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GCG

THE GEOLOGICAL CURATOR

VOLUME 3 No 6 ISSUE 3 FOR 1982

SEE ARTICLE INSIDE ON THE OATLANDS PARK GROTTO

THE GEOLOGICAL CURATOR

SUBMISSION OF MSS

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Articles should be sent to the editor typed and, if possible, camera ready to the A4 format we use as this may help expedite publication. Enquiries and contributions to Tim Pettigrew, Sunderland Museum, Borough Road, Sunderland, Tyne and Wear SR1 1PP. Tel. No. 0783-41235 Ext. 13.

COLLECTIONS AND INFORMATION LOST AND FOUND.

All items relating to this section in the Geological Curator should be sent to:

Dr. Hugh S. Torrens, Geology Dept., University of Keele, Keele, Staffs. ST5 5BG. Tel. 0782-621111 Ext. 493.

INFORMATION SERIES ON GEOLOGICAL COLLECTION LABELS

All enquiries and items should be sent to:

Ron. Cleevely, British Museum (Natural History), Cromwell Road, London SW7 5BD. Tel. No. 01-589-6323 Ext. 418.

NOTES AND NEWS

All items relating to this section should be sent to Tony Cross, Curtis Museum, High Street, Alton, Hants GU34 1BA.

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Further details from Diana Smith, Castle Museum, Norwich, Norfolk NR1 3JU. Tel. No. 0603-611277 Ext. 287.

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BACKNUMBERS of the Geological Curator (and its predecessor; the Newsletter of the Geological Curators Group) are available at £1.75 each (except vol. 2. Nos. 9/10, and Vol. 3. Nos. 2 & 3 which are £3.50). Prices include the cost of postage. Payment should accompany all orders, which should be sent to Tom Sharpe, National Museum of Wales, Cathays Park, Cardiff CF1 3NP. Tel. No. 0222 397951.

Typed by Sylvia Robson, Tyne and Wear County Council Museums.

THE GEOLOGICAL CURATOR

Volume 3, No. 6

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FORTHCOMING MEETINGS

Wed. - Thurs. 22nd - 23rd June, 1983. Techniques demonstration meeting at the British Museum (Natural History).
Local Secretary Dr. C.H.C. Brunton (B.M.N.H.)
See separate circular for details.

Friday - Saturday 9th - 10th September, 1983.
Buxton Museum.
Local Secretary Mick Stanley (Derbyshire Museums Service).
See separate circular for details.

Tuesday 20th September, 1983.
A field trip to sites near Swansea. (Specialist Group Meeting during Museums Association Conference.)
For details of times and venues contact Professor T.R. Owen, Dept. of Geology, University College of Swansea, Singleton Road, Swansea. SA2 8TP.

Friday 9th December, 1983
A.G.M. at Warwick Museum with papers on the history of the museum and a chance to see the collections. There will also be a series of open sessions allowing members of G.C.G. to present papers on any aspect of geological curation.

Wednesday 15th February, 1984. Leicestershire Museum.
A meeting to celebrate 10 years of G.C.G.

Friday - Saturday 8th - 9th June, Ludlow Museum including a field trip (9th June) to Downton Gorge and the Ludlow Anticline.

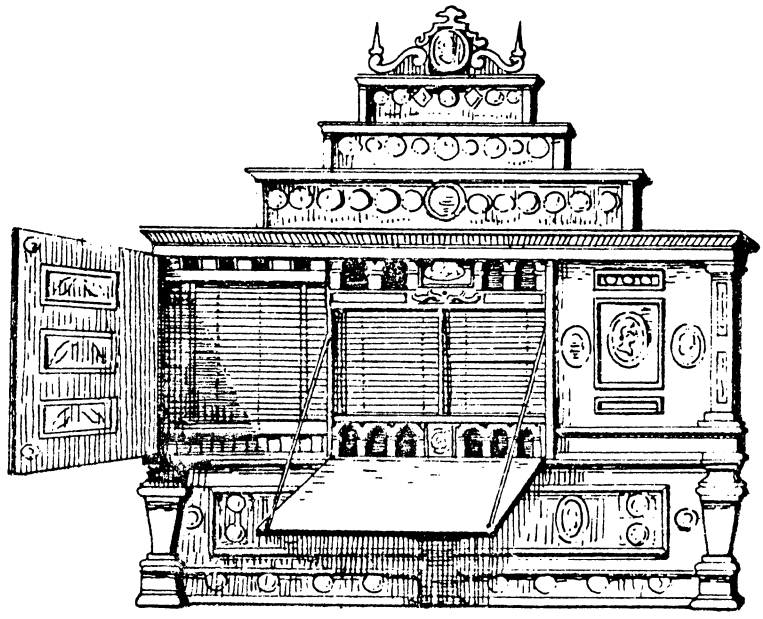
September, 1984. Castle Museum Norwich (provisional Venue)

December, 1984. A.G.M. at National Museum of Wales, Cardiff (provisional Venue)

Geotechniques - 83 A Symposium is being held in the Department of Geology, Portsmouth Polytechnic on 6th - 8th September 1983. The subjects range over techniques associated with geology laboratory work and museum conservation and includes rock preparation, testing and analysis, use and application of computers, video systems, photography to support research and education and museum conservation.

We would like more contributors and invite researchers, technicians and museum staff to give talks or read papers on their pet subject or technical problems. Further information is available from the Geo-Techniques 83 Secretary, Department of Geology, Portsmouth Polytechnic, Burnaby Road, Portsmouth PO1 3QL

THE CABINET OF CURIOSITIES



THE ASHMOLEAN TERCENTENARY SYMPOSIUM

Oxford, 10 - 15 July, 1983

For the first three days speakers will be drawn from among scholars who are working on or with 17th-century collections which still survive to some degree. Scholars will also be invited who have less direct knowledge of such collections but whose interests lie in collections which no longer exist or in certain known collectors or in the intellectual history of the 17th century.

We expect to have about twenty speakers on these three days, leaving some time for discussion, both formal and individual. Speakers for this opening session will be asked to address themselves to three questions: 'What was available to your collector? Why did he collect it? What did he do with it when he got it?' We hope thus to promote some discussion of the 17th-century intellectual approach to collecting and of comparative methods of classification, which should provide many insights into the ways in which different collectors viewed their objects.

The fourth day will be devoted to the natural sciences and to specific categories of material which attracted the attention of collectors. Speakers interested in the history of 17th-century botany, zoology and mineralogy will discuss these in terms of the previous three days of discussion. One or two participants specialising in 17th-century scientific instrumentation will also be invited.

The fifth day will take a more ethnographical approach, and speakers will discuss collections from the point of view of the origins of the objects, that is to say, in geographical terms. For this purpose speakers will be invited who specialise in the crafts of India, the Far East, South-East Asia, Africa, the Islamic lands, the Americas and Greenland.

No discussion time will be allotted specifically to art collections or to treasuries. Objects of art, paintings, coins and medals will be treated only in the context of the cabinet of curiosities.

On Saturday 16th July, a visit to the Bargrave cabinet at Canterbury has been arranged

The proceedings of the symposium will, we trust, be published. This should provide not only an attractive book on the origin of museums but also an authoritative work of reference on 17th-century collectors and collecting.

MINUTES
OF THE 9TH ANNUAL GENERAL MEETING OF THE GEOLOGICAL CURATORS GROUP

at Oxford University Museum

Friday 10th December 1982.

Apologies received from Paul Ensom, Jim Nunney, Joyce Church and Graham Teasdall.

Minutes Mick Stanley proposed that the minutes of the last AGM be taken as read. This was seconded by Tristram Besterman, so the Chairman signed them.

Matters Arising. There were no matters arising.

Chairman's Report. The Chairman apologised for missing last years AGM.

Publicity Leaflet - Our thanks are due to Robertson Research International Ltd., Llandudno, for printing 15,000 copies of the leaflet free of charge. It is important now that we use these wisely and widely, I hope especially within educational establishments.

University Collections - Following the GCG/BCG meeting in mid 1981, NERC is due to publish in its News journal an article on 'A Curatorial Policy for Biological and Geological Research Collections'. A similarly worded article on 'Recommendations for the Curation of Geological Materials' has been accepted by the Chairman of the Committee of the Heads of University Geology Departments, and is to be distributed to all member departments. We must however ensure that similar recommendations reach all educational establishments teaching geology.

Guidelines - This project was mentioned at the last AGM and put before members in the June '82 issue of 'Geol. Curator.' There has not been much response to me personally, but several members are working on sections of the text and a small working group has some drafts with which to work. The door is still wide open for any individual comments or suggestions! The Mus. Ass. 'Manual' is progressing so we must get on with our Guidelines with urgency.

It is good that Tom Sharpe's bibliography of Geology in Museums, which the Group had a hand in setting up, is about to be published by the National Museum of Wales, printed by MDA. We hope its publication will increase awareness of curatorial needs and methods.

Back in 1976 our then Chairman, Roy Clements, commented on a forthcoming handbook on collecting and preserving geological materials. Well, that project has metamorphosed into a book "Fossils, minerals and rocks: Collection and preservation" by Croucher and Woolley, not, unfortunately under the GCG flag. (See review of this on page 388 Ed.)

In general I am sure we are making progress in getting our aims across to the public and museum administrators, even if slowly. It is all part of the problem identified by C. Waterston at the Cardiff meeting in 1978 when in effect he said we were selling ourselves short, a point of view

reiterated by B. Pyrah in her letter to the 'Geol. Cur.' in Nov. 1981. We have to work at selling the importance of geological collections to those holding the purse strings - not an easy task in the present political climate.

Finally I want to thank the Committee for its hard work during the year, much of which will be apparent from the following reports; especially I want to thank our two retiring members, John Cooper - Treasurer since 1977 and Ron Cleevely - Recorder since 1978, both of whom have contributed greatly to the activity of the Group.

Secretary's Report

GCG meetings this year consisted of a session on 'Geological Displays for the 1980's on 23rd April at Stoke's impressive new museum; a Mineral workshop at the Geological Museum on 4th June; a joint meeting with the Palaeontological Association on 'Vertebrate Palaeontology: A History of Collecting and Curation' in London on 8th and 9th September; and the AGM at Oxford University Museum on 10th December. The Association Conference in Nottingham in September was on the theme of 'Professional Standards'. For the Natural History workshop, the Chairman was one of the speakers with the Secretary in the Chair. Delegates agreed that the workshop in general had been better structured and more successful than that at the Manchester Conference in 1981.

Meetings planned for 1983 are a joint meeting with the Association of Teachers of Geology on 29th April in Liverpool; a two day visit behind the scenes at the BM(NH) with demonstrations of a range of geological techniques on 22nd and 23rd June; a visit to Buxton Museum on 9th Sept. with the option of a fieldtrip on the following day; and the AGM at Warwickshire Museum on 9th December. It is hoped that members exhibits, and short papers will form a key part of both the Buxton and Warwick meetings. Almost all available copies of Phil Doughty's 'State and Status' report have been distributed. Among the reactions to this report was a half-page article in 'The Guardian' on 25th February, 1982. Ron Cleevely's World Palaeontological Collections and Tom Sharpe's Bibliography of Geology in Museums are now in the press

The lack of specialised curatorial training in the Association Diploma courses based at the Leicester Department of Museum Studies is still causing concern. A joint GCG/BCG working party met during the summer to draft proposals for a curatorial training course in Natural Sciences. A meeting with Geoff Stansfield has been arranged to discuss ways in which these proposals might be modified and, hopefully, implemented.

At the January committee meeting, concern was expressed over the position at the Grosvenor Museum, Chester where the only curatorial post in Natural History has been abolished. After the Association had written to the Curator, Tristram Besterman and Geoff Hancock visited the museum on behalf of GCG, BCG and MPG. They subsequently produced a report in which the main recommendations were:

1) that an exhaustive examination be made of the legal conditions under which the natural history collection had been acquired;

2) that all material of scientific or historic interest in the collections be identified (possibly by means of a one year MSC scheme).

3) that such material be offered to museums with relevant collecting policies and suitably qualified staff.

The Curator of the Grosvenor Museum had subsequently written to the North-West Federation to say that he proposed to implement these recommendations but there is no news to date of any progress towards their implementation.

As the holder of the post of Recorder is about to change the Committee felt that a change of emphasis of the post would be an advantage. The post was first held by Phil Doughty while preparing the 'State and Status' report, then by Ron Cleevely while compiling his World Palaeontological Collections. It is suggested that, in future, the Recorder should represent the Group on FENSCORE, and should also act as liaison officer when aid is requested for collections at risk.

In conclusion, a personal word of thanks is due to my fellow officers and members of the Committee, including the co-opted members (Paul Ensom, Bob Owens and Mick Stanley) whose services tend to be taken for granted and who are sometimes forgotten when votes of thanks are in order.

Treasurer's Report

Copies of the annual accounts were distributed.
The total income for 1982 is £2,304.34
The total expenditure for 1982 is £2,261.36
John Cooper explained that 60 subscriptions were still due and that the last issue of Geol. Cur. had not yet been paid for. A cash flow problem may arise if subscriptions do not come in. There were 11 new members in 1982.

John Cooper's comment was that the situation is reasonably healthy but we need to get some more adverts in the Geol. Cur. to offset printing costs.

Editor's Report

Tim Pettigrew apologized for the fact that only two issues of the Geol. Cur. had appeared this year. Vol.3 No. 5 is due from the printers any day. He explained that he has been heavily committed with preparation of a new gallery. Four issues are planned for 1983 to complete volume 3.

Recorder's Report

An advance copy of World Palaeontological Collections is out. It will cost £50 and order forms are available. Ron Cleevely is under contract for a second edition. (Note this will be reviewed in a subsequent issue of the Geological Curator Ed.)

Members were asked for contributions to the label series.
Ron Cleevely ended by saying that he had enjoyed his time as Recorder for GCG. Howard Brunton thanked Ron for serving on the Committee.

Committee for Geological Site Documentation Report

During 1982 enthusiasm has dwindled, the number of enquiries has dropped and the number of recorded sites has not risen. The number of MSC schemes

engaged in site recording has fallen from 12 to 1. John Cooper feels that permanent staff are concentrating too much on specimens and not paying enough attention to site recording.

John went on to explain that as the form in which CGSD had operated had not been successful a new proposal has been put forward. This is that GCG should be formally represented on the Geological Society's Conservation Committee (GSCC), and that the responsibility for record centres delegated to the same committee.

