

# DIGITAL ADAPTATION

**Developing new, bespoke content  
for online delivery in 2020**






- 1 FIRST ANIMALS at home**
- 2 BRINGING THE MUSEUM TO SCHOOLS**
- 3 MYSTERY AT THE MUSEUM live event**
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- 6 SYMBIOSIS NETWORK conference**
- 7 TRUTH TO NATURE exhibition & podcasts**

## **2020 brought new challenges to connecting with our audiences.**

We responded digitally with a series of bespoke, innovative activities. The most ambitious of these was a unique live event, Mystery at the Museum, with BAFTA-winning nature presenter Steve Backshall. Our teaching, public engagement, and research activities were adapted for online formats to maintain partnerships and meet existing and new audiences through digital means while the Museum building was closed during national lockdowns.



*“ I really loved Mystery at the Museum. At the end I didn’t want it to stop! Thank you very much :) ”*

**Z aged 8**

Attendee of the online, live adventure event hosted by Steve Backshall in December



# 1 FIRST ANIMALS ...at home

The [First Animals exhibition](#) at Oxford University Museum of Natural History, explored the strands of evidence for Earth's earliest animals. The gallery display and exhibition website brought together unique fossil remains that reveal a burst of evolutionary activity called the Cambrian explosion, 540 million years ago.

Between 6 March and 23 September 2020, the Museum hosted 11 online lectures around the topic of First Animals as an extension of the exhibition programme following closure due to Covid-19. All lectures were free to attend online, and were broadcast live using the WebinarJam platform.

While the physical exhibition was scheduled to close in September 2020, the online exhibition remains accessible to view from home, along with all videos featured in the exhibition and recordings of the online talks available in a dedicated playlist on the [Museum's YouTube channel](#).

**At the time of writing, the talk recordings on YouTube have a total 18,424 views**

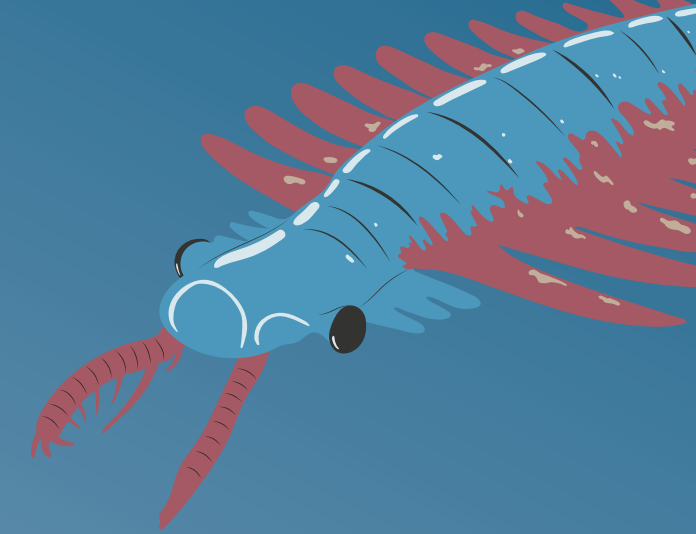
**2,110+ people joined the talks live**

**3,290 live visits to our virtual lecture room**

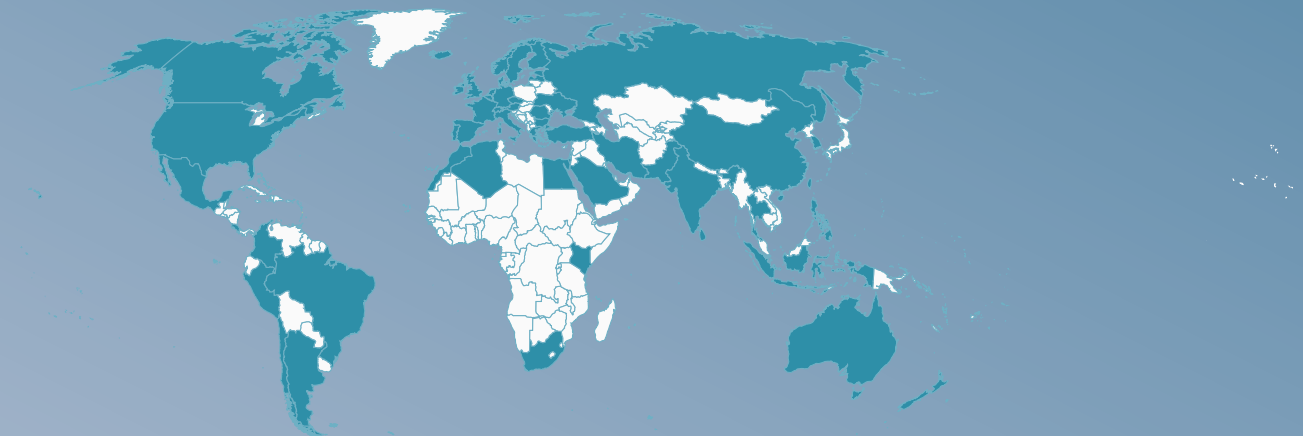
**Average dwell time watching talks 58min + 42sec**

