country. Its acknowledged excellency in Philosophy, appears to consist in pressing hard for a considerable time upon one distinct branch of knowledge, and in having able teachers for each subject, who often inspire their disciples with their own enthusiasm, and thus the elements of knowledge become deeply rooted in the mind. The students also coming under different preceptors holding somewhat different opinions, a spirit of enquiry is engendered, which leads to independent thought and investigation. Thus amongst the Edinburgh students we seldom find that smoothness of thought and expression which is generally to be found amongst those who are educated under the Tutorial system pursued in England. The stones of the educational edifice are chosen and roughly shaped by many artists of different tastes and the building like the opus incertum of architects though strong and durable is deficient in symmetry and proportions. It is highly characteristic of the whole course of Scottish education to attend to only a few things at one time. Thus when the Inspectors of Schools attempted to introduce into the Scottish elementary schools a multitude of subjects for examination, such as had been introduced into the Schools in England, they were effectually resisted.[91]

The great secret of successful education, I imagine, does not consist so much in teaching a great deal, as in bringing the various powers of the mind into vigorous exercise, and in directing them to proper objects. The elements of knowledge are by no means so multitudinous as many may suppose, and when deeply rooted in the mind, spring up and ramify in various directions. There is often a great similarity between very different branches of knowledge, and the same habit of mind, which is necessary for the acquisition of one kind of knowledge, is with little modification equally fitted for the acquisition of many other branches of knowledge.

For example, in Natural History, when the mind has been tutored to the observance of the particular characters of any class of natural objects, it can very readily be applied to the observation of other natural objects which are very different.

Our two old English Universities have been reproached, one of them for an almost exclusive attention to classical learning, and the other to pure mathematics, and perhaps they are much to be blamed in not giving a more decisive attention to those noble studies of moral and physical science, for a thorough knowledge of which classical and mathematical learning so largely contributes. But it may be very much questioned whether the prominence given to such a multitude of subjects as we find in the curriculum of studies in the University of London, is not a much greater fault. If one of our old Universities rested too much satisfied in refined imbecility, and the other neglected too much the knowledge required in the great business of life, this last innovation certainly tends to distract the mind and hinder solid acquirements.

Four years is much too short a period for college education, except to such as go well prepared with classical and mathematical knowledge; so that something must be neglected,[92] but the expense of college education in England is so great, as[93] in most instances, to preclude a longer attendance, and the temptation to enter upon the active duties of life, is too strong to be resisted by others.

In Scotland the case is the very reverse. It is often many years after leaving college that the student falls into any certain means of supporting existence, and the cost of education there is exceedingly moderate. Indeed it is very surprising how small a sum suffices to support a student for six months in some of the Scottish colleges. It is related of Dr. Robertson, the late Professor of Church History in the University of Edinburgh, that his College expenses at Aberdeen, including the college fees, did not exceed £5 per annum whilst he did the labour of a farm servant during the vacation; but in Edinburgh, such a thing would be impossible; both on account of the much higher college fees, and the greater cost of lodgings, as well as the necessity of more decent apparel. In Edinburgh, the college fees cannot be less than from £.7, to £.12 per annum; and a room would scarcely be obtained for less than 3/- per week, making the expense on these heads, from £10 to £15 per session. Friends who take an interest in a youth's education, often lend books; but some additional expense must be incurred on this head; and if we reckon upon 3/- per week for[94] food, this would be about £.4 more; which makes the whole expenses of the session about £.15 or £.20 and it is very probable that many Edinburgh students keep within the smaller sum, and thus go through the 4 years course for about £.60 or £.80. I however imagine, that twice the smaller amount is the cost of college education to the great majority of the Edinburgh students.

This I do know for a certainty, that a young man can leave Yorkshire, attend the Greek and Humanity Classes for a session of nearly 7 months in the Edinburgh College, live comfortably, purchase some books, and a little apparel, and again arrive within the smoke of his mother's chimney for £.32.

The only way by which the students in Arts can do any thing for their support at College, is by manual labour, or by engaging in some business during the vacations, but the Divinity students often support themselves by teaching in schools, or by becoming tutors in families.

The great majority of the Edinburgh students in Arts, become ministers of religion; some of the more wealthy pursue the law; some enter the medical profession; some fall into business; whilst a few do honour to their country as civil or military servants, or enjoy the otium cum dignitate as private gentlemen.

Considering the great temptations to vice in a large city, offered to youth under little personal restraint or guardianship, it is rather surprising that the conduct of the students in Arts in Edinburgh, should be as moral as it is acknowledged to be. In this respect their poverty is a great safeguard; their minds also are deeply occupied with their studies; many of them come to college under strong sentiments of religion; their attendance there is generally purchased by painful sacrafices (*sic*) on the part of their parents and relatives, who regard them with an anxious eye, and they well know that any false step on their part, would expose them to the severe reproach of those to whom they are under the greatest obligations, and probably ruin their prospects in life. All these considerations, no doubt, have a very powerful influence in restraining them from vicious pursuits, so that in point of morality they may bear comparison with those of other colleges, where they are placed under strict guardianship and restraint.

In point of good manners and in fitting young men for intercourse with polite society the college tutorial system where young men have a common table and free intercourse with each other, has a great advantage over the Edinburgh system, where all are at private lodgings; but the cost of the English colleges could never be supported by the great mass of Scottish students.[95]

I perhaps ought to apologize for having dwelt so long on this subject; but I thought that as Dr. Young had exercised a beneficial influence in the town for a long period, and had contributed very much to its literary character, he deserved something better than to be buried under indiscriminate panegeric (sic); and in reviewing his college education, I have had great pleasure in calling up old associations and studies, and from the favourable reception you have given to these lectures, I flatter myself that they have not been altogether uninteresting or useless.

Dr. Young, like us all, had his faults and failings, and I do not think, in reviewing a man's life, such things should be altogether overlooked; but I have been disposed to impute them more to physical constitution than to moral delinquency. Dr. Young was often blamed for giving so much of his time to literary pursuits, and especially to our institution, which was supposed to be the great object of his affections; and I have heard Mrs. Young, in her strong mode of expression, say that when Dr. Young died Museum would be found written on his heart; but when it came to the last closing scene of life, in which it is said that a man's prevailing passion is the most manifest, it appeared that things of a philosophical character had only a secondary hold on his affections, whilst his mind was engrossed with cares connected with the various religious institutions in which he had been a most active member; so that however diligent and persevering he may have been in promoting our institution, and other literary and scientific objects, there is no reason to believe that he was unfaithful to his sacred calling as a minister of religion.

The short time he often spent in preparing his sermons; and the consequent imperfect manner in which they were delivered, was indeed a great fault. A quarter of an hour, or twenty minutes, being all time he could often spare for the composition of a discourse, which was put down in short hand, to be filled up extemporaneously. This necessity arose from the multitude of objects he constantly had before him, entering into the most minute details. This appears to have been the natural turn of his mind, and it is very probable that if his pursuits had been less literary and scientific, they would have been less conducive to his duties as a minister of religion. It is probable that he might never under any circumstances have become a popular preacher, but on particular occasions, when he gave[96] sufficient time to the composition of his discourses, they were delivered with a fluency and vigour very different from what was observed in his ordinary ministrations.

Dr. Young having distinguished himself in so many ways as a scholar, some of his friends about the year 1834 made an attempt to procure for him the honorary title of L.L.D. from the University of Edinburgh but Dr. Young being a minister of what was then called the Secession Church of Scotland, and ecclesiastical controversy and animosities then running very high in the northern part of the island, the thing was found impracticable; and one of the American colleges having conferred upon him the degree of Doctor of Divinity, the subject was never afterwards resumed.

Geo. Jun. Page 26

A writer in the Philosophical Journal had fancied that not only the overflowing of the intermitting springs called the Gipseys was ~~occasioned~~ caused by the ebb and flow of the tide but that the whole bed of clay extending from Flambro Head to Spurn Point rose and fell with the flowing and ebbing of every tide. This idea is so preposterous that it might justly have been left to merited neglect. But the opperturnity was tempting and young falls upon him with a good deal of zest. He commences with an apostrophe to Holderness

Alas! poor Holderness — pure water

His remarks on Dr. Buckland's views respecting Kirkdale Cavern are much in a similar style Page 305 Lone — — teeth of Time" After stating some objections to Dr. Buckland's theory he goes on to say Page 307 A stronger objection —— albeum graecum.

As examples of a better style we may take the first two paragraphs in his Picture of Whitby — "lapse of ages

History of Whitby Vol. 1. page 68 — "tranquility page 102 upon the whole — 103 — 104 — Saxons

Dr. Youngs works however are so well known to the members of this society that any further examples are unnecessary

Figure 5. The single sheet insert detailing the quotations from Young's works (obverse: top; reverse: bottom).

Notes

1 (i) These are transcripts from the Martin Simpson manuscripts held by the Whitby Literary & Philosophical Society. Martin Simpson's manuscripts of his 3 lectures on George Young are written with a number of (generally clear) corrections, in black ink on blue laid (lecture 1; lecture 2 on grey 'cartridge' and lecture 3 on a mixture of) paper folded to 210mm high by 169mm wide and stitched as separate sections into the form of three uncovered booklets, thus:

[1] A lecture on the Literary character of the late Rev. G. Young D.D. composed of 10 sections (numbers 2 to 9 numbered at head) comprising 40 pages (last 1 1/2 pages of section 9 unused) with a single sheet of grey paper, less neatly written, carrying references to the quotations intended as examples of Dr Young's style;

[2] Life of the late Rev G. Young D.D. / Lecture 2nd composed of 9 sections, comprising 34 pages numbered at head (half pages 5 & 34, and last 2 (un-numbered) pages unused);

[3] Life of Dr Young Lec. 3. composed of 11 sections, comprising 44 pages numbered at head (half pages 16,30 & 39, and pages 19, 20 & 40 unused) with blue part sheet carrying an revision to the introductory paragraph.

(ii) The transcriptions are *verbatim et literatim et punctatim* - errors and omissions on the transcriber's part excepted - alterations (but not simple insertions without associated alteration) in the manuscript are noted; matter inserted in the course of transcription is in square brackets; and matter quoted by Simpson from sources other than Young is italicised. The paragraph breaks etc are the transcriber's best estimate of Simpson's intentions.

(iii) The peroration to the 1st Lecture, advocating a reference library for Whitby; and the extensive digressions in the 2nd and 3rd Lectures, devoted to his (Simpson's) personal account of student life, the system of tuition and the courses of study at Edinburgh University in comparison with English Universities etc are in smaller type size, but with the occasional direct references to Dr Young highlighted in **bold** type.

(iv) The first page of the transcription is preceded by a reproduction of the first page of the manuscript, and a reproduction of the single sheet carrying references to the quotations intended as examples of Dr Young's style (see note 24, below) is placed between pages 24 and 25 immmediately prior to these Notes.

2 The 40th Report (1862) records at page 4: *The following lectures were given:-*

Mr. Martin Simpson, - "On the Rev. Dr. Young." - February. The Whitby Gazette of Saturday, February 15 1862 reported: *Mr. Martin Simpson, curator of the Museum, read a paper before the members of the Literary and Philosophical Society, at the Museum building, on Tuesday evening, on "The Literary Character, Attainments and Pursuits of Dr. Young."* There is no record of the 2nd and 3rd lectures ever having been delivered.

3 '*26 Report*' interlineated: the quotation is from page 5 of the 26th Report, presented at the Annual Meeting of the Literary and Philosophical Society on 27 October 1848: '*It is with deep and sincere regret that your Council have to record the irreparable loss which the Society has sustained by the death of the most distinguished of their body, the Rev. George Young, D.D., one of the founders of the Society*, etc.....' The President on that occasion was Henry Belcher, Esq and the remaining co-secretary after Dr Young's death in May was Mr Richard Ripley.

4 '*then*' struck out.

5 '*posses*' struck out.

6 *Scriptural Geology; or an Essay on the High Antiquity ascribed to the Organic Remains imbedded in Stratified Rocks*: Communicated in Abstract, to the Geological Section of the British Association, at the Annual Meeting held in Newcastle. By the Rev. George Young, D.D.; M.W.S.; &c; &c; - London: Simpkin Marshall, and Co: etc, 1838.

7 *Appendix to Scriptural Geology, etc., Containing Strictures on some passages in Dr. J. Pye Smith's Lectures, entitled* Scripture and Geology; particularly his theory of a local Creation, and local Deluge. By the Rev. George Young, etc. - London, Simpkin Marshall, and Co.; etc, 1840.

8 *A History of Whitby and Streoneshalh Abbey*; with a Statistical Survey of the Vicinity to the Distance of Twenty-five Miles, by the Rev. George Young, with the assistance of some papers left by the late Mr. R. Winter, and some materials furnished by Mr. J. Bird. (2 volumes) - Whitby, Clark and Medd, 1817.

9 '*which*' struck out and ~'ing' added to 'relat~'.

10 '*He never appeared to have that grasp of intellect which distinguishes some men, but*' struck out.

11 ~ 'ing' replaces ~'*hood*' which is struck out.

12 'Mr Bird' replaces '*he*' which is struck out.

13 'its' replaces '*the*' which is struck out.

14 '(856)' interlineated.

15 'whilst' replaces '*and*' which is struck out.

16 *A Geological Survey of the Yorkshire Coast*: describing the strata and fossils occurring between the Humber and the Tees, from the German Ocean to the Plain of York; Illustrated with numerous Engravings; by the Rev. George Young, A.M. ... assisted by John Bird, Artist, ... Second Edition, Much improved and enlarged, with more than one hundred new Figures. - Whitby, R Kirby, 1828 (1st Edition 1822)

17 '*might*' struck out.

18 *The Life and Voyages of Captain James Cook*, Drawn up from his Journals, and other authentic documents; and comprising much original information: by the Rev. George Young, A.M. - London: Whittaker, Treacher, & Co., etc., 1836.

19 '*of life*' [repeated] struck out.

20 'respecting' replaces '*on*' which is struck out.

21 'epistolary' replaces '*literary*' which is struck out.

22 'deficient' replaces '*defective*' which is struck out.

23 '*entirely*' struck out.

24 These words and the paragraphs which follow are written on a loose sheet (which is reproduced on the previous page; see also note 1 paragraph iv) and have been edited to include the full quotations from Young's works to which references only are given in the manuscript.

25 'caused' replaces '*occasioned*' which is struck out.

26 ie 'the faecal remains of the hyaenas' (cf Scriptural Geology, p 67)

27 *A Picture of Whitby and its Environs*, by the Rev. Geo. Young, A.M. - Whitby, R Rodgers, 1824; Second edition (by the Rev. Geo. Young, D.D.) - Whitby, Horne and Richardson, 1840.

28 1st edition has '*While*' 2nd edition has '*Whilst*'.

29 'this' replaces '*which*' which is struck out.

30 '*of friendship*' struck out.

31 '*and*' struck out.

32 '*but notwithstanding all this and his*' struck out.

33 '*friendship*' struck out.

34 One-and-a-half blank pages now intervene - and see also note 1 paragraph iii.

35 '*such men as*' interlineated and struck out.

36 '*looked f'' struck* out.

37 'their' corrected for clarity.

38 *The United Presbyterian Magazine* for March 1849 published '*... some particulars of the early history of Dr. Young, from a manuscript in his own handwriting ... unfortunately a mere fragment ... and extending only to his very early youth ... we present a portion of it, ...*'

39 '*(and could read the Bible when 6 years of age)*' struck out.

40 '*appear*' [repeated] struck out.

41 see note 1 paragraph iii.

42 '*Philosophical*' amended to read 'Philosophy'.

43 (*sic*) - presumably a slip of the pen for 'than'

44 '*in the classes*' struck out.

45 '*eleg*' struck out.

46 '*at any time*' struck out.

47 'was' replaces '*is*' which is struck out.

48 ~'went' replaces ~'*go*' which is struck out.

49 '*so*' struck out.

50 '*Along*' struck out.

51 '*Latin*' stuck out.

52 '*and*' struck out.

53 '.....' [illegible words] struck out.

54 '*which were*' struck out.

55 '*of*' struck out.

56 '*Logic*' [heading] struck out.

57 '*I fancy*' struck out.

58 (*sic*) - presumably a slip of the pen for 'language'

59 '*(we see others which have only two feet and we call them Bipeds)*' struck out.

60 'they' replaces '*it*' which is struck out.

61 '*the*' struck out.

62 '*educat*' struck out.

63 To this point the paragraph is written on the part sheet (see note 1) apparently intended to replace the words 'Having gone over' with which the first full page begins.

64 see note 1 paragraph iii.

65 '*this department of knowledge*' struck out.

66 '*the*' [repeated] struck out.

67 '*to believe*' [repeated] struck out.

68 'men of this character' replaces '*merely heathen moralists*' which is struck out.

69 'make an open profession of christianity, and' replaces '*profess themselves to be christians and also*' which is struck out.

70 '*It was the object of this school of philosophers to found a system of morals on nature independent of scripture This has been condemned as only another phase of deism*' struck out.

71 'says he' interlineated in pencil - commas added in transcription.

72 'peculiarity' is amended from the original plural.

73 'continues Blakey' interlineated - commas added in transcription.

74 '*also*' struck out.

75 '*latter part of*' struck out.

76 'has been' replaces '*they*' which is struck out.