Roy Clements commented that John had carried the CGSD since it was formed and that many of the problems were not his fault. Roy also point out that recording sites is a vital part of a curators' duties. Roy then proposed a vote of thanks to John Cooper.

Collection Liaison Report

Alan Howell was absent so there was no report (see Secretary's report for account of Grosvenor Museum, Chester).

Election of Officers

In the absence of alternative nominations the following officers and committee members were declared elected.

Chairman	Howard Brunton	British Museum (N.H.)
Secretary	Geoff Tresise	Merseyside Museum
Treasurer/Membership Sec.	Tom Sharpe	National Museum of Wales
Editor	Tim Pettigrew	Sunderland Museum
Recorder	Alan Howell	Bolton Museum
Publicity/Minutes Sec.	Diana Smith	Castle Museum, Norwich
New Committee members	John Cooper	Booth Museum, Brighton
	Mick Stanley	Derbyshire Museums Service
Continuing Committee members	Ken Sedman	Middlesbrough Museum
	Tony Cross	Hampshire Museum Service

A.O.B.

Sue Turner mentioned the plight of the Geological Mining Museum, Sydney which has been given an ultimatum to become self-supporting in 2 years or close. She suggested that a letter of protest should be sent by GCG and, if possible, from the Museums Association.
Howard Brunton suggested that the matter be left to the new committee.
Tristram Besterman proposed (seconded by Tim Pettigrew) that GCG write in very strong terms. There was no objection to the matter being left to the new committee to discuss in January.
Irene King said she will be in Sydney soon and would visit the museum on behalf of GCG if required.

There being no other business the meeting finished at 4.50 p.m.

Minutes compiled by Diana Smith.

CURATORIAL TRAINING COURSE IN NATURAL SCIENCES

Report by B.C.G/G.C.G. working party submitted to the Museums Association Professional Groups Consultative Committee: January 1983.

Background

1. The lack of specialist curatorial training in the existing Museums Diploma courses is a continuing cause of concern to the Biology Curators' Group and Geological Curators' Group.

2. We would remind the Association that three training courses have traditionally been the norm for the Diploma and that it was only in 1978 that the number was reduced to two. At that time the system under which the Association itself organised training courses was breaking down. Joint curatorial courses were therefore introduced on an experimental basis to simplify the administration involved.

3. In 1980, when Diploma training was transferred to Leicester, it was the stated intention to re-introduce three-tier training in the near future.

4. The clearing of the back-log of Diploma students, coupled with the limited intake of new students, suggests that the running of additional courses at Leicester in now a feasible proposition.

Working Party Proposals

5. Following the discussion paper produced last summer by the joint working party, B.C.G. and G.C.G. representatives have met G. Stansfield to discuss the possibility of curatorial training courses in Natural Sciences being organised by the Department of Museum Studies.

6. As a result of this discussion, we suggest that a two-week curatorial course in Natural Sciences should be organised in October 1983. (The first Diploma course of the session is scheduled to begin on 31st October).

7. The course would be based at the Department of Museum Studies but would include sessions at the Leicestershire Museum Service, Leicester University Dept. of Geology, and British Museum (Natural History).

8. The course would run from either Monday 10th - Friday 21st October or from Monday 17th - Friday 28th October as best suited the Department.

9. G. Stansfield has been asked to draft a course programme in consultation with his University and Museum colleagues at Leicester.

10. The course would consist of a mixture of lectures, seminars and specialist practical training in curatorial techniques. In general there should be less reliance on lectures than in courses A & B. Speakers would be requested to prepare hand-outs of technical data whenever possible.

11. Both B.C.G. and G.C.G. will be pleased to help in any way they can in the planning and running of the course.

12. The course would be run on a trial basis. It is hoped that it would attract curators other than Diploma students and should be planned with this specific aim in mind.

13. It is realised that, should such training courses become mandatory, they would have to be costed on the same basis as courses A & B. However for the trial course it is recommended that the cost be kept as low as possible and an upper limit of £200 (to include accommodation but not meals) is proposed.

14. It is suggested that Area Councils be asked to subsidise the cost of the training course itself, and that Federations be asked to sponsor individual students who cannot obtain grants from their employing authorities.

Future Developments

15. In bringing these proposals forward, we would urge the Association to consider the re-introduction of such specialised courses as a mandatory feature of training for all Diploma students as soon as possible.

16. In the meantime other specialist groups might like to consider organising similar courses on a trial basis.

Geoffrey Tresise. (for B.C.G./G.C.G. Working Party) 12th January, 1983.

Copies to: Brenda Capstick
David Clarke
Adrienne Engert
Geoffrey Lewis
Howard Brunton
Paul Ensom
Eric Greenwood
Geoff Hancock
Mick Stanley
Geoff Stansfield

GEOLOGICAL SITE EDUCATIONAL SUMMARY FORM

The fieldwork working group of the Association of Teachers of Geology have produced an 'educational summary form' for summarising the educational potential of geological sites. The letter outlining the aims of the form and the form itself are reproduced below together with an answering letter from Mick Stanley, Chairman of the C.G.S.D.

25 Elm Road,
Hale, Altrincham,
Cheshire, WA15 9QP.

30th January 1983.

The Organiser,
The National Scheme for Geological Site Documentation,
The Secretary, The Geological Curators Group,
The Geological Society of London,
Burlington House,
Piccadilly,
LONDON, W1.

Dear Sir,

I am a member of the fieldwork working group of the Association of Teachers of Geology. The working group has been concerned for some time that there is little information available on the educational possibilities of fieldwork sites. We have discussed the possibilities of making and storing records ourselves but decided that it would be foolhardy to try to duplicate much of the good work the site documentation scheme is already doing. A better idea seemed to be to try to add an educational perspective to your scheme.

With this idea in mind I have put together the educational summary form which I enclose. This is the second draft but has yet to be circulated to other members of the group and other interested parties for their constructive criticism. If you are agreeable and are keen on the idea, our plan is that our members should be asked to complete the form for as many sites as possible. The completed forms should be sent to you for storage with the other site information you have on your files. Teachers could retrieve the information by contacting you in the normal way. We would try to make teachers aware of what information is available and 'sell the idea' through our journal.

However all this obviously depends upon your approving the idea. If not, then we will have to think again. If you do accept the idea in outline then we are quite willing to consider any modifications you may suggest. In addition, any constructive criticism of the summary sheet will be gratefully received.

I await your reply with interest. I hope that it will be possible for us to work together and that soon I will be able to prepare a final draft of the summary form to circulate to our members together with details of the data collection, storage and retrieval plan.

Yours faithfully,

C.J.L. King

DO NOT REMOVE COMPLETED SUMMARY FROM FILES - REPLACE AFTER PHOTOCOPYING.

1. Site Name _____ 2. 6 figure Grid Reference _____
(Block capitals) _____ 3. O.S. 1:50,000 Map Sheet No. _____

DRAFT 2

SUMMARY OF EDUCATIONAL POTENTIAL OF SITE FOR GEOLOGICAL FIELDWORK

Guide Notes

A. Respond to each statement by ticking the one box that is appropriate. If the statement is inappropriate or not applicable, leave all boxes blank.
B. In many statements terms are separated by a stroke (/). In these cases, where a term is not applicable, cross it out.
C. If the recording sheet does not give enough scope then write additional notes either in any spaces available or on the back of the sheet. Notes should be linked with the appropriate statement.
D. Extra information is always helpful. Useful additions are lists of minerals, rock types, textures, structures, fossils, etc. present, a locational sketch map, suggestions for other sites which could be linked with this one in a field trip, etc.
E. Where an assessment of the potential for detailed interpretation of an environment is required (eg. crystallising environment, depositional environment), high potential rating should only be given where the environment was fairly complex but where several pieces of evidence are available.
F. Please complete the recording sheet in black ink as it will be photocopied.

- - - -

SUMMARY

Access

4.	Permission for access is	not required		required from		other	
5.	Site restrictions	SSSI		National Park		man made	
6.	Site is	natural inland		natural coastal			
7.	A coach/minibus may be parked	nearby		<1 km away		dist. away=	km.
8.	Walking to site is	easy		moderate		strenuous	
9.	Approx. length of exposure	less than 10m		10 - 50m		>50m	
10.	Approx thickness of succession	less than 1m		1 - 5m		>5m	
11.	Level of potential	CSE & 'O'		CSE, 'O' & 'A'		'O', 'A', Degree	

		Educational Potential is		
		High	Mod.	Low
	Mineralogy			
12.	Finding rock forming minerals visible with the naked eye/hand lens			
13.	Finding ore/gangue minerals			
14.	Measurement and description of crystal size/shape/colour/cleavage/etc.			
15.	Testing crystal hardness/reaction with dil. HCl/approx. S.G./etc.			
16.	Observation and interpretation of relationships of minerals to other minerals/rocks (eg. veins, vugs, disseminated, overgrowths, etc.)			
17.	Detailed interpretation of crystallising environment			
	Igneous Rocks			
18.	Description of one/several igneous rock types			
19.	Observation and interpretation of igneous textures/structures			
20.	Detailed interpretation of cooling environment			
21.	Observation and interpretation of marginal textures/structures			
	Sedimentology			
22.	Measurement and description of grain size/shape/sorting/etc.			
23.	Description of one/several sedimentary rock/sediment types			
24.	Drawing a stratigraphic log			
25.	Description/drawing of sedimentary structures			
26.	Understanding that some sedimentary structures indicate the flow directions/strengths of the fluids that formed them			
27.	Measurement of sedimentary structure orientation/size			
28.	Estimation of palaeocurrent direction from several measurements			
29.	Detailed interpretation of depositional environment			
	Palaeontology			
30.	Finding well preserved body/trace fossils			
31.	Description/drawing of body/trace fossils			
32.	Identification of several fossil types			
33.	Observation and interpretation of unusual modes of fossilisation			
34.	Detailed interpretation of living/death environment			
	Metamorphic Rocks			
35.	Description of metamorphic rock types			
36.	Observation and interpretation of thermal/regional/dynamic metamorphic textures			
37.	Measurement of metamorphic texture orientation (strike and dip)			
38.	Observation and interpretation of bedding - cleavage relationships			
39.	Observation and understanding of small scale contact metamorphism			
40.	Detailed interpretation of environment of metamorphism			
	Structural Geology			
41.	Measurement of bedding strike and dip			
42.	Observation and interpretation of apparent dip			
43.	Description/drawing of folds/faults/joints			
44.	Measurement of strike and dip of fold axial plane/fault plane/joint planes			
45.	Taking of other appropriate measurements such as fold plunge/fault throw			
46.	Observation and interpretation of minor structures associated with folds/fault			
47.	Understanding of evidence that different rock types respond differently to stress (eg. fracturing, folding, flowing			
48.	Interpretation of the stress field(s) which produced the structures			
49.	Interpretation of the tectonic environment (ie. amount of stress, depth/temperature of formation, etc.)			
	Stratigraphy			
50.	Use of stratigraphic principles (superposition of strata/original horizontality/ lateral continuity/ cross cutting relationships/included fragments)			
51.	Use of fossils for determining age/correlation			
52.	Observation and interpretation of unconformity/facies change			
53.	Use of way-up criteria			
54.	Writing notes for a detailed geological history			
	Mapwork			
55.	Observation of a mappable geological boundary			
56.	Mapping a geological boundary along strike			
57.	Mapping a series of geological boundaries along a dip traverse			
58.	Mapping topographical effects on geological boundaries			
59.	Mapping the effects of folding/faulting on geological boundaries			
60.	Recording strike and dip/other measurements on a map			
61.	Mapping geomorphology and its links with the geology			
	Exploitation			
62.	Evaluation of the usefulness of the rocks to man			
63.	Discussion of possible controversies eg. exploitation v. conservation/amenity			
64.	Observation of mining/extraction/processing techniques in operation/abandoned			
65.	Observation of land reclamation techniques and their effectiveness			

SHEET RECORDER

66. Name _____ 67. Tel No. _____
68. Address _____ 69. Date _____

The National Scheme for Geological Site Documentation

Committee for Geological Site Documentation

please reply to: my ref: D1 your ref:

Mr. M. F. Stanley.
Chairman,
c/o Derbyshire Museum Service,
County Offices,
MATLOCK,
DE4 3AG

17th February, 1983

C. J. H. King Esq.,
23 Elm Road,
Hale,
ALTRINCHAM,
Cheshire. WA15 9QP

Dear Mr. King,

Thank you for your letter of 30th January, passed to me by the Secretary of G.C.G. I have recently taken over as Chairman of the above scheme from John Cooper and, therefore, our channels of communication are not working smoothly as yet.

We see your scheme as being entirely complimentary to the National Scheme and a most welcome addition of information. We suggest that members of A.T.G. complete the forms and return them to the Geological Recording Centre for their area, usually a country area, for inclusion with the relevant site file. Teachers etc. will then be able to retrieve that information by photocopy from that centre.

I can see the need for no alterations to the form you propose and will contact you shortly with a map and list of recording centres in the U.K. and suggest that it could be published in your journal. With your permission, I will reproduce your letter and form in 'The Geological Curator' to make Reading Centres aware of its existence and also that they will eventually receive the forms and requests for information.

I look forward to hearing if this is agreeable in the near future.

Yours sincerely,

Chairman.

GEOLOGICAL CONSERVATION REVIEW UNIT
GEOLOGICAL SITES OF HISTORICAL INTEREST

As many readers well know, this Unit has for the last four years been attempting a complete reassessment and description of all of Britain's key earth science localities, for inclusion in the Geological Conservation Review. One of the few categories of site not yet dealt with are the historical localities per se. These consist of sites where a discovery was first made (e.g. Stonesfield - first described dinosaur and pre Tertiary mammals), or a theory demonstrated or argued (Glen Tilt - granite veins; 'Agassiz's Rock' glacial phenomena); in other words the seminal localities which proved instrumental in the development of British, and thus in many cases international, geology.

They would welcome suggestions of suitable (nationally important) localities for consideration, of course with some documentation.

They assume that with the knowledge our membership has of collectors, collections and site related information they are amongst the best informed people to ask for such suggestions.

If you can assist please contact:-

Dr. W.A. Wimbledon,
Deputy-Head of Geological Conservation Review Unit.
Nature Conservancy Council,
Geological Conservation Review Unit.
Pearl House,
Bartholomew Street,
Newbury,
Berkshire RG14 5LS.

