

Caring for Soane's Collection



A TRAIL THROUGH SIR JOHN SOANE'S MUSEUM

Looking after this house and its collections is a full time job. Our team of conservators, visitor assistants and curators is dedicated to doing everything possible to preserve this special place. Our aim is to ensure that Soane's wish, expressed in the 1833 Soane Museum Act of Parliament, that his house and collection should be kept 'as nearly as circumstances will admit' as it was at the time of his death, is fulfilled. Without a consistent and robust conservation programme this would not be possible.

The visitor assistants are integral to the achievement of a successful conservation housekeeping programme. Every morning, in the short time before the Museum opens, each visitor assistant is responsible for routine cleaning such as dusting flat surfaces and vacuuming. More comprehensive cleaning takes place on Mondays when the Museum is closed, with a team of specially trained visitor assistants, volunteers and conservation staff undertaking jobs such as dusting at high level and polishing mirrors. Thorough 'deep cleans' are carried out two to three times a year in specific areas, as part of a rolling programme, by conservators helped by volunteers. These involve using dry and wet methods to clean both the fabric of the room from ceiling to floor and all the objects. Because cleaning is potentially abrasive, specialised conservation grade materials and equipment are used and careful, gentle techniques employed. These routines not only ensure that the house looks beautiful for visitors but also prevent the dust from bonding to the surface of objects, which can cause deterioration and provide food for insect pests.

Our conservation housekeeping is done in the context of ever-increasing visitor numbers. These have risen from just 34,000 in 1984 to 121,000 in 2016/17 (up to 500 a day). This has had a massive physical impact on the house, bringing with it not just more dust and dirt but also increased abrasion of floor and wall surfaces, greater risk of accidents and larger fluctuations in humidity and temperature caused by peoples' bodies and breath.

Soane did not use ropes to cordon off any areas of his house, which is why you will see almost none in the Museum. There are also very few labels or panels describing the objects or giving directions to visitors since there would have been none in Soane's time. One exception that you may notice is the 'North', 'South', 'East' and 'West' signs in some interiors: we believe that these date from the period just after Soane's death and were installed to help visitors who were using the guide book to locate works of art.

You will enter the house through the front door of No. 12 Lincoln's Inn Fields but this trail begins in the Library-Dining Room in No 13 Lincoln's Inn Fields. To reach the Library-Dining Room descend the No. 12 stairs to the basement, turn left at the bottom to enter No. 13. Then turn left again and go up the No. 13 stairs to the ground floor. At the top of the stairs, turn right onto the landing and you will find the Library-Dining Room on your left.

1. Prevention: teasels



All the furniture in the house dates from Soane's lifetime or before and requires regular condition checking, care and conservation. Many pieces are covered with fragile leather or have cane seats. To avoid accidental damage to these delicate pieces we place teasels on all surfaces that might be tempting to sit on.

2. Facsimiles: carpets

With increased visitor numbers comes greater wear on vulnerable carpets. Although Soane's original Axminster carpets for the Library-Dining Room (1823) survive, the decision was made in 2001 to replace them with exact facsimiles, made by specialist carpet manufacturers D & S Bamford. Prior to that date half the room was cordoned off with visitors viewing it over a rope. These facsimile carpets still need looking after and, as the Library-Dining Room is the first room visitors enter, are especially vulnerable to grit and dirt from shoes. Grit can break carpet fibres and dirt will alter their appearance, so the carpets must be vacuumed daily. Unfortunately, we also have to regularly remove chewing gum: this involves using ice in a polythene bag to freeze the gum, before carefully chipping it away with a blunt spatula.



3. Deterioration: leather

Leather is a natural material made from animal skin which ages and deteriorates in a similar way to human skin, especially when not replenished with moisture. Although the leather in these rooms is not original (some of it only dates from the 1950s), it has not been fed enough and has become dry and cracked as a result. Little can now be done to reintroduce moisture but we are currently investigating options proposed by a specialist leather conservator, including a proposal to restore the chairs, using a tinted wax to improve their appearance by colouring out the white cracks. Unfortunately, the fine 'morocco' goat skin used by Soane's upholsterers is virtually impossible to obtain today.



