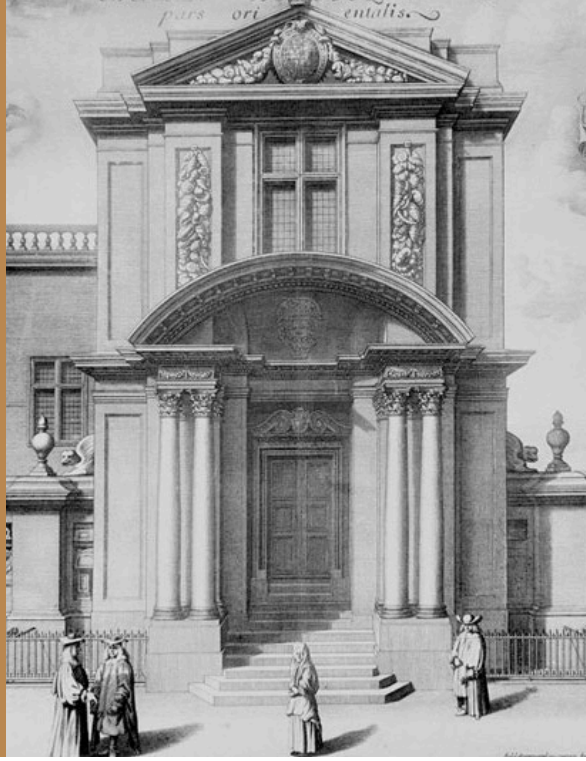
ASHMOLEAN
MUSEUM OF ART AND ARCHAEOLOGY UNIVERSITY OF OXFORD

"KEEP THOSE THINGS AIRED THAT WILL STAND IN NEED OF IT"



Mark Norman on the development of preventive conservation in the Ashmolean Museum

Although founded in 1683, and claiming with some justification to be the oldest public museum in the country, (Fig 1) the Ashmolean did not keep any systematic conservation records until the late 1950s when the first conservators, who had not been trained within the institution as apprentices, joined the staff of the Department of Antiquities. However, both preventive and interventive conservation were practiced throughout the intervening 332 years and this is not surprising given the original remit of the institution which was described by Anthony Wood at the time as *"promoting and carrying on with greater ease and success severall parts of useful and curious learning, for which it is so well contrived and designed"*.

1. The Ashmolean Museum, designed by the Oxford master mason Thomas Wood, and opened to both the university and the public in July 1683.

However, as Robert Ovenell pointed out in 1986 in his book *The Ashmolean Museum 1683–1894*, the building was not *"simply a museum to house Ashmole's collections – it was an institution designed for the study of the new discipline of natural philosophy, with a laboratory superbly equipped for experimental research, a magnificent lecture hall, and with a museum of objects close at hand to aid and illuminate these studies"*. In short, it was the first research centre for the study of Man in relation to his environment in the world where equal space was dedicated to laboratory work, science teaching, and housing and displaying natural and man-made collections. In that sense, the Ashmolean has changed little since its foundation except that since the late 19th century it has moved away from ethnology and the natural sciences and focused on the University's world class collections of archaeology and fine and decorative arts.

This paper is an attempt to summarise this period in the development of conservation by surveying some of the available documentation which details the sort of problems faced by the collections and their keepers, and the methods which were applied to resolve them. What is immediately evident, however, is that the nature of conservation issues has not changed during this time – the museum environment, pollution, corrosion, insect infestation, vandalism, poor curation and inadequate accommodation are

themes that occur throughout the museum's archives and in correspondence relating to its collections up to the present day. How the museum dealt with these difficulties, when far less was known about the underlying reasons behind them, is a both a fascinating and frustrating project – fascinating because of the depth of understanding of fundamental problems at many periods in the museums' history and frustration because this understanding was often ignored or forgotten by subsequent curatorial regimes.

