



MANCHESTER GEOLOGICAL ASSOCIATION

www.mangeolassoc.org.uk

President: Peter del Strother

March 2012

Dear Members,

Welcome to the March Newsletter. Before you delve into the contents of the following pages, I would like to take the opportunity to thank Mary Howie, who stepped down after the February AGM after many years as the Newsletter Editor for the MGA. Throughout the years she has delivered an excellently edited newsletter, as I'm sure you'll agree, and she'll definitely be a hard act to follow.

Other changes in the council are the new president Peter del Strother and new vice president Ray Burgess, as well as myself as new newsletter editor. Peter replaces Tony Adams who stepped down after another excellent presidential address, this time on "Geology and the Geologist in Crime and Mystery Fiction".

The rehousing of Percy the Plesiosaur after a successful appeal forms a large part of this edition of the newsletter, with contributions from David Gelsthorpe, the Curator of Earth Sciences at Manchester Museum and the MGA's Mary Howie. Also included are two interesting book reviews, and of course the list of the MGA's outdoor events and a provisional indoor programme for 2012/2013.

Many thanks to all those who have contributed to this edition of the newsletter, anyone wishing to contribute to the next edition please email me your articles before the 1st of June.

Finally, many congratulations to Alex Brierley who has been awarded this years MGA GCSE Geology Prize at Altrincham Grammar School for boys.

James Jepson, Newsletter Editor

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Quick Diary 2012/2013

Outdoor Events:

12 May - Rowarth-Lantern Pike
9 June - Park Bridge, Ashton-under-Lyne
24 June - Wyoming & Colorado
24 June - Conwy Area
28 July - Cefn Mawr
19 Sep - NW Highlnds
6 Oct - Port Shirlgley
20 Oct - Skills Day

Provisional Indoor Programme:

10 Oct - Carbonates in the Cayman Islands
10 Nov - Early NW Geologists
8 Dec - A tour of the Outer Hebrides
12 Jan - Palaeontology of China
13 Feb - AGM & Jurassic of Ketton
12 Mar - Icelandic Volcanoes

MGA News

Introducing our New President

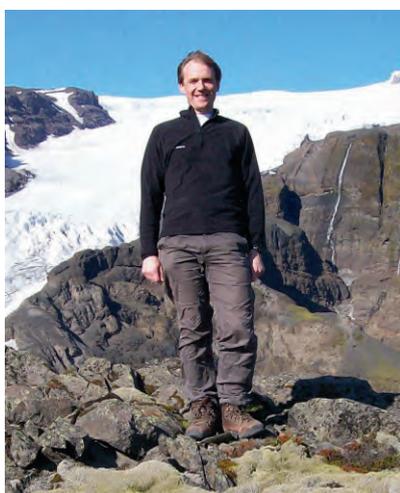
I am delighted to have been elected president of the MGA. I should like to start by thanking Tony Adams for steering our association through a very successful two years. I should also like to thank Chris Arkwright, who has recently retired from Council, for her contribution. The MGA would not function were it not for the unsung contribution of many Council members over a great number years; thank you, all of you!



My personal background has been in the manufacture of lime and cement. My interest in geology, which a few years ago turned into a qualification, predates my involvement in the cement industry. In recent years I have been managing core drilling for investigation of future limestone and clay reserves for cement manufacture. How lucky for me that what started as a hobby turned into a work activity.

I look forward positively to the program of lectures and field excursions that has been arranged by members of MGA council.

Peter del Strother



Introducing our New Vice President

I have been at the University of Manchester since 1992, currently as a senior lecturer. I'm an isotope geochemist and spend a lot of my time in the laboratory using mass spectrometers. My interests range from dating lunar rocks to diamonds, mineral deposits and understanding chemical cycling of elements in the earth's crust and mantle. I have recently carried out fieldwork in Iceland, Azores and Antarctica. I'm looking forward to being part of the MGA.

Ray Burgess

MGA on Facebook

Firstly, thanks to everyone who has renewed their subscriptions this year. Renewals are nearly complete, but we still have around 20 people who haven't renewed yet. Please ensure that you get your subscriptions in during the next couple of weeks in order to maintain your membership for 2012. Many thanks to those members who have switched to receiving their newsletters via email – if anyone else wishes to change to this format, please contact either myself or James Jepson.

