

Trilobite



The Sedgwick Museum
of Earth Sciences

Newsletter of the Sedgwick Museum
and the Friends of the Sedgwick Museum

Darwin the Geologist Now Open

A ground-breaking new exhibition displaying the specimens that Charles Darwin collected during his early scientific career as a geologist.



The globe depicting the *Beagle* voyage, with a reconstruction of Darwin's cabin in the background.

Darwin the Geologist tells the story of the rocks that Darwin collected on the voyage of HMS *Beagle* (1831-1836). It begins with Darwin's schoolboy passion for collecting and identifying stones and the exciting geological debates he was exposed to while studying medicine in Edinburgh.

When Darwin abandoned his medical studies, he came to study in Cambridge to prepare for the Anglican Clergy. Darwin was inspired to learn about natural philosophy by the Professor of Botany John Stevens Henslow (1796-1861), who arranged geological fieldwork training with Adam Sedgwick in North Wales and recommended him as a scientific companion to Captain Fitzroy on the *Beagle* voyage.

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Events and Exhibitions

Unless otherwise stated, events are free with no booking required and take place in the Sedgwick Museum. Full details are available on: www.sedgwickmuseum.org

Cambridge Festival of Ideas

21st October to 1st November 2009

See www.cambridgefestivalofideas.org for more details.



The Big Draw! What's the Big Idea?

26th – 30th October 2009

Crystals, stones, beetles and bones – your chance to share Charles Darwin's ideas and inspiration! Explore objects from the Sedgwick Museum and the Museum of Zoology then learn to paint and draw them with our Vital Communities artist John Wiltshire. This free event will be taking place at community venues outside of Cambridge. See www.cambridgefestivalofideas.org for more details.



Life in the stone

21st October 2009, 7 – 9pm

Sedgwick Museum of Earth Sciences Writer Ruth Padel will read from her acclaimed book, *Darwin - A life in Poems*, and explore the importance of geology to Darwin's life. The Museum opens from 6.30pm for special viewing of the new exhibition *Darwin the Geologist*. Ages 16+. Please book in advance by ringing 01223 766766.

The Big Draw! Drop In and Draw

27th and 29th October 2009, 10:30am – 1pm

Take a voyage around the world and through time investigating fossils, rocks and minerals at the Sedgwick Museum. Draw what you discover in your very own Darwin Notebook. No need to book. £1.50 per child for materials



Twilight at the Museums

Wednesday 17th February 2010, 4:30 – 7:00pm

Lights out at the Sedgwick Museum! Bring your torch and see what the dinosaurs do after dark. Additional University of Cambridge museums will be also open. Please see www.cam.ac.uk/collections/ for details.



The Sedgwick Museum of Earth Sciences, Downing Street, Cambridge CB2 3EQ

Opening hours: Monday – Friday 10 am – 1 pm and 2 pm – 5 pm Saturday 10 am – 4 pm

Telephone: (01223) 333456

Fax: (01223) 333450

Email: sedgwickmuseum@esc.cam.ac.uk

Website: www.sedgwickmuseum.org





Darwin the Geologist (Continued)

The exhibition shows how Darwin collected, recorded, analysed and interpreted his geological specimens on the voyage. It takes you on a journey through the geological ideas that Darwin developed from the first stop at the Cape Verde Islands through to his studies of the coral reefs at Tahiti, Cocos-Keeling and Mauritius towards the end of the voyage. Along the way you can discover how Darwin's fossil finds of large extinct creatures at Punta Alta (Argentina) made him famous back home, what his journey on horseback for weeks in the Andes told him about the formation of mountains and why his study of the rocks of the Galapagos Islands led to new ideas about what was going on inside volcanoes.

When Darwin returned home he became very active in the Geological Society of London and he used his geological collection to support his talks and articles about global-scale geological processes. These were followed by a trilogy of books on Coral Reefs (1842), Volcanic Islands (1844) and South America (1846) that made his early reputation as a scientist. Although his later work was mainly concerned with how animal and plant species evolved, geology featured prominently in *Origin of Species* and continued through his later life with his work on fossil barnacles and his final book on the action of the earthworm.



