Oxford University Museum of Natural History

OXFORD UNIVERSITY MUSEUM OF NATURAL HISTORY

Summary of the Year 2007-2008

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OXFORD UNIVERSITY MUSEUM OF NATURAL HISTORY

Summary of the Year 2007-2008

Chairman's Report

Educational and outreach activities at the Museum continue to increase in scope. They are hugely popular and their success is a tribute to the dedication of our staff. Behind the scenes, conservation and documentation, the key hidden business of any museum, has been pursued with customary diligence. In 2008, these activities were augmented by a trial internship programme, funded by the E.P.A. Cephalosporin Fund, which supported the work of five Oxford undergraduates in the collections. Working in close collaboration with our permanent staff, they identified minerals, cleaned extraordinary wax anatomical models, sorted insects, shrimps, fossils and much else, to their own, and the general satisfaction of curatorial colleagues. Their reports highlight the excitement of hands-on work in our Museum, and we hope the scheme will continue.

The under-funding of the Museum is a continuing concern, and it is gratifying that the University provided an opportunity to present this at the highest level, in the form of our submission to the Services Funding Working Party Report to Council. The outcome of this report is expected early in the 2008-9 academic year.

The coming year sees the celebration of the 200th anniversary of the birth of Charles Darwin, and the 150th anniversary of the publication of his *On the Origin of Species by Natural Selection*. The Museum will celebrate Darwin and his achievements, with temporary displays, events, and educational activities throughout the year. Looking further ahead, 2010 sees the 150th anniversary of the opening of the Museum, and of the momentous Wilberforce-Huxley debate held within our walls. Plans for activities and displays to mark the anniversaries of these events are all in hand. The Darwin anniversary will provide an excellent opportunity for the launch of a major fund-raising campaign. To this end, the appointment of Ms Amy Sewell as Museums Development Officer will provide much-needed additional support for our fund-raising activities, in which I will be closely involved.

John Krebs
Chairman, the Visitors of the
Oxford University Museum of Natural History

Director's Report

2007-8 was a year of steady progress on many fronts. My enforced absence for part of the year was more than ably covered by my colleague Monica Price, who served as Acting Director during the late spring and summer: I am most grateful to her for her time and effort.

Perhaps the most important event of the year was the review of the funding of the University's museums by the Services Funding Working Group of the Planning and Research Allocation Committee; the view of Council on the review is expected early in the coming academic year. We await the outcome of the review of the Renaissance in the Regions programme, which provides the funding that underpins our education, access, and outreach activities. The core funding we receive from the Arts and Humanities Research Council ends in July 2009, when this currently ring-fenced source of support returns to the Higher Education Funding Council.

The year saw a 13.6% increase in visitor numbers, to 418,000; an 18% increase in the numbers of pupils visiting us in organised groups to 28,030; a 25% increase in website visits to 1,051,866; an 8% increase in our shop sales to £130,296; a 16% increase in out total trading income of income to £221,286, and a 44% increase in our public donations to £52,000. All these increases can be attributed to the continued efforts of our staff in promoting the public image of the Museum, which continues to be a major interface between the University, the community, and our visitors world-wide.

The renewal and refurbishment of our displays proceeds, and completion of our new insect, plant, gemstone and local geology displays is in sight. These have been possible only through the continuing support of our external funders, to whom we are indebted.

Conservation of our vulnerable biological collections continues, again based on external support. Earlier awards from E.P.A. Cephalosporin Fund, the MLA's PRISM Fund and St John's College funded the installation of glittering new computer-controlled racking and new containers for our venerable (and irreplaceable) pickled vertebrates. A previous award from the Strategic Infrastructure Fund supported the completion of a vulnerable part of our insect collections. Much more needs to be done in these areas, and the need for new external funding is ever with us. The documentation and online publication of catalogues of our collections continues apace, and is an essential part of our mission to make our collections widely accessible.

Collections-based research is active, and it is a pleasure to record the award by the Natural Environmental Research Council of a grant of £336,000 to Derek Siveter and his colleagues to continue their researches on the remarkably preserved 425 million-year-old fossils from Herefordshire. That the award brings welcome overheads has not gone un-noticed! The same week as notification of this award was made, Derek heard that their latest research offering had been accepted by *Science*, and that he had been awarded the title of Professor in the latest University Recognition of Distinction Exercise. We congratulate him on all of these achievements.

The year also saw the retirement of George McGavin, our long-serving Assistant Curator of the Entomological Collections, to pursue his already well-established career in the media. His contribution to the conservation and re-housing of our insect collections was outstanding, as was his contribution to the outreach activities of the Museum; we wish him every success in his new career. We also thank retiring Visitors Robin Cocks, Tristram Wyatt, and Bryan Ward-Perkins for their support and wisdom.

I end on a very sad note: the death of Jeannine Alton (1922-2007), who worked as a volunteer for the past ten years on our collections of scientific papers of contemporary scientists. Many of these related to former friends and colleagues, in Oxford and elsewhere, and I spent many hours working with a very dear, and much lamented friend and colleague.

Jim Kennedy
Director

The Museum and the community

The Museum is open to the public from 10 am to 5 pm daily and attracts a growing number of visitors both individually and in organised parties. It also reaches audiences worldwide through its website. We are committed to increasing access to our collections to a wide range of audiences.