4. Collections care: book cleaning

With over 7,000 books housed across Nos. 12-14, we carry out a rolling programme of conservation book cleaning fortnightly throughout the year. It is vital that the bookcases are regularly opened and cleaned in rotation and the books taken out and inspected.



By carefully dusting the spines and covers of the books and checking the bindings and pages for mould and insect activity, our team ensures a longer life for these important volumes. If dust builds up this can lead to discoloration and mould growth; damp and humid conditions can attract insects and distort pages. Great care needs to be taken to avoid over-dusting as this can abrade the paper and leather.

We do not wear gloves when handling the books. This is because paper is so fine and relatively fragile, it is very important that we can really feel what we are touching so as to prevent damage; so, no gloves, but we do always ensure that our hands are clean and dry.

If a team member feels any book is structurally vulnerable, they gently tie two lengths of cotton tape around it to secure the binding. The tape is a similar colour to the binding. This secures the book until a specialist book conservator can assess and treat it. Any fragments that fall off during dusting are placed in a special plastic sleeve, which is labelled and passed on to the conservation team.

Pass through the door to the right of the window on to the courtyard, and enter the Study

5. Deterioration: floorboards



In Soane's Study a painted surface has been applied to make the boards look like scrubbed wood (in Soane's day servants would have scrubbed floors regularly with hard brushes and soap and water and they would have appeared very light in colour – helping to reflect natural light). This modern paint layer also acts as a 'sacrificial layer' to protect the bare boards, which are made of pine (referred to by Soane as 'deal'). Pine is a soft wood and when the boards were laid it was not anticipated that they would be walked on by up to 500 people every day. This heavy traffic makes them vulnerable to wear and means that the floors must be carefully repainted when the paint wears through to the bare wood as shown above.

The floorboards illustrate one of the dilemmas of authentic restoration and presentation. From the early twentieth century until the 1990s they were covered with linoleum and although this now seems inappropriate and institutional, it did have the benefit of protecting the boards. Today, many historic houses choose to cover boards with strips of drugget, a coarse fabric, or even to have the original boards photographed on to floor-coverings which are laid over the originals ('eyemats').

Move into the next small room, Soane's Dressing Room

6. Damage prevention: small spaces

In this Dressing Room, and particularly in the narrow corridor beyond, there is limited space. There is no room for barriers so works of art and the corners of furniture are vulnerable to accidental knocks. Other elements are also at

risk such as paintwork and joinery. This is why visitors are asked to leave bags and coats at the front door. A bag is only permitted if it fits into one of our clear plastic carriers and even then visitors are asked by visitor assistants to be especially careful about the way they carry these bags through the Museum so that they do not inadvertently damage an object or surface. Additional damage can be caused when visitors pass each other in these narrow spaces and this is one of the reasons why we control entry to the Museum carefully to ensure that it is never over-crowded.

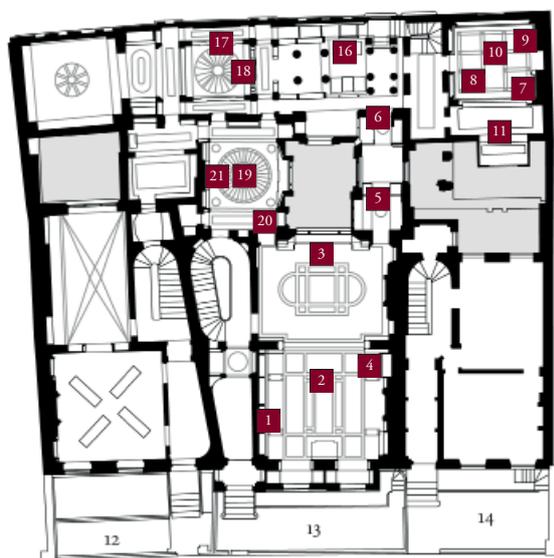


Right hand image: view of the Study in 1822 by J M Gandy (P86)