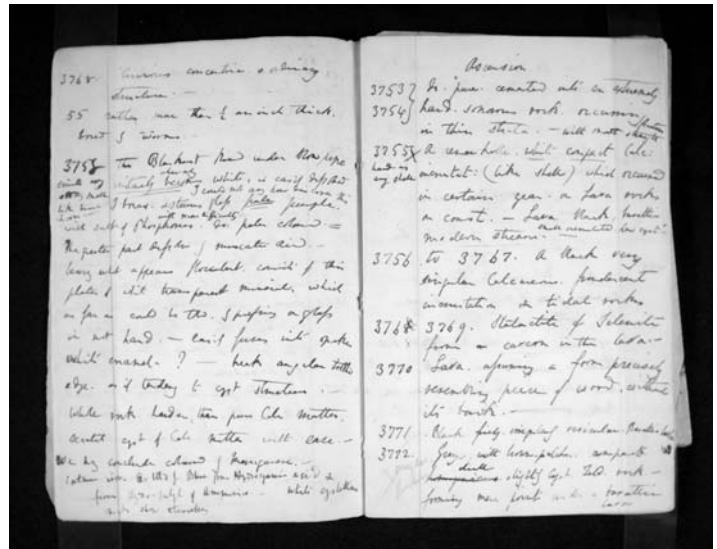
A visitor explores an interactive display at the opening event.

Desk reconstructions of Robert Brown (1838), Alfred Harker (1905) and Sally Gibson (2007) show how other researchers have used Darwin's collection to create scientific knowledge. There is also a virtual microscope interactive to display thin sections of the *Beagle* rocks that was developed with the Open University. The exhibition concludes with how contemporary geologists have been influenced by Darwin's geological work on evolution, volcanoes, coral reefs and the movement of the Earth's crust.

Visits to the Museum have increased by a third from last year's figures and visitor feedback from the exhibition's first three months has been very positive.

My Favourite Object

Our *Darwin the Geologist* Project Manager uncovers the fascinating and sometimes surprising details in Charles Darwin's dry specimen catalogues.



In 1897 when a request for donations to a new Cambridge museum in memory of Adam Sedgwick was sent out, Charles Darwin's son George responded with two packing crates full of rocks. After some geological training with Sedgwick, his father had collected these remarkable specimens over 60 years earlier on the voyage of HMS *Beagle* (1831-1836) from locations in South America and all around the world. The rocks were quickly followed by another donation of equal significance: four leather-bound notebooks. In these rather plain jotters Darwin had recorded all the dry specimens that he had collected during the voyage, including the rocks that his son had donated to the nascent Sedgwick Museum.

A typical entry contains a number in a pre-ruled margin that corresponds to the number that Darwin stuck to each specimen, the place where the specimen was collected with fine details to pinpoint its exact location, a description of the specimen and sometimes an attempt at an identification and cross references to other similar specimens. However, the catalogues do not only tell us about where Darwin went and what he collected, they reveal what techniques he used to analyse the specimens in the field and back aboard ship to identify them. Darwin often added annotations on the left hand page that corresponded to his initial descriptions on the right. These show how he built up knowledge about his collection during and after the voyage through correspondence with experts and experiments that he performed on his specimens.

The catalogues connect the *Beagle* specimens to Darwin himself through his commentary on the collection in his own, sometimes illegible, handwriting. To Darwin they were an invaluable resource of inspiration and evidence for his geological theories. To us they provide a unique insight into Darwin's scientific knowledge and practices at the start of his career. They are a testament to how Darwin painstakingly collected, recorded, analysed and interpreted his specimens to become one of the greatest scientists who ever lived.

Francis Neary, Project Manager, *Darwin the Geologist*



Recent Friends' Events



Martin Whiteley explains the history of Cheddar Gorge

The Friends gathered in the Mendip Hills, south of Bristol, on the weekend of the 12-14th June 2009. We were blessed with excellent weather, and were based very enjoyably in the small cathedral city of Wells. In Wells the venue for our Friday evening introductory talk, and our celebratory meal on the Saturday evening, was the White Hart Hotel. As on recent summer weekends, almost fifty Friends took part.