Our visitors

The number of visitors during our normal opening hours continues to rise, from 368,166 last year to 418,098 this year, an increase of 13.6%. Donations from visitors have contributed over £52,000 to the Museum's income for the year. The coin-operated *Allosaurus* nest made by Crawley Creatures has proved particularly popular.

The shop, with its excellent selection of unusual gifts and educational toys, continued to bring in welcome income as did the hire of the building. The stunning architecture and the displays in the Museum Court and gallery, together with the 300-seater lecture theatre, attracted more than 60 functions during the year, including conferences, company recruitment evenings, dinners on the gallery, receptions and charity events.

Managing the growing number of visitors has increased demands on the front of house staff, and in July, an additional assistant front of house manager was appointed to help cover weekends.

There was some progress with the planning of the new joint Museum of Natural History/ Pitt Rivers Museum Visitor Centre in the old Inorganic Chemistry Building. A bid was made for funding for the conversion work to DCMS/Wolfson, and an application was made by the Estates Directorate to the City Council for planning permission. In the meantime, the gentlemen's toilets were refurbished to cope with our increased number of visitors.

Improved signage for visitors is being addressed, with new exterior signposting funded by DCMS/Wolfson being produced jointly with the Pitt Rivers Museum, and interior signage being upgraded to a consistent and clear style. The signage will show the new logo and lettering, part of a new branding package created for the Museum in the summer. All the signage will be installed in the coming year.

The Museum 'brand'

During the design of new signage, it quickly became apparent that the Museum needed to review the way its name and logo were presented, not only for signs but also for letter headings, publications, shop products and other applications in which the Museum is promoted. Mr Toby Whiting, Deputy Head of the University's Publications and Web Section came up with six suggestions which were presented to the staff and Visitors for comment. In response to the feedback he received, he drew up the final design, a subtle and stylish representation of the Dodo, the single specimen most closely associated with this museum by our visitors. To this he added the Museum's name in graded lettering, using a typeface that complements the strokes of the logo. The new Museum branding toolkit was introduced to the staff by Toby in July, and is now being used on all the Museum's new products and promotional materials. We are very grateful to Toby for carrying out this design work for us.

OXFORD UNIVERSITY MUSEUM OF NATURAL HISTORY

The fine stonework and carvings on the eastern side of the gallery were made more visible to visitors in a second phase of laser cleaning. Only the north side remains to be cleaned.

Visitors will undoubtedly notice the bright yellow buckets that appear around the Museum on rainy days. The University Estates Directorate received funding from the University's Planning and Resources Allocation Committee for a feasibility study to complete

costings for the roof project, locate a suitable source of glass, and carry out technical testing. Raising the estimated £4-5 million to carry out the repairs and refurbishment of the roof will be a priority for the Senior Development Officer for Museums and Collections, Ms Amy Sewell. Since taking up her post in May, she has worked with the Acting Director, Administrator and Chairman of the Visitors to plan a major fundraising initiative for this Museum, to be launched in 2009 in time for the Museum's 150th Anniversary celebrations in 2010.

Activities and events

Family friendly activities were held every Sunday, and on various days during school holidays, with 16,562 children participating. Morning as well as afternoon activities were held for the first time and proved to be popular. Half-term activities were run jointly with the Pitt Rivers Museum, spreading the crowds across the two museums. Themes included 'Light and Dark', 'Weapons , Armour and Hunting', 'ARTefact', 'Trolls Rock', 'Dinosaur Roar', and 'Feathers and Flight'.

Family activities are run with the assistance of a large team of volunteers and we thank them for all their very important aid. At the Museum of Natural History, volunteers contributed 1,250 hours of time to public activities and events. These included three big events 'Winter Warmer', 'In a Different Light', and 'Wow! How?'.

'Winter Warmer' was the Museum's late evening opening in December, and its contribution to a city-wide 'White Night' festival aimed at Christmas shoppers. Over 2,000 people enjoyed local musicians, craft activities, film shows, object handling and a bar and refreshments.

'Wow! How?', a Saturday event held in March included several favourite activities from previous years such as the liquid nitrogen show from the University's Physics Department, as well as many new experiments and demonstrations. A total of 112 volunteers ran 32 stalls, and the event was attended by over 3,500 fascinated visitors

'In a Different Light' was our late evening opening to celebrate International Museums Week in May. It was organised jointly with the Pitt Rivers Museum and attracted more than 2,000 visitors. The Museum was illuminated by coloured lights, and made a magical venue for music and dance, insect and bug handling, mask-making, Hollywood-style photography

Community outreach

Susan Birch is the Cross-Museums Community Outreach Officer. Her special projects included 'Behind the Façade'. She took different community groups on behind-the-scenes tours, looking at how the museums work. For a party with visual impairments, Chris Jarvis and André Ashington provided a unique opportunity to handle real museum objects. They talked about their personal experiences of working in the Museum. Photos and sound recordings made during the session helped to form artwork produced in conjunction with artists 'brook and black' (Leora Brook and Tiffany Black) which was later displayed in the Museum.