Walk through the narrow passageway ahead, turn right, walk through the Museum Corridor and enter the Picture Room

7. Conservation cleaning: brass

One of the first things most people notice in this room is the abundance of gold. The picture hang was reinstated in 2011 to how it was at the time of Soane's death in January 1837. The brass fittings and thick brass shelf running around the room above the bookcases were designed by Soane to echo and heighten the impact of his gilded picture frames. In order that this brass stays perfectly shiny and clean, it is important that it is not touched. Hands contain oils which leave residues on the surface of the brass which is why the warders wear gloves when touching the hooks and handles whilst opening the planes. Inevitably, we often find finger prints on the brass and to combat this light tarnishing, we use a special soft cloth containing an organic inhibitor which slows down tarnishing.



GROUND FLOOR



BASEMENT



Brass is an alloy of copper and zinc and is a relatively soft metal, so care must be taken not to over-polish it. In the past, before a regime of conservation cleaning was introduced, products like 'Brasso' were used regularly. However, 'Brasso' is overly abrasive and will remove layers of the brass as well as leaving a white residue in any cracks or corners. Over-polishing will eventually make the brass thin and weak and any decorative detail will be lost. We now only polish the brass when it is badly tarnished and we use a product with extremely fine abrasive elements so as to minimise damage.

All around the house you will notice that the 'door furniture' (knobs, hinges etc.) is also brass, which has to be polished with the same care as the more elaborate shelf and fittings in this room.

8. Conservation cleaning: gilding

Gilding is the application of gold leaf – gold beaten into extremely thin, flat 'leaves' – on to a prepared surface, typically on frames or furniture. It is a delicate finish and so dusting the gilt frames in this Picture Room must be done very carefully. For this task the conservation team use soft pony-hair brushes to gently sweep dust off the gilded surfaces and into a vacuum cleaner nozzle. This ensures that any abrasion is kept to a minimum and that the dust does not settle on other parts of the frame or other objects. Before it is dusted, the condition of the frame is checked in case there are any loose elements. To protect any loose decorative detail that has not been noticed the vacuum cleaner end is covered with a piece of fine muslin cloth.



9. Prevention: glass in frames

Glass in picture frames helps to protect works from damp and dust and to maintain a stable temperature/humidity level within the frame. In Soane's day it was customary only to glaze works on paper (engravings, drawings and watercolours) since they were the most vulnerable to atmospheric damage. Much of the original early nineteenth-century sheet glass survives on the water colours in this room. This original glass is often slightly curved and contains small

imperfections which, because of the reflections, can affect the viewing of a picture.



Even so, this original glass is valued today not just as an integral part of the object's history but a vital element of the Picture Room's atmosphere and a very rare survival. Soane's oil paintings were hung unglazed, in the traditional manner. In 1875, the Museum's Trustees decided that many of the oil paintings should, for the first time, be fitted with plate glass to protect them from London's heavy pollution. This has helped to maintain them in excellent condition and many remain glazed today. Some of the most important oil paintings – such as the Canalettos and Hogarths – have been re-glazed in recent decades with modern, low-reflective glass so that they can be seen more clearly.

10. Deterioration: floor boards



The floor in the Picture Room is made of oak with a mahogany border. This is a hard wood in contrast to the cheaper pine boards used by Soane in other areas and it does not wear so easily. However, to keep it in good condition the mahogany border needs to be polished by a specialist floor consultant every six months.

Leave the Picture Room and take the staircase on your right, leading down to the basement. At the bottom, walk a few paces forward and turn left into the Monk's Parlour.

11. Conservation cleaning: deep cleaning

The space high above you is called the Picture Room Recess. This is one of the most spatially imaginative and complex areas in the Museum. However, cleaning all the objects on display here is a challenging task and one that requires specialist equipment. Bespoke scaffolding has to be installed in order to do a 'deep clean' of both objects and the building fabric.

