

# WELCOME

to the Oxford University Museum  
of Natural History



Museum of  
**Natural  
History**



## Introduction

Founded in the 19th century as the focus for scientific activity at the University of Oxford, and housing truly remarkable specimens and collections, the Oxford University Museum of Natural History today is a vibrant, welcoming, and spectacular place to visit.

From the moment you step into the central court of the Museum of Natural History it is clear that you are in a special place. Its presentation is both grand, with towering iron columns and vaulted glass roof, and intimate, with cloisters and an upper gallery enclosing the single court.

Established in 1860, when it was known simply as the University Museum, the building drew together scientific studies from across the University of Oxford at the time. Today, the award-winning Museum continues to be a place of active scientific research, collecting, and fieldwork, as well as host to an ongoing programme of events, exhibitions, and activities for the public and school students of all ages.

Highlights in the collections include the world's first scientifically-described dinosaur – *Megalosaurus bucklandii* – and the world-famous Oxford Dodo – representing the only soft tissue remains of the extinct dodo.

As part of the University of Oxford family of Gardens, Libraries and Museums, the Museum sits alongside the Ashmolean Museum, Bodleian Library, and Pitt Rivers Museum, amongst others. In fact, the Pitt Rivers Museum of anthropology and archaeology adjoins the Museum of Natural History building, so both places can be enjoyed in a single trip.

*Enjoy your visit!*





### The Oxford Dodo

The Oxford Dodo is the most iconic specimen held by the Museum. It is the most complete remains of a single dodo in the world, and includes tissue remains of both the head and foot.

The dodo was a flightless bird, first discovered by Europeans in the late 16th century on the island of Mauritius, in the Indian Ocean. By 1680 the bird was extinct, probably due to the introduction of predators to the island, such as dogs, cats, and pigs, by the European settlers.

The Museum also holds two of the most famous paintings of dodos: a copy of George Edwards' colourful 1758 depiction, and Jan Savery's 1651 image of a plumper dodo. It is now thought that dodos would have been slimmer than they have usually been depicted.



### *Megalosaurus* and the Oxfordshire dinosaurs

When you think about dinosaurs, you might not think of Oxfordshire. Yet some of the earliest dinosaur discoveries were made here and the Museum has one of the most important collections of Jurassic dinosaurs in the world. The most famous is a nine-metre long meat-eating dinosaur called *Megalosaurus*, which was found in the village of Stonesfield, near Oxford. It was named in 1824 by William Buckland, the University of Oxford's first Reader in Geology. This makes it the world's first ever scientifically-described dinosaur.



### The 'Red Lady' of Paviland

The 'Red Lady' of Paviland is a partial human skeleton found in a cave on the Gower Peninsula in Wales in 1823. The bones were stained red with ochre, and were found with ivory and bone artefacts. The ivory ornaments led the finder, William Buckland, to believe that the remains were those of a woman.

The bones are in fact those of a young man, and the most recent radiocarbon dating indicates that they are around 34,000 years old, making this the oldest known ceremonial burial of an anatomically modern human anywhere in Western Europe. The material on display is made of casts of the original bones, which are too fragile to be permanently on show.



### Skeleton parade

The parade of skeletons in the main court is one of the Museum's most-photographed displays. It reveals some of the diversity of the evolutionary adaptations of large mammal skeletons, from the long neck of the giraffe, to the robust but slender limbs of the horse. The study of the differences in the bodies of related animals is called comparative anatomy. In the skeleton parade you can compare the different skulls, horns, antlers, teeth and limbs to see how evolution has shaped every part of the skeleton for speed, defence, hunting, or feeding.



### Whale skeletons

No natural history museum is complete without whale skeletons suspended from its roof. The cetaceans – whales, dolphins, and porpoises – are ocean mammals, and include some of the world's largest living animals.

Many of the Museum's whale skeletons were acquired shortly after the building opened in 1860 and at that time zoologists travelled from across the world to see them.

The Orca, or Killer Whale, skeleton was an individual killed in the Bristol Channel in 1872. The Bottlenose Dolphin was caught near Holyhead in 1868 and the whole animal was drawn by William Henry Flower, the second director of the Natural History Museum in London.