The museum's environment was an issue even at the design stage. In a letter to the Bodleian's librarian, the museum's founding benefactor Elias Ashmole proposed *"the building of some large Roome, which may have Chimnies, to keep those things aired that will stand in need of it"*. This probably constitutes the earliest environmental brief ever given to a museum architect, the Oxford mason Thomas Wood. Some years later, John Aubrey wrote on behalf of Ashmole expressing concern about the problems of hanging paintings in the museum and proffering advice on how best to avoid the effects of damp wall plaster and condensation *"Mr. Ashmole & I doe both desire of you, to let the Pictures hang reclining from the walls: otherwise the salt and saltpetre in the walls will rot the canvess, as you have a sad instance of the Queens Picture by the laboratory"*.

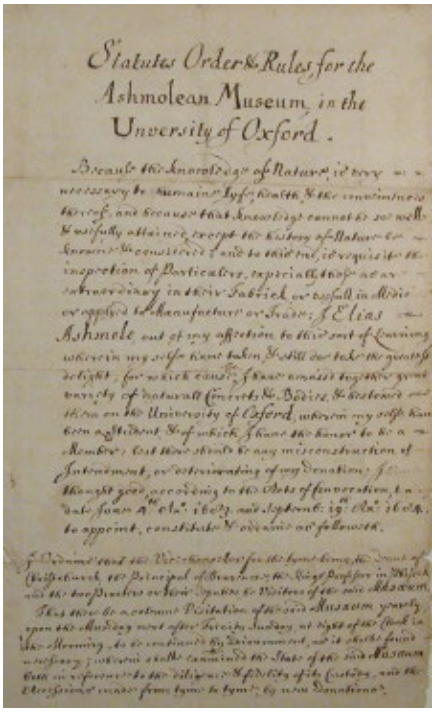
Even before any museum was built, the condition of the University's collections of Classical inscriptions were giving cause for concern. Seeing them fixed to walls in the open air in a 'Garden of Antiquity' designed by Christopher Wren (Fig 2), the diarist and gardener John Evelyn suggested to the Vice Chancellor the planting of *"an hedge of holly… to be kept breast high only, to protect them"* because *"idle people had began to Scratch and injure some of them"* in 1669. His concern was made all the more urgent by the fact that he had brokered their presentation to the University some years before after he had seen them *"miserably scattered and neglected in the gardens of Arundel House (and) how exceedingly the corrosive air of London impaired them"* in 1667. By 1715, the 'Garden' had been dismantled and the inscriptions moved under cover but in 1710, a German visitor, Zacharias Conrad von Uffenbach wrote of them *"They are certainly unusually beautiful, and I doubt whether in the open air thay are enough prized or sufficiently protected from destruction… And mischievous youths might easily do damage, to say nothing of wind and weather"*. The weather certainly took its toll on many of the pieces, but most particularly an Egyptian limestone relief which had been presented to the University by Robert Huntington in 1683 Describing the decay of his 'stones' in Alexandria before shipment, Huntington wrote *"tis plain they can't endure the Weather, which is sufficiently corroding there… then they'l crizzle and scale"*. In 1683 the air of Oxford was certainly different from that in Egypt, but clearly no less aggressive (Fig 3).

As has already been demonstrated, Elias Ashmole was no amateur when it came to dealing with the practicalities of administering a rich and diverse

2. The east front of the Ashmolean Museum engraved by Michael Burghers in 1685, flanked by two sections of Sir Christopher Wren's 'Garden of Antiquity' which survived the building of the museum in 1683. These inscriptions remain in the Ashmolean's collections.

3. Limestone relief from Saqqara, Egypt. Given to the University of Oxford in 1683 by the Rev Robert Huntingdon, it retains traces black particulate pollution deposited on the surface when it was displayed in the open air adjacent to the museum in the 17th century.

collection. He devised a set of statutes for the Ashmolean (Fig 4) which survive in modified form to this day. They are designed to cover all eventualities and are not dissimilar to the sort of requirements currently laid down by Arts Council England for the Designation and Accreditation of museums. They dealt not only with administrative issues like copyright, security, appointments, and accounts but also collections management, for example, labelling and documentation, duplicates, disposal, loans, and condition reports. He was also all too aware of the dangers of irrevocable deterioration. Statute 6 states *"That whatsoever naturall Body that is very rare, whether Birds, Insects, Fishes or the like, apt to putrifie & decay with tyme, shall be painted in a faire Velome Folio Booke, either with water colours, or at least design'd in black and white… with some reference to the description of the body itself"* and any surplus money left after *"the allowance for Pensions & sweeping and making clean the Roomes be discharged to be layd out in Paynting or drawing such naturall bodies, as are neere perishing"* Unfortunately this book does not survive, a last reference being made to it in 1762 when payment for such drawings was recorded in the museum's accounts.