In order to undertake a deep clean it is necessary

to survey the room before deciding exactly how the access and cleaning will be achieved. Once everyone involved understands the process, work begins with the removal and secure storage of easily portable objects, for example, those on shelves. The team then uses ladders and scaffolding to access high and inaccessible places, working from the ceiling downwards. Both dry and wet cleaning methods, such as dusting with soft brushes into a vacuum nozzle and swab cleaning, are used.



All deep cleans are part of a rolling programme in which we aim to clean two or three rooms each year. We are limited by the availability of manpower and the cost of specialist scaffolding. Since the Museum is open all year round, there is no long closed period when deep cleans can be done, as there is in many National Trust houses, although the Museum does now close for one week in January in order to do essential works. However, the advantage of our situation is that visitors can sometimes have the opportunity to find out more about cleaning while it is in progress.

Leave the Monk's Parlour and walk straight ahead passing a recess with a semi-circular skylight on your left and turn left into the Basement Ante-Room.

12. Deterioration: flagstone floor

The basement is paved with York Stone, which is a sedimentary rock with a layered structure built up over millennia.



York Stone was in common use in Soane's time and many of London's pavements were paved with it. Over time the feet of thousands of visitors as well as frequent wet cleaning have worn these flagstones away. This has resulted in an uneven and delaminating surface. Although its imperfection seems to add a certain beauty to the stone, it requires great care when cleaning. If too much water is used, the porous stone will draw it in, along with any dirt in the water, and more layers of the stone will crack and separate. For this reason we regularly vacuum the flagstones and

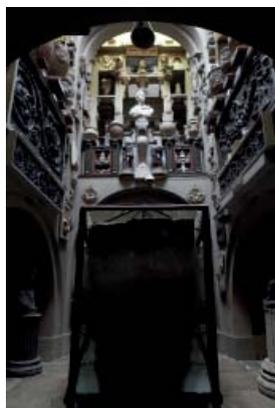
occasionally use a very lightly dampened mop with a dilute conservation grade detergent to clean the surface.

Continue walking along the passage and turn right through the Catacombs, and then right again into the Sepulchral Chamber, in the centre of which is a large sarcophagus in a glass case.

13. Conservation and protection: sarcophagus

The sarcophagus is one of the principal treasures of the Museum. It was the coffin of the Egyptian King Seti I, who reigned from 1294 BC until his death in 1297, and is over 3,000 years old. It was re-discovered in his tomb in the Valley of the Kings, in Egypt, in 1817. It is made from calcite, a form of limestone often called 'Egyptian alabaster'.

One of the characteristics of alabaster is that it is like marble but even more porous. If the sarcophagus became wet it would be badly damaged as the millions of tiny holes within the stone soaked up the liquid through capillary action, drawing in dirt and ultimately damaging its surface and weakening its structure. This is why, when it was cleaned in 2008, acetone rather than water was used. Acetone is a fast-evaporating solvent that rapidly swells, dissolving and softening residues on the stone without remaining on the surface for very long. Cotton swabs were used to apply the acetone and then new clean swabs were used to wipe away any residue.



During the preliminary research into how best to conserve the sarcophagus, Egyptian blue pigment was identified in the hieroglyphics. This ancient pigment would have originally made the hieroglyphics stand out clearly from the white stone, making them easier to read (the framed illustration hanging at the east end shows what they might have looked like), but over time it has darkened and decayed so that it now looks like grey ingrained dirt. Alabaster is not as hard as it appears and although it can be easily polished it can also be easily scratched. Over-cleaning or wiping will abrade the surface of the stone. A glass case was built for the sarcophagus in 1866 because the Trustees feared it was being damaged by pollution and could see that the Egyptian blue was deteriorating. The late nineteenth-century plate glass in this case was replaced in 2008 because it had cracked in two places. The opportunity was taken to replace it with safety

glass and to use a colour-clear glass without the green tinge of the Victorian glass: this allows visitors to fully appreciate the colour of the alabaster. A piece of the Victorian glass has been added to the Museum's Building Archive. The case protects the sarcophagus from dust, from being touched (which would result in a build-up of dirt) and from accidental knocks or scratches.