77 'God's' interlineated: perhaps intending 'God's book,' to replace 'the book of God,'?

78 '*religion or*' struck out.

79 '*attend*' struck out.

80 '*gr*' struck out.

81 '*ha*' struck out.

82 (*sic*) - presumably a slip of the pen for 'credence'

83 Two blank pages now intervene.

84 '*connected*' [repeated] struck out.

85 'venal' is corrected from the '*venial*' first written.

86 'to be independent' replaces '*as private*' which is struck out.

87 '*In this way the student*' struck out.

88 ~'*al*' struck out.

89 'on' replaces '*of*' which is struck out.

90 'arise' replaces '*arises*' from which the '*s*' is struck off.

91 '*, and if I might be allowed to express an opinion on the subject I certainly approve their [?] in my opinion very justly so*' struck out.

92 'so that something must be neglected,' interlineated, but the point of intended insertion not indicated.

93 '*as*' [repeated] struck out.

94 '*living*' struck out.

95 One-and-a-half blank pages now intervene.

96 '*time*' struck out.

MICROPALAEONTOLOGICAL MODELS AT THE NATURAL HISTORY MUSEUM, LONDON

by C. Giles Miller

Miller, C.G. 2002. Micropalaeontological models at The Natural History Museum, London. *The Geological Curator* 7(7): 263-274.

Micropalaeontological models of foraminifera, radiolaria, coccoliths and ostracods have been displayed in the galleries of The Natural History Museum, London since the 1800s. Some of these models, such as the d'Orbigny and Reuss/Fric models of foraminifera and Blaschka's glass models of radiolaria, are historically and scientifically significant while others such as Muller's conodont models, are less well known and have never been displayed. The historic and scientific significance of 11 sets of models are reviewed in this article and brief comments included on the history of their display in the galleries.

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Microfossils do not readily spring to mind when contemplating new displays for the museums of today. However, this has not always been the case. Numerous microfossils were displayed in The Great Exhibition of 1851 in London by fixing them to pieces of card (Figure 1) and displaying them in glass cabinets. The original exhibits are still held in the collections at The Natural History Museum, London, but did not thrive in this method of display and storage. For convenience in this paper, the title "Natural History Museum" is used throughout even where the original name of the institution was The British Museum (Natural History). In a handwritten note accompanying the collections, Edward Heron-Allen, the noted foraminiferal worker and bibliophile, wrote in April 1934, "The small boards in this drawer were put here to show how the foraminifera were mounted for exhibition in the galleries of the museum at Bloomsbury. On the inception of the Natural History Museum (in South Kensington) a few of these boards were exhibited and the rest placed into drawers in trays. They were speedily covered thickly with dust and as the tests were not protected in any way, a majority of them were rubbed down to the spot of glue in which they were embedded." Clearly, this early method for displaying and storing microfossils was not a success for the public or for the microfossils themselves.

d'Orbigny's models of foraminifera

The famous French scientist Alcide C.V.M. d'Orbigny (1802-1857) quickly recognised the difficulty of illustrating his work on the foraminifera. In 1825 he was reported to have remarked "With a view to giving greater publicity to the work I had undertaken, and with the object of making it available to everybody without entailing the necessity of observing the numerous genera of foraminifera under the microscope, I have had the idea of sculpting the shell of each genus and each subgenus of this order, about 1 inch in size." (Heron-Allen 1917, p. 14). With the help of his son M. Alcide Dessalines, he set out to produce sets of 25 plaster of Paris models (Figure 2) to sell in four instalments to accompany his Tableau méthodique (or new classification) of the Cephalopods, within which the foraminifera were first included. The first set was delivered in 1823 and displayed in the Musée d'Histoire Naturelle in Paris soon after. As promised by d'Orbigny in the first instalment, subscribers were presented with a document, listing and explaining the models when the fourth instalment was delivered (d'Orbigny 1826). About half of the taxa modelled are Recent and represent material collected from the Mediterranean Sea, the Red Sea, the west coast of France, the Antilles and Madagascar. The majority of the other taxa are from the Tertiary of the Paris Basin and Sienna with a single model based on a typical specimen from the Forest Marble, Jurassic of Britain. These models and the list formed the backbone to d'Orbigny's classification of the foraminifera but were to lead to many taxonomic arguments of priority and authorship. At the same time as the models were made, d'Orbigny prepared illustrations which were

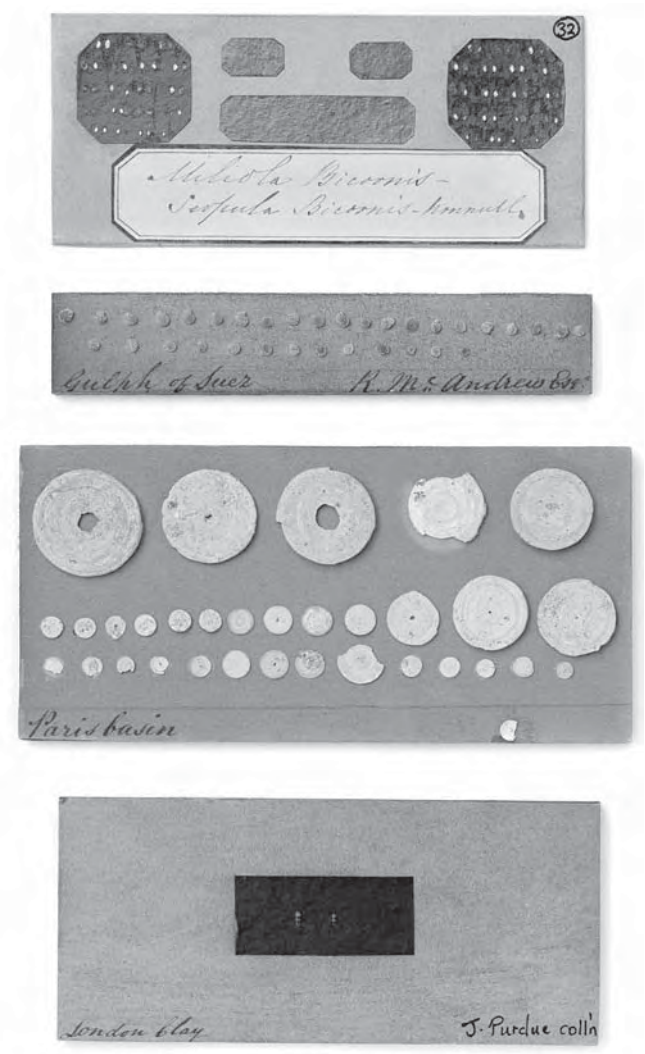

Figure 1. Part of the display of foraminifera from The Great Exhibition of 1851. Featured are specimens from the London Clay, the Paris Basin and the Gulf of Suez (x0.8).

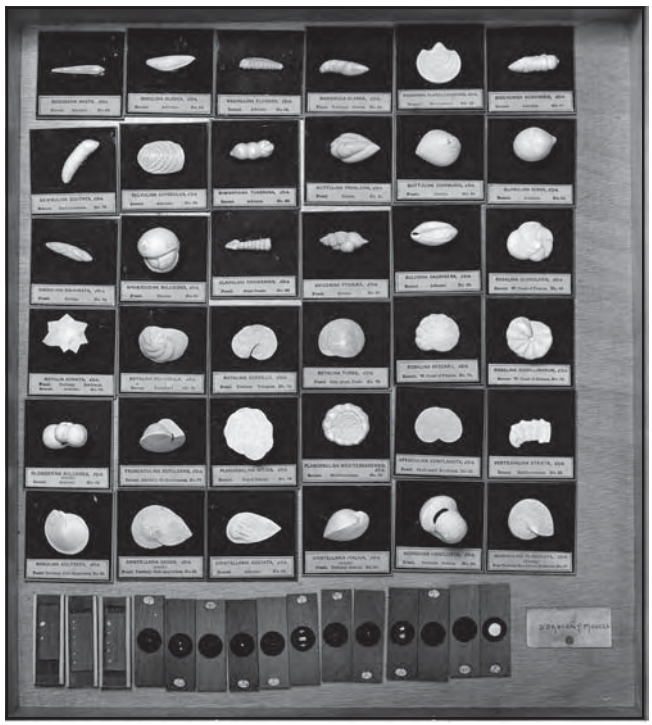

Figure 2. One drawer containing some of d'Orbigny's models and slides previously displayed alongside the models in the galleries (x 0.15).

either not published or were published at a later date by other authors (Deshayes 1830; Parker and Jones 1863). Other new taxonomic names were only listed in the Tableau méthodique and new species represented only by models were later considered invalid because they do not constitute a published work or paper (Articles 8 and 9 of the 4th Edition of the International Code of Zoological Nomenclature). Cifelli (1990, p. 5-7) provides a detailed account of the authorship and priority arguments arising from the d'Orbigny models. D'Orbigny fell out with a

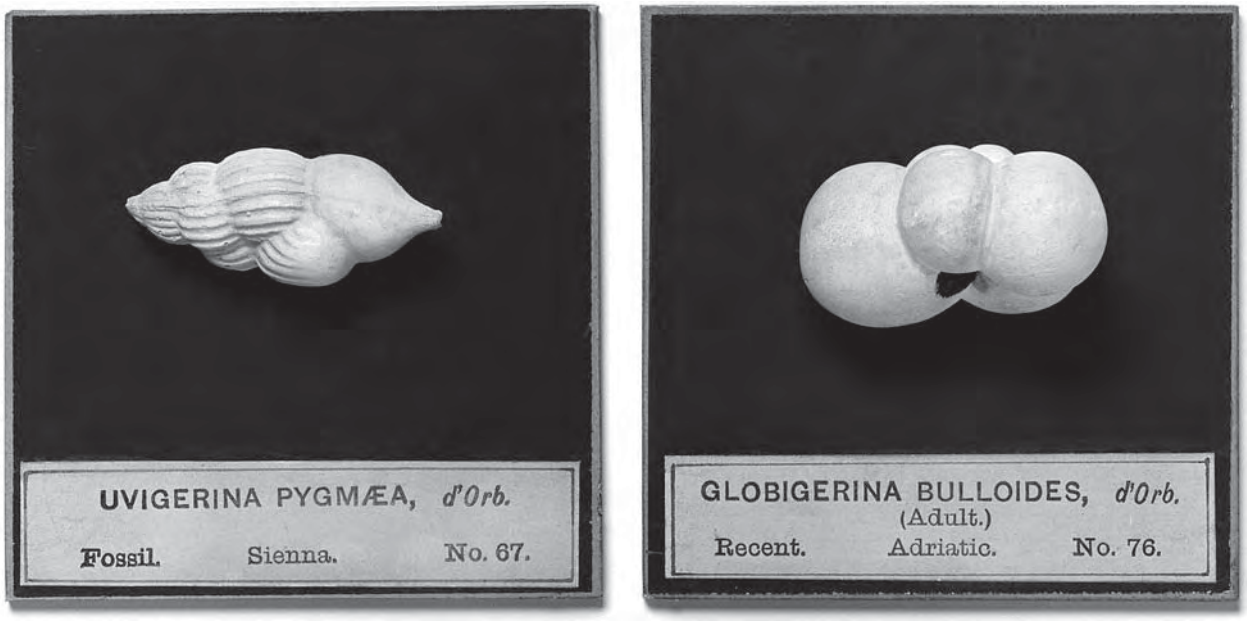

Figure 3. Two mounted d'Orbigny models showing Recent and fossil taxa. In colour, the fossil model is slightly yellower than the model of the Recent specimen (full size).

Figure 4. Reuss and Fric foraminiferal models re-mounted for display (x 0.6).

close friend, Deshayes, because he was the first to attack d'Orbigny's classification and use of models for illustration of new species (Deshayes 1830). Later workers, most notably Parker and Jones (1863) and Parker *et al*. (1865), paid homage to d'Orbigny's work but produced re-identifications based directly on d'Orbigny's models (in some cases validating his foraminiferal names in the process) and also the models of Reuss and Fric (see below). Despite the scientific arguments that the d'Orbigny models aroused, they were displayed alongside the real specimens exhibited in the British Museum in Bloomsbury. However, it is not clear from the archives if the models now in the possession of The Natural History Museum are originals or from the second edition of the models issued in 1843 (d'Orbigny 1843). A copy of one of the labels from the original set of models is bound with a reprint in the library of Heron-Allen at The Natural History Museum. A note with this label indicates that it was given to Heron-Allen as a present and suggests that he may not have possessed an original set. The fourth instalment of original models were coloured if they represented fossil taxa and white if they were of Recent taxa. The models in the collections of The Natural History Museum show a very slight variation in shade between fossil and Recent forms (Figure 3), suggesting that they may be faded original models. There is also a box of models in the collections that show signs that they have been glued onto a display. These display models are almost certainly copies of the original models because they are poorly made and the entire set of "original" models are neatly mounted on covered glass slides with original labels (Figures 2, 3). Accompanying the models is a letter from Emile Deyrolle and Sons of Paris to Heron-Allen dated 21st March 1920, offering him 100 models at a total price of 600 Francs or single models at 8 Francs per model. It is not known if Heron-Allen took up the offer.

Reuss and Fric (1861) models of foraminifera

A set of 100 plaster of Paris models similar to d'Orbigny's was prepared in Prague by Václav Fric (1839-1916) under the guidance of Professor A. Reuss and Dr Anton Fric (Figures 4, 5). Reiling (2000*b*) has studied Václav Fric, who appears in print under a number of names; Václav Fric, Wenzel Fric or Wenzel Fritsch (see label in Figure 5). For the purposes of this publication, Václav Fric will be used subsequently. Václav Fric was an internationally known natural history dealer from Prague who started his business in 1862 and exhibited his wares at several exhibitions including Moscow (1872), Vienna (1873) and Paris in 1878 (Reiling 2000*b*). Václav was known to be greatly influenced by his brother Antonin (= Anton in German) who was curator of the zoological and palaeontological collections of the Natural History Museum in Prague from 1854 to 1913 (Reiling 2000*b*). August von Reuss was Professor of Mineralogy at Prague University where Antonin Fric also held a professorial position for a time (Reiling 2000*b*). Reuss produced a classification of the foraminifera based on d'Orbigny but embraced the idea of Williamson (1858) that wall structure as well as the style of coiling should be the basis for classification (Cifelli 1990). The Reuss and Fric foraminiferal models were supposed to complement

Figure 5. Reuss and Fric foraminiferal models with original labels, some of which have hand written re-identifications (x 0.56)

d'Orbigny's and include some of the taxa not represented (listing of taxa given by Reuss and Fric 1861). Many were based on Recent material from localities similar to those used by d'Orbigny but also included Recent examples from the Philippines and India. However, the majority are based on Cretaceous chalk foraminifera from the Maastricht area. Other Cretaceous examples are given from the Gault Clay. The labels with this set always give chronostratigraphic information but often lack geographic information. Parker *et al*. (1865) chose to list these models and their identifications, appending taxonomic notes when applicable, but were scathing of Reuss and Fric's choice of taxa for illustration. Although Parker *et al*. (1865) recognised their great skill in constructing the models, they questioned the choice of taxa modelled, saying that most of them were already well known or had previously been described by Reuss. There are two sets of these models at The Natural History Museum, London. One set is whiter with a matt finish and has been re-mounted on small plaster blocks and re-labelled for display in the galleries (Figure 4). The original plaster models mentioned in the 1878 Fric catalogue (some examples acquired in 1894 are currently on display in the Utrecht University Museum) were mounted by a long wire and the labels glued to a wooden base (Reiling pers. comm. 2001). The other set at the Natural History Museum is glossy and yellow and is complete with original labels but the original wire has been trimmed off (Figure 5). The models are referred to in the Guide to Fossil Invertebrata by Bather (1907) who re-identified them with the assistance of Mr C.D. Sherborn. Some of the original labels have handwritten re-identifications but it is not clear if they are Parker or Sherborn's annotations. The guide indicates that the Reuss/Fric and the d'Orbigny models were displayed alongside each other in the order in which they are numbered but that the actual specimens displayed with them (Figure 1) were ordered according to Brady's classification of the foraminifera (Brady 1884). Woodward (1886) provides the first specific mention that the d'Orbigny and Reuss/Fric models were on display alongside fossil examples. It is possible that they were on display prior to 1886 as earlier editions

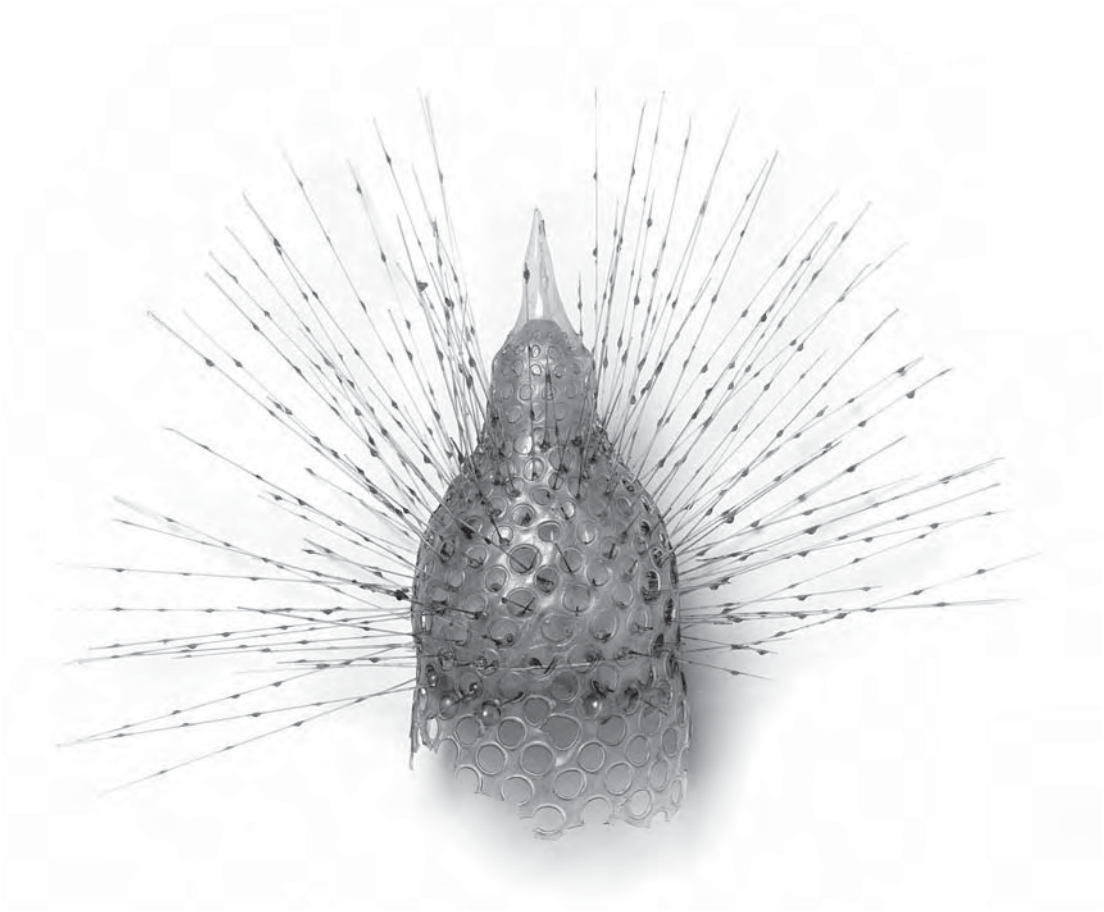

Figure 6. Glass model of radiolarian by Blaschka (x 0.8).

of this guide do not give any details other than mentioning that Protozoa (radiolaria and foraminifera) are displayed.