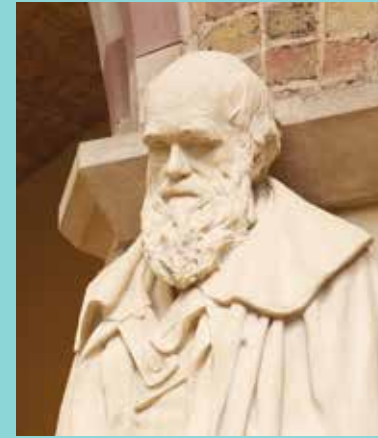


### Trilobite wall

This slab of sandstone comes from the rocks of Tinghir Province in Morocco. It is 450 million years old and is a fantastic natural gathering, containing three different types of trilobite – *Selenopeltis*, *Calymenella* and *Dalmanitina* – as well as many brittle stars.

All these animals lived on the floor of an ancient ocean, close to the southern supercontinent of Gondwana. The spiny armour of *Selenopeltis* probably evolved to protect it from the large predatory animals, including fish, which existed at the same time.

The animal remains were brought together after they had died, probably by the ocean currents.



### Charles Darwin and the Great Debate

On 30 June 1860 the 'Great Debate' over Charles Darwin's Theory of Evolution took place in the newly-opened Museum building. The debate was between Thomas Henry Huxley, nicknamed 'Darwin's bulldog', and Samuel Wilberforce, the Bishop of Oxford. Just seven months after the publication of Darwin's *On the Origin of Species*, the two men argued the new and hotly-contested theory proposed in Darwin's work.

Charles Darwin's theory is now recognised as fundamental to our understanding of the natural world. The statue of Darwin in the Museum court was carved by Henry Hope Pinker and unveiled in the Museum on 14 June 1899.



### Nantan meteorite

This nickel-iron meteorite is the oldest thing you can see and touch in the Museum. At over 4.5 billion years old, it is as ancient as the Earth itself, and older than any terrestrial rock. It comes from the asteroid belt, rocky planetary debris that orbits the Sun between Mars and Jupiter. The meteorite was found in 1958 near the city of Nantan in Guangxi, China. It is believed that lightning-bright whirling shooting stars that were recorded in the year 1516 contained the Nantan meteorite that was discovered over 400 years later.



### Mary Anning's ichthyosaur

This little fish-shaped reptile, called an ichthyosaur, was discovered in 1835 by the famous palaeontologist Mary Anning. It is so well preserved that fish bones and scales from its last meal can still be seen inside its ribcage.

Mary Anning lived and worked in the English coastal town of Lyme Regis, finding and selling fossils. She made many important discoveries in the Jurassic rocks there, including the world's first plesiosaur and ichthyosaur skeletons. These finds helped to revolutionise our understanding of the history of life on Earth, including ideas about extinction, which paved the way for the theory of evolution.



### Bee hive

The inner workings of a honey bee hive are revealed in the Museum's glass-fronted hive display. You can see the queen laying eggs, attended constantly by her offspring. Inside the cells are larvae, feeding on worker jelly that is delivered by nurse bees. As they age, bees perform different jobs such as wax-building, carrying water, or guarding the hive. The oldest bees go out to forage and can be seen waggle dancing – a special movement that indicates to their sister bees where the best food sources are located.



### Red Kite

The protection of Red Kites in the UK is one of the most successful conservation stories of the 20th century. Red Kites were persecuted almost to the point of extinction in the UK. The population is thought to have been reduced to just five pairs.

Thanks to protection of nest sites, conservation management of farmland, and re-introduction from European populations there were an estimated 1,600 breeding pairs as of 2016. The conservation effort has been so successful in the Chiltern Hills that young kites from the area have been moved to establish populations across the UK.



### Gemstones

The Museum has a fine collection of gemstones cut from minerals that are beautiful, durable and rare. Some, such as ruby and emerald, have intense colour and perfect clarity, while others have unusual optical effects, such as the play of colours in precious opal, or the iridescent 'fire' in cut diamonds.

The Museum display shows natural crystals, faceted stones and carvings of all the well-known gems, as well as unusual kinds that are rarely seen in jewellers' shops. We especially like to show carvings of animals; how many can you see?

# The Museum's Collections



The displays in the Museum court are just a tiny taster of the collections as a whole. The Museum has over seven million historical and modern specimens encompassing the natural world. They include five million insects, half a million fossils, rocks and minerals, and over 250,000 zoological specimens. There is also a library of around 20,000 books and an archive containing approximately half a million manuscripts.