André Ashington, stewardship technician for the Geological and Mineralogical Collections, introduces a visually impaired visitor to a model dinosaur as part of the 'Behind the Façade' project.

with prehistoric monsters, and vintage films. A licensed bar was provided and refreshments were served. The support of staff from across both museums helped make the event a great success.

On a natural history theme, our Saturday event in June 'Oxfordshire goes Wild' showcased local conservation and wildlife charities. Over twenty local organisations participated and the public were offered a wide range of experiences from seeing live owls and hawks, to stroking bumble bees.

Increasingly, the Museum is making its collections available to community groups through its outreach service. The Cross-Museums Community Outreach Officer ran over 130 outreach sessions, delivered to more than 1,500 adults and nearly 1,000 children. She engaged with a wide range of groups from Family Learning and Basic Skills classes to night shelters and mental health charities. Collections staff have also carried out outreach activities including talks, workshops, school visits, and advising specialist groups.

Procedures for ensuring compliance with child protection legislation have been put in place by the Volunteer and Outreach team, and Criminal Records Bureau (CRB) checks are now carried out for all volunteers and staff working with children or vulnerable adults.

Nearly all of the Museum's education and outreach staff are employed on a temporary basis with funding from the Museums, Libraries and Archives Council's 'Rennaissance in the Regions' programme.The programme also paid the additional costs resulting from the increased opening hours which began in 2006, and for support staff to improve access to the collections. Renaissance funding is hugely important for the Museum, adding substantially to the Museum's core funding which comes mainly from the University's General Board and the Arts and Humanities Research Council (AHRC). The current Renaissance funding lasts until the end of March 2009, and we await with interest and concern the outcomes of a review of the programme.

We note here too a generous donation to the Museum by the Negaunee Foundation, providing much-needed matching funding for grants received during the year.

Displaying the collections

The programme to renew all the permanent displays in the Court and upper galleries is nearing its conclusion. A series of new cases on the theme of the 'Rock Cycle' were completed early in the year. They show excellent examples of all the major rock types, organised according to their methods of formation: igneous, metamorphic and sedimentary. There is a short introductory label in each case pointing out key features and explaining how the rocks formed. They were designed as resources for teaching of the National Curriculum and for University undergraduate tutorials, and are also proving popular with the amateur geological community.

The 'Rock Cycle' cases were funded by the Trust for Oxfordshire's Environment (TOE) who have also helped to pay for a new insect display on the upper gallery. The balance of the funding came from DCMS/Wolfson. Further funding from this source is paying for new displays on plants and gemstones on the upper galleries, a series of cases on mammals in the main Court, and is contributing substantially to the costs of the new 'Geology of Oxfordshire' display.

The new thematic insect display focuses on the interactions between humans and insects. Specimens were selected and labels written, and a number of models were commissioned, or made in-house. Displays of botanical material are a new introduction to the Museum and provide a welcome showcase for the University's Herbarium which is not on view to the general public. Specimens were selected and text written by Dr Stephen Harris of the Department of Plant Sciences. They introduce the plant kingdom and feature topics such as plants and medicine, and the Oxfordshire flora.

New gemstones cases were built and lighting has been installed. Education staff helped review the the contents of the display which reuses much of the content of our original display installed in the 1990s. The specimens have been augmented by gems from the collection of Bernie Peel, presented to the Museum in 2004, and by stones purchased by staff at European mineral and gem shows in the past two years.

The 'Geology of Oxfordshire' display

The preparation of our new 'Geology of Oxfordshire' display, funded by the Waste Recycling Environmental Ltd (WREN) and DCMS/Wolfson, has engaged much of the time of Geological Collections staff through the year. The display occupies sixteen cases on the east side of the upper gallery.

Between October and December, the 30-year-old display was taken down and several thousand specimens painstakingly removed from their backboards. Many had been glued and nailed in place, making it a challenging process to retrieve specimens without damage. At the same time, extensive fieldwork was undertaken at sites throughout Oxfordshire and adjacent counties to obtain new specimens and photographs for use in the display. As with all displays, it was necessary

Phil Powell talks to a worker at Ardley quarry while collecting specimens for the new displays. Dinosaur trackways discovered in the quarry make it a locality of special interest.

to document details of all the specimens being removed and all those being mounted in the new cases. Identities and details were checked, and new labels written. Layouts were agreed for each of the backboards, and designs are under way for a set of baseboards which demonstrate the relevance of geology to local life.

Mounting the display will be completed over the winter of 2008-9.

Specimens from the Museum have been loaned for exhibition in other museums, most notably the 'Red Lady of Paviland', which was sent to the National Museum Cardiff, for display in their new 'Origins' exhibition. It is the earliest human burial found in the UK, and was discovered in 1823 in a cave at Paviland, on the Gower peninsula in South Wales. Improved carbon dating of the bones and associated artefacts this year has indicated a date of 30,000 years BP, some 4,000 years earlier than previously thought.