Finally, we've recently set up a Facebook group, which can be found at www.facebook.com/groups/404219199605689/ or by going to www.facebook.com and searching for "Manchester Geological Association". Facebook is a site which (amongst other things) allows groups to maintain contact with their members, letting them know about events and updates. We hope to publicize our events through this group, as well as updating you with articles of geological interest, and events at other places and societies. You need to have a Facebook sign on to use the site, which can be set up at www.facebook.com in a couple of minutes. The advantage of this group is that it will allow us to contact you with updates and events in-between newsletter editions.

If the Facebook group is successful, we may look to expanding our reach into Twitter and a Blog in the future.

Lisa Abbott, Membership Secretary

Percy the Plesiosaur

Percy the Plesiosaur, recently described as a new species *Hauffiosaurus tomistomimus* by Dr Roger Benson and colleagues in 2011 (*Palaeontology*, **54**(3), 547-571), has now been rehomed in his new case. Below is an email of thanks to MGA members for help with the Percy Appeal, from Rosemary Broadhurst and Family.

I am writing to thank the MGA for all their help and the very generous donation towards the Percy Appeal. The donation meant the whole project could be completed in a very short time and we are all happy that such a valuable specimen is now safe again.

We have had really positive feed-back since the opening from many different sources and we will continue to spread the information about Percy (and the MGA), whenever we can.

With Best Wishes,
Rosemary and Family.

Percy the Plesiosaur has a new case!

On February the 9th The Manchester Museum opened a fantastic new case housing Percy the Plesiosaur, one of its most popular fossils. The new case was the culmination of a fundraising partnership with the family of the late Fred Broadhurst who led the team who discovered it. Generous donations from the Broadhurst family, members of Manchester Geological Association and other private donors raised over £28,000.

Percy is one of the most complete plesiosaurs ever discovered and is of international importance as a type specimen.

Unfortunately, the old case was not airtight, which meant damp air could enter the case putting the specimen at risk of being destroyed by pyrite decay. The case also had large heavy glass panels which meant it was almost impossible for researchers to see the specimen at close quarters.

The new case gave us the opportunity to solve all these problems and for the first time, tell the inspiring story of the discovery by Manchester University students. Percy now delights visitors in the stunning new case, which is environmentally controlled, ensuring his long term future. The case provides easy access for researchers and the new panels describe the discovery of this amazing fossil.

The museum would like to thank all the generous donors and everyone who was involved in the project.

David Gelsthorpe
Curator of Earth science collections, The Manchester Museum



Dismantling the old case



David Gelsthorpe placing Percy in his new case



Percy in the new case

Welcome Back Percy!

Percy has a new home in The Manchester Museum's fossil gallery in a super, dehumidified case along with a small pal. Many of Fred Broadhurst's friends ex colleagues and former students gathered at the museum on the 9th of February to welcome him back.

Over a glass of wine and a nibble or two, Dr John Pollard gave us a resumé of Percy's discovery and subsequent adventures, and Rosemary Broadhurst spoke eloquently about Fred, his discoveries and the fund raising to provide the new case.

Percy was found, by chance, by Fred Broadhurst and his students in 1960 on a winter field trip, between the tides on the Yorkshire coast. The student who found him, thought that his snout was a belemnite, and hacked it out of the rock. Closer inspection showed that it was a huge Plesiosaur. Fred and his students then spent many days, in very adverse weather conditions excavating Percy from his rocky tomb and transporting him, still encased in his rocky matrix, pulling him up the steep and crumbling cliffs.

A few months after that I was in one of Fred's Extra Mural classes, and well remember the black and white slides of Percy's journey, strapped to a sledge/stretchers, being dragged up the crumbling cliffs at Ravenscar... in the February rain and sleet!



Percy's new home

Percy came "over the road" from the geology department in the Williamson Building to the Manchester Museum in 2001, into a glass case, but since then Percy has had a rather chequered career.