Blaschka glass models of radiolaria

No original documentation exists with these 8 extremely fragile glass models of radiolaria (Figure 6). Henri Reiling of Utrecht University, Holland has examined the models and considers that they are the work of the Leopold Blaschka (1822-1895) and his son Rudolf (1857-1939), because they are similar to Blaschka's radiolarian models that he has seen in Berlin, Geneva, Strasbourg and Vienna (pers. comm. 2001). This father and son team constructed glass models of invertebrate animals in Dresden between 1863 and 1890 (Reiling 1998, 2000a). The Blaschkas incorporated contemporary topics in their glass model collections, amongst these were the radiolaria described by Ernst Haeckel (1834-1919). A number of the models followed Haeckel's monograph on radiolarians (Haeckel 1862) (Figure 6). The Natural History Museum certainly ordered glass models in 1875, as three letters from Leopold Blaschka are present in the archives addressed to Dr Günther of the Zoology Department. The first, dated 11th November 1875, includes a price list of models of sea animals. The second letter of 28th November states that work had started on fabrication of the models and the third dated 27th January 1876 states that the models had been sent. Although it is not detailed in the letters, they probably refer to glass models of nudibranchs, cephalopods, hydrozoans and molluscs that are currently held in the Zoology Department, because models of radiolaria did not appear in the north American sales catalogue of Henry Augustus Ward, Blaschka's agent, until 1885 (Reiling 1998; pers. comm. 2001). However, a postcard from Blaschka on 7th October 1886, addressed to Mr S.O. Ridley, Zoology Department, suggests that more models had been ordered. Although this is not stated, the order may have included radiolaria. Mr Ridley, who joined the staff in 1878 and was in charge mainly of the sponge collection, resigned his position in 1886 to take his holy orders (Stearn 1998). At least one of the models has been on display in the galleries since it is illustrated in the "Short Guide to the British Museum (Natural History)" published by the Trustees (1970, 1975). There is also a long description of the display of radiolaria, including models, in the guides to the Geology and Palaeontology galleries (Bather, 1907, 1911; Regan 1931; Edwards 1936), but there is no mention of the models by Hinde (in Woodward 1897) who also describes the display of radiolaria in great detail. The label of one of the models (Figure 6) is unusual because it refers to *Brachymystax* which is a genus of fish, whereas the

Figure 7. Models of two radiolaria made in papier maché by Václav Fric (x 0.6).

model is based on *Eucrytidium cranoides* Haeckel, 1862 (Haeckel 1862, pl. 7, figs 1-3).

Václav Fric's radiolarian models

There are references to that fact that radiolarian models (Figures 6, 7) have been on display in the galleries (see above) but it is unclear if these refer to Blaschka's models or those of Václav Fric, or indeed both sets. Fric's catalogue for the world exhibition of 1878 in Paris mentions models of radiolaria (Reiling 2000*b*). The models held at The Natural History Museum are made from papier maché (Figure 7) and represent radiolaria common in the Barbados Marl, Oligocene-Miocene of the West Indies. Like the Blascha models, they are based on illustrations made by Haeckel (1862, plate 29).

Ideal model of a nummulite after Zittel

This 3-D model (Figure 8) of the internal structures of a nummulite foraminifer is mentioned by Woodward (1897), although it is not clear when it

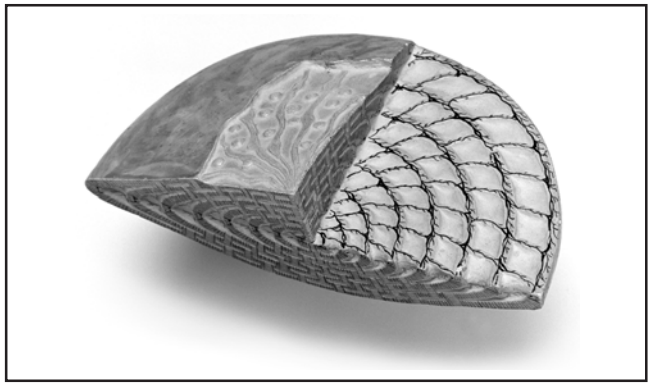

Figure 8. Model of typical nummulitic foraminifer after Zittel (1876, fig. 37) (x0.55).

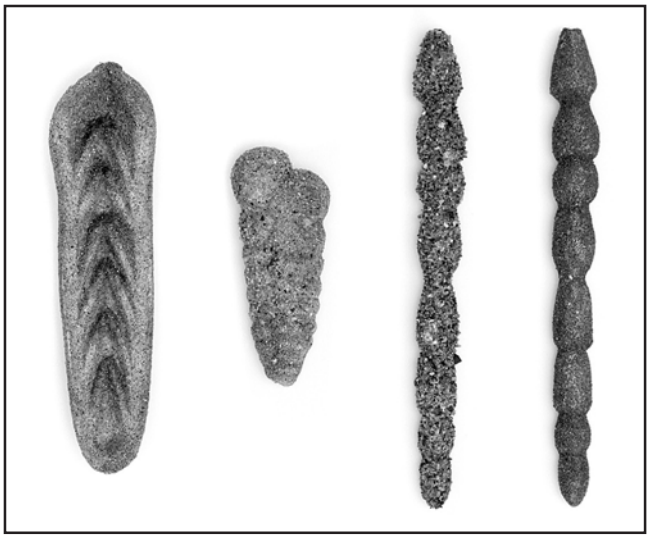

Figure 9. Models of agglutinating foraminifera by Pearcey (x 0.5).

Figure 10. Chaffer's models of foraminifera (x 0.3)

was made or by whom. The model is based on an illustration figured by Zittel (1876, fig. 37) of *Nummulites* cf. *laucasanus* Defrance from the Eocene of Kressenberg, Bavaria, Germany.

F.J. Pearcey's models of foraminifera

There are 24 glass models and plaster templates of mainly agglutinating foraminifera (Figure 9) made by Frederick Gordon Pearcey, formerly Assistant Keeper of the Manchester Museum. The models were made while he was a curator at the Bristol Museum and consist of a glass framework covered with coarse sand approximating to the coarse test of an agglutinating foraminifer. Pearcey's link with foraminifera was his involvement with Brady's famous *Challenger* cruise of discovery (1872-1876). Pearcey does not appear in the crew photo illustrated by Jones (1994, pl. C), but is described as "Assistant to the Naturalists on the expedition" by Crane (1897, photograph on pl. 19). There are no locality or stratigraphy details with the models. However, Pearcey published several papers describing foraminifera, mainly from dredge samples from offshore Britain and from Antarctica. Pearcey died in January 1927, shortly after retiring from the Bristol Museum, so the models must have been made sometime between the *Challenger* cruise in 1876 and his death. No original Natural History Museum exhibition labels are present with these models so it is unlikely that they were ever displayed.

Chaffer's models of foraminifera made by Flatters and Garnett *c.* 1929

Three letters addressed to Heron-Allen from Flatters and Garnet Ltd, Oxford Road, Manchester, accompany this collection of plaster of Paris models of foraminifera (Figure 10). Unfortunately there are no records of Heron-Allen's replies and no information, other than a taxonomic listing, of the material these models are based on. The first letter dated 4th December 1929 is a price list offering 72 different models for sale at £4 and 15 shillings (£4.75). The

Figure 11. Plaster models of conodonts by Muller (1960). From top left they represent *Ancyrodella* (labelled 16), *Gnathodus*, *Polygnathus* (labelled 13), *Cavusgnathus*, *Polygnathoides* and *Oistodus* (labelled 6) (x 0.46)

second letter dated 30th June 1930 expresses doubt as to the accuracy of the models but includes an offer to send them to the The Natural History Museum, London, presumably for comments. The third letter written on 9th October 1930 starts "We are very much obliged for your letter respecting the models. We are not altogether surprised at your comments, although some of the models have been highly praised. Do you think it would be possible to alter any of the moulds so as to secure satisfactory models?" It is clear that Heron-Allen did not think highly of the models and there is no record to suggest that they models were ever displayed in the galleries. The identity of Chaffer is still a mystery as he has never published on foraminifera.

Müller's conodont models

24 different key Cambrian to Triassic conodont genera were used as a basis for this set of mass-produced models (Figure 11) made in Charlottenburg, Berlin by Christian Hurfurth under the direction of Dr Klaus J. Müller (Müller, 1960). These plaster models are between 11 and 20 cm in length and illustrate carefully selected Cambrian to Triassic conodont genera. Most of the genera are still valid, but, today, the two Cambrian examples are generally not considered to be true conodonts, whilst three others would be assigned different generic names. The models, intended for teaching and exhibition purposes, were marketed at 148 Deutsch Marks (approximately $48 US at that time). Müller (1960) mentions (without listing) 24 different genera, but the literature sent with them includes line drawings of only 22 and a typed list stored with the collection lists 23 genera. The collection at the Natural History Museum has examples of 15 of them and they do not appear to have been displayed at any time. The Ordovician models are based on specimens from the Oneota Shale Iowa, USA and from the Asaphus-kalk of Berlin, Germany. A single Silurian example is taken from the lower Ludlow

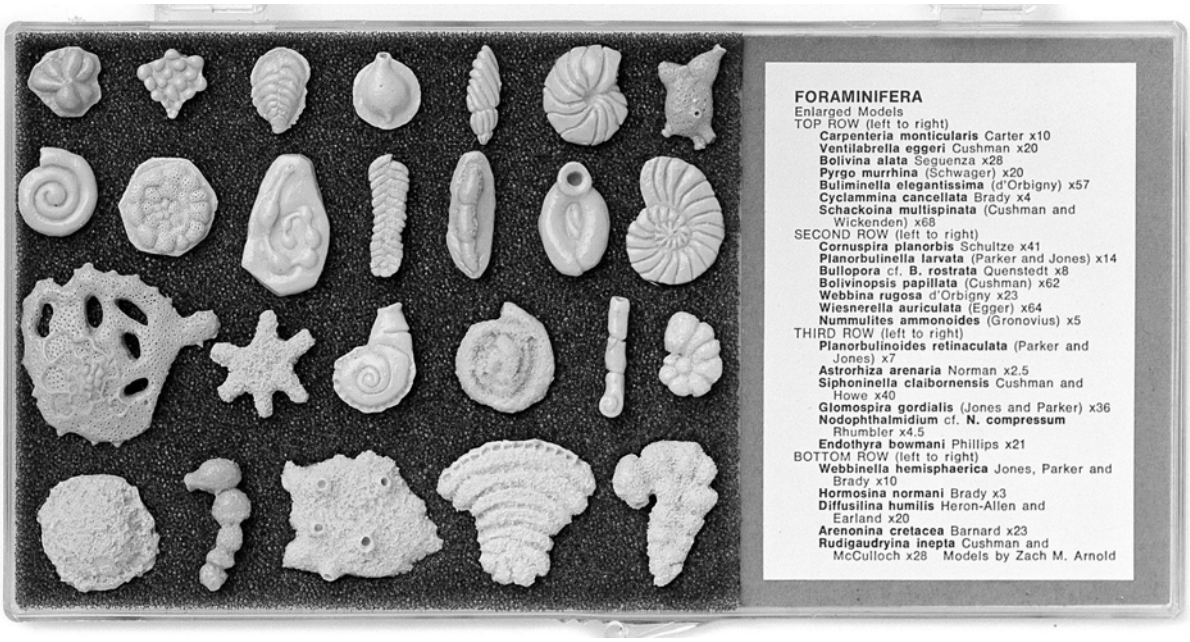

Figure 12. Plastic models of foraminifera by Zach M. Arnold (x 0.90)

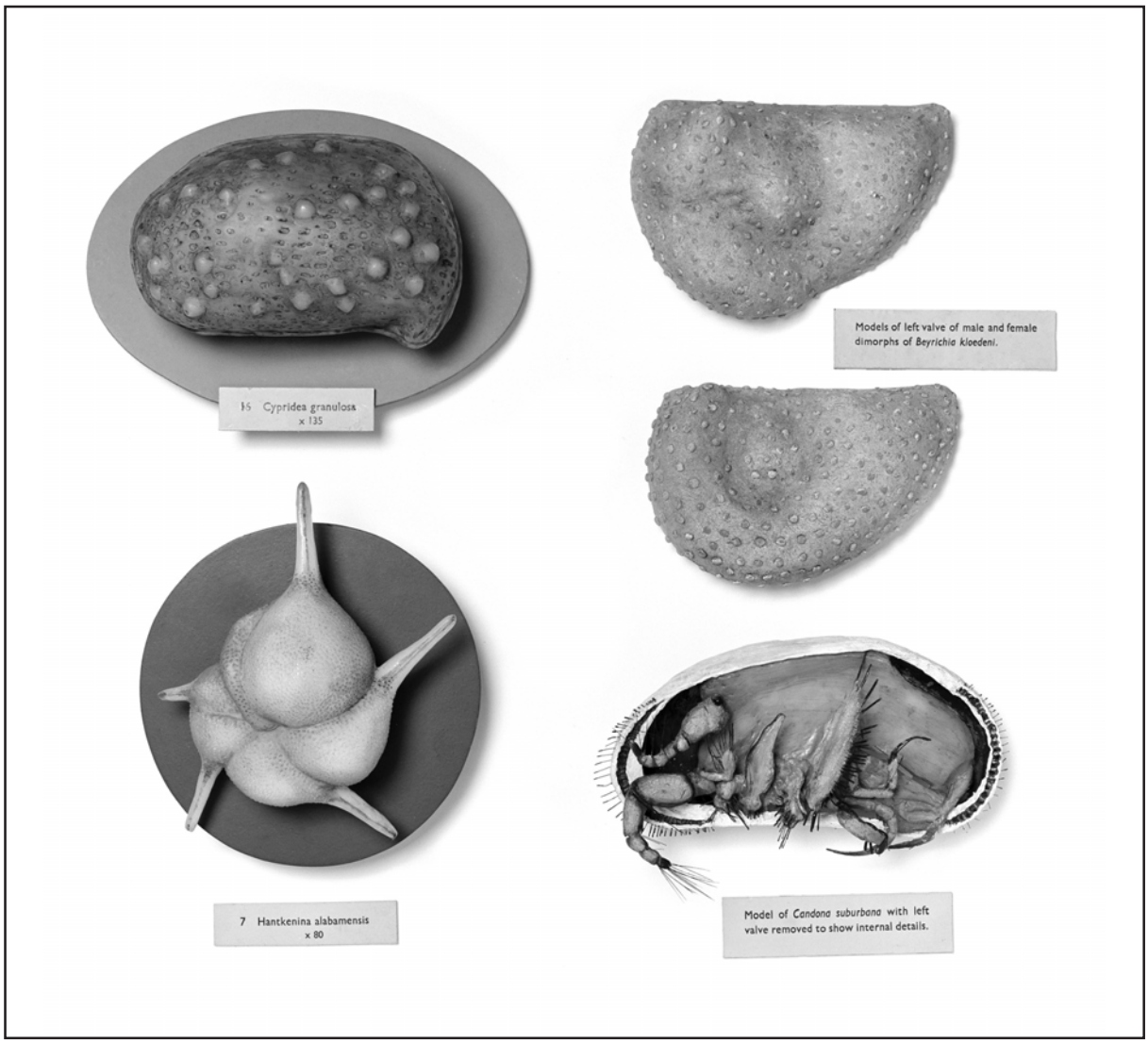

Figure 13. Bees wax models of foraminfera and ostracods made by Clive Sheppard for an exhibition in the Invertebrates Gallery (x 0.38).

of the Sahara region. Most of the Devonian models follow material from Iowa, New York, Michigan and Indiana States, USA with the exception of a specimen from the Upper Devonian of the Kimberly District, Western Australia. The Lower Carboniferous is represented by models based on material from the Carnic Alps and the Upper Carboniferous from the Desmoinesian of Iowa.