Temporary displays

Temporary displays attract new audiences and encourage repeat visits, and there has been a full programme through the year in the upper gallery. It started - and ended - with 'Insider Art', exhibitions of art and crafts by members of staff from the Museum of Natural History and the Pitt Rivers Museum. In between, we hosted 'Plant forms from Gondwana' an exhibition of watercolour studies of fossil plants associated with the early southern continent of Gondwana by Dr Heather McLennan; 'The Beauty of Small Things' an exhibition of wildlife art by Annabel Harris; 'Life in the Wild', woodcuts and drawings by Hernando Osario, a Columbian artist based in Austria; and 'Formations: images from rocks.' by Professor Richard Weston of Cardiff University. This featured designs produced by digital imaging of rocks and minerals, printed on silk as spectacular wall-sized images, and on textiles made into rugs, ties and scarves.

Media and publications

Television, radio and webcasts have brought the Museum and its staff to the attention of audiences all over the world. Richard Dawkins, the Simonyi Professor of the Public Understanding of Science, presented a three-part documentary 'The Genius of Charles Darwin' to be screened by Channel 4. He had other television appearances in the UK (including a

cameo appearance in 'Dr. Who'), as well as the USA, Australia, Germany, Norway, France and Portugal. His numerous radio interviews included those for BBC Radio, National Public Radio New York, Los Angeles and Washington and ABC in Australia.

His book *The God Delusion* was released in paperback edition. It has now been published in 31 languages and to date, has sold over 1.5 million copies in English alone. He has edited *The Oxford Book of Modern Science Writing*, published this year.

Zoological Collections staff spoke on topics as diverse as extinction, the Dodo, and the possible discovery of Yeti hair, and were interviewed in a *Nature* videostream discussion on the evolution of the duck-billed platypus. A new star of the small screen has turned out to be the Museum's Assistant Curator of the Entomological Collections, Dr George McGavin, who left the Museum to pursue a media career in February.

Our nesting colony of swifts, the subject of research since 1947, has also featured in television broadcasts and newspaper articles, attracting considerable interest from ornithologists. Because of the large numbers of hits to the Museum's swift webcam site and the deteriorating quality of the images, four

A new media star

Following a number of high profile media appearances, Dr George McGavin took early retirement in February to focus on a career in media and writing. He had spent 5 weeks in Guyana filming the BBC TV series 'The Land of the Jaguar', in which he featured as one of the team of expert natural scientists fronting the programme. This very successful follow-up series to 'Expedition Borneo' in which he had also starred, was aired in 2008. George has given interviews about insects and general natural history to BBC Radio Oxford and BBC's 'South Today', and appeared on a number of occasions on the 'The One Show' (BBC1). Together with Chris Jarvis from the Education Department, he was filmed for the Channel Five pop science quiz 'What in the World?' hosted by Marcus Brigstock. The show will be aired in the autumn.

George McGavin (centre) with Gordon Buchanan (left) and cameraman Jonny Rogers (right) filming for 'The Land of the Jaguar'. (photo: Jin Packard/BBC)

George left the Hope Collections after more than 20 years. He led the rehousing programme of the Hope Collections, and was a great contributor to all aspects of the Museum's activities, from public outreach to teaching and research. His many publications and books have introduced a variety of young students to the delights of the insect world. He tutored, and taught during field trips, generations of undergraduates, many of whom carried out vacation placements in the Collections.

A reception was held to mark George's departure, and the entire Museum staff wish him well for the future.

new infrared CCTV cameras were installed together with a video server. Images of the swifts on the web and on the television screen in the Museum Court have greatly improved as a result. This year has also seen the trial replacement of four swift nest boxes, the old boxes having deteriorated badly. Three of these were occupied, and with a total 80 nest boxes occupied and 112 young reared, this has been a successful breeding season for the swifts.

Valuable income was raised from filming and photography contracts, and it is hoped that the very useful revenue from filming will continue, especially with the Darwin celebrations in 2009.

Schools Education

The schools' programme continues to be extremely busy, with a total of 28,030 students visiting the museum in organised groups. This increase of 18% on 2006-7 is largely due to a new requirement that language school groups pre-book their visits.

A total of 7,855 primary school pupils received taught sessions on topics as diverse as dinosaurs and animal adaptation. A further 3,019 pupils came on 'unfacilitated' visits, often because taught sessions were fully booked. The number of secondary school students visiting the museum rose, with 3,751 students receiving taught science sessions and a further 2,845 students carrying out art classes. Sixth form study days continue to be very popular. The Real World Science partnership with the Natural History Museum in London, the Hancock Museum and the Manchester Museum continued with a grant for a further three years funding from DCMS. In September, the Museum co-ordinated a University Collections Open Day for access and admissions officers, and in December, it hosted three highly successful Access Christmas Lectures.

Examples of new initiatives by the Education Department this year included a 'gifted and talented' session for selected Year 6 students in which the students dissected hearts and studied preserved organs to help understand their function. In a 'creative partnerships' project' on arthropods, students visited the Entomology Collections and carried

'Ideas and Evidence in Science'

This new Key Stage 3 workshop was held for 95 pupils from Cherwell School, Oxford, in June. Students were presented with several challenges involving the evidence revealed by fossils, and were asked to consider their interpretation. It was a collaboration with the Sedgwick Museum in Cambridge and involved the theatre group 'Pif-Paf'. They performed a specially written version of their 'extinct animal troupe' in the Museum Court, with William Buckland and Mary Anning as key characters. The programme was designed to suit the new science curriculum and was evaluated very favourably by teachers.