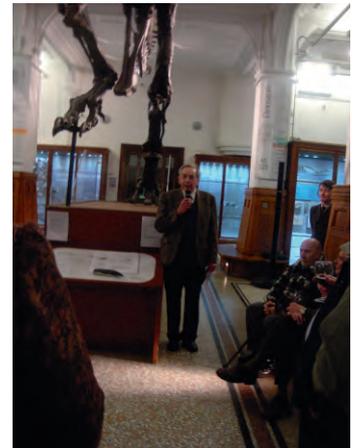
He suffered from "pyrite disease", thought at one time to be connected with bacterial action, and bits of him were anointed with Savlon... his head was taken to bits and was missing for quite some time... being conserved!

At one time it was thought that he would have to be "disarticulated" and stored in bits in the cellar, along with other fine specimens. However, Fred Broadhurst's family and friends were determined that this should not happen, and thanks to vigorous fund raising by Andy Broadhurst and others Percy is now installed in his new, dehumidified (the only way to preserve him) case for all to enjoy - and yes at floor level so that even the very smallest visitor can get up close to this amazing sea monster!

Mary Howie



Rosemary Broadhurst (above) and John Pollard (below) take to the microphone



This poem about Percy's career was written by Harry Holliday, a museum volunteer for many years.

Supplied by Mary Howie

PERCY THE MANCHESTER PLESIOSAUR

- 1 There was a fine reptile in the days of Yore,
Whose name was Percy the Plesiosaur.
Young Perce was agile and lived in the sea,
He had fish for his dinner and fish for his tea.
His body was sleek, and shaped like a craft,
He carried four paddles, Two fore and Two aft.
- 2 Now Perce when young, millions of years ago,
Swam in the sea surf both above and below.
Whilst moving coastwise upon his way,
At Ravenscar Rocks he stopped to play.
and he whilst there met, oh what a surprise
his very last dinner then soon his demise !
- 3 Over the years between then and now,
Bone became rock, fossilised that's how.
A few more years he still had to wait,
before being spotted by Fred and his mate.
For in 1960 whilst doing a hard trip,
His nose was spotted, just near the tip.
- 4 All fourteen foot six was dug out with care,
Then back to Manchester to his new lair,
But after some time there was trouble again,
Pyrite decay it was found was to blame.
A bath in Ammonia soon put him right,
a nice dry atmosphere, bones will keep tight.
- 5 Now Perce after spending 30 years with us,
is on the move again, but this creates a fuss.
From Geology to Museum he is now to go,
for a better outlook, and to be on show.
It's hoped he'll get some rest at long last,
Creating interest about his distant past.
- 6 Perce me old lad, said the powers that be,
you Must go to Bristol for your M.O.T.
The lads down south will soon have you fixed,
they just rang to say that the pollyfilla's mixed.
So cheer up old son, your off back to the sea,
Where once you had fish for your dinner & tea.
- 7 A message from Bristol said Percy's all done,
His body's all cradled in plastic my son.
So off Simon went to bring Percy home,
Fixed up a treat to the smallest wee bone.
But was our Perce happy, he wasn't, not he,
He had rather liked Bristol and fish for his tea.
- 8 His new homes not ready, but soon he will be
laid in his glass case, for visitors to see.
His body all sleek, still shaped like a craft,
He lies on the softness of a glass fibre raft.
Children and visitors can gaze in with pride,
He's only one sadness, there's no place to hide.
- 9 "Crumbs, thought our Perce, here's one for the
book,
Laid here like a lettuce, whilst all the kids look.
I'm not a bit happy, I'd much rather be,
Back at the seaside with fish for my tea"
- 10 Ungrateful old Percy, said the powers that be,
You'll lie there and like it for all comers to see.
Providing your good though, who knows what
might be,
You may still get fish for your dinner and tea.

Harry Holliday, 2001

Former Manchester Museum volunteer

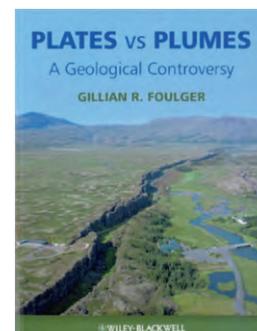
Book Reviews

Plates vs Plumes: A Geological Controversy by Gillian R. Foulger

Wiley-Blackwell - 2010

ISBN 978-1-4443-3679-5

Paperback: £39.95



Since the inception of the mantle plume hypothesis in 1971, the advent of new evidence has precipitated revisions of the hypothesis. In the opinion of Gillian Foulger, author of 'Plates vs Plumes: a Geological Controversy', these revisions have rendered the hypothesis unfalsifiable, and as such, it is currently of little scientific value. This detailed and well argued book presents an alternative theory; that mantle melting anomalies are driven by established plate tectonic processes. This review serves as an assessment of the book's utility for teaching, and not a specific comment on the 'plates vs plumes' debate.