Statutes Orders & Rules for the
Ashmolean Museum in the
University of Oxford.

4. The introductory page of the 'Statutes, Orders and Rules for the Ashmolean Museum' drafted by Elias Ashmole and which remain as relevant today as when they were written in 1683.

Protection for the museum's collections from both the environment and careless handling is a recurrent theme throughout the archives. A code of practice was written by the Keeper, Edward Lhwyd, for the library in 1695 so that readers might *"be inform'd how to demean themselves amongst things that are acquired and preserved with so much difficulty"* but this seemed to have little effect upon the museum's other users. In his journal, Von Uffenbach wrote *"The specimens in the Museum might also be better arranged and preserved… But it is surprising that things can be preserved as well as they are, since the people impetuously handle every thing in the usual English fashion and… even the women are allowed up here for sixpence; they run here and there, grabbing at every thing and taking no rebuff from the sub-custos"*.

Handling and security were obvious concerns and by 1716 the Keeper, John Whiteside was not only framing, but glazing, the Ashmolean's pictures – *"a frame and glass to Mr. Ashmole's picture, 1s 04d"* in 1719, *"3/- to frame and glaze Dr. Radcliffe's portrait"* and, in 1721 he paid £1 5s 9d to *"the joyner for setting up drawers for coins"* and other sums for *"cloth to line the drawers and glass to cover them"*. At a time when sheet glass was an expensive commodity, this is an interesting early example of the technique now known as 'conservation framing' which is widely used to protect environmentally sensitive paintings in the Ashmolean today.

Whiteside was succeeded as Keeper by George Huddesforde in 1732 and the collections entered a difficult period under a custodian who was thought to care little for his responsibilities. Indeed, it was generally held that the Tradescant Collection was *"much the worse for wear"* because of the neglect of Huddesforde and *"his understrappers"* and that this was the

reason why Sir Hans Sloane withdrew his intention of leaving his collection to the Ashmolean, choosing to send it elsewhere instead because he believed that *"the natural part would soon have perished under ignorant servitors' hands"*. Unfortunately, the *"natural part"* fared little better in the British Museum – Sloane's bird collection, given in 1753, does not survive.

In 1755, in one of his last acts as Keeper, Huddesforde sanctioned the destruction of a large number of decaying natural history specimens. The catalogue of the day shows that most of the birds and eggs, and all the insects not preserved in jars, were destroyed. Successive generations have pilloried Huddesforde for this but he probably had no alternative. Many of the specimens had appeared in the *Musaeum Tradescantianum* which had been published a century before, and some were older even than that. The taxidermy methods employed at that time were primitive and offered little protection from environmental damage and pest infestation – both remain an undiminished threat to this sort of collection to this day despite vastly improved methods of preservation. To his credit, though, Huddesforde did insist that where possible the beaks, legs, and claws of decayed birds should be retained and re-catalogued – survivors of this cull included those parts of Tradescant's Dodo which was to rise like a phoenix a century later to feature in Lewis Carroll's *Alice's Adventures in Wonderland*.