Learning about evidence in science with Pif-Paf.

out surveys on Port Meadow, learning how to identify a variety of arthropods and consider how their habitat could be conserved. Outreach workshops on microfossils were held as part of the Oxford University Science Week Roadshow, and a new Key Stage 3 session on 'Ideas and Evidence in Science' was launched in June.

Electronic access

There were over a million visits to the Museum's website, a significant increase from last year. The most popular web pages continue to be those in the Learning Zone with links to the science national curriculum. They account for more than half of all visits to the Museum's website.

In December 2007 the IT staff worked with our Education team to set up a videoconferencing session between the Museum and the Natural History Museum in London. Visiting sixth formers were able to ask questions directly to a panel of scientists based here and in London. Similar 'Ask the Scientist' podcasts are now planned for the Museum website.

Access to electronic databases by the Museum staff has been improved as a result of an upgrade to the network infrastructure within the Museum. This was carried out in conjunction with the network support team of the University's Computing Service and has resulted in a welcome increase in the speed of data transfer.

Caring for the the collections

At the heart of all the Museum's work are its renowned collections, which are of international, scientific and historic importance. They are managed by four departments. The Hope Entomological Collections look after insects and other terrestrial arthropods, and the Zoological Collections look after other animal groups. Geological Collections look after fossils, while minerals, rocks, meteorites and gemstones are cared for in the Mineralogical Collections. The Museum also has the Hope and Arkell Libraries and significant archives.

Curation and conservation work

All four Collections have made good progress in maintaining high standards of care of the collections, addressing documentation backlogs, and upgrading storage where necessary. This work is carried out by Collections staff and honorary associates, with assistance from a growing number of volunteers. Staff also process loans and answer many thousands of enquiries from members of the public, other museum professionals and academic researchers. A new initiative this year has been the E.P. Abraham Internship programme which has enbled us to employ students to carry out curatorial projects in the Museum.

In May the Museum took possession of a large storage room in the old Inorganic Chemistry Laboratory which has provided much needed temporary storage for various collections. There has been minimal progress in achieving a long-term solution to the University museums' storage needs with a permanent off-site store.

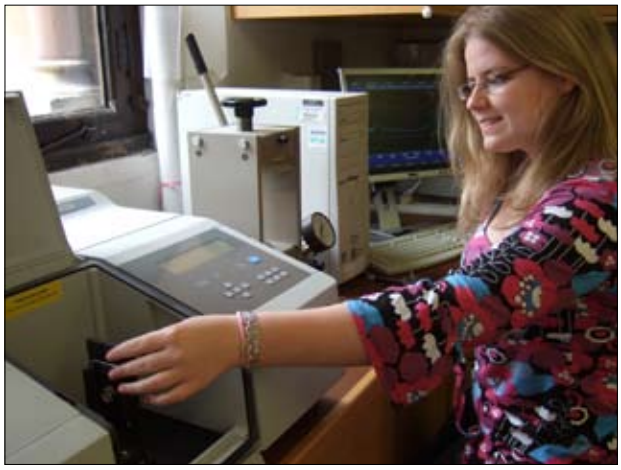
In the Zoological Collections, major projects have been the rehousing of the vertebrate zoology spirit collections, and the reorganisation and re-storage of osteological material and casts stored in the Engineering Sciences basement, one of our off-site stores. All specimens are now housed using conservation grade materials, and databases have been updated. Curatorial work has also been carried out on the dried fish collections, bird nests, and mollusc collections. A new project has been the conservation of the dried amphibians and reptile collections.

Sorting and rehousing of entomological collections is an ongoing project. The specialist knowlege of staff and volunteers was employed to good effect locating, identifying, reorganising and rehousing the dung beetle, cockroach, ground beetle, diptera and aquatic bugs, as well as various miscellaneous collections. The Wollaston Collection, mainly of Coleoptera from Madeira, has been rehoused and the database has been updated ready to go online.

The E.P. Abraham Internship Programme

A new internship programme funded by the E.P.A. Cephalosporin Fund enabled us to employ five University students for eight-week placements. We gave priority to those who had already assisted the Museum as volunteers. The programme provided good, focused, work experience for the students that would serve them well in their future research or professional careers. It was also an excellent way for the Museum to get much needed curatorial work done.

In Mineralogical Collections, final year MEarthSc. student Laura Cotton learnt how to identify some of our previously misidentified minerals using a combination of visual identification, energy dispersive X-ray analysis and Fourier transform infrared spectroscopy. Her project also involved documenting the specimens and spectra. Leila Battison, another final year MEarthSc. student, worked in Geological Collections on the collection of Palaeozoic fossils formerly belonging to Oxford bookseller James Parker (1833-1912). She cleaned, sorted, and checked the identities of the specimens, and carried out historical research.



Laura Cotton using the the Museum's infrared spectrometer to identify minerals.

In the Hope Entomological Collections, Jessica Law, a first year biology undergraduate, helped with the re-storage of the Lepidoptera collections and sorted samples of mixed insects into orders. These had been collected from traps in Bolivia, Venezuela, Africa and other locations. She mounted or pinned the specimens ready for drying, labelling and adding to the Collections.

Jessica Law sorts insects in the Entomological Collections.