The book begins with an introduction to both theories before dealing with specific topics of interest to the debate, including chapters on petrology and geochemistry, seismology and volcanology. Each chapter is concisely introduced to better place the reader within the argument, and ends with a series of 'exercises for the student'. These consist of questions to focus the student's reading of the previous chapter. While these questions are sometimes a little broad in scope, they support the text and are by no means unimportant – questions such as 'are "hot spots" hot?' are central to the debate. The text is abundantly illustrated with schematic figures and well presented graphs in both colour and black and white, which a geology teacher (or examiner) would find particularly useful.

In order to assess properly this complex debate, it is clearly necessary for the author to address complex issues. Despite the challenging material, which may be beyond the interest of the non-technical reader, the author introduces and outlines deftly such technical concepts as are necessary, and the comprehensive reference list ably directs the interested reader to further material.

In spite of the apparently even handed title, this book unashamedly sets out to banish the plume model and its proponents to the same fate as those who unwisely argued against Wegener's theory of Continental Drift over a century ago. In its place, the author presents a new model in which she clearly has overwhelming confidence. While one admires the conviction required to challenge the established scientific order, the partiality of the text is a little constricting from time to time. With this said, the book does introduce readers to topics at the forefront of current research, and provides a valuable insight into is 'how science works' and the nature of academic debate.

While the author may not convince every sceptical reader to abandon the mantle plumes hypothesis, and the 'plumes or plates' debate will no doubt rumble on, she has certainly produced here an excellent, up-to-date synthesis of both arguments. Part detailed text book, part personal crusade for parity, this book serves not only as a comprehensive (if a little biased) guide through the debate, but also an excellent introduction to the many aspects of Earth Sciences. The complex and occasionally esoteric nature of the discussion will find a willing readership amongst teachers, undergraduate university students, and beyond though the price may put some off. Further reference can be found at www.mantleplumes.org.

Matt Loader

Dept. Of Earth Science and Engineering, Imperial College London

Origin of Mountains by Cliff Ollier and Colin Pain

Routledge - 2000

ISBN 978-0-4151-9890-5

Paperback £58.00



The Origin of Mountains by Cliff Ollier and Colin Pain is a book to start you thinking in a new fashion about mountains and how they formed. You may think it's simple – mountains were formed by folding rocks – but once you have read this highly innovative book you will understand that such a simple idea can't explain many of the world's mountains. It's much more complicated and reading this book may mean you will never look at mountains in the same way again.

The theory that plate tectonics causes mountains to form by folding rocks is a widely held concept used in many geology books and TV programs. Ollier and Pain examine this commonly held perception of folding and try to demonstrate with numerous examples from the field how folds are unrelated to mountain formation. In most mountains any folding happened many millions of years before they were formed. In other examples deeply folded layers are found under flat plains. Their conclusion is that folding is not the cause of mountain formation.

Having dismissed the simple view of folding causing mountains they present the evidence that mountains follow a standard sequence of formation. Firstly most mountains start as a flat low lying plain. These are then pushed up to form high level plateaus. Eventually, erosion of the plateaus forms mountains over millions of years. Many examples of the various stages of this sequence of mountain formation are given throughout the book from high level plateaus, then plateaus highly eroded at the edges and finally to a nearly completely formed mountain. Snowdon, the highest mountain in Wales, is given as an example that shows the final remnants of an old surface at the top and it's something I intend to examine in more detail on my next visit.

The book seems to contain examples from (what must surely be) virtually every mountain in the world. These are divided into a number of different chapters. There are also numerous diagrams and pictures to illustrate the concepts discussed. Most of the ideas and concepts are related to various scientific papers and there is a comprehensive index if you wish to look at the data in more depth.

Chapter 10 examines a group of mountains that the authors say have been "...generally ignored in plate tectonic theory...". These are mountains like the Drakenberg, the Eastern Highlands of Australia and the Appalachians, found on passive continental margins. Once again the authors aren't disconcerted that these mountains don't fit any grand theory of mountain folding and simply examine the facts about the mountains. This seems to naturally lead on to the next chapter about drainage from plains and planation surfaces and what this can tell us.