An uncontrolled environment, coupled with pollution produced by the open coal fires used to heat the museum, continued to take its toll amongst the collections. When the Reverend Borlase donated his collection of type specimens to the Ashmolean in 1758, William Huddesforde, who had succeeded his father as Keeper designed a case especially to hold them (Fig 5). This case survives in the Oxford University Museum of Natural History and modern data indicates how even a poorly built showcase like this can attenuate sharp environmental swings. However, this was evidently not enough for the pyrite nodules displayed in it because Huddesforde had to write to Borlase declaring himself *"sorry to find the Mundics (pyrites) so perishable a treasure – some of the best specimens being crumbled to pieces"*. An understanding Borlase replied saying that their self destruction was inevitable, owing to the natural presence of plentiful *"salts vitriolic Arsenical &c"* and Huddesforde eventually had to report to the donor that the mundics were *"gone to decay in spite of varnish and everey other care"*. Pyrites Disease still remains a threat to such collections and can only be prevented by keeping vulnerable specimens in a closely controlled environment.

When in 1823, John Shute Duncan was made Keeper, a new wave of professionalism swept over the museum. He overhauled its fabric, building new chimneys and installing wrought iron stoves with cast iron backs and iron doors to heat the building in place of open coal fires. He revised the museum's statutes and also commissioned new showcases from a Mr. Rowell who, for the next thirty for years or so, was to figure large in both the preservation and publication of the collections.

5. The Ground Floor of the original Ashmolean Museum in 1868 showing the portrait of Elias Ashmole hung over the fireplace, one of the 'chimnies' stipulated by him in a letter to the University, and the archaeological displays. The case made to house the collection given by Rev Borlase in 1758 Is situated between the 1st and 2nd pillars on the left hand side of the photograph.

Although the Ashmolean was to remain the University's principal museum for another half century, Oxford did have other collections. Foremost amongst these were the paintings held in the Bodleian Library and those ancient inscriptions and sculptures not held in the museum's basement. In 1839 a competition was announced for a design for new University Galleries and this was won by C.R.Cockerell whom the judges felt was the only architect to have satisfactorily lit the galleries using daylight. In the event, Cockerell amended his final designs and these were sent by the competition delegacy to William Dyce, Superintendent of the School of Design (later to become the Royal College of Art and Design) and Charles Eastlake, future Director of the National Gallery for comment. They, in turn sent them to Dr. Gustave Waagen in Berlin, Schnorr von Carolsfeld in Munich, and Baron Friesen in Dresden because experiments in Germany encouraged Dyce and Eastlake to recommend a combination of screens and windows for lighting small paintings and skylights for larger works. Waagen opposed the use of skylights, preferring high 'clerestory' windows for aesthetic reasons. Friesen, on the other hand, favoured skylights and was confident that although rain penetration might be a problem on the continent, it could not be so in England *"where mechanical skill has overcome so many difficulties"*. The new building was completed in 1845 (Fig 6) but clerestory windows were only used in the ground floor sculpture galleries – skylights were fitted in all the picture galleries in conjunction with conventional windows in some rooms. These were a constant source of leaks throughout the nineteenth century and remain a problem still. Cockerell, with some justification, blamed condensation for this and made designs for octagonal lanterns to replace them but these were never executed, presumably for financial reasons as the project was under-funded from the outset.

6. The monumental entrance to the University Galleries, designed by Charles Cockerell and opened in 1845. Following the move of the archaeological collections to this site in 1894 from the original Ashmolean building, this became 'The Ashmolean Museum of Art and Archaeology' in 1908.

In the Ashmolean building, however, the environment remained a constant problem and in 1884, the newly appointed Keeper, Arthur Evans reported on the museum's sorry state. Arguing for improved facilities for the teaching of archaeology along with better care of the collections he described one lavatory *"as a slow accumulator of sewer gas"* and also proposed *"for greater security from fire hazard"* the installation of central heating to replace the nine assorted open fires and hot air stoves which heated the museum in the winter season. Evans prevailed and, even if the environment itself was not noticeably stabilised by the development, the gaseous pollution issuing from the lavatory, and the particulate and other pollution from the heating installations, were either eliminated or greatly reduced as a result. The impact of this must have been immediate. Recent work on the frame of Ashmole's portrait, carved by Grinling Gibbons and presented by the sitter to the Ashmolean in 1683, uncovered significant staining of the lime wood carving – originally bare wood, it was so discoloured by smoke and soot by the middle of the19th century that it was painted white and subsequently gilded in an attempt to improve its

appearance. Evans also argued for more space and persuaded Edward Fortnum, an heir to Fortnum and Mason, to offer not only his collections of Antique and Renaissance art to the University but also endow the building of an extension to the University Galleries to hold them. By 1894, the construction was completed and the Ashmolean transferred its collections from the original building in Broad Street, which it had occupied since 1683, to the renamed Ashmolean Museum of Art and Archaeology in Beaumont Street.