OATLANDS PARK GROTTO AND ITS AMMONITE FOSSILS

by M. E. Barton and J. B. Delair

Although many of the wealthier and more eccentric members of British society in the 17th and 18th centuries erected those extravagant architectural oddities known as follys and grottos, comparatively few of these structures have survived to our own times, and much of our knowledge of them during their heyday derives from contemporary accounts and old woodcuts. The reasons for the failure of so many of these essentially ornamental and generally rather useless edifices to survive are not difficult to trace. Nevertheless, the neglect and, in many cases, the destruction to which they have for so long been subjected is greatly to be deplored as they mirrored bygone tastes, were often structurally ingenious, and were frequently decorated with, or housed, various natural and artificial curiosities seldom seen today outside of museums.

One such example was the grotto at Oatlands Park near Weybridge, Surrey. In 1948, it was scandalously demolished without proper reference to knowledgeable or interested parties, although not before a photographic record had fortunately been made of much of its interior and several of its contents saved for posterity. The latter included fossils and artificial stalactites. Sadly, these relics and the photographs are all that now remain to remind us of what must once have been a building of considerable interest not only to the architecturally minded but also to the geological historian, and they form, in fact, the basis of the present account.

Before considering this material, it will perhaps be useful to review what is known of the grotto's earlier history.

Oatlands grotto was built in two stages at a cost of about £2,500 for the 9th Earl of Lincoln, who, in 1768, succeeded his uncle as the Duke of Newcastle-under-Lyme. The building materials were first assembled in 1760 and 1761, and constructional work appears to have progressed steadily so that by 1767 it was nearly completed. Between 1774 and 1778, Joseph Lane and his son Josiah were employed to add various decorations and embellishments. They were masons from Tisbury, in Wiltshire, and Joseph had worked during the 1760s on Charles Hamilton's grotto at Painshill, in Cobham, some three miles from Oatlands.

The grotto was constructed against a slope on a core of red brick in a double-storeyed central block flanked by two lower wings each ending in an apse. The entrance to the lower floor was at ground level, or rather partly underground, whereas the upper floor was reached by ascending two gentle ramps which curved round each side of the building from the top of the slope to meet in a terrace before the doorway. This doorway overlooked an artificial lake, three quarters of a mile in length, and now called Broadwater. It was fed with water piped from nearby St. George's Hill.

The facade was decorated with flint and pitted limestone from the Bath district (1), and by large ammonites and specimens of brain coral, the whole relieved by blind windows and string-courses of dressed stone.

The ground floor was divided into three main rooms which led off a corridor, itself divided by arches into three bays, each with an elaborately patterned roof of satin spar, red calcite, and a blue vitreous material. Of the main rooms, the Central Chamber, being about 14 feet across, was perhaps the most impressive and beautiful. Its ceiling was a solid mass of satin spar stalactites, up to four feet in length, and the walls were similarly spar incrusted. The lavish use of spar had previously been employed to similar effect at Painshill.

Beyond, lay the Gaming Room, the scene of many of the Duke of York's gambling parties held there after 1788 when Oatlands was bought by Frederick, Duke of York. Indeed, it was in the adjacent Upper Chamber that Frederick entertained the Emperor of Russia, the King of Prussia, and other victors of Waterloo to a supper celebrating Napoleon's downfall. And it was also there that the Duchess of York spent much of her time, where, it is said, she reputedly embroidered cushions for the Chinese chairs which furnished the Gaming Room. Spar also decorated the high-vaulted ceiling of the Gaming Room in bold star patterns and zigzag motifs.

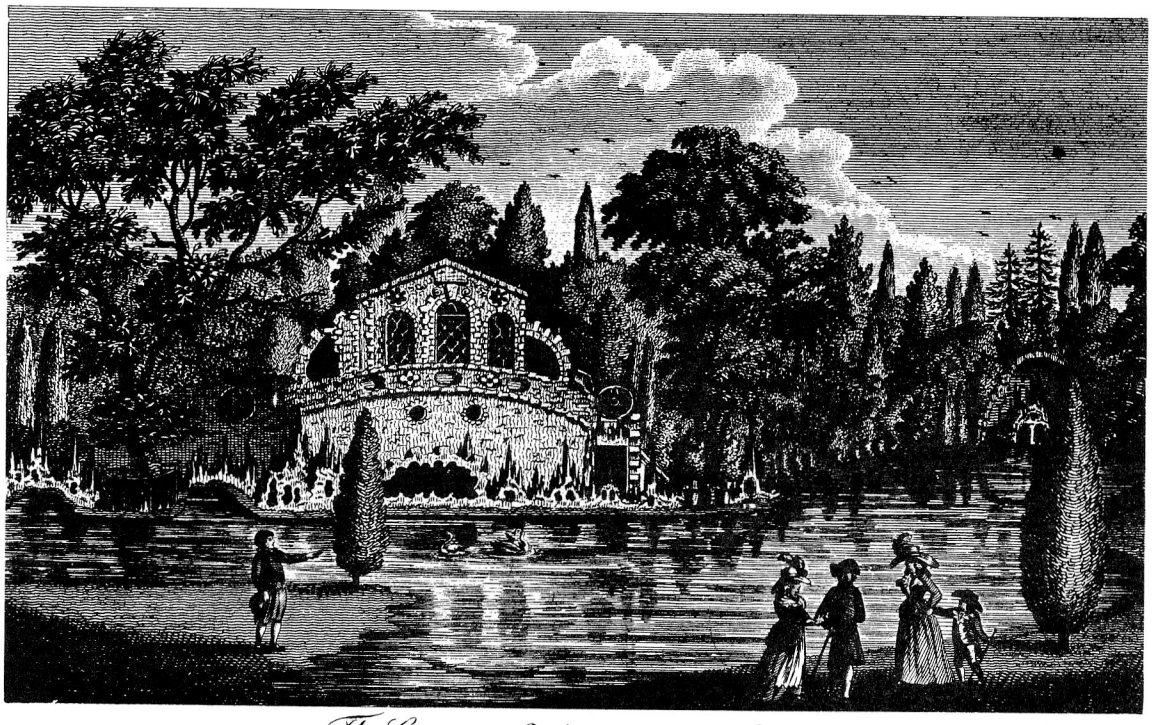
The corridor then wound through a stalactite hall to the Bath House, which contained a bath 10 feet 9 inches long and five feet wide and deep. On August 14th 1818, Charles Greville found the water in it to be "as clear as crystal and as cold as ice". Giant cowries and small shells lined the walls of this room which also housed many curios, including a stuffed alligator. Presiding over the bath itself was an 18th century copy of the Venus de Medici, which was among the items salvaged in 1948 and is now on display in Weybridge Museum.

The ramps leading to the upper storey were studded with 'horses and cows teeth' and 'trotter bones', and were crossed by a few shallow steps. Legend had it that the horses teeth had been collected on the battlefield of Waterloo, but it is in fact known that 10,000 horses' teeth were purchased, ground, and polished expressly for incorporation into the grotto by the Earl of Lincoln in 1766 (2).

The Upper Chamber, measuring about 22 feet 9 inches by 18 feet, was the favourite retreat of the Duchess of York. Here, chandeliers swung from the ceiling, reflecting from the mirrors on the walls and from the crystals of satin spar clustered to form miniature stalactites.

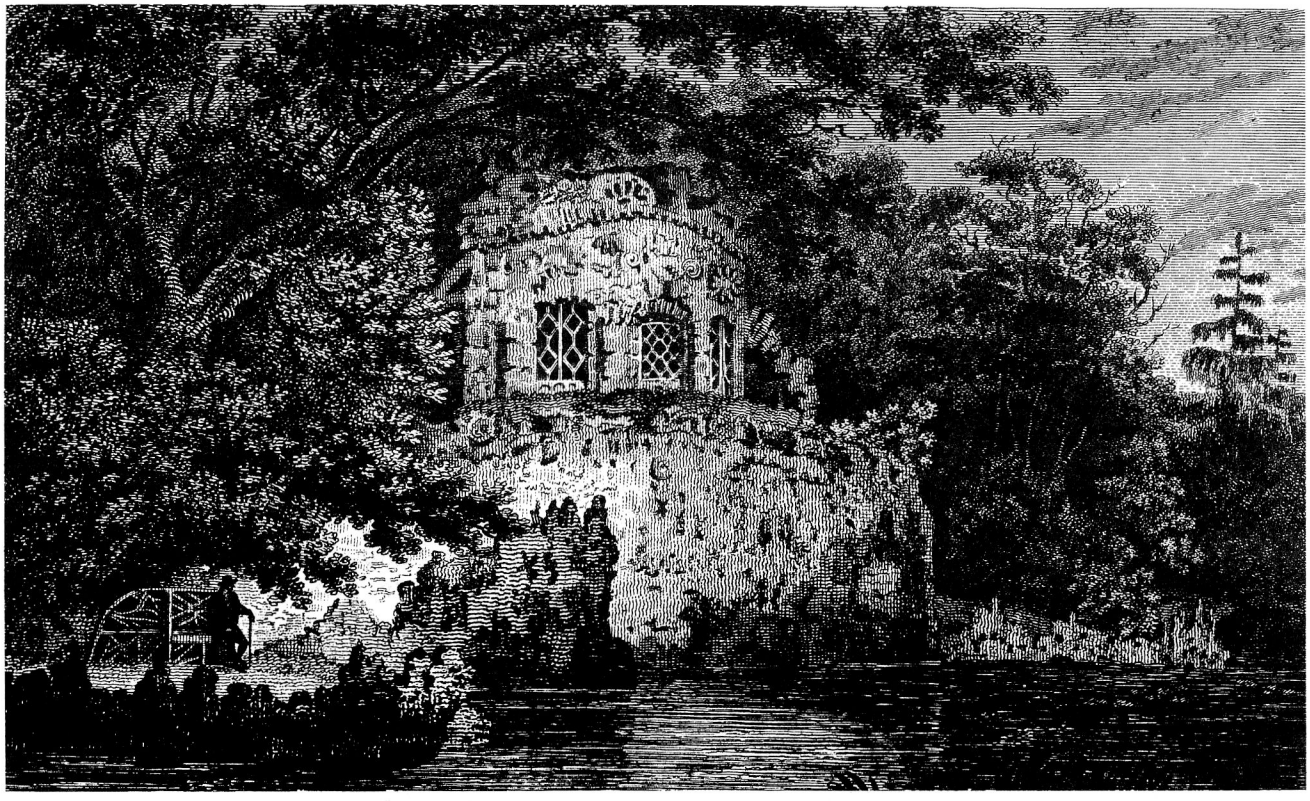
There can be little doubt that, in its heyday, Oatlands Grotto well merited Horace Walpole's description of it as "A magnificent structure of shell-work in a square, rectangular edifice, and, which never happened in a Grotto before, lives up one pair of stairs". This was in 1788 shortly after its completion. Indeed, the last bill for work carried out on the grotto was for the repair of the cold bath in 1787. The earliest known engraving of the grotto dates from about 1790, and shows it in all its glory (Fig. 1a). By 1799, when the next known illustration of it was made, some external delapidation appears to have set in, and trees and vegetation adjacent to it seem to be running riot (Fig. 1b). Later, presumably after the grotto's regular use during the 1810s, it began to fall into general neglect and, by 1848, the artificial lake in front of it had dried up (Fig. 2a). One hundred years later, the Upper Chamber had fallen into such disrepair that, in spite of much opposition from local residents, the Walton and Weybridge Urban District Council had the grotto demolished. Weybridge Middle School now stands on its site.

Engraved for the Ladys Magazine.



The Grotto at Oatlands near Weybridge the Seat of the Duke of Newcastle.

Fig. 1a. Engraving of Oatlands Grotto dating from about 1790 shortly after its completion.

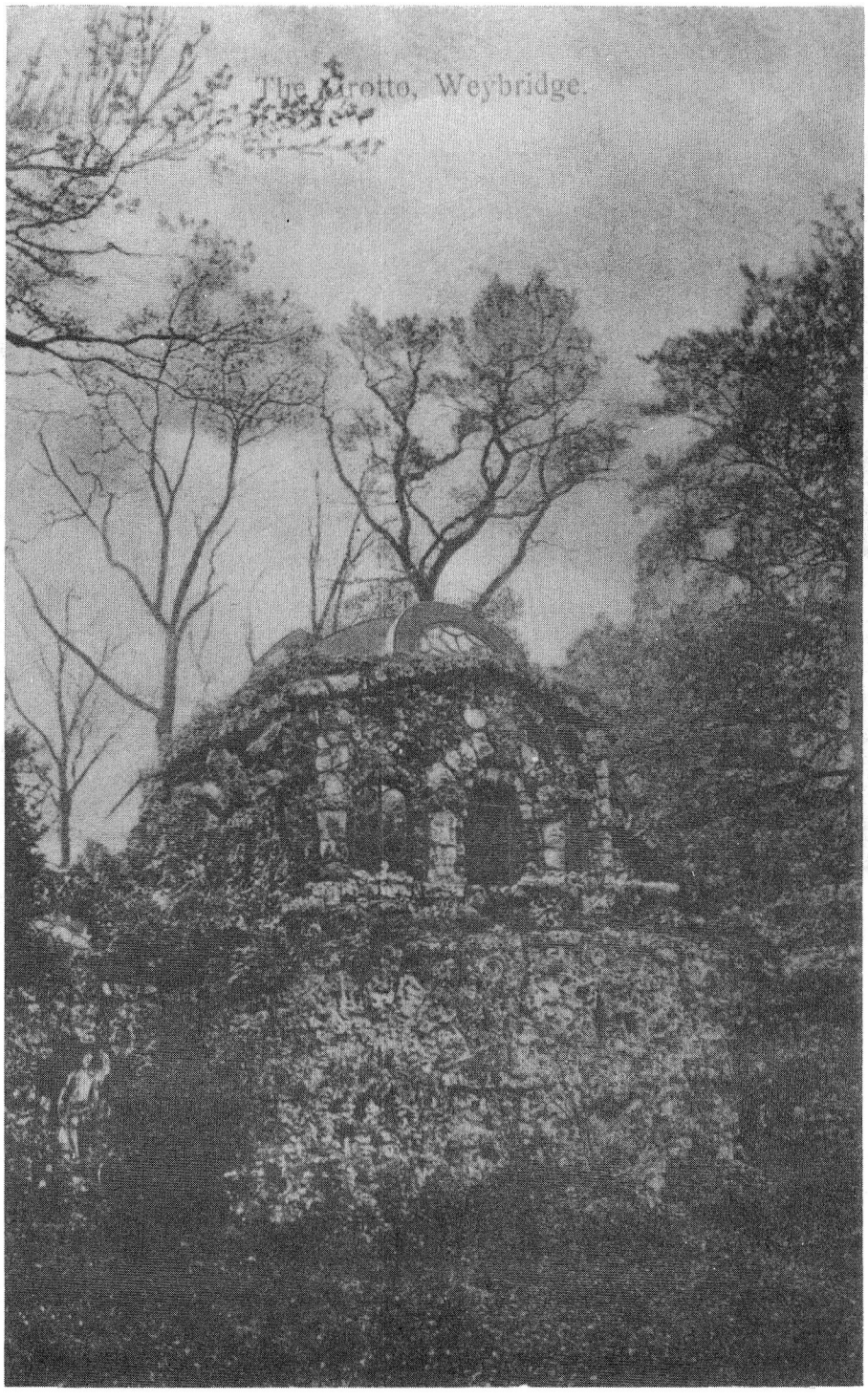


THE GROTTO AT OATLANDS.