We were fortunate to have as geological leader Dr. Martin Whiteley, who grew up in the Wells area and knows it intimately, even though he now works widely in the oil industry and in geological education. This local expertise was beautifully combined with his skills in presentation, in the way he took us through an exceptionally varied range of localities and provided such clear and vivid discussion. In a little over a day and a half, we were able to examine not only fragments of the early geological history of this part of England, but also understand the way the Variscan mountain building had generated the Mendip Hills, and how the young hills had influenced Mesozoic sedimentation. Particularly memorable were our visits to the Banwell Bone Cave and Wells cathedral and its surrounding heritage of buildings.

Peter Friend

Student Prize Placements

For the third year running, the Friends have funded a programme aimed at encouraging University of Cambridge students to gain museum work experience. A grant of £1,600 from the Friends enabled two students to cover their living expenses while they carried out projects in the Museum during the summer.

Rachel Frigot carried out projects involving documentation and conservation of the Museum's Palaeontology collections and examined over 100 drawers of specimens. Sorcha McMahon researched a new Cambridge building stones and geology trail and the helped with the evaluation of the Museum's new *Darwin the Geologist* exhibition.

Events – Spring/Summer 2010

(Continued from page 4)

Visit: Fossiliferous Oxford Clay, near Peterborough
Saturday, 22nd May 2010, 11 am

Dr. Mike Tuke will lead us. Fossils will certainly be found!

AGM and Museum Showcase

Tuesday 8th June 2010, 6.00pm, doors open for refreshments and to meet other members, 5.15 pm

We specially appeal to local members to attend this meeting. In addition to voting for the Committee for 2010-11, this is the opportunity to influence the way the Friends have been supporting the Museum and developing our scientific outreach in the area.

Weekend Visit to Derbyshire

Friday 11th to 13th June 2010

This visit is still being planned, and will certainly provide an enjoyable weekend in this fascinating area.

Midsummer Tea Party

Saturday 26th June 2010, 3-5 pm. Bullard Laboratories, Madingley Rise, West Cambridge.

Cakes and strawberries etc. will be provided for this celebration. Garden games will be available for adults, children and grandchildren, set in this attractive part of the Department of Earth Sciences.

Cambridgeshire Geology Club 2009-10

Talks take place at the Friends Meeting House, 91-93 Hartington Grove, Cambridge CB1 7UB at 7.30 pm. For more information contact Alan Murphy on 07768 821385 or Corinna Tabor on 01223 277381 or E-mail camb.geology.club@hotmail.co.uk

12 October 2009

Early Devonian Rhynie Chert Hot Springs (Dr. Lyall Anderson)

9 November 2009

The Fossils of Barrington (John Drayton)

14 December 2009

The Woodwardian Collection (Dan Pemberton)

11 January 2010

Tectonostratigraphic Evolution of Cyprus (Dr Tim Kinnaird)

8 February 2010

The Mountain belts of Switzerland (Dr Thomas Argles)

8 March 2010

Geology of the Black Sea Region (Dr. Stephen Vincent)

Local Landscapes and Geology

People who have joined our recent summer local visits will remember how the Friends have been experimenting with providing A5 size booklets with colour maps, diagrams and photos to summarise and present attractive summaries of local knowledge.

Plans are now afoot to use similar but expanded booklets to present material on local Landscapes and Geology for Cambridgeshire and its surroundings. This is an exciting and challenging project, and will require much integration with conservation, planning and funding bodies. There will clearly be an important role for our members in these developments. So watch this space!



Forthcoming Friends' Events

Unless otherwise stated, events will be held in the Department of Earth Sciences (entrance below the Sedgwick Museum). Parking is available on the Downing Site during these events, with access from Tennis Court Road. Before talks and experimental classes held in the Department, tea, coffee and biscuits will be available from 6.15 pm, and the event will start at 7.00 pm. At most events we will invite donations of £1/head towards expenses and the support of the Museum.