Two students worked in Zoological Collections. Laura Golding, a final year biological sciences student, evaluated and accessioned specimens from the spirit-stored collections of decapod Crustacea, before labelling and then re-storing them. First year student Eliana Tacconi curated the collection of anatomical models in the Vertebrate Zoology collection, cleaning, documenting and photographing them.

We thank the Trustees of the E.P.A. Cephalosporin Fund for enabling this pilot project, and hope that internship programmes will be continued in future years.

In the summer of 2008, an application was made to the University for approximately £1.6 million to rehouse the historic insect collections which occupy the Huxley Room. The aim was to improve access to the collections for researchers, and to protect the specimens from museum beetle (*Anthrenus)* damage. It would also have released staff to progress curatorial work on other parts of Entomological Collections. The bid was unsucccessful and consequently fund-raising for this project will be a high priority in coming years.

In Geological Collections, curatorial work focused on specimens returned from the old local geology displays and going into the new ones. Identification and accessioning was carried out of Cretaceous fossils from France and Morocco, and of specimens in the Palaeozoic, Jurassic and Cenozoic collections. Work also started on the cataloguing of the Pleistocene and Holocene fossils of the Baden Powell collection. Some 3,103 specimens were catalogued during the course of the year.

In Mineralogical Collections, recent accessions of minerals and decorative rocks were catalogued and progress was made on labelling the miscellaneous rocks collections. With a six month placement by a Hub-funded clerical support officer and voluntary assistance from an experienced amateur geologist, good progress was made with the electronic cataloguing of the historic rock collections. Some 1,832 specimens were catalogued.

The vertebrate spirit collection project

The vertebrate zoology collections of the Museum include some 6,000 tanks and jars of wet-preserved specimens. Many came from the historic anatomy teaching collections of Christ Church, and they include rare and exquisitely prepared samples where mercury was injected to reveal delicate systems of veins. Others are more recent, for example specimens collected on University expeditions.

The project, managed by Vertebrate Zoology Collections Manager Mrs Małgosia Nowak-Kemp, was to move the entire vertebrate spirit-stored collection from wooden racking to a new mobile storage system. Remedial conservation would then be carried out, for example transferring specimens from any cracked or poorly sealed containers to new bespoke glassware.

The new mobile storage system for the vertebrate spirit collection.

Work began in July 2007, with the removal of all the jars and tanks to temporary storage. New floors were laid, and when electrical work was completed, the new electric mobile shelving units were installed. Containers were then returned to the refurbished stores. By spring the new fume cupboard had been commissioned, and the glassware ordered. These were delivered by July, together with equipment to identify, and where necessary, to replace the preserving fluids. A one year support post will enable the conservation work to be completed during 2008-9.

Such a large project has required special funding which was received from the E.P.A. Cephalosporin Fund, the Museums, Libraries and Archives Council's PRISM Fund, and St John's College.

They include samples collected by Professor William Buckland on his tours of Europe in the early 19th century.

Other routine, but time-consuming conservation work across the collections included monitoring and treating of sulphide-bearing geological specimens that showed signs of oxidation, and checking for museum beetle (*Anthrenus*) infestations in dried biological material. Where infestations were found, they were being eradicated by deep freezing.

Health and safety in the Collections

The collections include hazardous materials, and various protocols and procedures were introduced to ensure the safety of staff and visitors. A systematic survey for radioactivity in geological specimens was carried out by Mineralogical Collections staff, and an IATA training course for the Shipping of Dangerous Goods in Excepted Quantities by Air, was co-organised and successfully attended by Zoological Collections staff. This certification is necessary for transporting biological specimens preserved in alcohol. The University Estates Directorate arranged for the Museum's six-yearly inspection of all the wiring and socket outlets which took 8 weeks to complete; the disruption to Museum activities was minimal.

Safety briefings for work exerience students and new procedures for dealing with overseas fieldwork applications were drawn up, and health and safety issues relating to access to the swift colony were reviewed in collaboration with the Division's Safety Officer.

The library and archives

The library and archives lost a popular, gifted and hard working volunteer with the death at the end of October of volunteer archivist Jeannine Alton (1922-2007). Jeannine began

Radioactive geological specimens

Some minerals and rocks are natural sources of the radioactive elements uranium and thorium, and all the Museum's geological collections were surveyed for samples that had above background levels of radioactivity. Working with the radiological protection staff of the University's Safety Office, Mineralogical Collections staff surveyed all the mineral and rock collections and selected palaeontological material, to locate all low-level radioactive specimens. These, as well as radioactive minerals currently in Controlled Area storage, were imaged, weighed and dose measurements taken before being re-labelled and returned to store.

Documented and re-labelled mineral specimens ready to be returned to the stores.