One of the main points made by the authors is that most of the mountains of the world have been formed comparatively recently in geological timescales (within the last 5 million years or so) and this comparatively recent formation once again doesn't fit in with plate tectonics with its much longer timescale of a hundred million years or so. They also believe they can see periods of quiet tectonic activity followed by intense periods of world-wide mountain building. But why this should be is still a puzzle.

Indeed, though the authors make a very strong case for the process of mountain formation they do not present any firm conviction about the cause of this formation. Why are various sections of land thrust upwards to form plateaus? The authors give a table of twenty possible causes of tectonic uplift. For many I fear this would be off-putting but for me it is refreshing to find scientists who are prepared to say they don't know everything. After all if we knew everything then science would be very boring since there wouldn't be anything left to discover. As the authors note in the final chapters, the time is ripe for a renewed interest in the origin of mountains.

Stephen Hurrell

Outdoor Events 2012

DATE 12 May 2012

Venue: FB Memorial Walk Rowarth-Lantern Pike
Leader: Jane Michael
Time: 10.30am
Description: This excursion will follow Walk 18 in "Rocky Rambles in the Peak District" by Fred Broadhurst and build on the 2011 trip to Cown Edge.
Contact: Jane Michael

DATE 9 June 2012

Venue: Dangerous Dinosaurs and Fabulous Fossils: Tribute to Fred Broadhurst at Park Bridge Visitor Centre, Ashton-under-Lyne
Leader: Chantal Johnson and Broadhurst Family
Time: 11am - 3pm
Description: Family Fun Day to celebrate the life of Fred Broadhurst
Contact: Jane Michael

DATE 24 June - 6 July 2012 (Fully booked)

Venue: Wyoming and Colorado
Leader: John Nudds
Description: A trip to visit various museums and dinosaur localities including Mt Rushmore, Yellowstone NP, The Grand Canyon and various fossil dig sites.
Contact: Jane Michael

DATE 24 June 2012

Venue: Conwy Area Joint with OUGS
Leader: Jonathan Wilkins
Time: TBA
Description: A trip looking at the Ordovician Conwy Rhyolites around Sychnant Pass (am) and more igneous exposures (Silurian tuffs etc) around Deganwy Castle (pm). THERE ARE LIMITED PLACES AVAILABLE SO EARLY BOOKING IS ESSENTIAL

DATE 28 July 2012

Venue: Cefn Mawr and Moel Findeg
Leader: Peter del Strother
Time: 10am
Description: First to examine the Dinantian cyclic carbonate succession of the Loggerheads Limestone Formation and Cefn Mawr Formation. In the afternoon to examine the Minera Formation, which is a transition facies to the earliest Silesian.
Contact: Jane Michael

DATE 19 – 21 September 2012

Venue: NW Highlands

Leader: Kathryn Goodenough

Time: A 3 day trip.

Description: A visit to the North West Highlands of Scotland based round "A Geological Excursion Guide to the North-West Highlands of Scotland" by Kathryn and her colleague at BGS, Maarten Krabbendam

Contact: Jane Michael

DATE 6 October 2012

Venue: Pott Shrigley

Leader: Paul Aplin

Time: TBA

Description: TBA

Contact: Jane Michael

DATE 20 October 2012

Venue: Skills Day

Leader: Various:

Time: Probably 10.15ish

Description: To cover making thin sections, using petrological microscopes and geological mapping

Contact: Jane Michael

Tribute to Fred Broadhurst

Dangerous Dinosaurs and **Fabulous Fossils**

FREE!

Hands on activities

Come and join us for an Exciting Day!

Saturday 9th June 2012

Open 11am-3pm

Grrrrreat family fun

Takes place at: Park Bridge Heritage Centre
Ashton under Lyne OL6 8AQ
Tel:0161 330 9613
Email: eye_opener_experiences@yahoo.co.uk Mob: 07500 316561

Build A Dinosaur!

Learn about Percy the Plesiosaur!