**The lectures were attended by people from 63 countries in addition to the UK**

# NEW LIVE ONLINE TALKS



A new series of live-recorded talks were developed by the Museum's research team who had worked on the original exhibition. This included sharing their own research alongside other international specialists such as Prof Derek Briggs (Yale University), Dr Shuhai Xiao (Virginia Tech), and Prof Rachel Wood (University of Edinburgh). Topics covered ranged from geoconservation of key fossil sites to worms, skeletons, and the role of rotting fish in understanding fossil remains. Dr Imran Rahman's live talk on virtual paleontology attracted the most live attendees at 776 - more than double the Museum's physical lecture theatre capacity - with views of all talks increasing since being made available on YouTube.



World map with green countries showing location of online talk live attendees.



After the First Animals exhibition closed, from 16–18 December 2020, the Museum also live-hosted the [Palaeontological Association's annual conference](#) to **500 delegates** from **43 countries**, again using WebinarJam. This research programme also included an informal fossil competition, similar to one held at the Museum during First Animals 2019 programme, but this time connecting many more researchers with international reach online.

Left Collections Manager, Dr Duncan Murdock announcing the winners of the fossil competition.





# 2 BRINGING THE MUSEUM TO SCHOOLS

During the summer term of 2020 it became clear that primary schools would be unlikely to be visiting the Museum during the autumn term and so our education staff took the time to develop and subsequently trial several new models of online engagement detailed below. We ran **22 online primary sessions** across these models delivered to **33 classes** involving **978 children** from both **Key Stages 1 and 2**. This included seizing the opportunity to work with schools outside our core reach in Oxfordshire, including Nottingham, Newquay (Cornwall), Pembroke (Pembrokeshire), Leighton Buzzard (Beds.), Trowbridge (Somerset), and High Wycombe (Bucks.).

## The Call & Response Model

Using a mobile phone and basic, free video editing equipment (Microsoft Video Editor) a version of our face-to-face, national-curriculum-supporting **Rocks and Minerals** session was recorded at various locations within the Museum and designed to test the appeal and efficacy of video style resources for use in the classroom. After watching the videos in class the teachers booked a subsequent 30 minute live session and submitted further questions from the children stimulated by the video and research challenges set out within it. Teachers had the opportunity to request additional bespoke content during the booking process and were supported with a downloadable resource to help with preparation.

*“It was absolutely FANTASTIC! ...You made the session so engaging and progressive from each aspect of evolution so they could really follow the learning...We really appreciate how you have adapted the session to suit online learning in these tricky times.”*



## Live Virtual Visits

These sessions were designed as direct replacements for the Museum's regular school group handling sessions. They comprised a 30-40 minute presentation, followed by a 20-30 minute Q&A, which was planned by asking teachers to pre-submit questions on the topic involved. This allowed education staff to prepare content and select appropriate specimens aimed at the correct level and particular interests of each class. Throughout the autumn term **17 live virtual visits** were delivered, so proving to be the most popular of the models offered. The geographic spread of school groups involved ranged from those local to Oxfordshire and beyond to schools in the South West of England, South Wales and the Midlands, many of which had never visited the Museum before.