The foundation for the natural history collection at the University of Oxford was material drawn together by Elias Ashmole in the 17th century, including many specimens collected by the Tradescants, father and son and gardeners to royalty and nobility.

From 1683, these collections, and others, were housed in the original Ashmolean Museum building on Broad Street in Oxford, now the Museum of the History of Science. In 1860, when the Museum of Natural History was opened as the 'University Museum', the natural history specimens came here.

The collections now include particularly important historical specimens, including the oldest pinned insect in the world and the first scientifically-described dinosaur, *Megalosaurus*.

Today, the Museum is a centre of teaching, research and exhibitions, and the material it holds is of national and international importance. The collections continue to grow and are used by a wide variety of people – students, school pupils, artists, academics, volunteers, and University staff.



## Earth Collections

The Earth Collections contain specimens from across the Earth Sciences, including rocks, minerals, fossils, building stones, gemstones and meteorites.

## Archive and Library Collections

The Archive and Library house a unique collection of natural history books, journals and archives, with a focus on subjects relating to the Museum's collections and research.

## Life Collections

The Life Collections have significant holdings of insects, arachnids, crustaceans, birds and mammals from around the world.





## The Museum's Architecture

The construction of the Museum was significant in the development of 19th-century architecture, the history of the University of Oxford, and in the study and presentation of science in England.



The Museum building is as spectacular today as when it opened in 1860. It owes its existence, in the main, to the foresight and determination of one man, Henry Acland. Acland had been appointed as Reader in Anatomy at Christ Church college in Oxford in 1845, where he worked in its Anatomy Museum. He campaigned for a new museum to house research and teaching facilities, and to bring together the collections that were then dispersed across the University.



As a striking example of Victorian neo-Gothic architecture, the building's style was strongly influenced by the ideas of 19th-century art critic and friend of Acland, John Ruskin. Ruskin believed that architecture should be shaped by the energies of the natural world, and thanks to his connections with a number of eminent Pre-Raphaelite artists, the Museum's design and decoration now stand as a prime example of the Pre-Raphaelite vision of science and art.

The design for the building actually came through an open competition, with prizes offered for the three best proposals within a budget of £30,000. Of the 32 schemes received, Acland favoured that of Deane and Woodward, the architectural team which had created Trinity College Museum in Dublin in 1853. The Trinity building was also influenced by the ideas of Ruskin, particularly in its use of materials and decoration. Benjamin Woodward was the principal designer in Deane and Woodward and was largely responsible for both the design and construction of the Museum building.

When it opened in 1860, the Museum brought together virtually all the scientific studies being carried out in the University of Oxford at the time.



### Glass and iron

Arguably the most striking aspect of the building is the glass and iron roof of the central court. The use of glass and cast iron had been commonplace since the mid-1840s, in galleries and greenhouses, and famously in the Crystal Palace of 1851. The novel aspect of the Museum was the use of structural iron, but sadly the first design of the roof, using mainly wrought iron, proved disastrous: the structure was incapable of supporting its own weight and had to be taken down before it was completed.

The second version was produced by E. A. Skidmore, an experienced ironmaster who had been involved with Woodward in the development of the first design. Skidmore's cast iron columns are ornamented with wrought ironwork in the spandrels, representing branches of tree species including sycamore, walnut and palm.



### Columns, capitals, and corbels

Around the court perimeter are 126 columns, all planned by John Phillips, first Keeper of the Museum. Each column is made from a different British decorative rock, labelled with the name of the stone and its source. The capitals and corbels are carved into plants representing all the botanical orders.

The majority of the capitals were carved by Irish brothers James and John O'Shea, along with their nephew Edward Whelan. All three were exceptionally talented stonemasons and produced work of the highest quality and originality, often working from life with plants brought from the Botanic Garden in Oxford.

### Great men and one woman

Standing thoughtfully against the pillars around the court are 19 statues of great men of science, including Aristotle, Galileo, Isaac Newton, Charles Darwin, and Linnaeus. There are also a number of busts of scientists associated with the Museum, such as John Phillips, Henry Acland and William Buckland. In 2010, the first new bust for more than 100 years appeared: a likeness of Dorothy Hodgkin, winner of the Nobel Prize for Chemistry in 1964 for her work on crystallography. Hodgkin carried out her ground-breaking research in the Museum during the mid-20th century.