The collection's environmental problems travelled with them to the new buildings. Although electric light was successfully installed with *"linolite lamps being fixed above most of the principal pictures"* the heating system here too was in something of a state by 1909 when D.G. Hogarth, newly appointed 'Keeper of the Ashmolean in general and the Antiquarium in particular' reported in 1909 that the *"The urgent desirability of reconstructing the warming apparatus, in order to increase its heating power, whilst at the same time removing the hot water pipes from their present positions, where they are causing serious damage to the pictures and drawings, has been presented to the Curators of the University Chest (Finance Department)"*.

His appeal for funds was effective because the following year he was able to tell the Board of Visitors (Committee of Management) of the Ashmolean that *"A new heating and ventilation apparatus has been installed. By means of this, fresh air is introduced by ducts under the floors, and warmed by batteries, also placed under the floor in the Great Gallery, and by ventilating radiators elsewhere, before being admitted to the galleries. By this system the temperature and humidity of the rooms is under complete control, and the sources of heat are kept at the greatest possible distance from the walls upon which the pictures hang… The electric light has been installed in both galleries. In the Raffaello Gallery a series of pendant reflectors casts the light upon the walls. In the Great Gallery the screens are illuminated by similar reflectors fixed above them, and the large spaces at the ends by pendants from the ceiling… In the Great Gallery a double system of blinds – cream coloured for use in modifying the light during the hours when the Museum is open, and opaque black for ensuring complete darkness when it is closed – have been fitted to the windows and skylights. By this means, the expensive and troublesome arrangement of local blinds to shield particular specimens can be dispensed with. The Department now has an excellent top-lit gallery… and a watercolour room with clear north light, protected from direct sunshine"*. He was also pleased to report that all the pictures in the galleries, with the exception of a few very large ones, were glazed indicating an awareness by the Ashmolean of the need to address the environmental needs of the collections years, if not decades before many of its contemporaries. This was made possible in part by a development of the cylinder method for the production of large pieces of

plate glass by Chance Brothers of Smethwick who, by the end of the 19th century, had become the largest enterprise in Great Britain for the manufacture of plate and window glass, lighthouse lenses and optical glasses. It was their products that were used to glaze, for example, the Ashmolean's founder's portrait (Fig 7). At a stroke, the Ashmolean had entered the era of contemporary preventive conservation long before many of its fellow institutions with contemporary research demonstrating just how effective even simple framing and enclosure of objects in showcases can be in delivering the stable conditions that are critical to the long term preservation of works of art.

At this time, the archaeological and applied art collections were displayed in showcases based upon the design developed for the South Kensington Museums some years before. Built from mahogany, fitted with glazed drawers to hold comparative material used in teaching and research, these ebonised cabinets were at the cutting edge of museum design and presentation. Photographs of the Ashmolean's galleries taken at that time show them crammed with objects so allowing tutors to make useful comparisons whilst exposing the student to the widest range of material possible (Fig 8). As a university museum, little account was taken of the needs of the general public who must have struggled to understand what they were looking at as there was little or no information in the displays that was not aimed at the specialist academic visitor. In the 1930s new galleries were built to extend the archaeological and paintings displays. Furnished with fashionable showcases built by Edmonds of Birmingham, to a design which remained unchanged until the 1950s, (Fig 9) these galleries were to remain effectively unchanged until the late 1990s. When built, there was little understanding of preventive conservation amongst most museum professionals, nor understanding of potential impact of the off-gassing of the case construction materials (e.g. plywood and oak) on their contents. However, as these showcases were far from airtight, the chance of building up critical levels of corrosive pollutants was reduced, but this was more by luck than design! Perhaps a more serious consequence of the building of a number of new galleries was the impact they had on the heating and ventilation systems installed a couple of decades earlier. In many instances, the new additions blocked existing ventilation ducts and dampers, and rendered them useless, so seriously compromising any control that the museum had ever had over the environment in its galleries.