*Below Education Officer, Chris Jarvis delivering virtual museum visits with specimens.*

## Bespoke Zoom Session

These sessions were planned to be entirely bespoke to the teacher's needs and planned via calls between teachers and Museum staff to ensure the content delivered matched scheduled classroom activities and objectives. The first of two sessions was curriculum based, supporting a science topic on skeletons, evolution and classification, whilst the second session focused on supporting children's well-being and independent learning skills in considering the Museum as an accessible resource for learning and leisure within their local community, and was delivered simultaneously to **120 children in four different classes**.





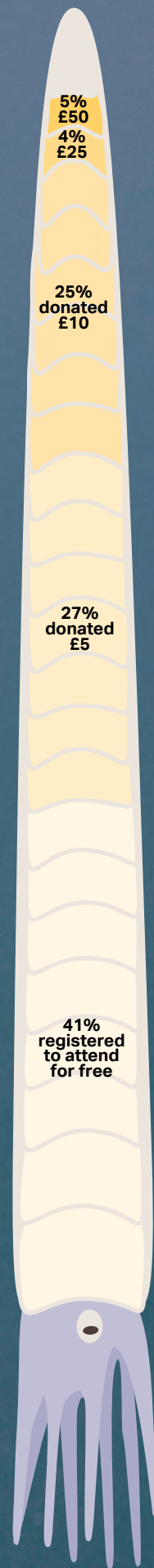
“ What an amazing message and an inspiration for our children! ”

“ That was absolutely brilliant. My little boy was jumping up and down every time we saw a clue. Just awesome! ”

“ Agent Alex says thank you so much Steve, that was the best adventure ever!! ”



Left BAFTA-winning nature presenter, Steve Backshall at the Museum during the live action event.



over  
**£33,000**  
raised

Mystery at the Museum was free for all to attend, but the audience were asked to make a donation towards the Museum's HOPE for the Future project.

The event was a highly successful fundraiser, with **59% of people who registered making generous donations.** Attendees came from the UK and beyond. 40% of people who registered also signed up to the Museum's mailing list.

Left Percentage breakdown of registered event attendees by donation size, visualised as an orthoconic nautilus shell

## 3 MYSTERY AT THE MUSEUM

At 7pm on Friday 4 December **thousands of people** tuned in to our live, interactive event, helping explorer and naturalist Steve Backshall solve puzzles in the Museum at night.

This [hour-long online interactive adventure](#) was live-streamed via Steve's Facebook, Twitter and [Youtube](#) channels, as he tracked down a 'missing' specimen in the Museum. The live event had **121,000 views** with over **16,000 people** in **7,689 households actively taking part.** More than **59,000 audience comments** directed Steve along a trail of fun science-based questions scattered around the building, and even on the roof. These challenges were developed using Museum specimens by the in-house team and escape room specialists Agent November. Once the missing specimen - a model of the Museum's famous dodo, complete with a message to care for the environment - was recovered, the evening finished with a quick-fire Q&A about the Museum and natural history.

### Technical Requirements

The event was shot on a smartphone using Larix Broadcaster and Restream to livestream to Steve's social media channels. Additional wireless access points were installed along the route to boost Wifi signal. The Museum was in atmospheric darkness with a handful of spotlights hired in to highlight particular puzzles. Walkie-talkie radios were used to relay audience comments and puzzle solutions to Steve, enhancing the interactive elements of the event.

### Marketing

Four short [teaser videos](#) were released across social media channels in the three weeks before the event, and an e-newsletter was sent out to the Museum's mailing list. On 3 December, BBC Radio 2 host Zoe Ball interviewed Steve about the event on the Breakfast Show, which contributed to a significant spike in bookings in the 24 hours before the event.





# 4 DELIVERING HOPE digitally

**HOPE for the Future** is a three-year project funded by the National Lottery Heritage Fund to rehouse the Museum's vast collection of 1.1 million British insects and to provide learning opportunities to help build the next generation of scientists.

The project's learning stream aims to nurture and enthuse children and young people about natural sciences generally and insects in particular, and to explore how our British Insect collections and expertise could support and enhance science learning in and out of school.

## Formal learning resources for teachers

In the 2020 summer term, the Museum's Primary Education Officer partnered with local artists through [Cowley Road Works Mother Earth Project](#) to develop digital activities to support schools and families to deliver formal learning objectives. Children in East Oxford schools with high levels of Pupil Premium entitlement engaged with workshops including making [paper insects](#), model bees and insect hotels. **155 children** from the Virtual School\*, St Gregory the Great and St Francis School engaged with these home science and art learning projects.