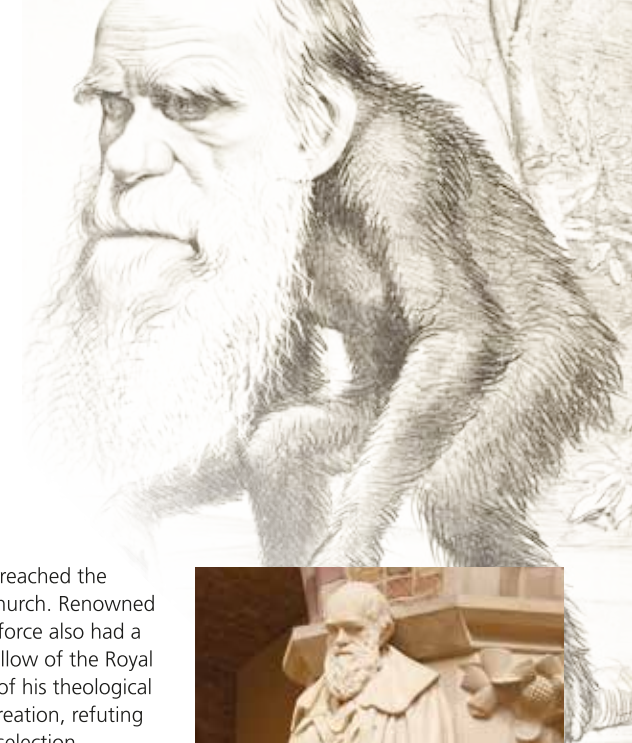
## The Great Debate

On 30 June 1860 the Museum hosted a clash of ideologies that has become known as the Great Debate.

Even before the collections were fully installed, or the architectural decorations completed, the British Association for the Advancement of Science held its 30th annual meeting to mark the opening of the building, then known as the University Museum. It was at this event that Samuel Wilberforce, Bishop of Oxford, and Thomas Huxley, a biologist from London, went head to head in a debate about one of the most controversial ideas of the 19th century – Charles Darwin's theory of evolution by natural selection.

Darwin's *On the Origin of Species* had been published the previous November, so the ideas it contained were fresh. The lecture and discussion on the subject took place in what was then the Radcliffe Library, on the first floor of the Museum. Although no one accurately recorded exactly what was said in front of the noisy crowd of almost 500 people, the story that has emerged is of a sharp intellectual volley between Wilberforce and Huxley.

Huxley was a brilliant young scientist who had studied invertebrate fossils, apes, and humans. As one of Darwin's closest associates – he was later nicknamed 'Darwin's bulldog' – Huxley was among the few people to know about the ideas presented in *On the Origin of Species* ahead of its publication.



As Bishop of Oxford, Samuel Wilberforce had reached the pinnacle of a highly successful career in the Church. Renowned as an eloquent and influential speaker, Wilberforce also had a first class degree in mathematics and was a Fellow of the Royal Society. In the debate, he threw the full force of his theological training into upholding the idea of a biblical creation, refuting Darwin's picture of evolution through natural selection.

As the debate unfolded, Wilberforce taunted Huxley about his possible ape ancestry, to which Huxley is claimed to have retorted: "If then the question is put to me whether I would rather have a miserable ape for a grandfather or a man highly endowed by nature and possessed of great means of influence and yet employs these faculties and that influence for the mere purpose of introducing ridicule into a grave scientific discussion, I unhesitatingly affirm my preference for the ape."

This 'Great Debate' was a dramatic event occurring right at the beginning of the Museum's history, and one that marked a key moment in the development of modern evolutionary science.



# Visitor Information

## Opening hours

Open daily from 10am–5pm. Free admission.  
 Check the website for Christmas opening times – [www.oum.ox.ac.uk](http://www.oum.ox.ac.uk).  
 Group visits: large groups and schools please pre-book your visit on 01865 282 451 or email [education@oum.ox.ac.uk](mailto:education@oum.ox.ac.uk).

## Museum Café

Enjoy snacks and drinks throughout the day in the Museum café, overlooking the dinosaurs.

## Shop

The Museum Shop offers a wide range of products including fossils, minerals, publications, toys, jewellery, postcards and Museum gifts.

## Free public wi-fi

To access our free public wi-fi log on to the MNH Public network and follow the instructions.

## Access

The Museum provides wheelchair access to all floors and free disabled parking. There is no other public parking available on site.