Fossil Walks
Lucky Gem Stone Dips

Stories Adventure

IMPORTANT NOTICE: MGA INSURANCE

Each person attending a field meeting does so on the understanding that he/she attends at his/her own risk. The MGA has Public Liability Insurance cover (including member to member cover), for field and indoor meetings and an element of Personal Accident cover.

However, members should always ensure that they have Personal Liability cover (normally part of the standard householder's insurance policy - please check your policy) and comprehensive Personal Accident cover. These are */your/* responsibility. Overseas trips are not covered.

Indoor Meetings Programme 2012-2013

WEDNESDAY 10TH OCTOBER 2012 – Carbonate Deposition in the Cayman Islands

Dr Hilary Corlett, University of Manchester

SATURDAY 10TH NOVEMBER 2012 – Some Early North-West Geologists

Jonathan Otley, Man of Lakeland

Dr Tom Smith, Science Historian

The Bicentenary of the Manchester Geologist Edward William Binney (1812-1881)

Dr John Pollard, University of Manchester

John Cunningham & Robert Grant - the forgotten stars of 1838

Dr Geoff Tresise, Honorary Curator Geology, National Museums Liverpool

SATURDAY 8TH DECEMBER 2012 – A Tour of the Outer Hebrides

Drs Doug Fettes and John Mendum - British Geological Survey, Edinburgh

SATURDAY 12TH JANUARY 2013 – The Broadhurst Lectures: The Palaeontology of China

Doushantuo Microfossils: the oldest animals in the fossil record?

Dr John Cunningham, University of Bristol

The Cambrian Fossils of Chengjiang, China: the flowering of early animal life

Professor David Siveter, University of Leicester

TBA – *Professor Paul Selden, University of Kansas*

Exceptional Preservation of Dinosaur Eggs and Embryos from the Upper Cretaceous of Henan Province, Peoples Republic of China

Dr John Nudds, University of Manchester

WEDNESDAY 13TH FEBRUARY 2013 – AGM followed by Presidential Address The Middle Jurassic of Ketton, Rutland

Peter del Strother, Manchester Geological Association

TUESDAY 12TH MARCH 2013 – Joint Meeting with the Geographical Association, 6.30pm Icelandic Volcanoes

Professor Fiona Tweed, Staffordshire University

THE MANCHESTER GEOLOGICAL ASSOCIATION COUNCIL 2012-2013

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Vice President: **DR RAY BURGESS**

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Past President: **DR TONY ADAMS**

Other Council Members: **Nicola Fowler, Mary Howie, Chantal Johnson**



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For **Jane Michael** and **field visits** - outdoors@mangeolassoc.org.uk

For **Jim Spencer** and **indoor meetings** - lectures@mangeolassoc.org.uk

For **James Jepson** and the **newsletter** - newsletter@mangeolassoc.org.uk

OTHER SOCIETIES AND EVENTS

Manchester Geological Society members are welcome guests at other societies' events, some are listed below:

Black Country Geological Society:

Monday 23rd April 2012: Midges, Ticks & Smelly Goats - Researching the Staffa Lava Formation, Isle of Mull: speaker Dr Ian Williamson, formerly BGS & Natural England.

Contact: Andrew Harrison – andrew_harrison@urscorp.com

Lancashire Geological Association:

Contact: Jennifer Rhodes – s_f_rhodes@hotmail.com

Leeds Geological Association:

Thursday 19th April 2012: Understanding the Tectonic Evolution of Central Europe: a Seismological Perspective: speaker Prof Graham Stuart, Earth and Environment, University of Leeds.

Thursday 3rd May 2012: The Middle Jurassic at Ketton Quarry, Rutland: speaker Mr Peter del Strother MBE, Consultant.

Contact: Anthea Brigstocke – anthea.brigstocke@zen.co.uk

Liverpool Geological Society:

Contact: **Joe Crossley** – 0151 426 1324

North Staffs Geological Association:

Contact: **Eileen Fraser** – frasers@netfraser.me

Oldham Geological Society:

Contact: **Jo Holt** – 01457 874 095

Open University Geological Society North West Branch:

Contact: **Jane Schollick** – 01704 565 751

Russell Society (Mineralogy):

Contacts: **Alan Dyer** – Aldilp@aol.com or **Harry Critchley** – 01204 694 345

The Manchester Museum:

Website: <http://www.museum.manchester.ac.uk/whatson/>