The HOPE Learning Officers created **six digital resources** to help children develop scientific thinking and science capital. Used by local schools for in-class and at-home teaching, these activities focused on identifying species and exploring insect behaviour in their local outdoor areas.

In the Autumn, the HOPE team collaborated with Oxford University Botanic Gardens and Arboretum to develop a resource for the University's [Oxford for Oxford](#) initiative, which promotes pupil aspiration and attainment, by building connections with teachers, students, families and the University. The activity explored how plants and insects survive in winter, and was shared with KS1 and 2 teachers around Oxfordshire.



\*The Virtual School is for children and young people who are looked after in the care system and care leavers, who are unable to attend mainstream schooling due to additional needs.



HOPE Learning Officer, Susannah Glover presents an episode of Six Legs of Summer on YouTube with other team members.

## Informal learning through digital activities

Highlights from our informal learning activities include:

-  The **incredible insects quiz** for families and young people shared online as part of National Insect Week in late June.
-  A virtual Summer School, **Six Legs of Summer**, provided young people with six exciting, insect-based challenges via videos posted on the Museum's social media channels. Activities included designing an insect, how to photograph insects, and creating an insect-themed game, reflecting key topics such as adaptation and taxonomy.
-  **Marvellous Moths**, a set of digital activities including craft, art and science experiments was launched for families during October half-term.
-  A new blog '**Crunchy on the Outside**' began in late 2020, and included news about insects and the natural world, behind the scenes work at the museum, and information about people who work with insects and help to protect them. The blog also encouraged people to share ideas, get involved with the HOPE project and give feedback.
-  Youth Forum members have contributed to the Museum's 'More Than a Dodo' blog, sharing their passion for insect photography in the post **Stop, Look, Listen**.
-  Using Twitter to interact with Museum audiences on insect-related topics and inform them of the HOPE project outreach work and digital resources.





# 5 HIGHER EDUCATION teaching

Normally the Museum would host teaching sessions for hundreds of students in a year, from University of Oxford, and other higher education institutions in the UK and abroad. During 2020 the rapidly changing public health situation required a shift to digital teaching. A series of digital resources and hybrid approaches were developed to continue teaching opportunities, incorporating the University's recommendations and national guidance.



## Delivering museum-based teaching

We worked closely with, and as, course co-ordinators and lecturers to develop a broad suite of flexible options to deliver the teaching content normally provided through visits to the Museum. Walking tours, lectures and practical sessions were sometimes live-streamed online whilst others were pre-recorded as videos, podcasts and online lectures, supplemented with digitised collections material where available. One particular challenge that was overcome was the teaching of geological map interpretation in an online format. During the few windows of time when the Museum could be accessed by University members only, the spacious centre court was set up for socially-distanced classes using large digital screens and audio equipment.

## Identified advantages:

Pre-recorded sessions have allowed students to absorb and revisit content at their own pace. Digital delivery has also allowed more students to be taught simultaneously, compared to the small class sizes previously limited by physical teaching spaces. Visualisers and microscopes have made a different class of specimen accessible through virtual classrooms in ways that wouldn't work as well in a physical classroom.

## Ongoing challenges:

Despite the success of digital classes, it is still felt that purely online teaching methods cannot fully replicate practical object-based sessions normally provided by the Museum from the detail and size of collections, to their context when viewed in person and on display. Restricted access to collections for research projects has particularly affected materials-based work. Ongoing challenges include increasing accessibility of digital formats from closed captioning, alternate audio options, and navigating licences for material made available online, as well as the dependence on the reliability of the student's own available technology.

*Below left* Museum Research Fellow, Dr Lauren Sumner-Rooney teaching biology students in the Museum  
*Below* Students observe the plesiosaur on display during a socially-distanced tour.





# 6 SYMBIOSIS conference

The 2020 international conference of the [Symbiosis Network](#), a research group supported by the University of Birmingham and the Oxford University Museum of Natural History, was due to take place at the Museum in the summer. The programme was adjusted for online delivery, split into five sessions between 9–13 November and delivered online from the Museum, hosted on the WebinarJam platform.