14. Deterioration: sarcophagus case edging



The inscription, painted on to the upper edge of the sarcophagus case, presumably in 1866, has been worn away by hundreds of fingers touching it. It once read, 'The sarcophagus of Seti I. Discovered by Belzoni in 1817'. Natural oils and dirt on hands are damaging to paint surfaces, and each time the brass case is touched the paint and surface of the metal is physically abraded. This has led to the loss of the inscription and has given the metal surface a highly polished appearance.

Walk towards the east, away from the sarcophagus, to enter the Crypt.

15. Preventive conservation: integrated pest management

One of the most important elements of our conservation programme is an integrated pest management system. Like all museum collections in historic houses, Sir John Soane's Museum is vulnerable to insect pests such as beetles, moths and silverfish. Pest activity is monitored in all the interiors in Nos 12-14 Lincoln's Inn Fields, not just those open to the public. This is done by setting 'blunder traps' in discreet positions, usually on the floor. These triangular traps have a sticky base, so when insects 'blunder' over them, they become trapped. Each month we count the type and number of insect pests caught on these traps. If the number of pests suddenly increases significantly, we have to work out why this is happening and prevent an infestation. For information about how we do this please see number 21 in the South Drawing Room section of this trail. The number one factor in keeping pests at bay is a robust and regular programme of dusting and cleaning.



Down here in the Crypt, we occasionally find silverfish. These are primitive, scaly, wingless insects which thrive in damp conditions. As the basement of an old house, this area is below ground, with earth directly behind the north wall and under the floors: it is prone to damp and can get very humid, especially in the summer months. This might sound alarming, but most of the works of art displayed here are made from stone, plaster and marble: fortunately silverfish prefer munching on paper!

Retrace your steps and go back up the staircase next to the bust.

Turn to your right, and enter the Colonnade.

16. Preventive conservation: conservation cleaning

Keeping the house looking its best for our visitors is very important and is particularly challenging when there is building work going on. Our rolling programme of deep cleans ensures that all areas of the Museum are thoroughly cleaned every 2-3 years and routine cleaning each morning ensures each area is vacuumed and flat surfaces dusted.

The Museum's Assistant Conservators also concentrate on a single area of the Museum for one afternoon every week, carrying out 'eye-level' dusting using appropriate brushes to remove dust into a vacuum cleaner nozzle, and a ladder to reach areas which are very visible when looking up from below.



This Colonnade space is particularly challenging and time-consuming to dust, with many objects in niches or hard to reach corners and intricate acanthus leaf decoration on the capitals of the columns. It can take up to three afternoons to dust this space.

Our multi-layered approach to dusting with daily cleaning by warders, weekly eye-level dusting and occasional deep cleans, aims to keep the Museum and its collection as clean as possible given the constraints of time and staff numbers.

Continue through the Colonnade and enter the Dome Area (you can see the sarcophagus below)

17. Cleaning: casts

Piled high with plaster casts of Roman architecture and decorative fragments, this is one of the most atmospheric parts of the Museum. Soane was Professor of Architecture at the Royal Academy, and it was here that his students – many of whom might never travel to Rome – could experience something of the atmosphere of its ancient ruins, with great heaps of fragments lit through the skylights above as if open to the sky.



Most of Soane's casts were originally painted with distemper although some were coated with shellac, a type of varnish. Distemper is an early form of paint made of powdered chalk or lime, size (which is a liquid, gelatinous animal-based glue) and pigment (colour). Sometimes individual craftsmen might add additional organic materials like milk or beer to this paint. If you look up towards the top of the central skylight, you will see that it is ringed by a series of casts of heads and cornices which retain their original distemper layer: because they are so high up their surfaces were not 'washed' in the nineteenth century and so they retain their original white appearance. Unfortunately, many of the casts hung lower down on the walls, such as that of a horse on the south column (number 16 on the plan), have had their water-based distemper surface damaged by being wiped with a damp cloth in the past. The application of water causes surface dirt to bond with the distemper leaving casts with a discoloured appearance – in effect, rather than removing the dirt, wet-wiping fixes it into the surface.