Contacting the Friends

Some of the events listed require pre-payment and/or pre-booking. Prepayment should be by cheque posted to Friends of the Sedgwick Museum, Department of Earth Sciences, Downing St., Cambridge CB2 3EQ. Registering, booking or sending any message should be ideally by email to swri07@esc.cam.ac.uk, with a copy to pff1000@esc.cam.ac.uk. If you cannot access email, please phone **01223 333400**, or write to the above address. If you have had no acknowledgement within two weeks, kindly repeat your communication.

Events - Autumn 2009

Talk: Arctic fieldwork, sand studies and oil reservoirs under the Atlantic

Tuesday, 13th October 2009, Department of Earth Sciences, 7 pm, doors open 6.15 pm, for refreshments and meeting other members
Dr Andy Whitham, Chief Geologist of CASP, will describe an exciting successful research project.

Talk: Icelandic volcanism and the growth of the Atlantic Ocean).

Tuesday, 27th October 2009, Department of Earth Sciences, 7 pm, doors open 6.15 pm
Dr John McLennan, Department of Earth Sciences, will describe some of the volcanological research that has been helping us understand processes active under Iceland and the Mid-Atlantic ridge.

Talk: The star-crossed stone – the archaeology, mythology and folk-lore of fossil echinoids

Tuesday, 24th November 2009, Department of Earth Sciences, 7 pm. doors open 6.15 pm
Dr. Ken McNamara, Department of Earth Sciences, and formerly of Western Australian Museum, has been writing a book on this remarkable topic

Friends' Christmas Party

Tuesday, 8th December 2009, 6 - 8 pm
A lively programme of short talks, mainly by students, will be interspersed with mulled wine, bread, cheese and other snacks, for which we will ask for a donation of £5 at the door. *Please book a few days ahead.*

Experimental Geology Class: Understanding earthquakes

Tuesday 19th January 2010, Department of Earth Sciences, 7 pm. doors open 6.15 pm
Dr Mike Tuke will run another of his practical classes. Numbers will be limited to twenty. Please telephone Mike on 01480- 457068 to book.

Talk: The pattern of human evolution

Tuesday 9th February 2010, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Professor Robert Foley, Director of the Leverhulme Centre for Human Evolutionary Studies (University of Cambridge), will start our new theme on Human evolution and migration.

Talk: Across Africa: the role of the Sahara in human dispersals

Tuesday 2nd March 2010, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Dr. Marta Morizon Lahr will discuss her group's recent remarkable work on human evolution and climate change.

Sedgwick Birthday Dinner

Saturday, 20th March 2010, Christ's College, 7.30 pm

The after-dinner speaker will be Professor David Hodell who is the new Cambridge Woodwardian Professor, and works on environmental change. Menus and prices have not yet been decided, but prices should be between £35 and £42/head depending on whether soft or alcoholic drinks are taken. Menus, prices and a booking form will be sent to those who have registered by 28th February.

Events – Spring/Summer 2010

Visit: Wandlebury and Linton

Saturday, 24th April 2010, 11 am

A traverse across the Chalk Edge, along the Granta (Cam) valley, to see the relationship of the landscape to the Chalk bedrock, and the Pleistocene gravels and sands. Led by Peter Friend and others.

Visit: the Suffolk Coast

Saturday, 8th May 2010, 11 am

It is planned to visit the fossiliferous Crag and earlier deposits, again under the leadership of Bob Markham, the expert on Suffolk geology. New work has greatly enhanced the fossil-collecting possibilities, and turned this area into a classic for measuring sea-level change.

(Programme continues on page 3)

Join the Friends

The Friends of the Sedgwick Museum exists to support and encourage the development of the Sedgwick Museum and promote the collections to a wider audience. Membership is open to anyone. Annual subscriptions are: £6 (under 18's), £8 (full-time students, unemployed or over 60's), £12 (individual) or £18 (family).

For further details and an application form please ring the Department of Earth Sciences on 01223 333400 or write to Reception (Friends), Department of Earth Sciences, Downing St., Cambridge CB2 3EQ or visit the Museum website www.sedgwickmuseum.org