Fig. 1b. Engraving made in 1799 showing the Grotto in a more "mature" condition.

SEPTEMBER 23, 1848.

Fig. 2a. Oatlands Grotto in 1848, after the artificial lake had dried up.



b. The only known photograph of Oatlands Grotto taken before its demolition. The date when this view was obtained is unknown (but possibly during the 1930s). It is of interest for showing the type of roof windows used to illuminate the upper chamber.

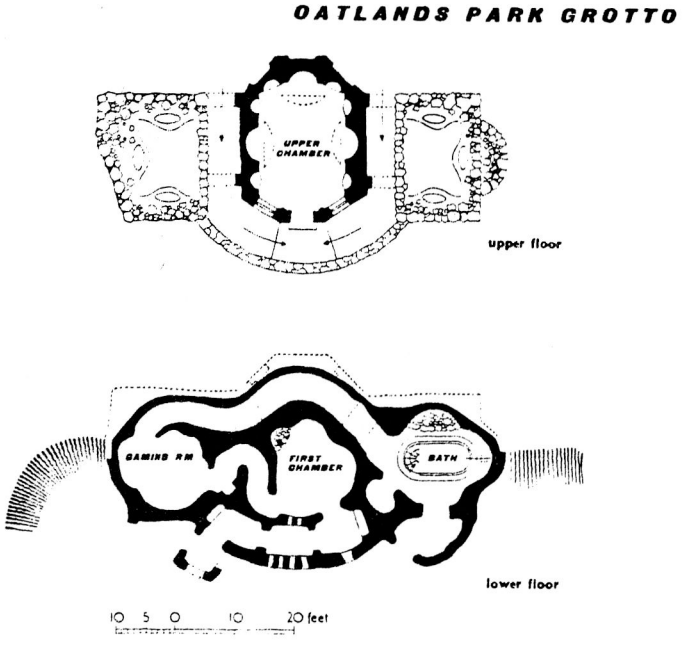


Fig. 3. Scale plans of the upper and lower floors of the grotto featured in Lindus Forge's paper (op.cit., p.136, fig. 1).

Fig. 4a & 4b Exhibited items rescued from Oatlands Grotto now in Weybridge Museum. Photography by Roderick Phillips.

This scandal has been ably discussed by Marcus Whiffen (3) and J.W. Lindus Forge (4), so need not be detailed here; but it is nonetheless true that, in addition to the loss of an edifice of great architectural interest, much more of general scientific import might have been retrieved at the time of the grotto's demolition than actually was had adequate enlightened liaison occurred between interested parties. As it was, the following items were rescued and are now in Weybridge Museum.

a) An 18th century copy of the Venus de Medici, which stood at the head of the bath.
b) Artificial stalactites in selenite.
c) Glass slag.
d) The horn of a rhinoceros.
e) A number of horses' teeth, used for paving part of the approach to the upper storey: see note i.
f) Three ammonites: see note ii.
g) Several cowrie shells and clusters of smaller shells from the Bath House walls.
h) The complete skull of a racehorse, said to have been Eclipse: see note iii.

Many of these items are shown in Figures 4a and 4b.

From a geological standpoint, items b) and f) are of the most immediate interest. Figures 5, 6, and 7 show the profusion of crystals used to decorate the various walls and ceilings, the patterns favoured, and the ingenuity employed when constructing the mock stalactites.

Figure 8 is a detailed view of part of the shell-encrustered Bath House walls prior to their demolition.

Figure 9 is a close-up view of the best preserved ammonite. The early engravings of c.1790, 1799, and 1848, all clearly show that the ammonites, including some which were not apparently saved, embellished the outside of the grotto facing the lake. It is not known if further ammonite specimens or other fossils decorated the external rear and side walls. Not improbably they did: see also note ii. The present specimens evince all the signs of having suffered weathering, and it may perhaps be assumed that formerly they were much more perfect specimens.

The penchant among many 18th century naturalists for simultaneously collecting fossils and modern shells -- a process in fact continued by many later collectors - evidently sometimes found expression by means other than through the more usual 'cabinets' of specimens, as their architectural combination at Oatlands grotto clearly demonstrates. While several 18th century fossil and shell collections have certainly survived, they are not numerous and still leave unanswered various questions about precisely what the pioneer naturalists sometimes thought of such relics. Additional specimens, especially fossils, from their era are, like those from Oatlands grotto, of more than passing interest, particularly as these indicate that, as curiosities, ammonites were then also prized in architectural circles as noteworthy decorative objects. It must, therefore, be a matter of some regret that such fancies belong to the past and a way of life, which, like the ammonites and the grotto itself, are unlikely ever to be seen again.

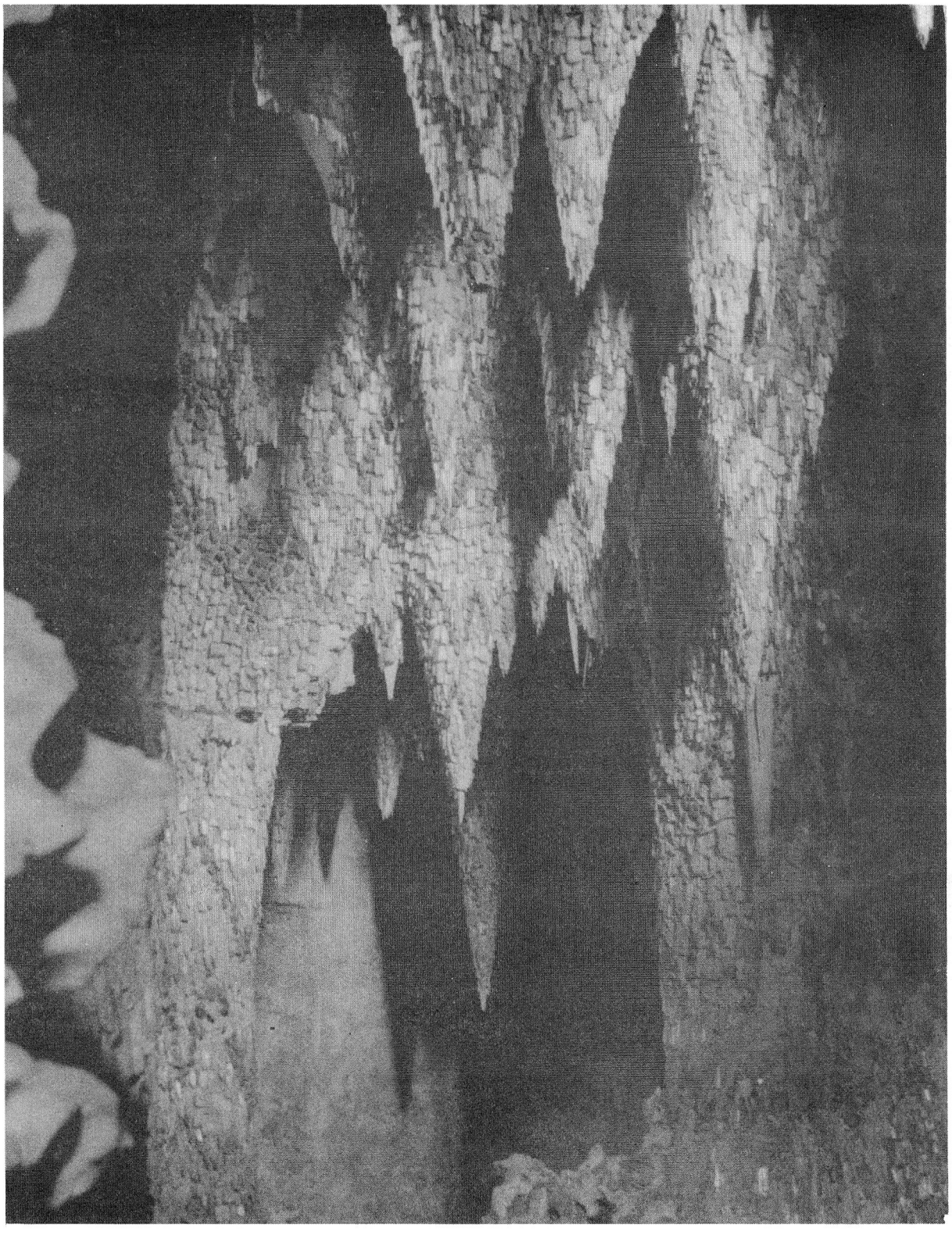


Fig. 5. Artificial stalactites decorating the First Chamber.

Fig. 6. Decorative spar and selenite work encrusting the walls of the Gaming Room.

Fig. 7. Detailed view of the ceiling decoration in the Upper Chamber. Note the brain corals.

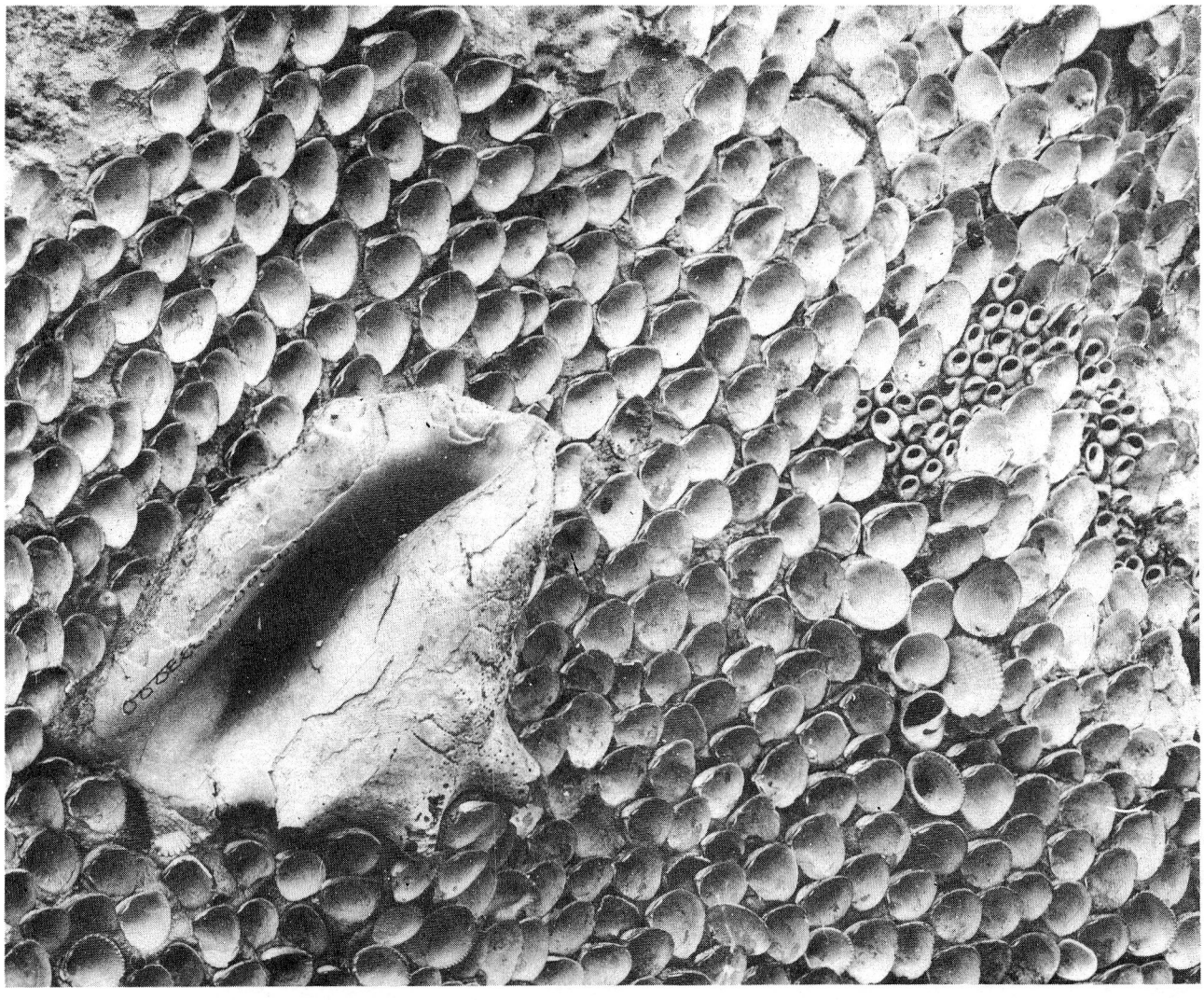


Fig. 8. Part of the shell-decorated walls of the Bath House.

Fig. 9. The best preserved of the three ammonites salvaged from the demolished grotto. Photography by Roderick Phillips.

References:

1. Symes, M. 1981. "New Light on Oatlands Park in the Eighteenth Century", Garden History, volume 9, no. 2, pp.136-156. see p.148
2. Symes, M. 1981. Loc.cit., p.146
3. Whiffen, M. 1948. "Vandalism Triumphant. The Destruction of Oatlands Grotto", Archaeological Review.
4. Lindus Forge, J.W. 1950. "The Grotto, Oatlands Park, c.1778-1948", Surrey Archaeological Collections, vol. li.