Generally today we are careful to only clean the casts using soft brushes to remove surface dirt and dust. If a more thorough clean is needed, the cast is taken to the conservation studio and tests carried out using various solutions and solvents to see which method is the most appropriate and least invasive. Saliva is one of the substances conservators commonly use to clean painted surfaces; the enzymes it contains gradually break down dirt and it is a very useful and controllable

cleaning method.

Many of the casts have been repainted since Soane's day and when they need conservation work paint analysis is sometimes carried out in order to understand fully the various paint layers. Occasionally, when appropriate, modern paint layers may be removed to reveal historic paint finishes. However, casts were usually repainted because they were dirty or damaged, with flaking paint, so stripping back often reveals a problem surface which then has to be extensively re-painted or repaired. Stripping also removes any evidence of past treatments contained in the later paint layers.

18. Exposing original paintwork: the dome balustrades



These marbled balustrades are, along with the bases supporting the statues of Apollo (Dome Area), the Ephesian Diana and the Aesculapius (Colonnade), we think, the only examples in the Museum of painted surfaces dating from Soane's time. In 1994-95 they were cleaned by specialist restorers Compton Restoration, using a solution including ammonia, to remove later and very much darkened varnish to reveal fine marbled effects in pink and green, perhaps the work of Soane's usual decorator William Watson.

Go through the door to the left of the full-size statue of the Apollo Belvedere and walk through the small Lobby to the Breakfast Room to enter the domed Breakfast Room

19. Furniture: polishing



The Breakfast Room is one of Soane's most famous interiors. The domed ceiling with its convex mirrors creates a stunning setting for the fine furniture which has been here since Soane purchased or designed it 200 years ago. The wooden furniture is French polished, a finishing technique in which layers of fine polish are skilfully applied to the surface and are built up to create a smooth, high gloss surface. With time and use this finish often becomes worn and dulled as we can see on the central table. In the past such a piece might have been stripped and re-polished to deal with this. However, today, we take a more

conservative approach, which aims to preserve the existing surface. We try not to wet wipe the table and, if we do anything at all, we might simply apply a very fine, clear wax to 'feed' the wood and preserve the existing patina. When the house is used for events, thin sheets of Melinex (a kind of clear plastic), cut to fit, are placed on all pieces of furniture which might be damaged if glasses were placed on them.

20. Grained surfaces: polishing

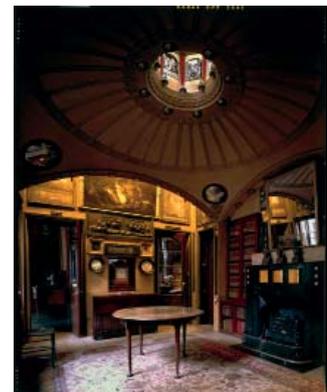


In this room, another material has also fallen victim to polishing: the grained finish around the brass handle on the door into the Library Dining Room (the first room you entered). Although this door appears to be made of solid mahogany, it has in fact been skilfully 'grained' to appear this way and is actually made of a much cheaper timber. The overzealous polishing of the brass door knob in the past has removed the paint around it, leaving an unattractive halo, which could now only be removed by a careful re-graining of the area by a specialist decorator.

