

Charles Darwin

VOYAGES AND IDEAS THAT SHOOK THE WORLD

We all know travel broadens our vision and stimulates our thinking ... but what sort of voyage was it that inspired Charles Darwin to construct his far-reaching theory of evolution and shake 19th-century beliefs to their very core? ANMM curator of exploration **Dr Nigel Erskine** reflects on Darwin and the *HMS Beagle* voyage, and reveals the long-term planning, research and behind-the-scenes negotiations needed to bring our latest exhibition to life.

THIS YEAR marks the 200th anniversary of the birth of Charles Darwin, and 150 years since the publication of his most famous work *On the Origin of Species*. In recognition of the importance of this anniversary year, the museum has spent the last 18 months researching and producing the fascinating new exhibition *Charles Darwin – Voyages and ideas that shook the world*, which opens on 20 March for a period of six months.

Charles Darwin was born on 12 February 1809 into a world preoccupied by the changing fortunes of the Napoleonic wars. Just four years after Nelson's victory at Trafalgar, Napoleon's armies were firmly entrenched in Spain and the young general Arthur Wellesley was yet to lead a grindingly slow campaign across the Iberian Peninsula and on to final victory in 1815 at the Battle of Waterloo. It would mark the end of more than 20 years of almost continuous warfare across Europe. When the fighting finally stopped, Britain was the undisputed superpower of the world.

The world in which Darwin received his early education and training was a world in transition. The monarchy of King George III was coming to an end and Britain was ruled by his son, first as Prince Regent and then in his own right as King George IV (1820–30). It was also a period of enormous population

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movement as England's rural populace was drawn to work opportunities in the new industrial centres of Manchester, Liverpool and Birmingham.

The post-Napoleonic peace also heralded a new era of opportunity to consolidate on the late 18th-century voyages of discovery, to continue exploration beyond the established sea routes, to penetrate the polar regions, and to push beyond the existing fringes of European settlement.

Born into a wealthy and well-connected family, Charles Darwin was an unexceptional student at Edinburgh and Cambridge universities and appeared destined to become a country clergyman, when an opportunity to join *HMS Beagle* on a surveying expedition around the world in 1831 changed everything. The

voyage exposed the young Darwin to the wonders of nature on a world scale and proved a seminal experience that would profoundly influence his later research and career. Darwin's *Beagle* voyage is an important focus of the museum's major new exhibition.

In fact, *HMS Beagle* has several connections to Australia. The Australian-born surveyor Phillip Parker King (son of the third governor of New South Wales,



Charles Darwin by George Richmond, 1840.
Chalk and watercolour, Darwin Heirlooms Trust



Philip Gidley King) led a hydrographic expedition to South America commanding HMS *Adventure* in company with the *Beagle* from 1826 to 1830, and King's son, midshipman Philip Gidley King, later shared a cabin with Darwin

But the exhibition is not just about Darwin's five-year voyage aboard the *Beagle*. Darwin's return to England in 1836 marked the beginning of a personal and intellectual journey that was even more profound.

beginning to emerge that could not easily be reconciled with this view. Geologists were increasingly finding evidence of a far longer chronology of the earth, measured in millions rather than thousands of years. Some were unearthing the fossil remains of animals never seen before, and a small number of naturalists were proposing alternative ideas.

Darwin's experiences aboard the *Beagle* provided him with an expansive 'big picture' view of the natural world, and his discoveries in South America and the Galapagos Islands made it clear to him that species were not fixed, but rather could be changed over time and by their environment. The question was how?

The answer came in a 'Eureka!' moment when Darwin read Thomas Malthus's *Essay on the Principle of Population* in 1838. As Malthus argued, mankind's ability to reproduce far outstripped the rate of agricultural production and yet

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aboard the *Beagle* during its second South American survey expedition (1831–36).

Although the *Beagle* spent only three months in Australia during Darwin's voyage, it returned to these shores in 1837 and was involved in surveys and exploration around the coast until 1843. It was during this later expedition that the officers named a promising harbour in northern Australia 'Darwin' after their old shipmate.