Notes:

i. As previously mentioned, these teeth were not, as commonly believed, from the field of Waterloo, but were specially purchased many decades before that event. Symes has recorded (Loc.cit., p.146) that 10,000 horses' teeth, ground and polished, cost £40. 10,000 cows' teeth £20. and 10,000 trotter bones £9.3s.4d., enormously extravagant sums for such trivial items even by eighteenth century standards.

ii. The ammonites must have been included among the "fossiles of different sorts" and "rockified stone" supplied from the Bath area by one Robert Parsons in September 1762, who received £6 for his troubles (Symes: Loc.cit., p.148). The non-ammonite fossils were never specified, but they must have included the "fossilised shells"which, with brain-coral, minerals, and further ammonites decorated the Upper Chamber. All had been "chosen and placed by the Duchess of Newcastle" (Loc.cit., p.144), an individual not otherwise remembered as having cultivated an interest in fossils. Here, therefore, we find that fossils were also featured in the internal wall decorations, so, again, it is lamentable that so few of these historic examples have come down to us.

Little is known about Robert Parsons, but it is quite likely that he was related to the Rev. Thomas Parsons (1744-1813), a baptist minister in Bath, who is also remembered as a stone-mason and carver (see R. Gunnis: 1968. "Dictionary of British Sculptors, 1660-1851", (London), pp.292-293). Thomas Parsons' activities in these spheres would explain any knowledge he may have had about fossils, for he was almost certainly the P.T. who signed a letter to the Gentleman's Magazine in 1788 concerning the "thousands of petrifactions of once-living animals", then being found in excavations made on the slopes of Lansdown, Bath (see Gentleman's Magazine, vol. lviii, 1788, p.793). It is relevant to note that Thomas Parsons knew Dr. Caleb Hillier Parry (1755-1822), since both were members of the first Bath Philosophical Society, and Parry was much interested in fossils; and that in later years he must have met William Smith (1769-1839), who, as the 'Father of Stratigraphical Geology', was literally steeped in fossils. If the family relationships suggested between Robert and Thomas Parsons were indeed real, then it is not difficult to see how Robert became involved with the supply of "rockified stone" and "fossiles of different sorts" for Oatlands grotto.

iii. The Royal College of Surgeons (Veterinary) posses the complete skeleton of Eclipse, including the skull, so it is likely that the present skull belonged to another of the Duke of York's favourite racehorses.

A note on the contractors:

In Sir Richard Colt Hoare's "Ancient and Modern Wiltshire", vol. iv, p.129, we read that "...about the year 1792, Lord Arundel employed the celebrated constructor of rock work, Josiah Lane, to form a grotto at Wardour". This will have been after the completion of Oatlands grotto.

It also seems likely that Charles James Fox's grotto (1794), at St. Ann's Hill, Surrey, where Hamilton laid out the grounds, was created by Josiah Lane and his son. For photographs of this and other grottos erected during the same general period see Christopher Tunnard's article "Landscape into Garden" in the Architectural Review, vol. 82, October, 1937.

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Weybridge and Oxford: 1982

BOOK REVIEWS

"Fossils, minerals and rocks: Collection and preservation" by R. Croucher and A.R. Woolley, published by the British Museum (Natural History) and Cambridge University Press in May 1982 at £2.95 (hardback).

This 60 page book (size about 215mm x 155mm) is a nicely produced practical guide to collecting in the field and, briefly, to preparation and conservation methods. The photographs and line drawings illustrate and supplement the text well. After a short introduction on conservation of sites and the countryside, and on safety precautions when collecting, the authors describe hand field equipment and its use. There is also a short section on sources of information: guides, journals and maps. The chapter on collecting minerals and rocks includes a useful section on field documentation and one on the curation of specimens once they are home, or in the museum. The second principal chapter deals with the collecting, preparation and conservation of fossil materials. This largely concentrates upon methods used for extracting vertebrate remains, dealing with these in some detail. Mechanical preparation, or development, is treated fully, with some 'tools' being described; from simple needles to cavitation ultrasonic probes and air abrasive apparatus. The use of reversible process hardeners for conservation and repair work is stressed, and suitable products suggested and described. The old bogey of pyrite decay is tackled, with prevention and treatment methods briefly described. One page devoted to basic fossil packing and curation methods concludes the main text, the remaining pages containing notes on chemical hazards; some suggested references for further reading; a list of materials, manufacturers and suppliers, and an address list. The index looks a bit meagre, perhaps because things mentioned in captions to illustrations, or in text headings are not included (usually). Thus, for instance, hammers, hand-lens or helmets are not indexed, while 'seccotine' is included.

A small handy book like this can never hope to suit or include all the methods for collecting and preserving geological specimens. I think that some extra emphasis might have been placed on the need to conserve geological sites, and the point should have been made that lone collectors in rugged country should always carry a torch and whistle to aid location by a rescue party, in the event of some mishap. The book, however, includes methods, hints and recommendations which should be helpful to all but the most active experts - there may even be something for them!

Reviewed by Dr. C.H.C. Brunton.

(REVIEW)

The Discovery of Fossil Fishes in Scotland up to 1845, with Checklists of Agassiz's Figured Specimens by S. M. Andrews.

Royal Scottish Museum Studies. Her Majesty's Stationery Office. 1982. ISBN 0 900733 27 6. Obtainable from the Royal Scottish Museum, price £5.

Scotland is renowned for its fossil fishes. In particular, the Old Red Sandstone quarries of the far north, of the Moray Firth and of the Midland Valley have supplied thousands of specimens that grace our museums today. The names of Louis Agassiz and Hugh Miller are well known as the early describers of this material. Less has been published on the small army of collectors and illustrators who worked in all parts of Scotland from the 1820's onwards.

Dr. S. Mahala Andrews has now written an account of the history of the collection and study of fossil fishes in Scotland from 1826 to 1845. The last date marks the publication of Agassiz's Monographie des Poissons Fossiles du Vieux Gres Rouge. Some details of Agassiz's life are given, and the remainder of the historical text is a chronological account of discoveries and personalities. The first finds were made in 1826 by Matthew Culley at the well-known site of Banniskirk, near Thurso. Further localities in the Old Red Sandstone of Caithness, the Orkneys, Banffshire, Moray, and Fife, and in the Carboniferous near Edinburgh were reported between 1826 and 1834, when Agassiz first visited Scotland. The emphasis of Andrews' account then shifts to the Moray Firth region, and she gives a great deal of new information. The early collectors - George Gordon, John Lawson, Patrick Duff, John Martin and Isaac Forsyth - formed an active Scientific Association in 1836 that formed a focus for collecting, geological research, and the foundation of a museum. These men wrote accounts of the geology and fossil fish of Moray, many of which were only published locally, and they cooperated with professional geologists and palaeontologists. Andrews gives some of the fascinating background to the publication of Agassiz's Monographie, and the supply of specimens and illustrations. The inaccuracies that arose in these early attempts to restore the "perfect form" of each specimen are stressed. One of the illustrations supplied to Agassiz in 1844 - of the type specimen of Stagonolepis robertsoni - was a calotype, possibly the earliest photograph of a fossil vertebrate.

The remainder of Andrew's volume consists of checklists of specimens figured by Agassiz, detailed notes and ms. sources, published references, and an index.

The writing style is good - I read the text with pleasure - and most of the information presented is not available in print elsewhere. Dr. Andrews has spent a long and, I suspect, enjoyable time rooting through old correspondence, local society journals, and newspapers. There are inevitably some omissions, and I will note a few regarding the section on Morayshire. Andrews indicates that the first Old Red fish were found there around 1836 (quoting, G. Gordon, 1859, Edinb. New philos. J. (n.s.) 9:17). However, Patrick Duff (Sketch of the Geology of Moray, 1842, pp. 27-28) notes that John Martin found fossil fish at Scat Craig "about fifteen years since", thus in the late 1820's, rather than in the late 1830's. Further, in an anonymous note entitled "Geology" (Elgin Courant, 12th Jan. 1838, p.3) it is stated that "some years

ago, Mr. Martin ... detected organic remains ... near the glen of Rothes". These accounts are vague, but they should have been mentioned. Some information is given on John Lawson, the first president of the Association, but a few archival materials are missed, and in particular a long manuscript by him entitled "Observations on the geology of the lower district of Moray, with a description of various mineral deposits in the vicinity of Elgin" (Elgin Public Library, 80pp., dated Dec. 1837). He describes the Old Red fish of Martin, and gives a detailed account of the Rhaetic fish from Linksfield. Abstracts of this paper, or of contemporary accounts by Martin or Duff, were published anonymously in the Elgin Courant (6th April, 1838, p.2; 5th Oct. 1838, p.3; 10th May, 1839, p.3). These omissions in the text are important, but not crucial, and their apparently obscure nature suggests how much detail is presented here for the first time.

My main criticism of this work is that there is no discussion of the wider significance of the Scottish Old Red fish to scientists in the 1830's and 1840's. There were at least two major areas in which they figured prominently. The first is in the stratigraphic position of the Old Red Sandstone with its characteristic fish. It was placed somewhere between the Silurian or "Transition" rocks and the Culm and Carboniferous, but its true correlation with the Devonian was not generally recognised until the latter system was named and characterised about 1840. The second major aspect of the history of science in which the Old Red Sandstone fish of Scotland figured was the progressionist/ non-progressionist controversy. Most scientists in the 1830's accepted that the fossil record showed a progression from simple to complex forms over time. Charles Lyell, on the other hand, arguing from his uniformitarian principles, considered that all forms of life were likely to be found at any time in the past. "The only controls on the fossils we find in any particular stratum were the prevailing environmental conditions and subsequent destruction of the fossils by metamorphism." He expected to find complex plants and animals in the oldest rocks, and he noted the "advanced" nature of the Scottish Old Red fish even in the first edition of the Principles (1830). Chambers' Vestiges of Creation (1844) strongly promoted the progressionist viewpoint, and Hugh Miller (e.g. 'Footprints of the Creator, 1847) used the Scottish fish explicitly to champion Lyell's cause, and to go one step further. Miller argued that present-day fish are more primitive than those of the Devonian since they have lost all their complex dermal armour. On the other hand, Agassiz at this time believed in progressionism by successive creations, and he used the fossil record of fishes in support of his view of recapitulation that each stage in the history of life is matched by embryonic stages.

The volume is accurately and attractively printed, there are numerous photographs, three in colour, and many previously unpublished. The author is to be congratulated on the nice balance between detailed documentation and a readable story, and the Royal Scottish Museum is to be congratulated on an attractive publication that is fairly priced.

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LOST AND FOUND
compiled by Hugh S. Torrens

How LOST and FOUND works

LOST and FOUND is a clearing agency for curators and researchers seeking information about geological specimens, collections and collectors. When a request for information is received it is assigned a number which heads the item when it is published in the information SOUGHT section of The Geological Curator. Relevant data, which either wholly or partially answers the request is published in the information FOUND section. It should be noted that the same number is used to head the information in the FOUND section as was used to head the corresponding request for information in the SOUGHT section. Depending on the information available and of the subsequent response of the readership, the information FOUND relating to an item SOUGHT may be published in several parts and/or volumes of The Geological Curator. It is most important that information FOUND is forwarded to the compiler Hugh Torrens who can then ensure its publication in The Geological Curator as well as making sure that it is passed on to the person who made the original enquiry.

1. Items & information SOUGHT

131 Lancaster Natural History Society collections

In 1840, Richard Owen recorded a specimen of his new species Ichthyosaurus acutirostris then in the collections of the Natural History Society of Lancaster, as 'The best example .... which I have yet seen .... it gives a profile view of the entire head and of one anterior paddle. The length of the head is eleven inches'

Dr. Angela C. Milner, of the Fossil Reptile Section of the British Museum (Natural History) informs me that none of the specimens in the collections there correspond to the description given by Owen nor have they any record of any purchase from Lancaster.

At her suggestion, I write to ask whether you might be prepared to insert a note in the Geological Curator asking for information and if this specimen can be identified.

The specimen may have disappeared in the 1860's when "our" committee allowed a collector to exchange a number of geological specimens in return for a promised loan, which seems never to have materialised for want of cabinets!

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Ichthyosaurus acutirostris

Under this name is indicated a species of *Ichthyosaurus*, which appears to be more common in the lias formations of the neighbourhood of Whitby than in those of Dorsetshire, although specimens also occur in the lias quarries of Street and Walton.

The teeth of the *Ich. acutirostris*, when they occur separately and singly, are hardly distinguishable from those of the *tenuirostris*, although when a series of them are compared with a corresponding series of the *tenuirostris*, they are seen to be upon the whole a little wider at their base in proportion to their length. The most marked difference between these species is the length of the jaws; the intermaxillaries and dentary pieces being intermediate in this respect between the *Ich. intermedius* and *Ich. tenuirostris*.

The best example of the remains of the *Ich. acutirostris* which I have yet seen, is in the museum of the Natural History Society of Lancaster. It gives a profile view of the entire head, and of one anterior paddle.

The length of the head is eleven inches ten lines, and the alveolar dental series extends six inches six lines along the border of the jaws. The vertical diameter of the entire skull anterior to the orbit is three inches, and from this point both the upper and lower jaws regularly converge, in almost every direction to the end of the snout, which is sharper and more spear-shaped than in the other species.

The teeth vary in length from three to five lines, and about twenty-four may be counted in the space of three inches; they present a more regular alternation in length than I have observed in the other species of *Ichthyosauri*. There are about fifty teeth on each side of the upper, and forty on each side of the lower jaw, in all about 180; they are slightly bent backwards.

The orbit is relatively smaller than in the *Ich. tenuirostris*, but wider than in the *Ich. intermedius*; its inferior and posterior boundaries are thicker than in the *Ich. tenuirostris*.

I have not been able to found any characters on the structure of the vertebral column in the *Ich. acutirostris*. The humerus is relatively as long as in the *tenuirostris*, but is less expanded at the distal extremity. The radius presents the same anterior emargination as in the *tenuirostris* and *platyodon*. The phalangial ossicles are of an irregular rounded form, and are arranged in four digital series, presenting an arrangement as well as a relative size, which is intermediate between those which characterize respectively the *Ich. tenuirostris* and *intermedius*.

Mr. Hawkins has figured two snouts apparently belonging to this species in Pl. XIV. of his Memoirs, one of which, the larger and more complete specimen, was from the lias-quarry at Street, the other from that at Walton.

Besides the localities indicated in the preceding description, remains of the *Ichthyosaurus acutirostris* occur in the lias formation at Boll in Wirtemberg.

Reprinted from pp 121-2 of Richard Owen 1840

Report on British Fossil Reptiles.

Reports of ... the British Association 9 pp. 43-126

132. CONULARIA in museum collections

I am currently in the second year of a NERC sponsored project on conulariids under the supervision of Dr. John Cope.