Zach Arnold's plastic models of foraminifera

These models were made in the 1950s and 1960s by Zach Arnold, who was a professor at the University of California, Berkeley until the early 1980s. Professor Arnold published extensively on living foraminifera and their ecology in particular. The templates were made in wax or modelling clay coated in sand and used to prepare silicone rubber external moulds. The models were then cast in polyester resin and an appropriate colouring agent added. About 60 sets of these models were made and used for teaching purposes or distributed to colleagues. Arnold's students often referred to them as "Zach plaques". Other individual plastic models were not incorporated into sets but made into lapel or tie pins. Arnold also made quite a number of models of species that are not included in the set currently at The Natural History Museum (Figure 12). This set came to the Natural History Museum as a gift to Dr R. Hedley who was then Deputy Keeper of the Zoology Department and was later to become Director of the museum. Hedley passed them onto the Deputy Keeper of the Palaeontology Department, Dr C.G. Adams who acknowledged receipt in a letter to Arnold dated 10th December 1973.

Beeswax models of ostracods and foraminifera

These models (Figure 13) were commissioned by Drs R. H. Bate, C. G. Adams and J. Pettitt for a new microfossil exhibit for the Invertebrate Gallery. The exhibition was to inform the public about the use of microfossils in oil exploration and illustrated ostracods and foraminifera. The taxa were chosen by Bate and Adams who, at the time, were the ostracod and foraminiferal researchers in the Department of Palaeontology. They represent species present in the collections and in particular, species described in publications by Bate and Adams. There are no stratigraphic or locality details with the models but they are mostly of post-Palaeozoic species with Silurian beyrichiacean ostracods used to show dimorphism (Figure 13). They were sculpted from bees wax by Clive Sheppard, a specialist museum model maker.

Figure 14. Copy of the resin model of the coccolith *Kamptnerius magnificus* Deflandre, 1930 currently on display in the Earth Lab area of the Earth Galleries (x 0.30).

Model coccolith

There is only one micropalaeontological model currently on display in the museum as this article is going to press. This model coccolith (Figure 14) is mounted next to a picture of the White Cliffs of Dover and a large hand specimen of chalk in the Earth Lab, in the Earth Galleries area of The Natural History Museum, London. The resin model is a representation of the coccolith *Kamptnerius magnificus* Deflandre, 1930 and was made for the British Geological Survey (at the time their London office was based in the former Geological Museum, South Kensington). This model has been on display since the late 1970s, originally as part of the "Britain Before Man" exhibition in the former Geological Museum. Based on what would have been one of the earliest SEM pictures of this particular species, the accuracy of the model is somewhat suspect because the poorly preserved material was all that was available at the time (J. Young, pers. comm. 2001).

Summary

The majority of the micropalaeontological models described here are of foraminifera, reflecting the strong tradition for foraminiferal research at The Natural History Museum. The sets made by d'Orbigny and Reuss/Fric provide information about early studies into the classification of the foraminifera and, in the past, have been displayed to illustrate these works. The models are also a testimony to the skills of natural history model

makers such as Václav Fric (in plaster of Paris and papier maché) and Blaschka (in glass). Other models such as the foraminifera made by Pearcy and Flatters/ Garnett are not so well made and there is no evidence that they have ever been on display. The conodont models of Müller have also never been displayed. More recently, models in plastic, beeswax and resin have been made specifically for teaching or for display in the museum. These reflect past and present research of museum staff into ostracods, coccoliths and foraminifera.

As well as being attractive to the eye, these models have stimulated many scientific arguments over the last one and a half centuries and will continue to be scientifically important in the future. The history behind them shows that they have been used as educational tools, both as displays in museums and as teaching material for undergraduate students on both sides of the Atlantic. Similar models are undoubtably present in museum collections worldwide and the present study provides a basis for the identification of these models elsewhere. A great deal of micropalaeontological research is in progress behind the scenes at The Natural History Museum but this is not represented in any of the current public gallery displays. These are all good reasons for the micropalaeontological models described here, to be included in museum displays in future.

Acknowledgements

Roger Clark at the Bristol City Museum and Art Gallery kindly supplied information about F.J. Pearcey. Dr Ray Bate of Lacustrine Basin Research, gave details of the beeswax models. Richard Hodgkinson, Dr Jeremy Young, Dr John Gregory and Dr John Whittaker, all of the Department of Palaeontology, The Natural History Museum, London, supplied additional information and references. Harry Taylor of the Central Photographic Unit, Natural History Museum, provided the illustrations. Vicky West allowed access to the archives of the Natural History Museum. Henri Reiling, Utrecht University Library, Holland sent reprints on Blaschkas's models, information on Fric and gave constructive comments on an early draft of the manuscript. Professor Zach Arnold is thanked for information on his models. The following (via the Paleonet listserver) pointed me in the right direction to find Zach Arnold: Professor Jere Lipps (University of California, USA), Susan Goldstein (University of Georgia, USA), Ben Waggoner (University of Central Arkansas, USA) and Elizabeth Nesbitt (Burke Museum, University of Washington, USA). The manuscript was improved following constructive comments from Steve Thompson (Scunthorpe Museum and Art Gallery) and Stephen Howe (National Museum and Gallery of Wales).

References

BATHER, F.A. 1907. *A Guide to the Fossil Invertebrate Animals in the Department of Geology and Palaeontology in the British Museum (Natural History)*. Trustees of the Natural History Museum, London, 183pp.

BATHER, F.A. 1911. *A Guide to the Fossil Invertebrate Animals in the Department of Geology and Palaeontology in the British Museum (Natural History)*. Trustees of the Natural History Museum, London, 183pp.

BRADY, H.B. 1884. Report on the Foraminifera dredged by the H.M.S. Challenger during the years 1873-1876. *Report on the Scientific Results of the Voyage of H.M.S. Challenger during the years 1873-1876. Zoology* **9** (1-2), 1-814.

CIFELLI, R. 1990. A history of the classification of foraminifera (1826-1933). Part I. Foraminiferal classification from d'Orbigny to Galloway. *Cushman Foundation Special Publication* **27**, 1-88.

CRANE, W. 1897. *Portraits of the contributors: reproduced from the photographs presented by them to John Murray with facsimiles of the designs for the cover and dedication of the album containing them by Walter Crane*. Dulau and Co., London, 12pp, 19pls.

DESHAYES, M.G.P. 1830. *Encyclopédie Méthodique. Histoire Naturelle des Vers,* 2. Mme Agasse, Paris.

EDWARDS, W.N. 1936. *Guide to the Exhibitions and Galleries of Geology and Palaeontology, British Museum (Natural History)*. Trustees of the British Museum, 74pp.

HAECKEL, E. 1862. *Die Radiolarien: (Rhizopoda Radoliaria): Eine Monographie*. Georg Reimer, Berlin, 572pp., 35 pls.

HERON-ALLEN, E. 1917. Presidential address, 1916-1917: Alcide d'Orbigny, his life and his work. *Journal of the Royal Microscopical Society* for 1917, 1-105.

JONES, R.W. 1994. *The Challenger Foraminifera*. Oxford University Press, 150pp.

MÜLLER, K.J. 1960. Conodontenmodelle. *Paläontologisches Zeitschrift* **34**, 336.

d'ORBIGNY, A.C.V.M. 1826. Tableau méthodique de la Classe des Céphalopodes par M. Dessalines d'Orbigny. *Annales des Sciences Naturelles* **7**, 245-315.

d'ORBIGNY, A.C.V.M. 1843. *Modèles des Foraminifères vivans et fossiles*. De Cosson, Paris, 24pp. 8pls.

PARKER, W.K. and JONES, T.R. 1863. On the Nomenclature of the Foraminifera. Part X. – The species enumerated by D'Orbigny in the Annals des Sciences Naturelles, vol vii, 1826. *The Annals and Magazine of Natural History* **12**(72), 429-441.

PARKER, W.K., JONES, T.R. and BRADY, H.B. 1865. On the Nomenclature of the Foraminifera. Part X. (continued) – The species enumerated by D'Orbigny in the "Annales des Sciences Naturelles", vol vii, 1826. *The Annals and Magazine of Natural History* **16**(91), 15-41.

REGAN, C.T. 1931. *Illustrated guide to the exhibition galleries*. Trustees of the British Museum, London, 249pp.

REILING, H. 1998. The Blaschkas' glass animal models: origins of design. *Journal of Glass Studies* **40**, 105-126.

REILING, H. 2000*a*. The Blaschkas' glass animal models: illustrations of 19th century zoology. *Scientarium Historia, Brussels* **26**, 131-143.

REILING, H. 2000*b*. Václav Fric (1839-1916): Traces in archives and museums. *Verhandlungen zur Geschichte und Theorie der Biologie* **5**, 341-357.

REUSS, A.E. von, and FRITSCH, A. 1861. Verzeichniss von 100 Gypsmodellen von Foraminiferen, welche unter der Leitung des Prof. A. Reuss und Dr Anton Fritsch gearbeitet wurden. *Ausgegeben von W. Fric, Naturalienhändler in Prag, Wassergasse* Nro. **736-II**, 4pp.

STEARN, W.T. 1998. *The Natural History Museum at South Kensington. A History of the Museum 1753-1980*. The Natural History Museum, London, 414pp.

TRUSTEES OF THE BRITISH MUSEUM (NATURAL HISTORY) 1970. *Short Guide*. BM(NH), London, 54pp.

TRUSTEES OF THE BRITISH MUSEUM (NATURAL HISTORY) 1975. *Guide*. BM(NH), London, 54pp.

WILLIAMSON, W.C. 1858. *On the Recent Foraminifera of Great Britain*. The Ray Society, London, 107pp.

WOODWARD, H. 1886. *A Guide to the Exhibition Galleries of the Department of Geology and Palaeontology*. Trustees of the British Museum (Natural History), London, 117pp.

WOODWARD, H. 1897. *A Guide to the Fossil Invertebrates and Plants in the Department of Geology and Palaeontology – Part II Insecta to Plants &c*. Trustees of the British Museum (Natural History), London, 158pp.

ZITTEL, K.A. 1876. *Handbuch der Palaeontologie. I Band Palaeozoologie. Protozoa, Coelenterata, Echinodermata und Molluscoidea*. R. Oldenbourg, Munich and Leipzig, 765pp.

THE TOWNSHEND FOSSIL INSECT COLLECTION AT WISBECH AND FENLAND MUSEUM

by Glenys Wass and Andrew J. Ross

Wass, G. and Ross, A.J. 2002. The Townshend Fossil Insect Collection at Wisbech and Fenland Museum. *The Geological Curator* 7(7): 275-282.

The Townshend Fossil Insect Collection at Wisbech and Fenland Museum is described following the 1998-1999 Collections Management Project. Among the 53 specimens and related books is the holotype of the Miocene spider *Argyronecta longipes* Heer, 1865.

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Introduction

Although a small provincial museum, Wisbech and Fenland Museum holds a large and diverse geological collection including the Townshend Fossil Insect Collection. Chauncy Hare Townshend was a prominent local dignitary who had a great passion for collecting anything and everything. After his death in 1868, Townshend left half of his large collection to Wisbech and Fenland Museum, including all his geological collection. The other half went to the Victoria & Albert Museum in London. The Townshend Fossil Insect Collection then remained for many years undisturbed in Wisbech and Fenland Museum. During the 1998-1999 Collections Management Project the true scientific value of the fossil insect collection was uncovered with the discovery of the lost holotype of a spider *Argyronecta longipes* Heer, 1865.

Previous surveys of the museum's geological collections have been conducted by South Eastern Museums Service peripatetic geological curators Simon Knell in 1986 (Knell 1986), and Simon Timberlake in 1988 (Timberlake 1988). These surveys gave an overview of the collection and identified many important specimens and collectors. Both surveys identified the Townshend geological collection, donated in 1868 as one of large historical importance. However, the scientific importance of the Townshend Fossil Insect collection was not realised until the 1998-1999 collections project at the museum. Included in this collection are 53 specimens of fossil insects that Townshend probably purchased from Dr Oswald Heer of Switzerland.

The collections management project was set up in response to needs identified as part of the 2nd phase of the Museum and Galleries Commision registration scheme. Funding was raised to employ specialist geological curators to conduct a year-long collection management project to document and improve conditions of the geological collections including the Townshend Fossil Insect Collection.

Chauncy Hare Townshend

Chauncy Hare Townshend (Figure 1) is considered to be one of the museum's most important benefactors, having donated a great quantity of diverse material during the 19th century, including geological specimens.

He was born in 1798 at Busbridge Hall, Godalming to a wealthy family of brewers and city merchants who married into the landed gentry. The family had estates around Wisbech, in addition to London and Switzerland, estates which Townshend inherited in 1827 (Cave 1998). Townshend was a prolific collector of almost anything and everything. He had interests in the arts, poetry, (some of his own he later published), and science, with a keen interest in natural history and geology. He had many famous friends and acquaintances including writers Charles Dickens and Wilkie Collins. Charles Dickens gave Townshend his manuscript of Great Expectations, which was subsequently bequeathed to Wisbech & Fenland Museum.

In the later part of his life Townshend spent much of his time in his villa in Lausanne, Switzerland and the remainder either at his London residence or travelling. It is not known how often Townshend visited Wisbech and the surrounding area, however, the museum visitors book shows that Townshend did visit the museum on

Figure 1. Portrait of Chauncy Townshend, copied from the portrait by J. Boaden 1825.

18th July 1850. The museum at that time was still fairly new, having opened in 1847. Subsequent to his visit Townshend donated material to the museum before his death, including copy of Flora Teriaria Helvetiae (Heer 1854*b*) on 19th September 1854. Edward Jackson, who was Townshend's agent, gave these donations on his behalf. Mr Jackson was also the secretary of the Wisbech Museum Committee and it is thought likely that Jackson influenced Townshend's decision to bequeath half of his collection to the museum.

Townshend died on 25th February 1868. His will divided his vast collection between the South Kensington Museum (today the Victoria & Albert Museum), and Wisbech and Fenland Museum. An extract from his will reads 'And I give and bequeath all the rest of my pictures…and my fossils, autographs, rings and jewels intended to illustrate my Geological Collections... of the Trustees or Directors for the time being of 'The Wisbech Museum''. The majority of his art and photographs went to the V&A, whilst the rest went to Wisbech and Fenland Museum including geological specimens from his 'Fossil and Mineral' room in his London home and his collection at Lausanne.

Dr Oswald Heer

Oswald Heer was a Swiss naturalist with a particular interest in fossil plants and insects. He was born on 31st August 1809 in Canton St. Gallen, Switzerland (La Rocque 1961). In 1852 he was appointed a professor at Zurich University, where he first studied Recent plants, then fossil plants, from Switzerland, and published the Tertiary Flora of Switzerland (Heer 1855, 1856*a*, 1859). This work described 900 specimens and was illustrated by 155 plates. A copy of this work was in Townshend's library and is now at Wisbech and Fenland Museum.

Heer produced several monographs on fossil insects from Switzerland, Croatia, France, Greenland and Germany. He was a well-known authority and described most of the species from Oeningen, on the Swiss-German border, from where the specimens in the Townshend collection originally came.

Included in the Townshend collection are publications of Heer's, including a translation by Charles Gaudin (a fellow Swiss palaeobotanist) of a letter from Heer to Charles Lyell in 1856 (Heer 1856*b*). The inscription written by Townshend on the front reads 'hommage de traducteur', or with respect to the translator. Also included in the collection is Heer's 1853 monograph. Again Townshend has written 'hommage de l'auteur' on the front cover. It is likely that Townshend was acquainted with both Oswald Heer and Charles Gaudin.

In the later part of his life Heer lived at Lausanne, Switzerland where he died on 27th September 1883.

Townshend Geological Collection

The Townshend Geological Collection is composed of material from both his London home and his villa at Lausanne. In an inventory of his London home taken after his death, Townshend's geological collection included 'a fine specimen of fossil (the *Ichthyosaurus*)', '4 specimens of fossil fish in wood frame', and 'a large specimen of fossil from the clay (Jaw of Mastodon)' in addition to numerous undescribed small fossils and minerals. Unfortunately, the inventory does not go into details of the exact number or description of geological specimens in the collection, nor does it include the material that came later from his Lausanne villa.