The predominant view of the natural world at the time Darwin was a student was that the complex diversity of nature was tangible proof of an intelligent creator who had made all life in its present form over a period of seven days, as recorded in the Bible in the book of Genesis.

According to the best estimates of the biblical scholars, this had occurred about 4000 BC. But new evidence was



despite this, the population appeared to remain in balance with the means of subsistence. Combining Malthus's ideas with his own observations of divergence in species, Darwin realised that in a world of extreme competition, small mutations could provide an advantage to particular individuals, which increased their chances of survival and reproduction. The offspring of such individuals were thus better adapted to their environment, and over time the species was changed through a process of natural selection.

This discovery was a profound scientific breakthrough. What set Darwin apart as a great scientist, however, was his meticulous assembling of supporting evidence gained from his studies of plants and animals, and from his correspondence

ABOVE LEFT, TOP PAGES 6 & 8: Topographical seaward views of the Galapagos Islands, made as aids to navigation during the voyage of HMS *Tagus* in 1814. Views in the Galapagos Islands, watercolour. Australian National Maritime Museum collection

BELOW LEFT: Portrait Cove, Beagle Channel, Tierra del Fuego, watercolour by Conrad Martens, 1834. Reproduced courtesy of the National Maritime Museum, London

BELOW: The *Beagle* in Beagle Channel, Tierra del Fuego, 1833, watercolour by Conrad Martens. Reproduced courtesy of the National Maritime Museum, London

with specialists all over the world. Such evidence supported his thinking over a diverse range of scientific areas – from biogeography to human evolution – and today Darwin's research is recognised as the basis of all modern biology.

Darwin's account of the *Beagle* voyage inspired other naturalists to join survey expeditions exploring the world. Two of these, Joseph Hooker and Thomas Huxley, were strongly influenced by their experiences in Australia and went on to become Darwin's staunchest supporters during the evolution debate. They became pivotal figures in the world of 19th-century science in their own right.

The exhibition *Charles Darwin – Voyages and ideas that shook the world* invites visitors to explore the world of Darwin and his colleagues, and to see the continuation of their work on new scientific frontiers today.

Creating the Charles Darwin exhibition

An enormous amount of work goes into developing and producing a major exhibition, and it requires institutional collaboration, a team of skilled museum specialists – and of course adequate funding! The initial concept to develop a Darwin exhibition was proposed in early 2007 and progressed further during a

short secondment that I then undertook to the National Maritime Museum in Greenwich, UK.

This famous institution at Greenwich on the Thames holds an important collection of material associated with the *Beagle*'s last commander, John Lort Stokes, ranging from navigation instruments and original hand-drawn charts to letters and sketches. Stokes had a long association with the *Beagle*, joining the vessel as a midshipman in 1826 and leaving as captain in 1843. In addition, the museum's ship plans section holds plans of the 10-gun brig class from which the *Beagle* was built at Woolwich between 1818 and 1820, as well as a large number of watercolours painted by Conrad Martens while artist aboard the *Beagle* during the second South American voyage (the one in which Darwin participated).

The secondment also allowed me to visit, view material at first-hand and make contacts at Down House, Darwin's home in Kent; the Sedgwick Museum and the Museum of Zoology, Cambridge; the British Museum; the Natural History Museum; and Oxford University Museum of Natural History. Of course there are a great many steps between finding an object you would dearly like to use in an exhibition, and actually seeing a signed





loan agreement, but the benefits of making institutional contacts and developing professional relationships cannot be overstated.

Once back in Sydney, the potential international loan objects were added to the exhibition content list of material from our own and other Australian collections, and formal requests to borrow objects were sent off to the various institutions. For a curator, this is an anxious time of waiting to see which objects will be approved. Exhibitions are a bit like theatre, with objects playing the parts of actors in conveying the narrative. Once you have seen particular objects and visualised how they will be employed in delivering the exhibition story, any changes to the 'cast' of objects can affect the overall shape of the exhibition.