Following an appeal in the Pal. Ass. newsletter I have been able to examine specimens from the Hunterian Museum, The Royal Scottish Museum, Liverpool, Shrewsbury and Yorkshire Museums, and IGS collections in Leeds and Edinburgh. I shall also be visiting the BMNH, the Sedgwick and Oxford University Museum fairly soon.

I would be pleased to hear from anyone else who has any number of CONULARIIDS in their care to assist with my research project. Alternatively if anyone knows of any possible conulariid locality, please let me know.

Please write (giving locality and taxonomic details if available) to:

Jonathan Mortin,
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133. GREG, Robert Hyde F.G.S. (1795-1875)

Robert Hyde Greg was a member of a successful family of cotton mill owners. He lived at Norcliffe Hall, adjacent to Styal Mill, Cheshire (now a widely advertised independent museum of a sector of the textile industry). Other members of the family owned Eagley Mills in Bolton, Lancashire.

R.H. Greg was a found member of the Manchester Geological Society in 1838 and a notice of his death is given in their Transactions (Volume 8 (9) p. 288). In part of a case on the social history of the mill owners at Styal Mill there is currently displayed a small collection of birds' eggs and five geological specimens (fossils and rocks) which appear to be well-labelled. Also in the display is a notice from the Cheshire County News (26th Feb. 1875) giving his obituary in terms of philanthropic, business and political activity.

Presumably his interest in geological matters led to his son, Robert Philips Greg, becoming the more famous as co-author of Greg & Lettsom's Manual of the Mineralogy of Great Britain and Ireland. Because Robert Hyde has not been noticed as having formed a collection there may be some interest in researching further. In reply to a request for information, Mrs. Diana Edwards, who has since left the post of Assistant Curator as Styal, told me (in litt. 4th Aug 1981) that no other specimens have been found to date. They may have been lost by dumping during the interregnum, between the demise of the Greg family and the acquisition by the National Trust of the land and buildings. However, in the Greg family archives, geological matters are referred to and so it may be worth further investigation by a competent geologist with some time to spare, if such a person exists.

E. G. Hancock,
Bolton Museum,
Le Mans Crescent,
BOLTON.

134-135 WHITE, Henry Hopley.
WILKINSON, Samuel J.

For some fifteen years, I have been trying to track down information on the early English microscopists who worked on fossil "xanthidia" (i.e. chorate dinoflagellate cysts). Some, like Gideon Mantell, J.B. Reade and J.S. Bowerbank, present no problems; on Henry Deane, though he is not so well known, I have gathered at least a little information; but two others remain wholly obscure and it has been suggested that you might be able to help. These are:

WHITE, Henry Hopley. Known information scanty. Address was 13 Old Square, Lincolns Inn, and The Firs, Rectory Grove, Clapham. An early Fellow of the Microscopical Society elected 1841; not listed after 1876, so may have died in that year. A personal friend of Gideon Mantell and mentioned in the latter's journals; presented a microscope to him on behalf of the Clapham Microscopical Society (probably a group within the Clapham Athenaeum) and was perhaps Chairman of that Society.

WILKINSON, Samuel J. Address was 7 Jeffreys Square, St. Mary Axe; a Fellow of the Microscopical Society. No other details known.

I would further welcome any information on the Clapham Microscopical Society.

I have tried the Quekett Club, the Royal Microscopical Society and the Librarians of the Clapham and Battersea Public Libraries without success and am at a dead end, so that any help or any leads you might give me would be most welcome.

Prof. W.A.S. Sarjeant,
Room 108.3 (Geological Sciences),
General Purpose Building,
University of Saskatchewan,
Saskatoon.
Canada.

See also Found Section (No. 134. 135.)

LOST & FOUND

2. Items & information FOUND

123. A prepared fish skull from the English Chalk

In the June 1982 issue of this journal (vol. 3, no. 4. p.235) Mr. J.F. Skinner of Southend Central Museum gives an illustrated note on an exceptionally well preserved skull with associated/pectoral fin of the Teleostean Fish, (Pomognathus) Halec eupterygius (Dixon) in a block of chalk, recently brought into his museum and now donated to it.

It possesses no details of provenance but presents various significant features from which these may be inferred. This species was first made known by Dr. Gideon Mantell of Lewes, Sussex ("Outlines of the Natural History of the Environs of Lewes" in Horsfield's "History of Lewes," 1824) and described by Louis Agassiz ("Recherches sur les Poissons fossiles", 1837) and by Frederick Dixon of Worthing ("The Geology and Fossils of the Tertiary and Cretaceous Formations of Sussex", 1852).

After the publication of Mantell's "The Fossils of the South Downs" in 1822 and of Agassiz and Dixon's works, describing the many well preserved fishes found in the Chalk of Sussex and Kent, many collectors searched in those areas, notably Henry Catt, later named Willett, of Brighton, S.H. Beckles of St. Leonard's, Mrs. Smith of Tunbridge Wells, and Dr. J.S. Bowerbank of London. Various fossil dealers arose, particularly in London and Brighton.

Eventually the important fossils found by Willett were placed in Brighton Museum, and those of Mantell, Dixon and the other collectors named above were acquired by the British Museum (Natural History), but other specimens are widely scattered.

This species occurs in the Lower Chalk (H.subglobosus Zone of the Lewes district, Burham, Halling and Dover, Kent); the Middle Chalk (I.labiatus and T.lata Zones of the Lewes vicinity and T.lata Zone of Burham); and the Upper Chalk (H.planus and M.cortestudinarium Zones of the neighbourhood of Lewes, and M.coranguinum Zone near Gravesend, Kent). It is also recorded from an unknown Chalk horizon at Brighton (Woodward,A.S. 1901. "Catalogue of the Fossil Fishes in the British Museum (Natural History)....", B.M.(N.H.), London, Pt.IV, pp.213-218, and 1902. "The Fossil Fishes of the English Chalk", Mon.Pal.Soc., London, pp.50-55.

The present specimen is typical of the skilfully developed fish skulls obtained by the collectors of last century, which generally lack adequate labelling, and is likely to have been found between about 1850 and 1900. Although the clearing of the bones has been assiduously done the preparator has unwisely removed matrix below the cranium to such an extent that serious breakage could easily result from normal handling. This fossil is also mounted on a plinth for exhibition purposes. These features indicate the work of an over zealous collector of perhaps a provincial dealer such as the Mr. Nightingale of Brighton who was selling prepared Chalk fishes from local pits during the 1850's (Mantell, G.A. 1854. "The Medals of Creation....", H.G. Bohn, London, 2nd. Edit. vol. II, p.907).

The creamy white, slightly gritty, matrix suggests that it was obtained from part of the Middle Chalk. This specimen is probably one of those with uncrushed bones and open jaws from the chalk quarries round Lewes or in the Medway Valley at Burham or Halling near Rochester, Kent. This species is about equally common at both localities.
Such remarkable specimens are now rarely seen outside museums with early geological collections.

J.N. Carreck,
Museum Section of the Department of
Geological Sciences,
Queen Mary College,
University of London,
Mile End Road,
London E.1.

126. SAULL William Devonshire (1784-1855)

We have previously recorded what information we had about this collector. The notice below from the Mechanics Magazine vol. 19. p. 117-118. 1833. re-inforces the view that Saull was something of a pioneer in using his fine collections as an educational resource.

EDUCATION OF THE PEOPLE—LIBERAL OFFER TO STUDENTS OF GEOLOGY.

Sir,—I now peruse with far greater interest than I have heretofore felt each part of your excellent miscellany, since I find that education for the people, as a means to their advancement, is so ably advocated by such men as Samuel Downing, Robert Potts, Junius Redivivus, and R. of Bayswater; and I beg to offer them the just tribute of my sincere thanks for the valuable information they have conveyed on this most important subject. I have been particularly pleased with the last article by R. of Bayswater, in answer to a communication by Junius Redivivus on the "population question," and his clear and lucid arguments against those who support the Malthusian theory, as it is called, which, in my opinion, is calculated to make all such persons "hide their diminished heads," and "blush with conscious shame," that they had not examined more attentively the productive powers of the globe we inhabit, before they presumed to promulgate opinions so much at variance with reason, with nature, and with common sense.

For some years my attention has been turned to the consideration of means to effect the amelioration of the majority of the great human family who, in all countries, do indeed require improvement; and, with many other congenial minds, I have come to the conclusion, that until ignorance, with its concomitant effect, error, is removed, mankind never can advance in the correct path of improvement, which in many instances is happily opened to them; for, owing to previously adopted and cherished errors, many are incompetent to direct the current of their thoughts aright, and many others are even afraid to embrace the opportunities for free inquiry, which at the present time are in a variety of ways liberally offered them.

Sir, I consider that, at the present epoch, every man possessing valuable and useful knowledge should disseminate it extensively for the advantage of his fellow-men; and, agreeably to that conviction, I hereby offer my extensive museum of geology, containing many thousand specimens (illustrating the various changes and productions on the crust of the earth), to the inspection and observation of all those of both sexes who feel an interest in the acquisition of this branch of knowledge, every Thursday morning at 11 o'clock, at my dwelling-house. It is my decided opinion, that the science of geology will tend, more than any other portion of natural philosophy, to direct our reasoning in its proper path; and that, in conjunction with its sister science, astronomy, it cannot fail to enlarge, to expand, and ultimately to direct rightly, the thoughts, feelings, and actions of men, with reference to all their brethren of the human race in every zone, district, and country.

If friends will attend punctually at the hour above named, I shall feel great pleasure in going over my collection with them, and explaining, as we proceed, the conclusions which geologists have come to with relation to the singular phenomena of the changes which have occurred on the earth; and this I frankly offer, without pecuniary fee or reward, for my full and ample reward will be in the delightful sensations that are always experienced when developing and elucidating truths—most important, indeed, to all, yet heretofore not comprehended but by few. I hope to number in the list of my visitors your correspondents to whom I have referred at the beginning of this notice; and knowing that there exists a congeniality of sentiment among us, I hereby tender them all the hand of fellowship in the great and glorious work of emancipating the human mind from prejudice and error, and thus gradually preparing the way for the moral development and elevation of the character.

Sir J. F. W. Herschel, in a late work, has truly stated, that before we can proceed with success to investigate any of the numerous subjects of natural philosophy, we must absolutely dismiss from our minds every kind of prejudice whatsoever; and another eloquent friend expresses himself in a similar manner, with a quotation from whom I shall conclude:—

"If it be absolutely necessary, as it unquestionably is, that, in the pursuit of knowledge of any kind, before experience itself can be used with advantage, we must dismiss from the mind all prejudices, *from whatsoever source they may arise*, this mental purification becomes the more indispensable in a science like geology, in which we meet, at the very threshold, with facts that disturb all our preconceived opinions of the nature of the globe on which we live, and teach us that though man be, as it were, but the creature of yesterday, the earth has teemed with countless forms of animal and vegetable existence, myriads of ages before the creation of the human race."

Education is the most important of sciences; and in practice we must necessarily divest our minds from every prejudice which has hitherto trammelled and prostrated the minds of youth.

Yours, respectfully,
W. D. SAULL, F. G. S. &c.
15, Aldersgate-street, May 18, 1833.

127. BURGON John Alfred (died 1872)

The Quart Journal of the Geological Society of London, vol. 29 p.v. 1873 reports his death as having taken place in 1872.

129. COLENUTT George William (c. 1862-1944)

I have checked my papers for Colenutt without success. My recollection is that ours was a proposed project and that we had little beyond a chronicle of his activities culled from the local journals.

Please find enclosed the entry from the former Bristol Institution 'Rough Present Book' for the Clupea. The numbers in these ms volumes are referred to internally as 'DB' or 'Donors Book' numbers (not accession numbers, which come in later), but it's best to quote the whole title of the ms in any publication to avoid future problems.

Bristol Institution

Rough Present Book

for

the Museum

1866 to 1893

1852 May 6 G. H. Coleman Esqr. Bramley Lodge, Kyle

1875 Specimens in Shale, of a fossil fish —

(Diplomystus Vectensis (Clupea) Mantell) from

the Silurian Beds near Kyde.

I cannot identify this specimen in our collections; we must, at this point, presume it to have been destroyed by enemy action, November 1940.

I believe this to be the only reference to any donation to us from Colenutt, but our index of donations is based on the lists in the published 'Annual Reports', and they are far from complete. I noted this entry only in relation to the possible status of the specimen.

M.D. Crane,
City of Bristol Museum and Art Gallery,
Queen's Road,
Bristol,
BS8 1RL.

134. WHITE Henry Hopley (1790-1876)

Published the following papers:

1) On fossil Xanthidia
in
Microscop. Journal vol 2 pp. 35-40, 1842 and in Trans Microscop. Soc. vol. I pp. 76-86. 1844.

2) On new species of fossil Xanthidium
in
Trans. Microscop. Soc. vol. I. p.87. 1844.

As his professional address suggests, White was a barrister of the Middle Temple. He attended Oxford University from 1807.

White, Henry Hopley, s. James, of Chancery Lane, London, arm. ORIEL COLL., matric. 19 Oct., 1807, aged 17; bar.-at-law, Middle Temple, 1818, bencher 1855, Q.C. 1866, died 10 Dec., 1876.

Source - Joseph Foster. 1888.
Alumnis Oxonienses 1715 - 1886 p.1539

WHITE, HENRY HOPLEY (son of James White of Chancery lane, London). *b.* 1790; educ. Oriel coll. Oxf.; barrister M.T. 27 Nov. 1818; bencher 1855 to death, treasurer 1866; practised as a conveyancer; Q.C. 9 Jany. 1866; edited Roper's Law of legacies, 3 ed. 2 vols. 1828, and 4 ed. 1847; also 4 ed. of Cruise's Digest of the law of England respecting real property, 7 vols. 1835, in which he wrote a new chapter on Merger. *d.* The Firs, Rectory grove, Clapham 10 Dec. 1876. *Law Times* 13 *Jany.* 1877 *p.* 197.

Source - F. Boase 1901.
Modern English Biography vol. 3. p.1312.