Townshend collected some of his material himself from areas he visited on his travels including minerals from St. Gothard, Switzerland and fossils from Weymouth. He also purchased materials from fossil dealers including the well-known James Tennent of 149 The Strand, London. A letter from James Tennant to Townshend in 1850 lists specimens purchased as including Ansted's *Geology* in two volumes, 20

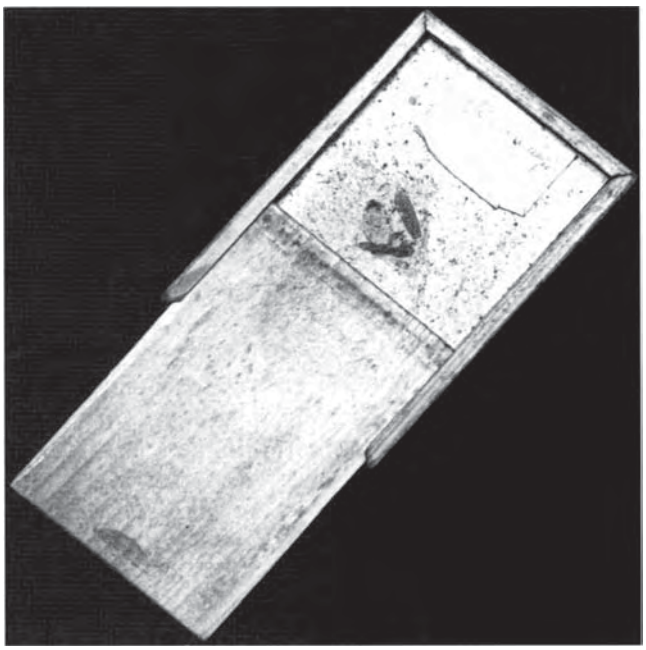

Figure 2. '*Lytta aesculapi*' (Coleoptera: Meloidae), 1998.64.12, in box with paper label stuck to specimen and penciled name on the lid.

mountain or Carboniferous limestone fossils, a group of Lias ammonites with scales of fish and others. Townshend also had a large collection of gemstones that went to the South Kensington Museum (Victoria & Albert). A descriptive catalogue of the gems was written by James Tennant in 1870, two years after Townshend's death.

When the collection at Wisbech and Fenland Museum was documented in the 1998-1999 Collections Management Project about 270 specimens could be attributed to the Townshend geological collection using labels and associated documentation with the specimens. It is probable that his collection was originally much larger than this and that the remainder has been lost over time or become incorporated into the general museum geology collection.

The surviving material at Wisbech and Fenland Museum includes the framed specimens of fossil fish encompassing *Myripristis* sp. and *Rhombus* sp. from the Upper Eocene of Monte Bolca, Italy; the ichthyosaur skull from Lyme Regis, fossil fish, crustaceans and plants from Solenhofen and many cut and polished stones. In addition to these specimens are the collections of plants and insects from Oeningen. The specimens from this locality are of Upper Miocene (Messinian) age (Evenhuis 1994). The Fossil Plant collection contains 127 plants preserved in cut limestone blocks with original labels, probably written by Oswald Heer. Heer produced three monographs of fossil plants from this and other Tertiary localities (Heer 1855, 1856*a*, 1859). A slip of paper found with the plant collection reads 'To make possible the exploration, after the manner of Herr L. Barth, of the Oeningen Quarries on a more adequate scale, the undersigned from whom the collections may be obtained, have determined to arrange in smaller or larger collections the plants and insects discovered. The plants cost 1fr 50 cent a piece, and the insects (each individual preserved in a box) 2fr'. It is unknown to whom the original undersigned referred as this is not included in either the German typed script or the English translation. It does indicate, however, that Townshend probably purchased both the plant and insect collections from one of the undersigned, possibly Oswald Heer.

Townshend Insect Collection

The Townshend Insect collection consists of 53 specimens from Oeningen, Switzerland. They are all preserved in laminated limestone, and most are still housed within their original wooden casings (Figure 2). Although some of the specimen blocks are cracked, a large number are still in excellent condition.

Many of the wooden boxes have the species name written on in pencil. The writing is thought to date from the time the specimens were collected and were probably written by Oswald Heer. Some of the specimens also have labels glued onto them written in the same handwriting, in ink. Unfortunately, some of these are now very difficult to read due to fading. The box lids and labels were checked against the specimens and Heer's publications (Heer 1847, 1849, 1853, 1865, 1862, 1867). The species names in Heer's publications correspond in most cases with the names on the boxes and labels, and this made it possible to decipher some labels that were difficult to read. It was clear that many of the lids had been swapped over in the past as the writing on the lid did not match the specimen in the box. The correct lids were matched with the specimens where possible.

The Townshend Fossil Insect Collection contains representatives of ants (Hymenoptera: Formicidae), beetles (Coleoptera), flies (Diptera), a bug (Hemiptera), dragonfly nymphs (Odonata), a spider (Araneae), and shrimps (Decapoda) (see Table 1). The most exciting discovery was the spider, which is clearly the holotype of *Argyronecta longipes* described by Heer in 1865. The insects were closely compared with the figures in Heer's monographs. None of the insects could be positively identified as those figured by Heer but because of the presence of the type spider in the collection there may be other figured specimens present. For most specimens it has not been possible to check if the generic names or the identifications are correct, so they are listed in inverted commas to show that the names are taken from the original labels.

Figure 3. '*Argyronecta*' *longipes* Heer (Arachnida: Araneae) holotype 1998.64.53 , x2.2.

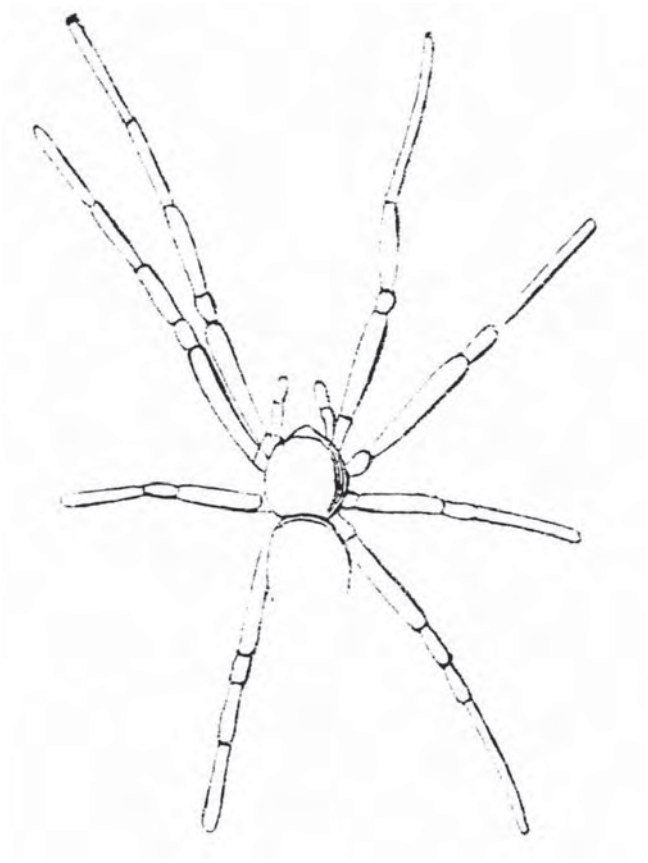

Figure 4. Reproduction of Heer's original figure of '*Aygyronecta*' *longipes*, x1.7.

Holotype of *Argyronecta longipes* Heer

There is one specimen of a spider, 1998.64.53 (Fig. 3), in the Townshend Fossil Insect Collection labelled '*Araneutes longipes*'. It is poorly preserved but under low-angle lighting the legs can be clearly seen. This specimen closely matches a figure (reproduced in Figure 4), named *Argyronecta longipes* by Dr Oswald Heer on page 356 of his book *Die Urwelt der Schweiz*, published in Zürich in 1865. An English translation of this book, entitled *The Primaeval World of Switzerland* was published, in two volumes, in 1876. The spider was mentioned and figured as a 'long-legged water spider' on page 10 in volume 2. The positions and spacing of the legs of the specimen are virtually identical to those in Heer's figure and given that fossil spiders are so rare, this must be the specimen that Heer figured and is therefore the holotype. This has been confirmed by Dr Paul Selden (Manchester University) (pers. comm.). Selden (2001) on pages 719-720 discusses earlier opinions on this species, published by other authors in the 1870's, who concluded that it does not belong to *Argyroneta*. It is implied that *Argyronecta* is a spelling mistake of *Argyroneta* although it is not clear if the former has been formally synonymised. It appears that this specimen has not been re-examined for over 120 years.

Most of Heer's type insects are in the Geologisches Institut in Zurich, Switzerland (Zeuner and Manning 1976) so it is unclear how this type specimen came to be amongst the rest of the collection acquired by Townshend.

Conclusion

A Collections Management Project such as that carried out in 1998-1999 has shown that exciting discoveries can still occur when resources are put into the curation and research of small historical geology collections. It is hoped the discovery of the spider holotype and the other excellently preserved specimens will renew interest in the Wisbech and Fenland Museum Geology Collections.

Acknowledgements

We wish to thank all at Wisbech and Fenland Museum for their help, particularly Gill Rayment, Su Booth and Robert Bell. Thanks must go to Phil Crabb of the Natural History Museum Photographic Unit for the photographs. We also thank Paul Stevenson for his assistance cataloguing the collection, Dr Paul Selden (Manchester University), and Ricky Patten for his support.

Table 1. List of specimens in the Townshend Fossil Insect Collection.

Order Hymenoptera:
Family Formicidae (ants):
'*Formica heraclea*' (1998.64.24)
'*Formica lignitum*' (1998.64.25, 1998.64.26, 1998.64.27, 1998.64.48) [Figure 5]
'*Formica procera*' (1998.64.28, 1998.64.29)
'*Formica*' sp. (1998.64.30)
'*Myrmica rugiceps*' (1998.64.31)
?*Poneropsis* '*escheri*' (1998.64.32)
Gen. et sp. uncertain (1998.64.33, 1998.64.34, 1998.64.35, 1998.64.36, 1998.64.37)

Order Coleoptera:
Family: Alleculidae:
'*Cistela*' sp. (1998.64.1)
Family Chrysomelidae:
'*Galeruca buchi*' (1998.64.2)
'*Gonioctena japeti*' (1998.64.3)
'*Lina populeti*' (1998.64.4) [Figure 6]
Family Curculionidae (*s.l.*):
'*Cleonus*' sp. (1998.64.5, 1998.64.6, 1998.64.7)
'*Sitona attavina*' (1998.64.8)
Family Histeridae:
'*Hister antiquus*' (1998.64.9)
'*Hister coprolithorum*' (1998.64.10)
'*Hister maculigerus*' (1998.64.11)
Family Meloidae:
'*Lytta aesculapi*' (1998.64.12) [Figure 2])
Family Melyridae:
'*Malachius* vertummni' (1998.64.13 [Figure 7], 1998.64.14, 1998.64.15)
Family Scarabaeidae:
'*Onthophagus*' sp. (1998.64.16)
Family uncertain:
'*Anoplites bremii*' (1998.64.17, 1998.64.18, 1998.64.51 [Figure 8])
'*Cassida blancheti*' (1998.64.19 [Figure 9])
'*Telephorus fragilis*' (1998.64.20)
Gen. et sp. uncertain (1998.64.21, 1998.64.22, 1998.64.23)

Order Diptera:
Family Bibionidae:
'*Bibio*' sp. (1998.64.38)
'*Protomyia jucunda*' (1998.64.52 [Figure 10])
Family uncertain:
Gen. et sp. uncertain (1998.64.39)

Order Hemiptera:
Family Lygaeidae:
'*Lygaeus dasypus*' (1998.64.50 [Figure 11])

Order Odonata:
Family Libellulidae:
'*Libellula eurynome*' (1998.64.42
'*Libellula*' sp. (1998.64.43, 1998.64.44)
Family uncertain:
Gen. et sp. uncertain (1998.64.45)

Order uncertain:
Family uncertain:
Gen. et sp. uncertain (1998.64.40, 1998.64.41)

Order Araneae:
Family Argyronetidae:
Argyronecta longipes Heer 1865, Holotype, (1998.64.53 [Figures 3-4])

Order Decapoda:
Family Palaemonidae:
'*Homelys minor*' (1998.64.46, 1998.64.47, 1998.64.49 [Figure 12])

Figure 5. '*Formica lignitum*' (Hymenoptera: Formicidae), 1998.64.48, x3.

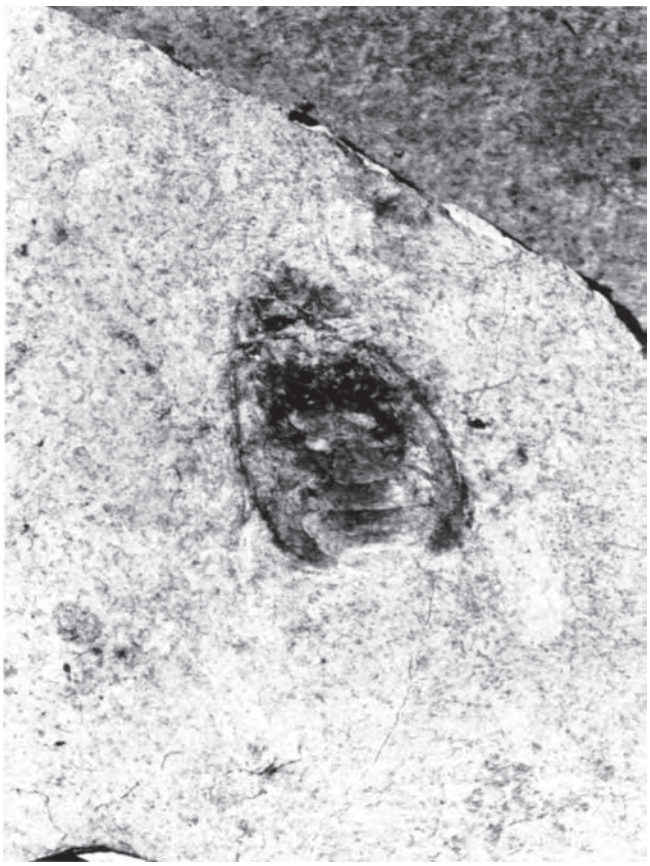

Figure 6. '*Lina populeti*' (Coleoptera: Chrysomelidae), 1998.64.4, x4.3.

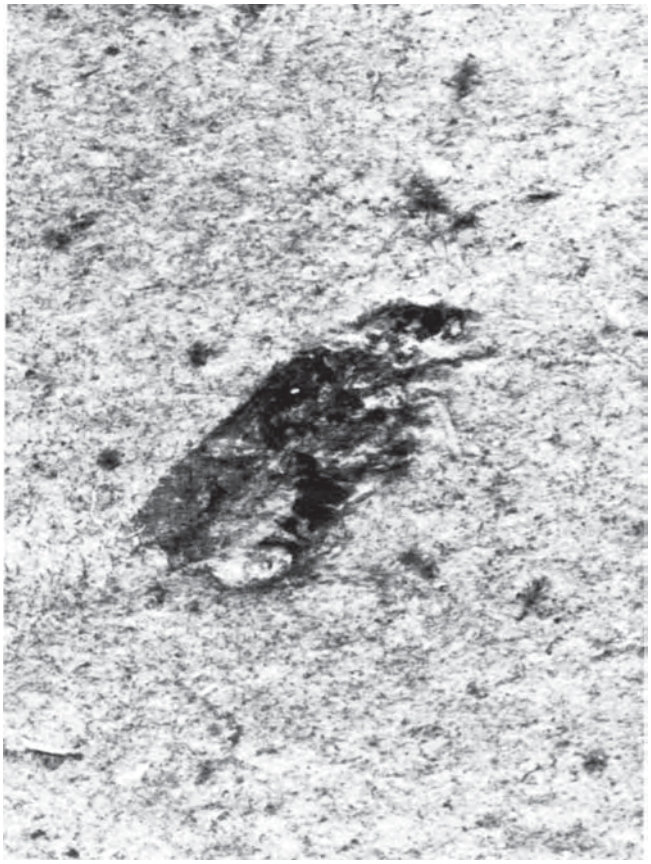

Figure 7. '*Malachius vertummni*' (Coleoptera: Melyridae), 1998.64.13, x7.

Figure 8. '*Anoplites bremii*' (Coleoptera), 1998.64.51, x7.

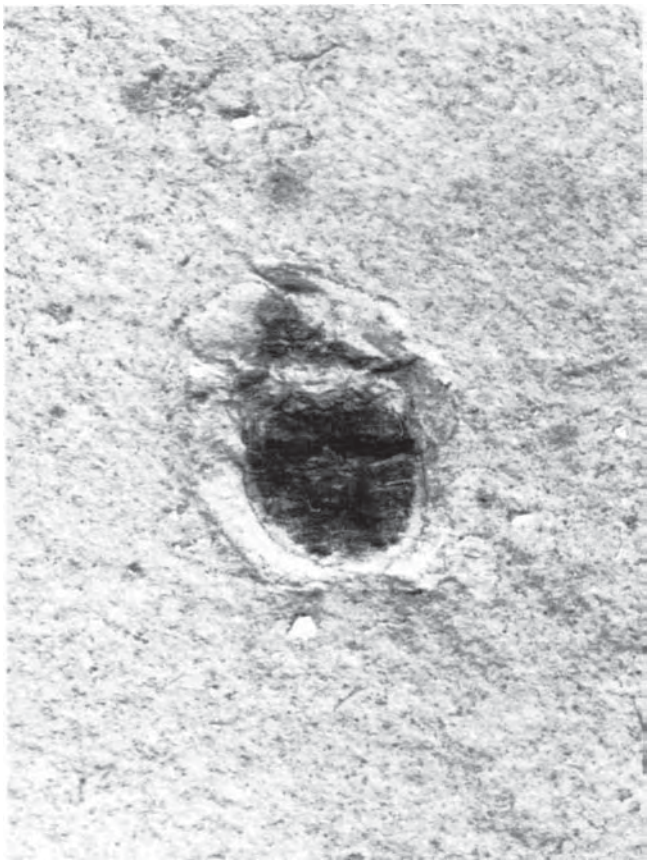

Figure 9. '*Cassida blancheti*' (Coleoptera), 1998.64.19, x7.