Conrad Martens' pencil sketch of HMS Beagle anchored at Valparaiso, Chile, 1 September 1834. Reproduced courtesy Dixon Library, State Library of New South Wales

Apart from objects, an exhibition is dependent on the skills of the museum exhibition team. Drawn from all sections of the museum, the team consists of designers, conservators, curators, registrars and staff from temporary exhibitions, marketing and education, all under the control of an exhibition team

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leader responsible for overseeing the budget and coordinating the efforts of the team within a tight planning schedule.

Formal loan negotiations are carried out through the museum's registration section, where details of the museum's exhibition environment parameters, security, transport and costs are discussed. The process is one of continuous refinement with frequent input

from conservators regarding the mix of materials represented in the exhibition objects. Once the list of objects for the exhibition has been established, the designers work with the curator to decide how to present the exhibition stories in a coherent and stimulating way, drawing on the full toolbox of design possibilities and

the potential of the existing exhibition space. Ideas about the exhibition entrance, colour scheme, graphics, interactives, projections and exhibition structures are developed at this time prior to review by the museum's executive management group.

As the exhibition takes shape, the marketing and education members of the team are working out how and where to



CLOCKWISE FROM BELOW:

Aquatic microscope by Robert Bancks, c. 1830. Reproduced courtesy of the Powerhouse Museum, Sydney

Following publication of On the Origin of Species Darwin turned to botanical studies focussing on the fertilisation of orchids, climbing and insectivorous plants. Phalaenopsis orchid. A Frolows/ANMM

Two images from the crustacea collection in the Darwin collection at Oxford University Museum of Natural History. Photographer Sammy De Grave, N Erskine/ANMM

Glasshouse at Down House, Charles Darwin's home in Kent. Photographer N Erskine/ANMM





best promote the exhibition, and how to develop educational resources for school groups making actual or virtual visits. This exhibition has been planned to deliver learning outcomes to a diverse range of audiences through direct visitation, a research symposium, a major publication and a collaborative digital learning website, as well as tours, lectures and blogs.

With the passing of each week the momentum builds, punctuated by discussions of light levels, label placement, sponsorship arrangements, couriers and the guest list for the opening night. In lending institutions across the country and overseas, objects are undergoing condition reports and being packed for transport to Sydney for installation in the exhibition space. It's an exciting time as the many months of planning are finally bringing together objects associated with Darwin and the *Beagle*, Robert FitzRoy, Joseph Hooker, Thomas Huxley and others – bringing them together in Australia for the very first time.

With the arrival of the objects imminent, the pressure moves up another gear. In

workshops around the city, contractors have been working frantically to finish the exhibition structures on schedule for installation in the weeks running up to the opening. At the museum, the final edits of film footage are being tested, new lighting checked and media releases drafted.

And then – almost surprisingly – the crates and their couriers have landed and we are finalising customs and quarantine formalities before transporting the precious objects to the museum for installation. The exhibition structures are in place and in just over a week the objects take their places for the performance in cases, on walls and under glass. The orchids are ready in the glasshouse and as the final label is fixed in place and the cleaning completed, the gallery falls quiet, and all is finally ready for the opening speeches, the suits and the wine – and of course the visitors whom we all hope will come!

Happy 200th birthday, Mr Darwin. ■



ANMM curator Nigel Erskine viewing some of the Darwin collection at Oxford University Museum of Natural History. Photographer Sammy De Grave

BELOW: The *Beagle* with Mount Sarmiento in the background, Tierra del Fuego. Watercolour, Conrad Martens. Reproduced courtesy of the National Maritime Museum, London



2-DAY SEMINAR In the wake of the *Beagle*

Friday 20–Saturday 21 March 2009
ANMM Theatre

'For a small 10-gun brig belonging to what sailors wryly called the 'coffin class', HMS Beagle has created the largest wake of any ship in history.'
Professor Iain McCalman
University of Sydney