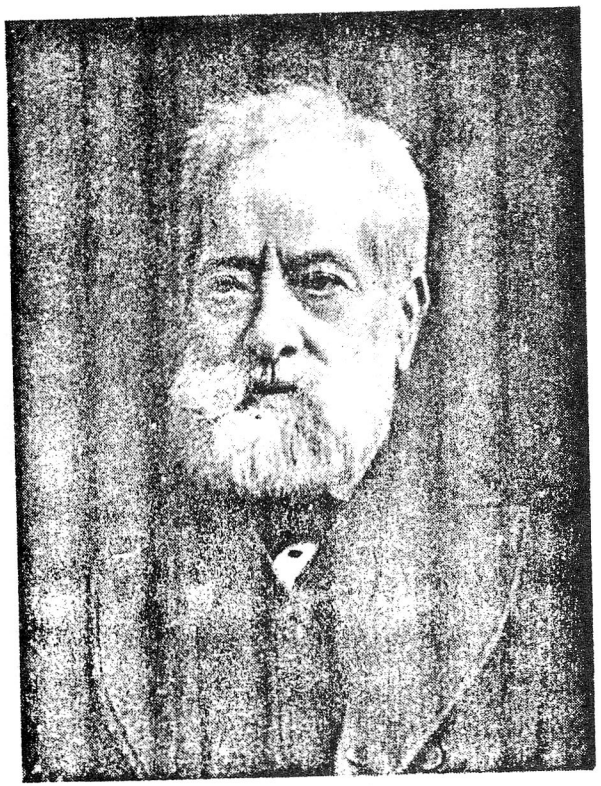
J.B. Williamsons The Middle Temple Bench Book 1937 (2nd edition) may contain further information on him.

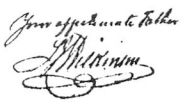
135. WILKINSON Samuel James (1816-1903)

published Observations on Xanthidium (both fossil and recent)
in
Trans Microscop. Soc. vol. 2 pp. 89-92. 1849.

He is better known as an entomologist which he seems to have taken up immediately after the above was published in 1849 he was elected a member of the Entomological Society of London and served on the Council of this Society from 1851 to 1854 and in 1858. He commenced the second catalogue of the Society's Library which was finally published in 1861. He left the Society in 1872 (see S.A. Neave 1933. The history of the Entomological Society of London 1833-1933. London pages 82. 167)

The following notice of this man of "such extraordinary reticence" appeared in the North Western Naturalist vol. 20 pages 145-148. 1945.





Samuel James Wilkinson,

Author of "The British Tortrices."

A Biographical Sketch by Norman F. Ellison, F.L.S., F.Z.S.

(With Portrait, Plate 10.)

Samuel James Wilkinson was a man of such extraordinary reticence and self-effacement that no details of his life or even a portrait of him have ever appeared in print. The publication of his book *The British Tortrices* in 1859, with its new approach to classification and identification, created considerable stir in entomological circles, but, this notwithstanding, the author successfully managed to keep himself hidden in the background.

It is felt that a brief biographical sketch, including the personal recollections of his grandson, Arthur Vallerieau Wilkinson, might well be put on record.

. . . . . .

Wilkinson was born at Norwich on 28th March 1816, the son of James Pimbury Wilkinson, a well-known actor in his day. In 1838 he married Mary Wisedill, of Wolverhampton, and they had a family of eight children. Their golden wedding was celebrated in 1888, when the photograph we reproduce was taken. He started his business career at the age of seventeen, for an entry in a rough diary he kept reads, " 30 Aug. 1833, entered the counting house of Darthez & Co." Subsequently he was a partner in the firm of Dawson & Wilkinson, barge owners on the Thames.

Although in the course of his long life he moved his place of residence several times, every address is in the London district.

On 18th December 1884 he was elected a member (No. 209) of the South London Entomological and Natural History Society and resigned in December 1890. During this time he held no office nor published any papers; indeed, there is no record that he took part in any of the Club's activities.

He died at 60 Lilleshall Road, Clapham, on 16th September 1903 in his eighty-eighth year, and the interment was in the family grave at Norwood Cemetery. He had outlived all his contemporaries and was unknown, except by name, to the entomologists of that time.

In a short obituary notice in *The Entomologist's Record* (Vol. xv, 1903, p. 275) the editor, J. W. Tutt, F.E.S., wrote:—" About ten or twelve years ago, at one of the meetings of the South London Entomological Society, we were somewhat surprised at an old gentleman, a very regular attender at the meetings, and whom nobody seemed to know, introducing himself to us as Mr Samuel J. Wilkinson, the author of the well-known and more or less classic *The British Tortrices*, for, whatever may be said to the contrary, nothing better on the subject has yet been produced in this country. From then onwards a fortnightly chat was usually indulged in, until some three or four years since, in-

creasing deafness and objection to being out late at night, made his visits at the meetings of the Society less frequent, and for some time they have ceased altogether. The veteran died having, we believe, added nothing to the sum total of entomological literature since the publication of his first and last work in 1859."

THE BOOK.

In *The Entomologist's Annual* for 1855 (*2nd Ed.*) the editor, H. T. Stainton, himself a reputable and wealthy entomologist, inserted the following notice:—

WANTED.

A MONOGRAPH OF THE BRITISH TORTRICINA worked out in a similar style to the *Insecta Britannica-Lepidoptera, Tineina.*

Those desirous of entering into an engagement to supply this want are requested to communicate with the Editor of *The Entomologist's Annual*, on or before July 1st, 1855.

One hundred pounds will be paid for the Manuscript.

What replies were received to this offer we do not know but to the great surprise of the entomological public, Wilkinson, who had not previously shown any aptitude for descriptive or systematic work, was entrusted with the task.

Among the letters Stainton wrote to Zeller is one dated 20th July 1855, from which we extract the following:—" S. J. Wilkinson has contracted for the Monograph of Tortricidae and is now hard at work describing all the larvae he can find of that group. The MS. is to be completed by October 1st, 1857."

The book was published by John Van Voorst, London, in 1859, at 25s, and created a mild sensation in the entomological world. " It was not very favourably received at the time," wrote Robert McLachlan, F.R.S., in *The Entomologist's Monthly Magazine* (Vol. xxxix, 1903, p. 256), " to some the (acknowledged) want of synonymy and bibliography was a great disappointment; to others the work was in advance of the times, for the employment of neuration, etc., in generic limitation in Tortrices was beyond the sphere of those British entomologists who could not conceive that anything of importance lay concealed beneath the scales. The descriptive matter was original, detailed, and accurate. The author showed he had all the requirements necessary, excepting those of bibliographical research, and keeping in touch with what had been done, and was being done, beyond our own shores."

In the preface to the book, the author himself states " *All* the descriptions have been made from the insects themselves, without reference to what has been done by other authors."

The magnitude of the task may be gathered from the fact that no fewer than 298 species are most exhaustively described. It may well be that the painstaking accuracy of all Wilkinson's work impressed Stainton and influenced his choice. The wisdom of that choice has been amply confirmed for the book is still regarded as a classic and the descriptions are still valuable, particularly as regards neuration, although

systematically it is out-of-date and superseded by Barrett and Meyrick.

It was whilst searching through the entomological literature of the period that the writer came across, quite accidentally, striking evidence of Wilkinson's thoroughness.

In a lengthy letter under date 25th December 1858, written by Wilkinson, which appeared in *The Entomologist's Weekly Intelligencer* (Vol. v, p. 101) he describes a diary he kept " to record the natural histories and transformations of Micro-Lepidopterous larvae." The book was foolscap size, the entire opening being used. It was ruled into eleven columns to be completed as under:—

Col. 1. Date of record, rotation number of larvae and whence obtained. (The box or other breeding apparatus containing the larvae when described bearing the same number.)
2. Size, colour, habit, food-plant and mode of feeding.
3. Colour, shape, lustre or markings of the head and trophi.
4. Similar details applicable to the shield or corselet.
5. Shape, size, colour and situations of the spots.
6. Details relative to the anal segment.
7. Remarks on the ventral aspect of the larvae.
8. Occasional memoranda concerning larvae which cannot properly be entered in either of the preceding.
9. Description of pupa.
10. Records name of perfect insect and when it emerged.
11. Reserved for such promiscuous remarks as may present themselves.

He continues, " I divide each opening *transversely* into four parts, serving for the register of as many larvae, which affords ample room for the introduction of additional observations upon the same insects, made in subsequent years."

The complete orderliness of Wilkinson's mind is manifest. He was the ideal investigator, methodical and thorough.

(*En passant*, the writer has made extensive inquiries in trying to trace this diary, without success.)

So far we have given only general details of Wilkinson's life and some brief account of his great book. What about the man, as a man? We leave the matter in the hands of his grandson, Mr A. V. Wilkinson, who writes as follows:—

PERSONAL RECOLLECTIONS.

" When I was a youth I spent many a week or fortnight of my holidays staying with my grandfather at 22 Richmond Terrace, Kennington Road, London. It was a large house with a long basement room running right through from front to back of the house. There he kept his large collections in cabinets and did all his mounting and breeding. The room was always kept locked and nobody was admitted, not even the domestic servant to clean it.

I've watched him setting up his specimens for hours on end. His microscopic writing—almost of copper-plate clearness—was typical of his passion for neatness and accuracy. When the insect was finally mounted in a cabinet, it was a perfect job for nothing less than per-

fection would satisfy him. I remember he had a large collection of Coleoptera as well as Lepidoptera.

He was a somewhat taciturn, uncommunicative man, inclined to be self-centred. During the many times I stayed at his house I cannot recollect any other collector or interested person dropping in for a chat with him or to show him specimens. He was essentially a lone worker.

In appearance he was medium height, bearded and dressed in a style about thirty years behind the times. His clothes were always of some dull black material with front-flap trousers. He invariably wore boots specially made for him—a sort of pull-on leather boot with elastic sides, reaching half-way to the knee. His views were as conservative as his dress and as old fashioned. I remember his saying one day that the two biggest curses ever brought over from America were the revolver and the sewing machine. Tobacco smoking was his particular aversion, and when the Athenaeum Club decided to turn one room into a smoking room, he wrote a stinging rebuke to the Club.

He was a most unassuming man who never talked about himself or what he had done. The only other hobby he allowed himself was playing the violin. He had two valuable instruments made by Jacob Stainer, 1645 and 1666. Eventually they were bought by Ebsworth Hill.

When my family moved to Liverpool, he came only the once to stay there with us—in 1881 or '82. As I was the only member of the family who shared his entomological tastes, I was delegated to take him out for a long walk. But we got no further than the quarry by the old Wavertree mill. He found there several interesting beetles, and we stayed there for the rest of the day whilst he explored every inch of it. It was not much of a walk you'll agree, but he assured me he was delighted with it."

. . . . . .

Such, in brief, are the ascertainable facts concerning a man who, in an age productive of many striking personalities, stood out as what we could best describe to-day as " a character."

The present whereabouts of his extensive collections is a mystery. They were sold at Steven's Salerooms, London, on 21st January 1902, just prior to his death. As this firm is no longer in business, and despite the most exhaustive inquiries by the writer, it has not been possible to trace the purchaser or even the catalogues of sale.

ACKNOWLEDGMENTS.

The writer owes much to Mr A. V. Wilkinson for his ready help and enthusiasm. Due acknowledgment and thanks are also tendered to Messrs N. D. Riley and H. Stringer, of the British Museum (Dept. of Entomology); to Mr F. Stanley Smith, F.R.E.S., of the South London Entomological Society; to the Council of the Royal Entomological Society of London; to Messrs E. Blezard, F.Z.S., M.B.O.U., and F. H. Day, F.R.E.S., of the Carlisle Natural History Society.

Four copies of the sale catalogue (21st January, 1902) of his collections have been located by J.M. Chalmers-Hunt since this notice was published. One is in the Entomology library of the British Museum (Natural History).

NOTES & NEWS
compiled by Tony Cross

"How appealing"

Every time the copy date gets near I get the feeling that I've missed out or slipped up somewhere. Somehow I have to send the Editor enough material to justify him keeping this column and whilst I never seem short of ideas(!) it is not as easy to get copy from prospective contributors. If everyone is like me then there must be a lot of work being done on collections, research for displays and promotion of geology generally is overwork. A good excuse? Not really as if everything is buzzing doing something must be being achieved and therefore worthy of inclusion in "Notes and News". Topics need only be of limited length so there is no excuse about requiring time to write it all up as illustrations although useful, are not absolutely necessary.

So please, let me know what you're working on. If it is interesting, informative, useful or amusing then I am sure other curators would be interested. If not, perhaps you had better think of something else! I can not keep writing about nothing in each and every column, mind you Roy Hattersley seems to in "Endpiece"

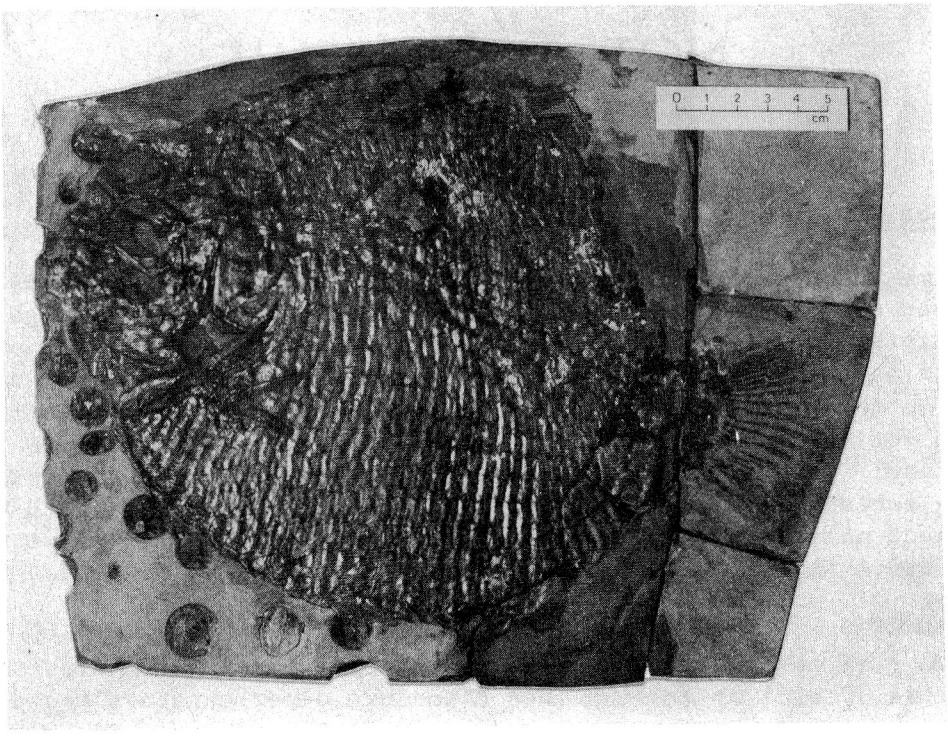
On the Means of Developing Fossils through the Agency of Living Organisms

Our colleagues who specialise in the study and preparation of zoological material are well versed in the art of harnessing to good effect the activities of living organisms. The employment of Dermestes vulpinus, the preparations is well documented. In more tropical climes a bath in piranha-infested waters yields similarly satisfactory results.