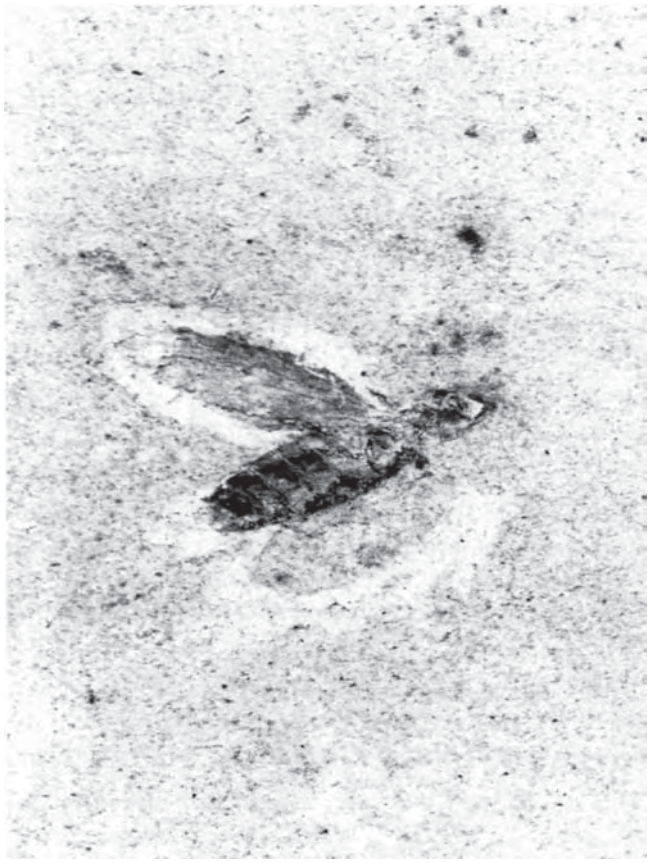

Figure 10. '*Protomyia jucunda*' (Diptera: Bibionidae), 1998.64.52, x3.5.

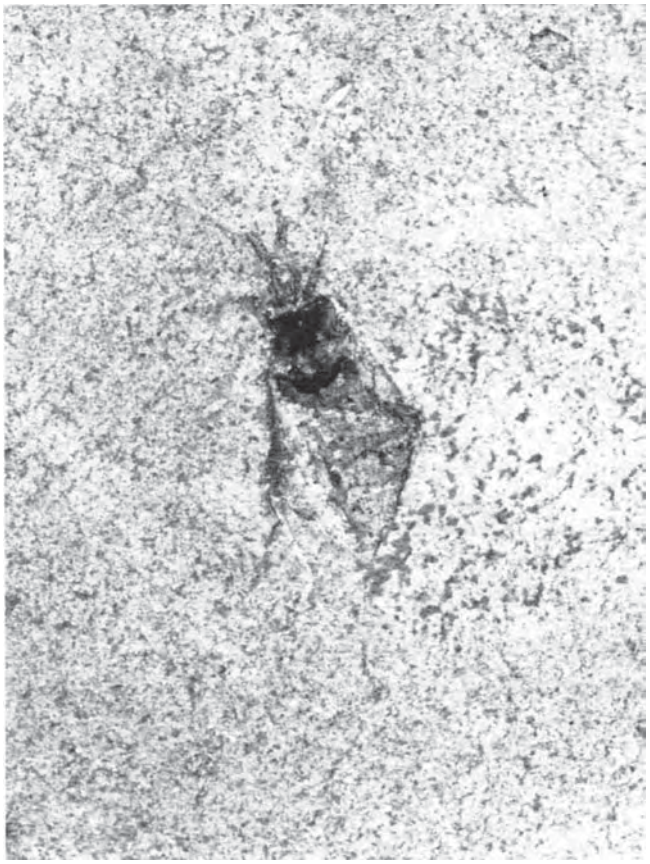

Figure 11. '*Lygaeus japygus*' (Hemiptera: Lygaeidae), 1998.64.50, x4.3.

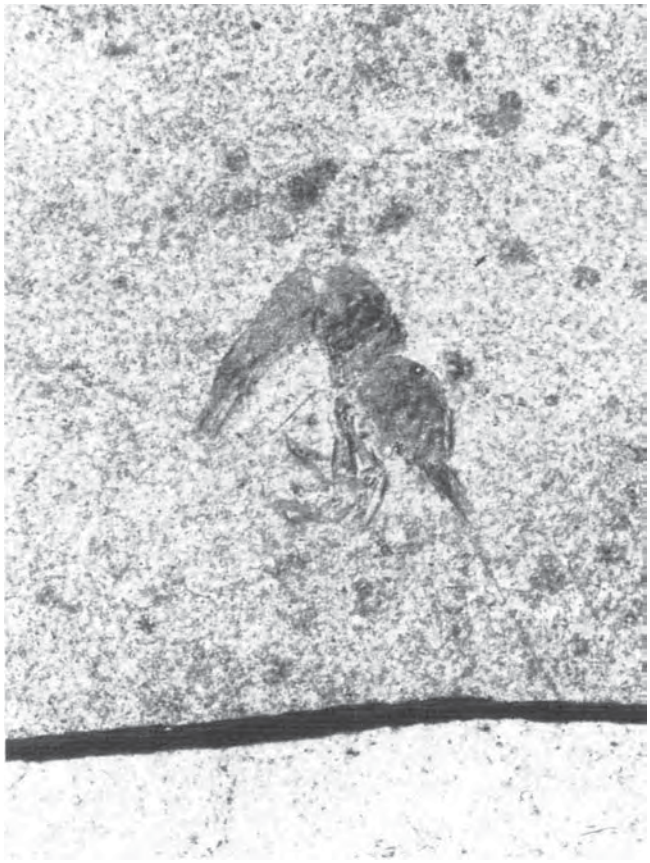

Figure 12. '*Homelys minor*' (Crustacea: Decapoda), 1998.64.49, x3.5.

References

CAVE, P. (ed.) 1998. *The Life and Times of Chauncy Hare Townshend*. The Friends of Wisbech and Fenland Museum.

CLEEVLY, R. J. 1983. *World Palaeontological Collections*. BM(NH) Mansall Publishing Ltd, London 365pp

EVENHUIS, N.L. 1994. *Catalogue of the fossil flies of the World (Insecta: Diptera)*. Backhuys, Leiden. 600pp.

HEER, O. 1847. *Die Insektenfauna der Tertiargebilde von Oeningen und von Radoboj in Croatien. Vol. 1, Kafer*. Wilhelm Engelmann, Leipzig. 229pp.

HEER, O. 1849. *Die Insektenfauna der Tertiargebilde von Oeningen und von Radoboj in Croatien. Vol. 2, Heuschrecken, Floriegen, Aderflugler, Schmetterlinge und Fliegen*. Wilhelm Engelmann, Leipzig. 264pp.

HEER, O. 1853. *Die Insektenfauna der Tertiargebilde von Oeningen und von Radoboj in Croatien. Vol. 3, Rhynchoten*. Wilhelm Engelmann, Leipzig. 138pp.

HEER, O. 1854*a*. *Introduction a la flore tertiare de la Suisse par M. Le Prof. Osw. Heer; traduite par Charles Th. Gaudin*. Geneve

HEER, O. 1854*b*. *Flora Tertiaria Helvetiae. Die tertiare Flora der Schweiz*. Winterthur

HEER, O. 1855. *Flora Tertiaria Helvetiae. Die tertiare Flora der Schweiz. Vol. 1, Cryptogamen, Gymnospermen und Monocotyledonen*. Winterthur. 117pp.

HEER, O. 1856*a*. *Flora Tertiaria Helvetiae. Die tertiare Flora der Schweiz. Vol. 2, Die apetalen Dicotyledonen*. Winterthur. 110pp.

HEER, O. 1856*b*. *Lettre de M. le Professeur Oswald Heer à Sir Charles Lyell; traduite par Charles-Th. Gaudin*. Lausanne.

HEER, O. 1858. *Les charbons feuilletes de Durnten et D'Utznach Discours de M. le Professeur O. Heer traduit par M. Charles-Th. Gaudin*. Geneve.

HEER, O. 1859. *Flora Tertiaria Helvetiae. Die tertiare Flora der Schweiz. Vol. 3, Die gamopetalen und polypetalen Dicotyledonen*. 377pp.

HEER, O. 1862. Beitrage zur Insektenfauna Oeningens. Coleoptera. *Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem* **16**, 1-90

HEER, O. 1865. *Die Urwelt der Schweiz*. Friedrich Schulthess, Zürich. 622pp.

HEER. O. 1867. Fossile Hymenopteren aus Oeningen und Radoboj. *Neue Denkschriften der allgemeinen Schweizerischen Gesellschaft für die gesammten Naturwissenschaften* **22**, 1-42

HEER, O. 1876. *The primaeval world of Switzerland*. 2 Vols. Longmans, Green & Co., London, 393pp & 324pp.

KNELL, S. 1986. *The Geological Collections of the Wisbech and Fenland Museum*. Unpublished report [copy in Wisbech and Fenland Museum].

LA ROCQUE (ed.) 1961. *Biographies of Geologists*. The Ohio State University, Columbus. 130pp

TIMBERLAKE, S. 1988. *The Geological Collections at the Wisbech and Fenland Museum*. Unpublished report [copy in Wisbech and Fenland Museum].

SELDEN, P.A. 2001. Eocene spiders from the Isle of Wight with preserved respiratory structures. *Palaeontology* **44**(4), 695-729.

ZEUNER, F.E. and MANNING, F.J. 1976. A monograph on fossil bees (Hymenoptera: Apoidea). *Bulletin of the British Museum (Natural History), Geology* **27**(3), 149-268.

BOOK REVIEW

Pavia, Sara and Bolton, Jason, 2000. *Stone, Brick and Mortar. Historical use, decay and conservation of building materials in Ireland*. Wordwell, Bray, Co. Wicklow, Ireland.296pp. Paperback and hardback. ISBN 1 869857 32 1 (paperback), 1 869857 36 4 (hardback). Price € 31.75 (paperback), € 50.80 (hardback).

Four sponsors have supported this book, including the Heritage Council, Dúchas The Heritage Service and the commercial stone producer, Feelystone of County Kilkenny, exemplifying the value placed on it by each of them. The fourth body is the Faculty of the Built environment in the Dublin Institute of Technology, where the authors are based. It is a cross disciplinary illustrated reference text dealing with mostly historical use of building materials in Ireland and the decay problems associated with them. Modern day conservation techniques are addressed using wider European examples and not just Irish case studies.

Whilst individual examples are largely Irish, the book has a much wider potential audience since trade in building materials between Britain and Ireland has been extensive, and furthermore, many of the problems and issues highlighted are generic, so this book has much to interest a very wide geographical audience. The intended audience could include many geologists, but would also comprise architects, archaeologists, building surveyors, historians, stonemasons, civil engineers, building technicians and others with an interest in building materials or their environment. The book is richly illustrated in colour, with 177 mostly excellent plates; a visual feast. However, it is in the illustrations that I would find most to criticise since a number of them waste an opportunity to explain by more detailed captions or internal labelling of specific minerals, cements or aspects of particular interest. For the non geologically trained reader the petrographic slide illustrations are pretty but not always informative, and some lack any scale, as do some of the hand specimen photos (e.g. Pl 3.12, Pl. 3.20). Many of the photos are excellent, some with great charm (Pl. 8.17), but one or two are whimsical or self indulgent (Pl. 3.14, Pl. 4.9).

A further criticism is the brevity of the explanation about petrographic microscopy, and the lack of a reference to some standard works for those who wanted to explore it further. I would also have thought that an index and possibly a glossary would have been particulalrly useful in a book such as this that covers a broad range of material. Perhaps a second edition may be published which could remedy this deficiency. Some odd typos also stand out: grenats instead of garnets in the caption to Pl. 3.16, and freatic instead of phreatic on page 173. One or two factual errors are present: the Valentia slate is Devonian not Carboniferous (page 70). A reference to a 19th century Waterford stone trade using fishing boats, is not actually in the reference list.

However, the above criticisms are really quite minor in relation to the overall achievement that this book represents. The reference list indicates how little previous work has been done in this field, linking the geological raw materials with the changing patterns of their use within historical and architectural contexts. The reference list contains a spatter of 19th century or older works but many citations refer to current or recent work, including that of the authors and their colleagues, and often as unpublished research or experimental reports. So drawing together Ireland's built heritage, the rocks and the quarrying of them, along with the subject of stone decay conservation and restoration is a valuable effort on behalf of our communal heritage. To also address the building materials of both bricks and mortar in the same work is a challenge in which the authors have been quite successful. Around 40% of the book deals with bricks and mortar, their decay and conservation, which would appear to be a genuinely neglected area.

Without reservation, this book is a useful resource to have on the personal bookshelf or in the department library for anyone concerned with built heritage - including many geological curators and geologists.

Dr Matthew A. Parkes, Geological Survey of Ireland, Beggars Bush, Haddington Road, Dublin 4, Ireland. 4th June 2002

GEOLOGICAL CURATORS' GROUP

26th Annual General Meeting

4th December 1999 at the Department of Geology, Trinity College, Dublin.

1. Apologies for absence

Apologies were received from Monica Price, Mandy Edwards, Steve Howe, Steve McLean, Paul Clasby, Wendy Simkiss, Alistair Bowden.

2. Minutes of the last meeting held at Wollaton Hall Natural History Museum, Nottingham on 2nd December 1998

These were accepted as a true record of the meeting and signed by the Chairman. Proposed by Peter Crowther and seconded by Peter Tandy.

3. Matters arising

The sad news of the death of John Thackray was given. AOB. Proposals for committee posts must be received in writing 21 days in advance of the AGM and cannot be taken from the floor at the meeting.

4. Chairman's Report from Tom Sharpe

All of my predecessors have commented that time passes much more quickly for Chairmen of GCG and this is certainly a phenomenon I have experienced in my first year in post. However, it may well be that we have all just reached that certain age. It is, of course, a reflection of a typically busy GCG year, a year in which the Group celebrated its 25th anniversary. Such celebrations provide an opportunity to review past glories, to take stock of the present, and to indicate the way ahead. Not to mention the chance to sink a few beers. The anniversary meeting was held in Leicester Museum on 17 May, 25 years to the day after the Inaugural Meeting, and was, by all accounts, a great success. Unfortunately, I was unable to attend, having unexpectedly and rather suddenly parted company from a horse the day before.

Although GCG has achieved some notable successes in the last 25 years, we cannot be complacent. Our concern for geological collections and for the curators who look after them has not waned, and the current trend towards appointing generalist (or, at least, non-geologist) 'heritage managers' instead of specialist curators poses a serious threat to the future of geological collections. This year GCG has been in correspondence with the Royal Geological Society of Cornwall over the sale of its library (see Coprolite 30, November 1999, pp.7-8) and with Ipswich Borough Council on their review of Ipswich Museum. We also expressed our concern for the future of the geology displays at Leeds City Museum, where they have been put in store with no immediate prospect of return to public view. However, there is an experienced geological curator in post who will be maintaining the collection and arranging some degree of public access. Geological collections at Liverpool and Norwich are undergoing upheaval as building refurbishment requires their removal. We look forward to hearing more about these developments in due course. Currently, we are investigating the situation at Peterborough Museum where their important Oxford Clay reptiles are is no longer cared for by a geologist. Most serious, however, has been a reorganisation at the British Geological Survey which has resulted in the loss of, among others, the curator of the biostratigraphic collections and a curator of the borehole cores. I am still in correspondence with the Survey's Director over his plans for the future care of the collections, and our protests to him have been supported by the Museums Association, the Museums & Galleries Commission, the Geoconservation Commission and the Geological Society. Although the Director of the Geological Survey has assured us of his commitment to the collections, it is clear that his plans for them are seriously flawed. The BGS situation will continue to have the attention of GCG Committee.

On the positive side, this year saw the opening of Dynamic Earth in Edinburgh, and a greater degree of media attention in our subject, with the spectacular success of the BBC series Walking with dinosaurs. Geology was also much in the news due to a number of major earthquakes which caused serious damage and loss of life.

In addition to our 25th anniversary meeting in Leicester, we have had a busy programme this year with meetings in Cardiff, Camborne, Paris and, of course, Dublin. We are grateful to all those curators who have given their time to organise or speak at our meetings this year, in particular Mark Evans and John Martin who arranged our anniversary meeting, and Lesley Atkinson for organising our seminar in Camborne. In Paris, we were welcomed and entertained by Michel Giraud, Patrick De Wever, and Jean Pierre Caulet of the Museum National d'Histoire Naturelle who gave generously of their time to show us their institution. As is now our custom, Michel, Patrick and Jean Pierre have been given two years free membership of GCG. GCG was also one of the sponsors of the very successful meeting held in Lyme Regis in June to celebrate the bicentenary of the birth of Mary Anning. The report of this meeting by Steve Howe resulted in the bumper pre-Millennium issue of Coprolite (November 1999).