The long wake of HMS *Beagle* stretches from the 19th century into the future of our globe. Australasia and the Pacific contributed to Charles Darwin's evolutionary thinking, and 150 years after he published *On the Origin of Species* we are proud to present this symposium of internationally acclaimed speakers. It provides new insights into collecting, surveying and

cross-cultural exchange in the Antipodes in the age of Darwin. Exploring the groundbreaking work of Darwin and his contemporaries Joseph Hooker, Thomas Huxley and Alfred Wallace, and their influence on scientific research in the past, present and future, are speakers from Australian and UK museums, universities, libraries, scientific organisations and the media. Presented by the Australian Research Council and Australian National Maritime Museum. For details of speakers and schedule see www.anmm.gov.au/charlesdarwin

2-day registration \$50
(Member or student \$30)
1-day registration \$25
(Member or student \$15)



Completed model of one of history's most famous ships of scientific discovery, HMS *Beagle*, by Mike Bass of Cutting Edge Models. Launched in 1820 as a brig, *Beagle* was later refitted for survey. A mizzen mast was added, and for Darwin's voyage a poop cabin and forecabin were built.
Photographer A Frolows/ANMM

Beagle by Bass

Visitors to the museum's website have been able to follow the painstaking progress of professional modelmaker **Mike Bass** as he created this model of HMS *Beagle* for our Darwin anniversary exhibition. Here's the final instalment of Mike's online blog tracking the meticulous work from start to finish, providing audiences with rare insights into the ship modeller's art.

HAPPY NEW YEAR to you all! This is the last update for this project, as HMS *Beagle* is now complete! The model-making part of the project was finished just before Christmas, leaving only the base and the brass plinths to be completed.

The base is made of a piece of dark teak with an ornate edging which I routed in keeping with the design of the brass plinths. I used a teak oil finish, giving the wood a burnished look by using three layers of wax after the oil had dried. The plinths themselves were turned by a good friend of mine, as my poor lathe could not cope with 40 mm brass rod! I decided against the traditional glossy brass finish, as the brushed metal blends better with the rest of the display.

Once it was all stuck and bolted together it was time to step back, critically examining the overall look of the model – how all the pieces work together, how the shading fits in with the rest of the ship, whether colours blend in, and whether there is anything that really stands out. Having a Christmas

break allowed me to forget the model for a time and fresh eyes picked out many small problems which careful airbrushing helped to remove. I thought the main flag looked rather stiff and unnatural, so I made a few alterations. The flag and the pennant are made out of shim brass sheet, a very thin brass ideal for the job, with a wire soldered to the edge for the rope. This was painted white, and transfers were added for the artwork. The metal was twisted to look like a flowing piece of material, and, using my trusty airbrush, I added shading to the folds, allowing it texture and definition.

The main problem was cleaning the deck. Imagine the deck, carrying cannon, rigging, winches and numerous other apparatus, as well as bits and pieces of materials left over from the production of the model! Firstly I thought I'd blow the pieces out. I blew ... and all the bits went to the other side of the deck. I did it again ... and they went back to the opposite side once more! I eventually spent a very long two hours picking out the bits using tweezers!

It certainly has been a journey, but as we draw to the end of the making of the *Beagle*, I hope it has been as enjoyable for you as it has for me. This has been my first model of a sailing ship, and I called upon many sources of information and excellent books in the making and understanding of such. In particular, I would like to credit Karl Heinz Marquardt's work *HMS Beagle Survey Ship Extraordinary*, from the 'Anatomy of the Ship' series. This book is designed for model makers and was a huge help in getting the project to completion. I have always said that one of the major problems facing model makers is finding information, and was pleased to note that this was not the case at all in making Darwin's *Beagle*!

I would like to thank the following people for their help and support throughout this project: curator Nigel Erskine, ship modeller Richard Keyes, web editor Myfanwy Appleton, ANMM online services manager Richella King, artist Peter Webster, marine archaeologists Tim Smith and Mike Rikard-Bell, plinth turner Ben Joseph, advisor Richard Taylor, and retailers Glen Andrews and Rhonda Brewer. ■

See **Mike Bass's** entire blog at <http://anmm.wordpress.com/category/making-hms-beagle/> or hear him speak about the project in an ABC Radio interview at <http://blogs.abc.net.au/nsw/2009/01/mike-bass-super.html>