The 1940s brought the Second World War to Oxford and much of the museum's collections were packed and dispersed in case of attack. Whilst the National Gallery was pioneering stable state storage for its paintings in slate mines in Wales, the Ashmolean packed its Greek vases in tea chests and sent many to a nearby country house for safekeeping. Although they survived the war, the adhesive used in the restoration of many of them was badly affected by damp so, after one had collapsed as it was removed from

7. The 'Tradescant Collection' exhibited on the north staircase of the 1894 Evans extension showing secondary frames glazed by Chance Bros of Smethwick protecting the portraits of Elias Ashmole, King Charles 2 and King James 2 in their elaborate frames carved by Grinling Gibbons. They were presented by Ashmole in 1683.

8. The Egyptian Collections displayed in 'Kensington' style cases made for the 1894 extension of the University Galleries by Frederick Sage and Co of London. Originally shop fitting specialists, by the early 1900s, the company were advertising themselves as *"Air Tight Show Case Makers, by appointment to the Indian and Colonial Governments"* and were supplying most major UK museums.

9. The Egyptian Collections shortly after installation in the new gallery built in 1936 and funded by the Drapers' Company. The showcases were supplied by A. Edmunds and Co of Birmingham, a company who were to dominate the UK showcase market until well into the 1960s.

its crate, all unpacking from that time was done over a mattress to minimise the risk. Also after 1945 the benefits of environmental control and glazing individual paintings seem to have been forgotten, or were ignored, as the Museum re-hung its paintings unglazed after their return from wartime storage in line with contemporary practice. At the same time, the traditional systems of daylight and blackout blinds fell into disrepair and were removed and gallery light levels increased dramatically as a result (Fig 10).

Seventy years later, a programme of glazing, or conservation framing, of paintings with low reflectance glass, is once again under way in the Ashmolean to manage the impact of displaying them in environmentally problematic historic galleries. Relative humidity and temperature data gathered from inside such frames demonstrates just how effective this low tech solution can be in areas where ambient conditions can be challenging (Fig 11). In addition to this, as galleries are refurbished, rooflights are being replaced with heat, light and UV attenuating glazing and new blinds fitted to reduce the lux/hour exposure of the collections, and humidifiers are deployed to counter low levels of humidity. As these control systems are being re-instated in the galleries temperature, relative humidity, and visible and ultra-violet light are monitored twenty four hours of the day at both macro (i.e. room by room) and micro (within showcases and even glazed picture frames) levels. Using a telemetric system that covers the entire institution, 24/7 data is collated and interrogated to not only measure performance but also inform the museum's rolling programme of environmental improvement.

During the 1950s and 1960s, although a number of additional conservators were appointed, these operated strictly within very separate curatorial departments. Inevitably, perhaps, all vied for space and resources and an unfortunate consequence of this arrangement was that there was no holistic perspective, either on the needs of the collections or how to deal with the very difficult environmental issues encountered throughout the museum's galleries.

The arrival of a new director in 1998 changed all of this. Coming from the National Gallery, he was well aware of the contribution that could be made, not only in terms of collections care, but also in the understanding of the collections, by a specialist conservation team. In 1999, a unitary Conservation Department was created which was able to take a strategic view of both interventive and preventive conservation needs across the entire collection for the first time since 1683.