This year also saw a revamp of the GCG website, which, through the energy, skill and enthusiasm of Mandy Edwards, is now much improved and easier to navigate. We hope that the site will expand to be an essential port of call for geological curators seeking information on museums, collections and curatorial matters generally. In addition to managing our web pages, Mandy has also taken on management of our membership database which should improve the accuracy of our records and make it

easier for us to keep track of our moving members. To this end, we plan to introduce a GCG membership card which will act as a receipt for your annual subscription.

Our links with the Geological Society continue, with John Nudds representing GCG and several other specialist groups on the Society's Science Board, while I attend the Specialist Groups Committee. This has provided a useful forum for discussing the events at BGS. We are also looking at a greater exchange of information on our activities among the specialist and regional groups as each may have events or meetings of broader interest. A recurrent agenda item at the Specialist Groups Committee is Continuing Professional Development, and we hope that our seminars and workshops will fit readily within the Society's CPD scheme for Chartered Geologists as well as contributing to an individual curator's development programme.

The success of any society like ours is entirely dependent on those individuals who give freely of their time and expertise, and on the backing of their employers. As Chairman, I would like to thank all of this year's committee for their support and work and for putting up with frequent (and often long) emails, letters and phone calls from me. I am indebted to our Secretary, Mandy Edwards, and Treasurer, Andy Newman, for keeping the Group running and on a firm financial footing; to Steve McLean for the huge effort he puts in to putting together our meetings programme; to Patrick Wyse Jackson for continuing to produce a journal of which we can be proud; to Tiffany Foster and Mark Evans who took our minutes this year; and to our Recorder Glenys Wass who is coping well with the vaguest job description on Committee; to Committee Members Dale Johnston (who leaves Committee this year), Susan Crook, and John Nudds; and to BCG's representative on Committee, Steve Thompson, who provides a vital link between the two groups. I would also like to express my thanks to Tony Morgan who represents us on the Geoconservation Commission, to Wendy Simkiss who keeps us updated on the Natural History Conservators Group and to Sue Sladen, who looks after our archives.

GCG was represented at the Geological Society careers day held this year at BGS headquarters in Keyworth. Thanks are due to Steve Thompson and Mark Evans for manning our stand.

Thanks are due, too, to you, the members, who support the work of the Group through your subscriptions, attendance and participation at meetings, and contributions to our newsletter and journal. Keep it up and the next 25 years should be as successful as the last.

As announced in *Coprolite* (30, November 1999), to mark our 25th anniversary, Committee decided to confer Honorary Membership on the following individuals who played a part in our foundation and who made significant contributions to our work in those early days:
Roy Clements, our first Chairman and our latest Brighton medallist
Hugh Torrens, a member of our first Committee and our second Chairman, compiler of Lost and Found and a relentless lobbyist on behalf of geological collections
Howard Brunton, our third Chairman and co-editor of the Guidelines
Philip Doughty, our fourth Chairman, who served on the first Committee and almost immediately began work on State and Status, work he continued as Recorder and Secretary.
Geoff Tresise who served six years as our first Minutes Secretary and a further 8 years as Secretary.
Mike Jones who was instrumental in the establishment of the Group and who chaired the Inaugural meeting.

According to our Constitution, Honorary Membership may be conferred at the discretion of the Committee with the approval of the Annual General Meeting. I would like to take the AGM's approval of these awards within the adoption of the Chairman's Report.

Finally, we should record the passing of John Thackray, Archivist at the Natural History Museum, who died on 5 May. John had been a member of GCG since 1974 and had been a great friend to the Group.
.
The report was read and approved on the general "aye".

A certificate of Honorary Membership was presented to Phil Doughty, who replyed. The other certificates are to be sent out.

5. Secretary's Report from Amanda Edwards

The committee have met three times in 1999. In January at Burlington House, in April at the Geological Society; and in October at Leicester. We have had several changes of minutes secretary this year and our thanks go to Alistair Bowden, Tiffany Foster and Mark Evans, who have all helped to produce the minutes. Unfortunately this position is still vacant. Dale Johnston has completed his two years on committee and we would like to thank him for his contributions to our discussions.

An up to date, master copy ot our membership database has been created this year and is to be found on my computer in Manchester. All of the Group's correspondence labels will be generated from this database. We hope that mistakes and updates can be managed much more quickly from now on. Members should note that all quenes and amendments should be sent to the Secretary.

GCG's web site has grown this year with more information being added as frequently as I can manage. The full text ot back issues of *Coprolite* are available as well as the titles and abstracts from *The Geological Curator*. The site also has a listing of all museums and other institutions with geological collections in the UK and we intend to add details of collections in Europe and beyond next year. We do receive feedback from visitors to the site In 1999 these included cornments from people in America, Nigeria,

Italy, Japan and the UK. Getting feedback about the site is encouraging and with the help of a volunteer for next wear I hope to keep on improving and adding to the information we can supply via the web page.

Correspondence via e-mail has also increased this year and I believe we can provide a quick and efficeint service to our members using this form of communication. Members of the Committee have continued to publicise the Group at meetings across the country, including Careers Day at the Geological Society which was held at the BGS in Keyworth this year.

Thanks were recorded and the report approved on the general "aye".

6. Treasurer's Report from Andrew Newman

Financial Report

The accounts for the period 2/12/98-4/12/99 are attached. The Geological Curators Group has financial assets of £12247.94. It is important to thank C.J.C. Burhouse for their sponsorship of *Coprolite*. Subscription income has been reasonable, however, some institutions have yet to pay for 1999. As can be seen from the attached accounts the Group has a deficit for the year of £284.16. However, these accounts include support for the Leiden study trip, the Lyme Regis Symposium and some of the costs associated with the Leicester meeting. Falling interest rates have made a significant impact on the interest received and it has been agreed that £5000 be invested in a high interest account. It has been decided not to increase the membership fees for the coming year.

Membership Report

The totals for the Group now are

UK personal	277
UK institutions	88
Overseas personal	54
Overseas institutions	40
Complimentary	10
Total	484

This represents a loss of 15 subscriptions during the year.

The report was read, thanks were recorded, and the report was approved on the general "aye".

7. Programme Secretary' Report from Steve McLean

The following is a summary of GCG's meetings throughout the 1998/99 session.

Summary of 1998-99 Programme

2-3 December 1998
Little and Large - local treasures with a museum and national treasures without. GCG seminar and AGM. Wollaton Hall, Nottingham and British Geological Survey, Keyworth.

fascinating seminar and study visit comparing and contrasting the two collections at Wollaton and Keyworth and including visits to stores to view collections at both institutions. Grateful thanks to Neil Turner (Wollaton) and Steve Tunnicliffe (BGS) for organising a splendid programme of talks and behind-the-scenes tours. My sincere thanks to all the speakers who included Graham Walley, Neil Tumer, Beris Cox, Mick Cooper, Neil Fortey, Stuart Hollyer and Steve Tunnicliffe.

22 April 1999
The curation and hazards of mineral collections. GCG Workshop - National Museum of Wales, Cardiff

GCG workshops have become popular over the last 2 or 3 years and are always fully attended and this year's course was no exception. Training is an area that we are keen to expand and we will also be trying to get our courses accredited by the Geological Society. My sincere thanks to Mike Bassett, Richard Bevins, Monica Price, Mike Lambert and Caroline Buttler for delivering an excellent training session and to Tom Sharpe for organising the programme.

17 May 1999
25 Years GCG. GCG Seminar, Dinner and Field Trip. Leicester New Walk Museum.

This seminar examined the original aims and objectives of GCG and reviewed the work of the group over the last 25 years whilst setting the agenda for the future. A well attended meeting that included an excellent evening dinner and a field trip on the second day. My grateful thanks to Mark Evans and John Martin for organisation at Leicester, and to the speakers, Phil Doughty, John Cooper, Mick Stanley, Hugh Torrens, Patrick Wyse Jackson, Simon Knell and Roy Clements. Thanks should also go to John Nudds for stepping in to cover for our chairman Tom Sharpe who had a rather serious accident (involving a horse again!!) and was unable to attend!

24 June 1999
Mary Anning and her times: the discovery of British palaeontology, 1820-1850. A bicentennial celebration in honour of the first woman palaeontologist. Joint meeting (GCG Co-Sponsor). Philpot Museum, Lyme Regis, Dorset

The list of organisers is too vast to reproduce here, but thanks should go to all those involved for an excellent conference, and particularly to Liz-Anne Bawden and the staff at the Philpot Museum.

14-18 June 1999
A one week course introducing the collection and curation of natural science materials. Department of Museum Studies, University of Leicester in association with Leicester City Museums and Leicestershire Museums, supported by BCG/GCG: Natural Science Curatorial

Course.

Thanks once again to the Dept of Museum Studies at Leicester and Leicester City and Leicestershire Museums. The importance of this course to the training of natural sciences curators, or to non-specialists who have natural science collections in their care. cannot be underestimated.

26-28 September 1999
GCG Seminar and Field Trip: Mineral Collections in Cornwall. (Sponsored by Petrolabs). Camborne School of Mines, Camborne.
The second attempt at this trip which was cancelled last year. Despite this only 5 members attended. Nevertheless, those who did attend were treated to trips to the Lizard Peninsula, Truro Museum, Wheal Martin Mine, King Edward Mine and the Royal Geological Society of Cornwall Museum in Penzance. My very grateful thanks to all those involved in running the event (despite the small numbers). They are Lesley Atkinson (organiser), Alan Bromley, Simon Camm, Roger Penhallurick and Bruce Grant. Thanks should also go to Petrolabs who sponsored the trip by providing evening dinner for the participants.

What I would like to know is...where were the rest of you? Comments to me please!!

31st October 1999
GCG Study Visit: Museum National d'Histoire Naturelle, Paris

Another successful trip to continental Europe, although attendance was not high with only 8 members visiting. Despite the limited numbers the trip was excellent. We spent an entire day (and some of the evening) at the Museum and visited all of the relevant departments with the specialist curators. There will be a full report in the next edition of Coprolte.

There were many people involved with the organisation of the day but special thanks should go to Prof. Patrick de Wever (Head of the Dept. of Geology) who organised the entire day and co-ordinated our meeting with the considerable number of departments involved. Thanks also to all the staff in the palaeontology, mineralogy and geology departments and to the Secretaire General.

Finally, my sincere thanks once again to Ros Gourgey who helped to organise accommodation in Paris.

Future Programming GCG is reviewing its annual programme of seminars and there are likely to be some changes to the scheduling of events in the future (after the 1999/2000 programme which is already set). However, I am always looking for suggestions on how we can improve things for you (and I get very few comments) so please let me know if you have any ideas. Next year promises to be equally interesting with meetings in Edinburgh, Weston-super-Mare, Scarborough, York, Manchester and another study visit to continental Europe to attend the Munich Mineral Show and to visit some of the museums of Southem Germany. Please do continue to support us.
Thanks were recorded and the report approved on the general "aye".

8. Journal Editor's Report from Patrick Wyse Jackson

Two issues of *The Geological Curator* will be published this year: Volume 7, Part 1 (issued 4th June 1999) and Volume 7, Part 2 (to be issued late December 1999).

Volume 7, Part 2 was unfortunately delayed - but for a very good reason - my daughter Katie was born in July and generally life has been enjoyably hectic ever since.

The two 1999 issues were bound in silver covers to celebrate the 25th anniversary of the foundation of the GCG. 7(1) contained five papers from the GCG, GeoConservation Commission, HOGG meeting Has the past a future? held in London on 24th September 1998. 7(2) contains four papers.

Copy is still coming in at a slow but regular rate.

I am ever grateful to ColourBooks who do a fine job of printing *The Geological Curator*, Matthew Parkes my dependable proof-reader, and my colleagues on the GCG Committee and in Trinity College for their continuing support.

Thanks were recorded and the report approved on the "general aye".

9. Newletter Editor's Report from Tom Sharpe

This year saw the 10th anniversary of *Coprolite* and the production of its 30th issue. Originally started as a stop-gap measure to provide members with meetings details when *The Geological Curator* was subject to delay in publication, *Coprolite* has grown from 24 pages in its first year, to 71 pages this year. For almost all of this time, *Coprolite* has been sponsored by Burhouse Ltd, and we must thank Clinton Burhouse for his invaluable support.

I must apologise for the absence from the last issue of the issue number (30) and date. This was due to an error at the printers.

The content of *Coprolite* is very dependent on me hearing or finding out about what is going on with museum geology collections and what people are up to, so I would like to thank those people who have contributed their news during this last year. Please remember to let me know of your new exhibitions, publications, events, acquisitions, moves, rumours, scandal and gossip so that it can be shared with all our members.

Thanks were recorded and the report approved on the general "aye".

10. Recorder's Report from Glenys Wass

Over the past year we have continued to try and gather information as to the current state and status of geological collections in the UK following on from the Doughty Report. Thank you to all those who have sent reports and information.

Most of the year has been taken up with discussing and considering how to use the information gathered and how to fill the gaps in the information in the most efficient way. Initial consideration was given to sending out questionnaires based on the original used for the Doughty report to all museums in the UK currently holding geological collections, taken from the DOMUS survey. However, it was determined that this may not be the most effective and efficient way of gathering information, considering the wealth of data already collected by organisations such as Fenscore over the last few years, most recently the publication 'Skeletons in the Cupboard' the North West Unit.

Fenscore now have a database available via the internet and are also interested in updating information and gaps in their own collections database for all natural science collections. Therefore it seems appropriate for us to approach Fenscore and determine if we can work together towards updating information without duplicating efforts. I have been in discussion with Graham Whalley at Nottingham Museums about possible collaboration with Fenscore which is now to be taken forward and raised at their next committee meeting in January which we have been invited to attend.

Although this has meant a lot of discussion, I feel we are now on the right track on how to tackle such a large project effectively. I would be happy to hear member's views on the project.

Thanks were recorded and the report approved on the general "aye".

11. Election of Officers and Committee for 1999

In the absence of any other nominations, the present officers, all of whom are willing to continue in post, will continue to serve for another year. The post of Minutes Secretary was vacated when Tiffany Foster resigned on her move to the United States. Tony Morgan was nominated by Committee to serve as Minutes Secretary, and Giles Miller was nominated to serve as a Committee Members. In the absence of any other nominations the aforementioned were declared elected.

12. Date and venue of the next AGM

4th December 2000 at the Yorkshire Museum, York.

Thanks were recorded to those present for their attendance and support of the Group, and the meeting was declared closed.

Annual Accounts for the period 2nd December 1998 to 4th December 1999)

	1999	1998
Treasurers Account Income		
Subscriptions	3788.50	3999.27
Sale of backnumbers	27.50	138.00
Advertisements/Sponsorship	600.00	500.00
Meetings fees	407.00	572.00
Misc income (interest & VAT)	213.15	568.39
Balance on 4/12/99	12532.10	13412.71
	17568.25	19190.37

	1999	1998
Treasurers Account Expenditure		
Geological Curator		
Printing	2919.25	2166.03
Coprolite		
Print and post	1173.00	2688.00
Meetings		
Committee	140.66	290.75
General	824.99	190.04
Other expenditure		
Misc.	212.41	29.08
Bank Charge	50.00	20.00
Display	-	488.57
Trip	-	535.80
Ulster Museum	-	250.00
Balance on 4/12/99	12247.94	13412.71
	17568.25	19446.13

A.G. Brighton Funds held in Treasurers Account	
Balance on 2/12/98	1660.46
Income (1999)	44.76
Balance on 4/12/99	1705.22

1998/99 Total Surplus/Deficit		
Total Income	5036.15	5777.66
Total Expenditure	5320.31	6658.27
	(284.16)	(880.61)

[signed] A. Newman *GCG Treasurer*

[signed] P.S. Davis and K. Sedman *Auditors*

GEOLOGICAL CURATORS' GROUP

27th Annual General Meeting

4th December 2000 at the Yorkshire Museum, Museum Gardens, York.

1. Apologies for absence

Received from Tom Sharpe, Kenneth James, Angela Milner, Andrew Newman, Steve McLean, Patrick Wyse Jackson, Glenys Wass, Tony Morgan and John Martin.

2. Minutes of the 26th Annual General Meeting held at Trinity College, Dublin on 4th December 1999

No minutes were available [The minutes were finally approved as a true record of the meeting at the 2001].

3. Matters arising

None.

4. Chairman's Report from Tom Sharpe

In the Chairman's absence, the report was read by John Nudds.

Last year, I had the misfortune to miss our 25th anniversary meeting in Leicester as I was flat out in hospital with a suspected fractured spine. This year, I can't attend this AGM, but I can't provide such a dramatic excuse.

As some of you may know, I have been working in Newfoundland, on and off, since April, on a new geology museum being set up in St John's. My schedule of visits was originally arranged so that I could be here in York for this AGM. Unfortunately, plans change and my current visit was delayed. So instead of being here with you and looking forward to getting a few beers in, and getting cold and wet on the fieldtrip, I am amongst the swaying palms of sunny Newfoundland.