## Location

The Museum is about 10 minutes' walk north of Oxford city centre and about 15 minutes' walk from Oxford rail station.

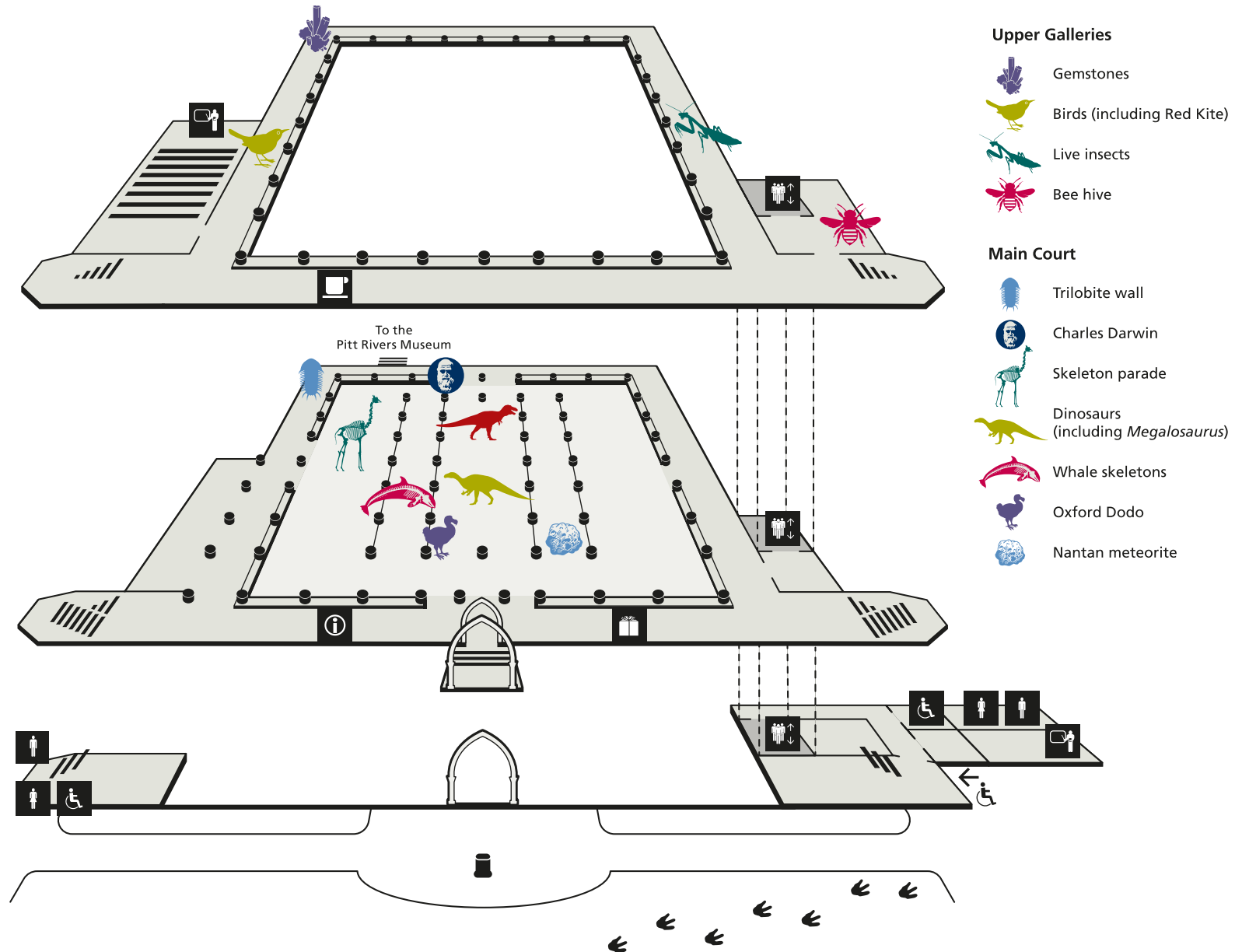
## Hire the Museum

The Museum and its 300-seat Lecture Theatre are available for private hire functions, including weddings, dinners and conferences: [venue@oum.ox.ac.uk](mailto:venue@oum.ox.ac.uk)

## Support us

Please support the ongoing work of the Museum by making a donation in the donations box next to the Welcome Desk. Thank you.

# The Museum plan



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