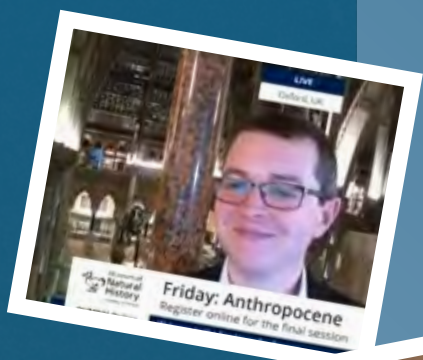
All sessions of the conference, titled 'Art and Science in Natural History Museums and Collections' were free to attend online. International panels of speakers covered topics from global surveys of museum architecture, to the digital reconstruction of fossils, use of models as exhibits, and representations of Neanderthals in museum displays.

Across the five sessions, there were **411 visits** to the virtual lecture theatre, with email registration data showing these visits were made by at least **211 individuals**. The lectures achieved a global reach, with **over 40%** of attendees coming from outside the UK. Visitors from **27 different countries**, ranging from locations in North and South America, across Europe and Asia, tuned in to hear discussions by speakers from a similarly distant spread of locations (see map below). **44% of individuals attended more than one session.**

“ I think it was one of the best symposia of the last few months I've attended online. ” - Conference attendee



# 7 TRUTH TO NATURE



Top left Dr Jack Matthews hosted many of the Museum's online talks on WebinarJam in 2020.

Above Prof John Holmes has worked with the Museum exploring its architectural history and connections with the Pre-Raphaelites. Prof Holmes helped curate the exhibition and created the podcasts as well as being the lead organiser of the Symbiosis conference.

2020 marked 160 years since the Museum first opened in 1860. An exhibition, *Truth to Nature*, was installed in the centre court to celebrate this anniversary while reflecting on the past and the future roles of the Museum, and was presented to the public when the doors were able to open again in September. The exhibition was also **made available online**, along with a **short video** sharing secrets on the Museum's architecture and a series of **podcasts, *The Temple of Science*** with specialist Prof John Holmes (University of Birmingham), accompanying the publication of his [new book of the same title](#).

This exhibition and online resources further demonstrated the Museum's commitment to pursuing interdisciplinary research and hosting conversations between art and science. The physical and digital work strengthened partnerships with external university researchers, despite the challenges faced with the pandemic. A series of additional public talks, on the theme of 'Visions of Nature', were hosted online in the autumn, highlighting Museum research and including a talk by Georgina Ferry on Dorothy Hodgkin, whose bust featured in the exhibition. *Truth to Nature* complemented the Symbiosis conference themes, and joined in with wider questioning of the role of a natural history museum in the 21st century. This last point was particularly pertinent in a year that challenged usual work flows, but also as the Museum is undergoing a major redisplay project, with contemporary displays planned for the new cases that were installed during closure.





## Mapping Threats to Biodiversity

The primary role of the 19th-century museum was to classify the animal kingdom, first according to the principles of natural theology, seeking pattern in God's creation, and subsequently by mapping out the evolution of organisms, living and extinct, using Darwin's theory of evolution by natural selection.

The 21st-century museum has a broader remit, and a wider responsibility, to understand pressures on different species of animals and plants around the world and to track global biodiversity loss. Ten per cent of Earth's eight million species are at risk of extinction, and the current rate of global species extinction is tens to hundreds of times higher than the average over the last ten million years.



Left: The dodo (*Myphae laticauda*) has become an icon of human-induced extinction. The Oxford Dodo is perhaps the Museum's most famous specimen, representing the only left-hand remnant of the extinct bird.

Right: The Ashy Red Capped Prolemnae (left) featured in an early 19th-century expedition to western Uganda and its neighbouring areas.



## Looking Ahead

As we look to the future, the Museum plans to build on the digital adaptations developed in 2020, and continue to use our platforms and growing online presence to engage with climate issues, especially in the lead up to COP26 in autumn 2021. Key successes of 2020 highlighted in this document have laid foundations for this, from the environmental messaging core to the Mystery at the Museum event, to the ongoing focus on the importance of biodiversity in the HOPE project and the *Truth to Nature* exhibition. Our teaching, public engagement, and research activities will continue to be responsive to changes in our audience needs.

For further information on items covered in this document please see [www.oumnh.ox.ac.uk](http://www.oumnh.ox.ac.uk)