I'm really sorry I can't be with you, but I know that you are in good hands and that the meeting will be a great success. I look forward to reading the meeting report in the March issue of *Coprolite*.

I would like to take this opportunity to wish you all a great Christmas and New Year.

In my report to the Annual General Meeting in Dublin last year, I anticipated that "the BGS situation will continue to have the attention of GCG Committee". This it has certainly done. As you will be aware from my last report, and from regular updates in *Coprolite*, reorganisation at the British Geological Survey is resulting in the loss of two very experienced curators. Steve Tunnicliff; who looked after the biostratigraphic collections, lost his job in May this year; Stuart Hollyer, curator of the borehole cores, goes in March 2001. Despite each of them having over 20 years experience in collections management, it seems that the Director has no place for them in his plans for the collections. These plans include the appointment of four curators (who, we have been told, will be appointed from existing BGS staff) and a Chief Curator, and involve the construction, within three years, cf a public access database for all the BGS collections. We have pointed out to the Director that getting rid of two experienced curators with in-depth knowledge of the collections will do nothing to expedite such an ambitious documentation project.

Although we have failed to persuade the Director that his plan is flawed and that the existing curatorial staff should be retained (especially as BGS has received a £1.9 million rate rebate), there is some good news. A new BGS Collections Advisory Committee is to be established and GCG has been invited to nominate a member to sit on it. Hopefully, we can soon put the dark days of the past 18 months behind us to ensure the continuity of safe custodianship for these important collections. This is, though, of little consolation to Stuart and to Steve both of whom clearly would have had great contributions to make to the management of the BGS collections.

Last year, I also referred to the collections at Peterborough Museum, where there was no longer a geologist in post. An advertisement for a collections manager has recently appeared. Although it does not specifically require geological experience, a geologist or palaeontologist is preferred, and we hope that they find one.

This year, we have written to the Scottish Executive in support of The Museum of Lead Mining at Wanlockhead which, like a number of industrial museums in Scotland, is finding itself in difficulty. We have also been in correspondence with the Essex Field Club over the future of the geological collections formerly in the Passmore Edwards Museum.

On the positive side, we have endorsed an exciting initiative in the Bristol region where the Rockscape Project, coordinated by Simon Carpenter, aims to create a new Earth Heritage Trail.

In addition to dealing with these external issues, Committee has been looking at our membership base and how we can expand it. Susan Cooke has suggested a number of areas we will be exploring further over the next year or so. We are also about to revisit the collections survey conducted by Philip Doughty 20 years ago. Glenys Wass, our Recorder, has been busy compiling a questionnaire which we hope will quantity how things have changed since Phil published his report. Recognising the heavy sigh with which curators will receive the questionnaire, we are trying to design it to minimise the time it will take to complete. This should be with you early in the New Year.

Our plans for a revised edition of the *Guidelines* have been well received by the Geological Society Publishing House and we will be pushing ahead with that in the coming year. We have also had a positive response from the President of SPNHC who we hope will help broaden the scope of the book and increase its North American appeal.

We have had a full, busy and successful meetings programme again this year, with seminars and workshops in Scarborough, Edinburgh, Munich, Cambridge and York. The Scarborough conference brought together for the first time all three natural science curatorial groups - BCG, GCG and NSCG. I hope that we will come together more frequently in future at such meetings where we can share our common concerns. We are grateful to everyone who has contributed to the success of our programme - those who act as local coordinators and those who speak at our meetings or lead field trips and visits. Thanks are due this year to Nick Gordon at Leicester who organised the joint Scarborough conference; Mike Taylor (NMS) and Stuart Monro (Dynamic Earth) for arranging the Edinburgh meeting; to G0nter Vichl (Jura-Museum), Georges Berger (Museum Berger) and Michael Schieber (Rieskrater Museum) for making our Munich visit such a success, and of course to Ros Gourgey and Steve McLean who made all the travel arrangements; to Dale Johnston for organising and leading the gemstone identification workshop in Cambridge in November; and to Phil Manning for hosting this year's AGM here in York. As our Programme Secretary, Steve McLean puts together an excellent programme every year, and we are especially grateful to him for all his work, well above and beyond the call of duty.

We cannot function as a Group without the continued support and enthusiasm of our Officers and Committee. I would like express my thanks to Mandy Edwards, our Secretary, who keeps us running smoothly and keeps track of our membership; to Andy Newman, our Treasurer for keeping us comfortably off; to Patrick Wyse Jackson for his continued production of an excellent journal; to our Recorder, Glenys Wass, who has been busily drafting our collections survey questionnaire; to Tony Morgan, Minutes Secretary, for somehow managing to make sense of our Committee meetings; and to our Committee Members Giles Miller, Susan Cooke and Mark Evans. Susan and Mark leave Committee this year and I am grateful to them for their contributions over the last two years. Thanks are also due to our Coopted Committee Members, Steve Thompson who is an invaluable link with BCG, and John Nudds whose experience as our last Chairman has been a great help to me. I am also grateful to Steve Thompson for again manning our stand at the Geological Society Careers Day in London.

Of course, without you, the membership, GCG would not exist, and I would like to thank all of you, who through your attendance at our meetings and through your contributions to our newsletter and journal make GCG what it is.

There was a question from the floor asking about who will sit on the BGS committee mentioned in the report. John Nudds replied that no decision had yet been taken

The report was accepted on the general "aye".

5. A.G. Brighton Medal notification

The report was read by John Nudds.

Every 3 years, GCG awards its Brighton Medal to a worthy geological curator. The medal, which was instituted in 1992, commemorates the work of Albert G. Brighton, Curator at the Sedgwick Museum between 1931 and 1968. In that time he catalogued some 375,000 specimens at an average rate of over 10,000 a year.

The Brighton Medal is awarded to someone who has devoted a significant part of their working life to the actual care of geological specimens, or who has introduced innovations which have led to significant improvements in the care of geological specimens or who, through their example or by teaching (including writing) has inspired others to the better care of geological specimens. It might also be awarded to those who have fostered an increased awareness of the value of geological collections, for example, through collections research. Its aim is to recognise achievement over a long period and therefore it will normally be given to a senior curator.

The terms of reference preclude any formal nominations, public discussions or ballots, either within GCG as a whole or within GCG Committee. The medallist will be a counselled choice of the Chairman. At the next GCG Committee meeting, the names of a medal advisory panel, comprising four senior members of the Group, will be agreed. This panel will not include current members of Committee. The Chairman will choose the medallist on the basis of informal discussions with the members of the panel.

We begin the process of selection of a medallist at this AGM by inviting informal suggestions, with a supporting written statement, for possible medallists to be sent direct to the Chairman, Tom Sharpe, Department of Geology, National Museum of Wales, Cardiff CF I O 3NP.

The full terms of reference and rules for awarding A.G. Brighton Medals can be found in *The Geological Curator*, 5(8), pp. 331-332.

6. Secretary's Report from Mandy Edwards

The report was read by Mandy Edwatrds.

The Committee have met three times in 2000. We met at the Geological Society in January, University College London in May and Manchester Museum in October. 2000 was the first year that the Secretary handled personal subscriptions. The change has hopefully improved the accuracy of the membership database and the speed with

which we can respond to member's changes of address. Please let me know if your details change. It would be very useful if members could let me have their e-mail addresses if they have them. The membership numbers are down this year, but I think this is mostly as a result of the weeding out of the database that we did this year to remove members names who had not paid their journal subscriptions for at least a year. As always prompt payments of your subscriptions are welcomed. Details of the membership numbers are included in the Treasurer's Report.

GCG's web page is still being hosted at Manchester University. I am afraid that I have had very little time to keep it up to date in the second half of this year. I am hoping to address this problem with help from the other members of Committee in 2001.

Colin Reid remarked on the problems with thw web site; Mandy Edwards replied that she would speak to John Faithfull about it.

The report was accepted on the general "aye".

7. Treasurer's Report from Andrew Newman

The report was read by Paul Ensom.

Financial Report

The accounts for the period 4112199-4/12/00 are attached. The Geological Curators' Group has financial assets of £12475.91. It is important to thank C.J.C. Burhouse for their continued sponsorship of Coprolite. The above accounts do not include the costs of the most recent copy of *The Geological Curator* which will be Ir £1687.64. It will be noted that the income from subscriptions is lower than in 1999. The reason for this is that a number of the institutional invoices have yet to be paid.

Membership Report

The totals for the Group now are

UK personal	251
UK institutions	89
Overseas personal	68
Overseas institutions	37
Complimentary	10
Total	455

This represents a loss of 29 subscriptions during the year.

The report was accepted on the general "aye".

8. Programme Secretary' Report from Steve McLean

The report was read by John Nudds.

Another successful year draws to a close ending a fully packed series of seminars, training events and study visits.

3-5 December 1999 Department of Geology, Trinity College, Dublin. GCG Seminar, 25th AGM and Field Trip: Geology and the local museum: a decade of progress? This meeting examined the advances made in collection care, display techniques, information technology, and education in the smaller museums during the last ten years and gave GCG members a chance to reflect on our past a look towards the future. Despite the horrendous weather, and the cancellation of some ferries, many GCG members were still able to make the trip, which also included a field trip to the lead works, chimneys and flues at Carrickgollogan and Ballycorus and fossil hunting on the beach at Portrane. My sincere thanks go the organisers of this event, particularly Patrick Wyse Jackson, Nigel Monaghan and Matthew Parkes and of course to all the speakers who were: Simon Knell, Paul Davis, Matthew Parkes, Patrick Wyse Jackson and Nigel Monaghan.

3 April 2000 Scarborough Joint BCGIGCG/NSCG Conference: Access to biological and geological collections An extremely successful and well-attended seminar with talks from both a biological and geological perspective (despite the fact that the tide kept trying to come in through the windows!). GCG provided four speakers for this event who were John Martin, Gillian Mason, Andy Newman and Alistair Bowden. My thanks to those speakers and to all the others (Simon Knell, Joe Sage, Julian Carter, Geoff Hancock, Judith Scott, Bob Child, Vicky Purewal, Hazel Newey, Douglas Russell, Caroline Butler, and Kate Andrew). GCG also owes a great deal of thanks to Nick Gordon who masterminded the conference.

10 - 11 May 2000: Edinburgh
GCG Seminar: Major developments in museum interpretation; the Museum of Scotland and Dynamic Earth A fascinating insight into new developments in geological interpretation at two major venues in Edinburgh, The Museum of Scotland (guided tour conducted by Mike Taylor) and Dynamic Earth (guided tour conducted by Stuart Monroe). The seminar also highlighted other similar projects throughout the country for comparative purposes including the new "Life, Interactive World" in Newcastle upon Tyne.

My sincere thanks go to Mike Taylor who masterminded the entire event and also to Stuart Monroe for giving up so much of his time to show us around Dynamic Earth and to answer our barrage of questions afterwards! Also my grateful thanks to all the speakers including Suzanne Miller, Liz Hide, Tom Sharpe, Stuart Monroe, Simon Knell and Duncan (?) (ICL). GCG are also very grateful to NMS for letting us use their facilities free of charge.

5-9 October 2000 Munich, Bavaria, Germany. GCG Study Visit Continuing the new tradition of leaving the UK and snooping around the continent, GCG members were treated to a series of visits to museums and sites in Bavaria starting with the Munich Mineral Fair. Unfortunately, I was, for the first time, unable to attend but I am told the trip was very successful (and will be reported in the next edition of Coprolite). To summarise, however, a group of 13 members visited the Jura Museum in Eichstatt, the

Berger Museum and a local quarry for some fossil hunting and the Riescrater Museum in Nordlingen as well as several sites relating to the geology of this Miocene impact site. The final day also included a short visit to the Bavarian State Palaeontology Collections at Munich University. My grateful thanks go to Ros Gourgey who, as always, helped me tremendously in organising this event and, in particular, sorted out all the accommodation and transport. My sincere thanks also go to Georg Berger at the Berger Museum, Gunter Viohl at the Jura Museum, and Michael Schieber at the Riescrater Museum. Without their generosity this trip would not have been possible.

14 November 2000 Sedgwick Museum, Downing Street, Cambridge GCG training course: Gemstone identifcation for natural science curators This was the training course which was planned for March 2000, but had to be rescheduled as the course tutor was changing jobs. A one-day workshop on the basics of gem identification, from the perspective of natural science curators. An excellent one-day course organised by Dale Johnson to whom I am extremely grateful.

The programme for 2001 has now been set and includes a number of visits and training events which should, I hope, entice even more of you to join us. To summarise we are planning a one day training workshop exploring the identification, curation and conservation of petrological collections at UCL in March, a seminar on the ethics of collecting at the Manchester Museum in May (this should be quite a lively meeting and definitely not to be missed!), a celebration of the 150th Anniversary of the Geological Museum in London, a trip to the American Museum of Natural History in New York, and a further training session on the identification of bivalves (the first in a series of fossil ID workshops) at the NHM in November. Finally the AGM will taken place at the Oxford University Museum of Natural History in December.

As always, I am just as keen to hear your views and ideas about the programme so please do not hesitate to contact me. l need ideas for the 2002 programme now!

Steve Thompson: note on future events – a joint BCG/ GCG trip to New York has been planned for next year. Mike Howe, BGS reminded us that there was a very good event held at the Natural History Museum co-organised by GCG on petrological curation that was not mentioned in the report.

The report was accepted on the general "aye".

9. Journal Editor's Report from Patrick Wyse Jackson

No report was available.

10. Newletter Editor's Report from Tom Sharpe

The report was read by Mark Evans.

2000 saw completion of the 11th year of publication of *Coprolite*. As usual, three issues were published, totalling 64 pages, in March, June and November.

Please keep sending in your news, views, scandal and gossip. If you have a new publication, event, exhibition, acquistion, or job, don't keep it to yourself - let your colleagues know. Thank you to everyone who contributed this year. I would also like to express my thanks to our printers, Barnes Print Group, and especially to Hugh Barnes, for the rapid turn-around and distribution of every issue.

We are very grateful for the continued support of Clinton Burhouse of Burhouse Ltd of Huddersfield.

Phil Doughty expressed congratulations to Tom Sharpe in maintaining the standard.

The report was accepted on the general "aye".

11. Recorder's Report from Glenys Wass

The report was read by Giles Miller.

Most of this year has been spent developing a questionnaire based on a combination of the original state and status report from 1984 and the recent Ireland survey. The format of the questionnaire has been modified to reduce the amount of time needed to complete it and to ensure that the results can still be directly compared to the original.

Having gone through a number of draft versions, the questionnaire has now been approved by the committee and is ready for the distribution phase. The questionnaire is to be distributed to all museums/institutions in the UK which hold geology collections and in addition a copy will be sent to the GCG membership. It is intended that these will be distributed with the first edition of The Geological Curator to be published in the New Year. A copy of the questionnaire will also be available on the GCG web site, this is currently being written.

I would like to thank all those who have contributed to the production of the questionnaire and hope we can rely on a good return equal to the original survey. I would like to appeal to the membership that when you receive the questionnaire that you please give up some of your time to completing and returning it. Thank you.

Phil Doughty commented that the original "State and Status" report was published in 1981, not 1984. Steve Thompson issued a plea to people to fill in the new questionnaire.

The report was accepted on the general "aye".

12. Election of Officers and Committee for 2001

In the absence of any other nominations and the willingness of the present officers to continue, the present officers will

continue to serve for another year.

Camilla Nichol and Helen Fothergill were elected as committee members in the absence of other nominations. One post on committee is therefore free.

13. Nomination of Auditors

In the absence of any other nominations and the willingness of the present auditors, Peter Davis and Ken Sedman, to continue, the present auditors will continue to serve for another year.

14. Any other business

Mike Howe, BGS – wished to say a few words about the present position at BGS.

- Assure members that the collections are in good hands
- Chris Collins is coming to carry out conservation assessment soon
- BGS were in serious financial problems when Nirex work dried up
- Redundancy was inevitable and followed the course of long established guidelines
- The Natural History Museum will be running a course for Keyworth and Edinburgh staff
- Loans are being dealt with efficiently at present.

15. Date and venue of the next AGM

Wednesday 5th December 2000 at Oxford University Museum.

Annual Accounts for the period 4th December 1999 to 4th December 2000)

	2000	1999
Treasurers Account Income		
Subscriptions	3488.05	3788.50
Sale of backnumbers	31.00	27.50
Advertisements/Sponsorship	600.00	600.00
Meetings fees	1391.10	407.00
Misc income (interest & VAT)	387.35	213.15
Balance on 4/12/00	12195.94	12532.10
	18093.44	17568.25

	2000	1999
Treasurers Account Expenditure		
Geological Curator		
Printing	1215.59	2919.25
Coprolite		
Print and post	2822.00	1173.00
Meetings		
Committee	38.32	140.66
General	1471.09	824.99
Other expenditure		
Misc.	50.53	212.41
Bank Charge	20.00	50.00
Balance on 4/12/00	12475.91	12247.94
	18093.44	17568.25

A.G. Brighton Funds held in Treasurers Account	
Balance on 4/12/99	1705.22
Income (2000)	48.90
Balance on 4/12/00	1754.12

1999/2000 Total Surplus/Deficit		
Total Income	5897.50	5036.15
Total Expenditure	5617.53	5320.31
	279.97	(284.16)

[signed] A. Newman *GCG Treasurer*

[signed] P.S. Davis and K. Sedman *Auditors*