The Museum's holdings of a total 912 radioactive specimens have now been fully documented to levels required for compliance with the Radioactive Substances (Geological Specimens) Exemption Order of the Radioactive Substances Act 1993, the Ionizing Radiation Regulations 1999, and the European Commission Regulation (Euratom) 302/2005. This large project took several months to complete. We would like to thank the University's radiation protection team for their help, and particularly acknowledge the contribution of former Deputy Radiation Protection Officer Niall Higbee who masterminded the project.

her archival work in 1973, cataloguing the papers of eminent scientists associated with the University for the National Cataloguing Unit for the Archives of Contemporary Scientists. She moved to the Museum in1997 where she had worked nearly full time for the last ten years. She had completed the sorting and cataloguing of the papers of T.R.E. Southwood, J.M. Edmonds, L.R. Wager, W.J. Arkell, K.G. Cox, W.S. McKerrow, and D.F.W. Baden-Powell and was nearing completion of the papers of M.R. House. This is a remarkable achievement which will always be greatly valued by the Museum. She will perhaps be better known in Oxford for her eloquent and often witty reviews as an arts critic for the *Oxford Times*.

The library has continued to provide an essential service to Museum staff and users both inside and outside the University. Good progress continues to be made in the cataloguing of reprint collections containing papers relevant to the collections, and important monographs not readily available elsewhere in the University have been added to the University's OLIS catalogue.

A remarkable acquisition was made during the summer of 2008, the only known copy of a unique printed work, William Smith's *Description of Norfolk*. Other books and journals were also purchased or donated. Conservation work has been carried out on manuscripts from the archives of Professors A.H. Green, Sir Joseph Prestwich, John Phillips and William Buckland, and on papers relating to the building of the Museum.

University teaching and research

The Oxford University Museum of Natural History is a department of the University of Oxford and its staff carry out research and teaching as well as assisting with these activities in other departments.

Student teaching

The Museum, its staff and collections have contributed substantially to University teaching in a variety of ways. Curators, as University lecturers, have given 138 hours of undergraduate lectures and more than 100 hours of taught practicals and field classes in the departments of Zoology and Earth Sciences. Lectures were given to Archaeology students by the head of the Environmental Archaeology Unit. Museum staff also supervise DPhil students, and set, invigilate and mark examinations.

Practicals and tutorials were organised in the Museum by Zoological Collections staff for around 152 undergraduate and postgraduate students from the University of Oxford and Oxford Brookes University. The nineteen practical sessions used material from the vertebrate zoology collections for courses which ranged from archaeology and anthropology, human biology and mammal evolution, to primate conservation and environmental education.

Tutorials were carried out in the Museum using specimens from the stores and those on display. Loans of teaching specimens were also made to other University departments. For example specimens from the Museum's meteorite collection were used on a number of occasions for tutorials in the Museum and lecture demonstrations in the Earth Sciences Department.

There were 49 visiting parties from further and higher education institutions during the year, some using the displays to support coursework, others studying the architecture or using the Museum as a location for art classes. Four came from the USA, one from Holland and the others from all across Britain.

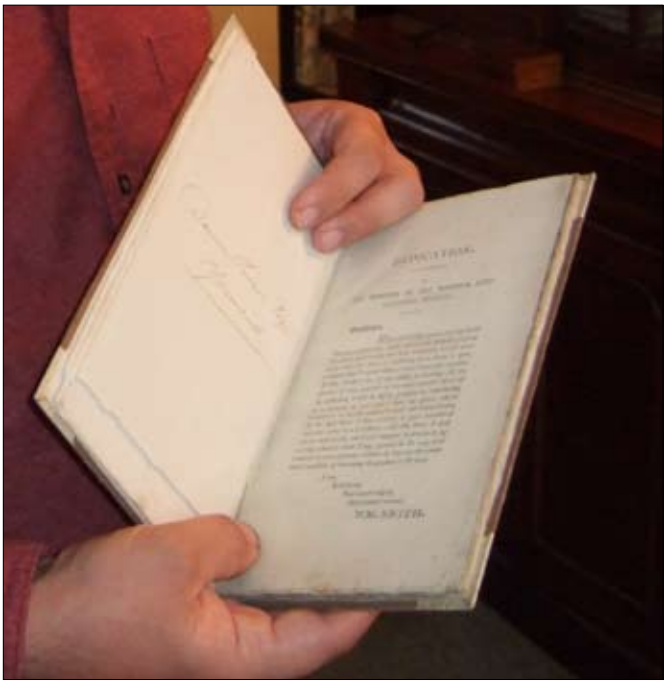
The Museum's lecture theatre continued to be used daily during term time for some 377 hours of mathematics and chemistry undergraduate lectures. Servicing of the lecture theatre for use by other departments of the University has been recognised as a cost burden to the Museum and we await permission to charge departments for future uses of the lecture theatre.

Research

Areas of the collections which were the focus of active research within the Museum included fossils of the Herefordshire Konservat-Lagerstätte, the Himalayan metamorphic

William Smith's *Description of Norfolk*

William Smith (1769-1839), the 'father of English geology', was at the forefront of early 19th century geological research, well known for his extensive mapping of England. Only the first part of his *Description of Norfolk* (c.1807) was published and only a single copy, comprising an acknowledgment, preface, and 56 pages of text, was known to exist. Its past history was well documented, but it had been lost since the 1950s.



The acknowledgement in William Smith's *book*.