During the period 2000–2006, a Masterplan for the Ashmolean was formulated by teams from the Ashmolean and their architects, Rick Mather Associates, to design a building that would not only redisplay the museums world class collections but also help preserve its contents. This involved extensive discussions between conservators, architects, M&E engineers

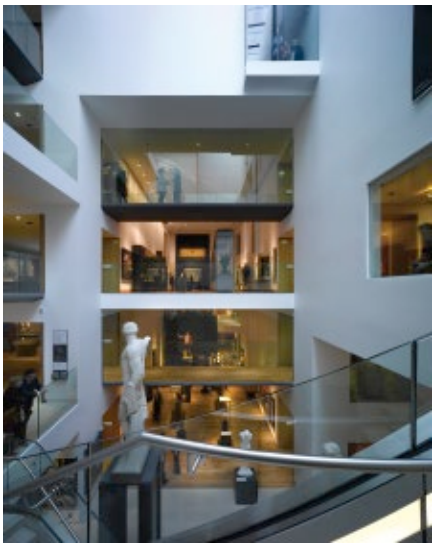
10. The Etruscan section of the old galleries, demolished in 2007 to make way for the museum re-development. These galleries had very severe environmental problems, including uncontrollable natural light levels and widely fluctuating temperatures.

11. The back of a 'conservation framed' painting. This shows the an embedded sensor/telemetric logger that records and transmits relative humidity and temperature data back to the Conservation Dept every 30 minutes. Together with the glazing at the front, the impermeable polyester film membrane sealing the back creates a microclimate around the painting.

and exhibition designers as they worked together to design out problems and come up with a collections-friendly building. Environmental and other factors were considered – these included broad environmental parameters for improved sustainability, light modelling to inform 3-D design and management of daylight ingress, and floating wooden floors to alleviate visitor fatigue. At a more local level, high grade showcases were specified so that microclimates could be created to allow the display of previously un-displayable objects and this would be achieved by a combination of the highest engineering and construction standards (which result in very low air exchange rates between the internal and ambient gallery environments), the use of inert buffering materials (which are pre-conditioned to maintain relative humidity levels specific to the needs of the contents of each case), and fibre-optic lighting to minimise heat gain. Of the 400+ new showcases, all but a small number were to be controlled passively in this way, so reducing the carbon impact. Added to this, the study collections were to be segregated by material and common environmental requirements to make most effective use of the limited storage areas and confer maximum benefit on the objects. By adopting this approach, the Ashmolean would then be able to make many sensitive and previously un-displayable parts of the collections accessible to the public for the first time.

In tandem with this process, a design concept known as Crossing Cultures/ Crossing Time was developed by curators, interpretation specialists and 3-D designers, working at every stage with conservators to design out issues such as the conflicting environmental requirements of incompatible materials such as metals and organics. The end result was a series of galleries whose themes and content support a narrative that draws the visitor through the building through use of eye-catcher/iconic objects and vistas linking previously disparate parts of the collections spread over 39 new galleries. The Masterplan was finally implemented between 2007–09. This £60,000,000 project included not only the building of a 10,000 square metre extension but also a structural and services overhaul and re-display of much of the Cockerell Building. This resulted in a doubling of display space in the Ashmolean, a quantum shift in the approach to the display and interpretation of its collections, a much needed Education Centre and, critically for the collections, the creation of a suite of world class conservation laboratories. The new museum was opened by H.M the Queen in November 2009 to great critical and public acclaim with visitor numbers quadrupling in the first year to 1.2 million (Figs 12, 13).

In 2011, a total re-design of the Egyptian Galleries brought the display of some of the Ashmolean's most sensitive collections into line with those opened in 2009. As environmental control at gallery level was simply not practicable in this area of the building, and because of the extreme environmental sensitivity of the Egyptian collections, the specification for the 35 new showcases required was even more demanding than that set



12. The re-developed Ashmolean Museum in 2009, looking westwards across the central Atrium. Lit by natural light, both the split level galleries and glazed bridges were carefully designed to help reduce illuminance levels in areas where sensitive materials would be displayed.

13. A view from the galleries built in 2009 looking towards the galleries designed by Charles Cockerell and completed in 1845 showing a range of showcases where the internal environment is controlled passively using a range of buffering agents. Glass doors separate the new climate controlled galleries from the uncontrolled original building.

previously for the main project in 2009. Once again, by working in close collaboration with architects, designers and showcase manufacturers, the Ashmolean team were able to develop and deliver innovative displays of objects (mummies, coffins etc.) that were previously impossible due to the appalling environmental conditions in the old galleries (Fig 14). At the same time, a comprehensive campaign of investigative and practical conservation was undertaken on the material being displayed – this was possible only because of the new climate controlled conservation laboratories completed in 2009.