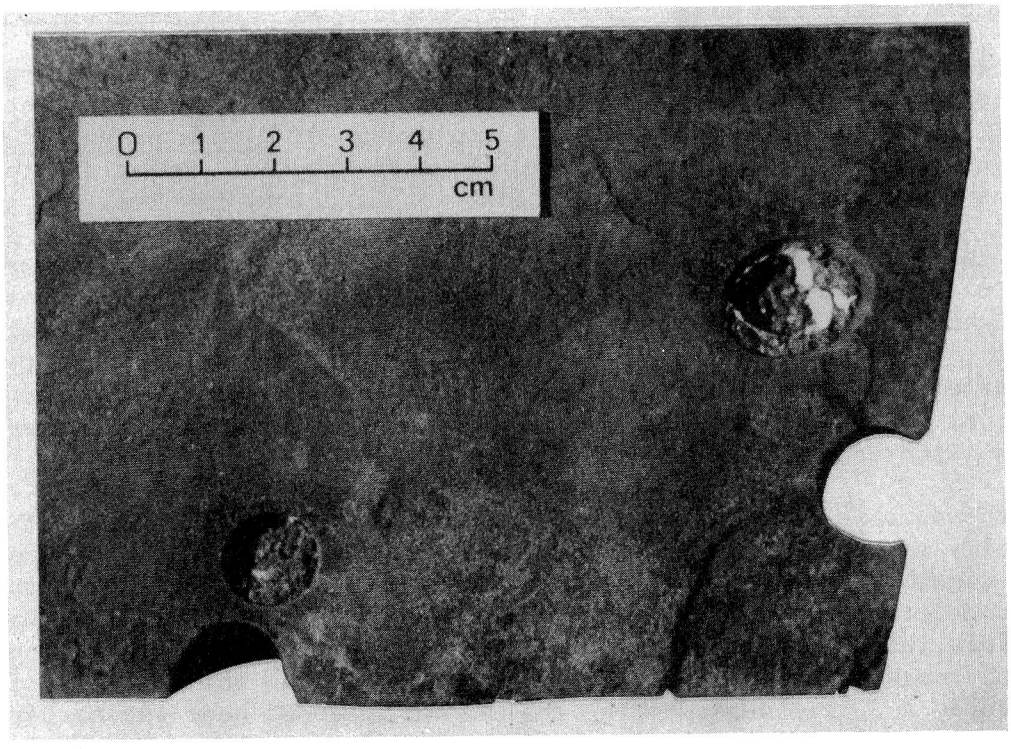
So it should come as no surprise to learn that the geologist also may benefit fortuitously from the activities of representatives from some of the lower orders of animal life. In this case the agent is the lowly piddock, a marine rock-boring lamellibranch. The procedure is most appropriate to well-petrified fossils enclosed in a relatively soft medium. A typical example would be the vertebrate remains such as are preserved in the calcareous shales of the Lower Lias.

The procedure is simple. The block containing the specimen is left in a carefully marked position on the lower reaches of the shore where, on the south coast of Britain, the Common Piddock Pholas dactylus enjoys the abundance its name implies. This remarkable lamellibranch will colonise the block, using its serrated valves to bore neat conical tubular holes into the rock. The animal is extremely sensitive to the hardness of the substrate, and will cease boring the moment it comes near the harder medium of the fossil itself.

By this means, after a sufficient period of years has elapsed, the enclosing medium will be so riddled with holes that the fossil itself may readily with care be removed from it, rather as one might detach a postage stamp from its neighbours on a sheet.



g. 1. C 9560 Dapedium sp. Lower Lias, Lower Jurassic Lyme Regis, Dorset.



ig. 2. Section through borings (back of specimen C 9560) reveals piddock valves in transverse section.

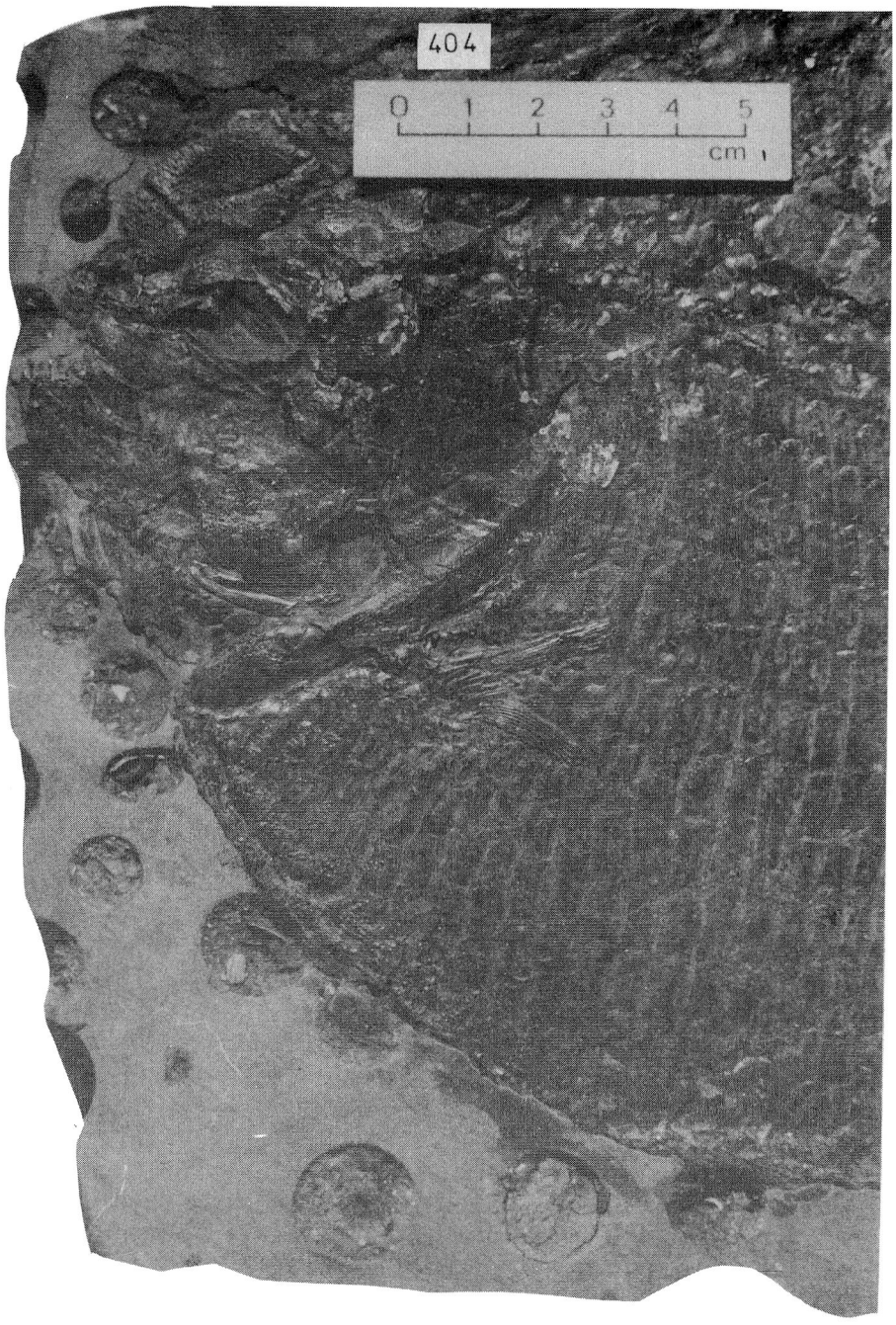


Fig. 3. G9560 Detail showing pholad borings around margin of head of Dapedium

The accompanying photographs illustrate the technique at a stage near to completion. The specimen of Dapedium (Fig. 1), was collected from the well-known fossiliferous beds of Lyme Regis in the 19th century, and today graces a cabinet in the Warwickshire Museum, catalogued as G9560. The fish is beautifully preserved in a virtually complete state. The block upon which it rests is riddled with the borings of recent piddocks, and indeed the valves of one of these can be distinguished in transverse section (Fig. 2) on the reverse of the specimen. However, not one of these pierces the fossil itself although several pass in close proximity to the margin of this Jurassic holostean (Fig. 3). One, just in front of the mouth appears to have tempted the fish's appetite, for the jaws have opened and seem ready to snap shut on the unwary mollusc.

On examining this specimen, the following verse, unbidden, invaded my head in piddock fashion:

There once was a fish named Dapedium,
Preserved in some very hard medium,
By the piddock abhorred,
He never gets bored,
Which is how this old fish avoids tedium.

Tristram Besterman,
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GEO-ARIADNE

Fossils and Plates

At a recent meeting in the Geol. Soc. (27th October, 1982) that doyen of geofantasy, John Dewey, left his audience aghast by railing against the popular sport of armchair plate tectonics. With evangelical zeal he proselytised the need for geologists to get off their Benioff Zones and get back into the field. Only the study of rocks will produce the raw data needed to give the detailed history of interactive triple junctions disappearing down their own subduction zones.

This was a challenge that no self-respecting Vine and Matthews fearing curator could ignore. It put me in mind of an article in New Scientist, 10th December 1981, in which Robert Hessler and John Orcott described the astonishingly rich fauna recently discovered to be flourishing on the ocean floor 2500 metres deep. The astonishment arises from the fact that the sun's rays penetrate sea water only feebly and that only down to 100m. depth. As a result, the photosynthetic end of the food chain is restricted to this 100m. photic zone, so that the ocean deeps are starved of food in the usual sense, and are consequently devoid of life. Or should be.

A recent biological oceanographic expe dition has found that the desert-like ocean floor is dotted with oases providing a biogenic energy source with a difference. Instead of sunlight, sulphur is the starter fuel for a successful and diverse food chain. On the Galapogos Ridge they found hydrothermal vents squirting magma-heated water laden with hydrogen sulphide into the chilly, lightless ocean deep. This provides a perfect, local breeding ground for bacteria that like chewing sulphur. These clever little brutes convert inorganic chemicals into organic compounds in a so-called chemoautotrophic process. And so, hey-presto, a food chain begins. The diversity and richness of this fauna, quite new to science, is extra-ordinary. Fish and crustaceans do their own thing amidst clumps of molluscs, and thickets of tubeworms 3 metres long, all 2½ km. beneath the waves.

Such a specialised fauna cannot have evolved overnight. Its traces must lie somewhere in the fossil record. So curators faithful to the Tectonic Creed should re-examine the siliceous sediments of Layer 1 of your nearest suspected ophiolite suite: (after all, those Plates have been jostling each other throughout the Phanerozoic). Have another look at those old collections - be particularly vigilant for unidentified fossil material bearing locality names like 'Troodos" or 'Lizard'. You may be sitting on the palaeontological raw data that John Dewey is appealing for. Such remains could pinpoint in space and time the location of active spreading centres at an accretionary palaeoplate boundary.

Next week: chemoautotrophism in the ocean deeps and pyrite decay in the museum basement: is there a connection? F. Howie explans.

Tristram Besterman

NOVEL VIEWS OF MUSEUMS

In the last issue of 'The Geological Curator', I particularly enjoyed the 1886 strictures on 'Why Every Town should have a Museum'. These reminded me of quotations which, as a very young curator, I first heard from F.J. North.

The annual reports of Victorian curators not infrequently contain glowing accounts of a grateful populance forsaking gin palace and music hall and flocking instead to museum and art gallery, there to improve their "mental and moral health". However the cold eye of fiction saw things very differently. Then as now museums seem to have been recommended mainly to visiting relatives who were beginning to outstay their welcome. Thomas Hardy published 'The Mayor of Casterbridge' in 1886. At one point Lucetta is anxious to get Elizabeth-Jane out of the house when Henchard is expected.

" 'And have you ever seen the museum?' Elizabeth-Jane had not. 'Then you should do so at once. You can finish the morning by going there. It is an old house in a back street - I forget where - but you'll find out - and there are crowds of interesting things - skeletons, teeth, old pots and pans, ancient boots and shoes, birds' eggs - all charmingly instructive. You'll be sure to stay till you get quite hungry'."

It was perhaps only in the Twentieth Century that the museum's other potential service to the public, that of serving as a free repository for personal possessions, was fully appreciated. In the 1930s, E.F. Benson provided a classic description of the setting up of a museum in a small country town.

"There was in fact no shortage of material, for everybody had stores of miscellaneous 'specimens' which encumbered their houses and required a lot of dusting, but which couldn't be thrown away. A few of the more striking objects were only lent; but most of them were fervently bestowed - a large wooden post unhesitatingly called a whipping post, some indecipherable documents with seals attached belonging to the vicar, ancient quilts, a baby's cradle quite worm-eaten enough to be Anglo-Saxon.... Lady Ambermere had lent (not presented) some mittens which she said had belonged to Queen Charlotte - it was impossible to prove they hadn't. The vicar had presented his unique collection of walking sticks, and though the Committee felt it would be unkind not to accept them it was difficult to know what to do with them."

Needless to say, my favourite quotation is the one which refers specifically to my own place of work. It occurs in Richard Gordon's 'Doctor at Sea': the ship has docked in a South American port and the officers are trying to persuade the new ship's doctor to join them in patronising the civic amenities.

"'Are you suggesting,' I said coldly, 'that I should visit a brothel?' 'Where the hell else do you think there is to go in Santos?' Trail said testily. 'Anyway Madam Mimi's is as respectable as the Liverpool Museum.' 'And I wouln't put that past suspicion' Hornbeam said."

Geoff Tresise,
Keeper of Geology,
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THE GEOLOGICAL CURATORS GROUP

The purpose of the Group is to improve the status of geology in museums and similar institutions, and to improve the standard of geological curation in general, by:

- holding meetings to promote the exchange of information

- providing information and advice on all matters relating to geology in museums

- the surveillance of collections of geological specimens and information with a view to ensuring their well being

- the preparation of a code of practice for the curation and deployment of collections

- the advancement of the documentation and conservation of geological sites

- initiating and conducting surveys relating to the aims of the Group