The book turned up at the bottom of a carton of brassware purchased by an antiques dealer in Great Yarmouth, who kept it with his local history books. When he read Simon Winchester's book about William Smith, *The Map that changed the World*, which told of the long lost *Description of Norfolk*, he realised the significance of his find. He contacted Professor Hugh Torrens of Keele University, who verified the authenticity of the book, and recommended that it should be first offered to us. The Museum already holds the extensive archives of notebooks, maps and correspondence of William Smith, making it the first port of call for the many people interested in Smith's work, from historians of geology and surveying to those researching family and local history. Despite strong interest from overseas and private collectors, the dealer was keen to see this rare book preserved in a UK library where it would be accessible to the general public, and he gave the Museum until the end of June to raise the sum of £24,500.

This was achieved thanks to very generous donations from the John Murray Charitable Trust, the Friends of the National Libraries, and the University's Hulme Fund. The book, was successfully purchased in July, and we would like to thank the vendor and all those who made this possible. It is in remarkably good condition, and has, glued in it, various items of correspondence from the author and others which outline its history. After some minor conservation work, the book will be digitally scanned and catalogued. It is a small but very exceptional addition to our library and archive, and as with our other important early works on British geology, it will be made available online.

rock collections, parts of the Diptera (fly) and Coleoptera (beetle) collections, and Cretaceous ammonites. Historical research was carried out on the Thomas Bell Chelonian collection and the human remains collection in Vertebrate Zoology, and on type insects in the Entomological Collections. Other research topics included Caridean shrimps, insect population ecology and the epidemiology of vector-borne diseases, and the environmental archaeology of Roman sites in the UK and at Herculaneum in Italy. Museum staff were

invited speakers or presented papers at some thirty conferences and meetings around the world.

Growth of the collections goes hand-in-hand with research. For example, two particularly significant acquisitions by the Hope Entomological Collections were Dr Knut Rognes's outstanding collection of North European calyptrate flies and other Diptera totalling some 5,000 specimens, and the Middle-Eastern bee collection of C.G. Roche comprising around 10,000 specimens.

An indication of our strong research profile is given by the total of 64 publications by members of the Museum's staff and Honorary Associates in the past year, the majority in refereed journals, conference proceedings and scholarly books. A number of staff sat on the editorial boards of journals

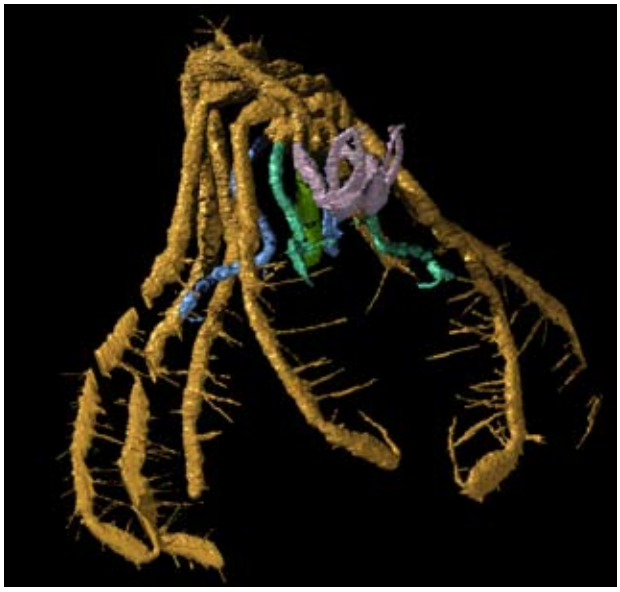
Research was by no means restricted to the Museum's staff. More than 600 visits were made to study the collections, from countries worldwide. Although electronic imaging helps to make the collections more accessible to researchers in other institutions, it continues to be necessary to supply specimens on loan. In excess of 13,100 specimens were supplied to some 147 recipients. A further 20 samples were supplied for destructive research.

The Herefordshire Konservat-Lagerstätte

The c.425 million year old Herefordshire 'Lagerstätte' is a rare fossil deposit because both soft tissues and hard parts of animals are preserved. Fossils are found in nodules as three-dimensional specimens, the shape of the original animals preserved with astonishing accuracy in three dimensions.

Professor Derek Siveter, the Acting Curator of the Geological Collections, is part of a small team of palaeontologists that have been researching this remarkable fauna since its discovery in the mid 1990s. They have carried out digital imaging and computer generation of 'virtual fossils' to reveal what these small marine invertebrates looked like, information that has helped fill gaps in our knowledge of the history of life.

This year, Derek gave a talk on arthropods from the Herefordshire site at the Fourth International Trilobite Conference in Toledo, Spain, and contributed to a number of presentations by his team at conferences in the UK, Germany and the USA. He had two papers published in the *Proceedings of the Royal Society*. Towards the end of the year, he secured a major NERC research grant to continue the project for a further 2½ years, and we were very pleased to learn that he was awarded the title of Professor of Earth Sciences in the University's Recognition of Distinction Exercise for 2007-8.



Computer reconstruction of *Haliestes dasos*. The animal is approximately 4mm long.

Cover photograph shows newly re-housed entomology and vertebrate zoology collections, and seed pods exhibited in the new botany display.

This *Summary of the Year* is part of the *Oxford University Museum of Natural History Annual Report 2007-2008*. It was compiled by Kristin Andrews-Speed from reports supplied by heads of Collections, Sections and Research Units. It was edited and designed by Monica Price. Photographs are by members of the Museum staff unless stated otherwise.

For further information about the Museum, please see our website, www.oum.ox.ac.uk.

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