14. A Roman mummy, in its cedar wood coffin, being installed in a showcase by Meyvaert and Co of Ghent. As it is sited in a gallery with no ambient control, the case is fitted with its own active control system that maintains the internal environment at a constant 40% relative humidity.

Ever conscious of its broader environmental impact, however, the Ashmolean is committed to supporting the University's Environmental Sustainability Policy, both in its current buildings and in the design of any further developments. As such, in 2014, all low voltage gallery lighting throughout the museum, including that installed in 2009, was replaced with LED fittings This project has not only dramatically reduced the carbon footprint of the Museum, in line with Oxford University's commitment to the Low Carbon Oxford Charter, but also resulted in more effective environmental control for the collections.

During the Egyptian Redisplay Project, and thanks to a generous grant from AXA ART Insurance, the Ashmolean were able to appoint its first Preventive Conservator. The medical analogy is obvious – prevention is better than cure – as it is infinitely preferable to stop an object deteriorating, often by simply controlling the environment in which it is kept, than having to deal with the consequences of not doing so. To this end, the role of the Preventive Conservator includes the monitoring of environmental conditions throughout the museum, maintaining the microclimates in some 450 individual showcases, testing display and storage materials for their potential to damage museum objects and also advising on the design and construction of new showcases – a service which is now offered to partner museums across the region, often working closely with colleagues in the national museums.

Although in so many ways the Ashmolean unique, it has one thing in common with all museums – its primary responsibility is the preservation of its collections so placing a heavy responsibility upon both conservator and curator alike. Although the relationship between conservators and curators has not always been considered an easy one, the Ashmolean shows how the opportunities for synergy that exist between the two disciplines, particularly where there is a common goal, results in a broadening of understanding of the objects whose care they share. In that respect, development of conservation in the Ashmolean has broadly mirrored the general trend. Since 1999, the conservators' work has becoming increasingly question-led, risk-aware approach, underpinned by preventive conservation strategies and a policy of minimal intervention. In this way, threats posed to the collections by handling, display and travel are assessed

and managed out of these processes as far as is practicable to facilitate access to its world class collections. In the Ashmolean, it is the role of the conservator to assess and balance the needs of the object with those of the 'user' and to facilitate, and not deny, access for as many people as possible to the museum's collections whilst safeguarding their long term preservation.

Never an institution not to acknowledge the best of its past, a recent project has seen the Randolph Sculpture Gallery, designed by Cockerell for the specific purpose of displaying antique statuary, being restored to its original 1845 colour scheme (Figs 15, 16). Although the combination of green pilasters framing porphyrised alcoves might seem a surprising choice, it echoes classical interiors and can also be seen in the anteroom to the famed Octagon Gallery in Florence's Uffizzi Gallery. As with Tradescant's Ark, which contained much of the Ashmolean's original collections, and where visitors commented that a visit was like travelling around the world in a single day, so too in the contemporary Ashmolean, the histories of both civilisation and museum display unfold as the visitor wanders through its galleries.

With the establishment of a Department of Conservation in 1999 the circle which began to be described in 1683 was closed and the needs of the Ashmolean's immensely rich and diverse collection could finally be addressed in a strategic way. When Francis Bacon published 'New Atlantis' in 1626, his description of Utopia included 'Solomon's House' – an institution which provided a home for a programme of collecting, recording, and experimentation which would improve knowledge and benefit mankind, ideas fundamental to the development of scientific thought in the 17th century. The Ashmolean was part of the University's aspiration to realise this vision and they remains as central to the activities of the Ashmolean now as they did when the public first walked through its doors on the 6th of June, 1683. ●

15. The Randolph Sculpture Gallery - specifically designed by Charles Cockerell to display Classical sculptures and inscriptions, this photograph dates from the 1890s when the walls were painted Pompeian red.

16. The Randolph Sculpture Gallery in 2014 following restoration of the original 1845 'porphyrised' colour scheme and installation of LED lighting.