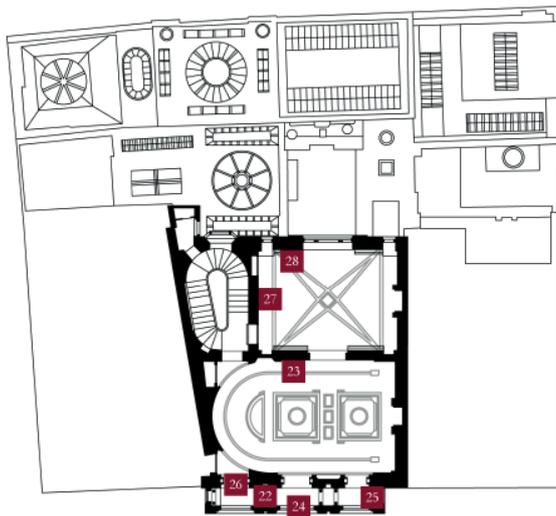
21. Conservation cleaning: mirrors and glass

Soane used mirrors and coloured glass to great effect throughout the Museum. From the 103 individual mirrors in the No. 13 Breakfast Room which create a myriad of reflections, to the numerous panes of yellow glass in various skylights creating a Mediterranean atmosphere, they all need to be cleaned periodically.

We remove any surface dust from the mirror or glass with a brush and vacuum cleaner and then polish the surface and remove any finger prints using a solution of alcohol and water. The water cleans the surface and the small amount of alcohol breaks down oily deposits and ensures no streaky marks are left.



Leave the room by the door leading through to the main staircase and walk up the first flight to the first-floor landing. Walk straight ahead into the South Drawing Room.



FIRST FLOOR

22. Preventive conservation: dealing with insect pests

The most common pest in London is currently the clothes moth, which many people encounter at home. Moths like undisturbed, warm, dark environments, such as the backs of dark cupboards, in which to breed and live. Their larvae do the most damage and especially like attacking textiles and animal skins (e.g. leather). Although we do not have a substantial textile collection in the Museum, we still need to be on the alert for moth activity.

One of the easiest ways to look out for this is to monitor numbers by setting up moth traps – sticky traps which contain a pheromone to attract the male moth and kill it. This has the added benefit of inhibiting breeding. If we see a significant increase in numbers from one month to the next, we must take action. Fortunately, we have not had a moth infestation here but if we did we would identify the item which was infested, seal it in a polythene bag and deep freeze it to kill all the pests without harming the object.



Another insect pest encountered in small numbers in the Museum is the carpet beetle. This can be eliminated in various ways including the rapid freezing of infested objects or the use of a desiccant dust in affected areas – this fine powder kills the insects by causing them to dehydrate.

Another potentially serious risk to the Museum is woodworm in our furniture and any signs of woodworm activity, even old damage, are carefully

monitored to make sure there is no ‘live’ outbreak. The easiest way to do this is to search for tell-tale signs of the dust produced by the insects as they burrow through the timber. The Museum does not use commonly sold proprietary liquid treatments for woodworm, which are messy and can damage antique pieces, but would consult a specialist company and usually send the entire piece out to them for immediate treatment.

Ultimately the most effective way to control all insect pests is to regularly vacuum the Museum’s interiors.

23. Light damage: ultraviolet light

Ultraviolet, or ‘UV’, light is emitted by the sun. Although the human eye cannot see UV light it is very damaging, particularly to delicate works on paper, textiles and wood. Evidence of UV light damage can be seen if you look at the framed engraving of Sir John Soane which hangs opposite the window, to the right of the door from the hall. There is a brown scorching on the surface and a darkening, fading and dulling of colours. The light damage is historic and occurred before we implemented a programme of protection. To halt the harmful effects of UV light, film has been installed on the Museum’s windows which prevents UV rays entering the interiors. Such film reduces the level of UV to zero. It is applied to the inside face of the window panes so that it lasts longer and can easily be renewed (it is normally guaranteed for at least 10 years).



24. Light damage: visible light (brightness)

Once UV light is filtered out, ‘visible light’ (that is the light that enables us to see things), remains. Like UV light, visible light can be damaging to works on paper, textiles, leather, wood, parchment and vellum. Any amount of light can cause damage to the surfaces of objects, but this has to be balanced with the need for some light to allow visitors to see and appreciate the collection. Therefore, for additional protection we use semi-transparent ‘Holland’ (cotton) blinds in bright weather, just as Soane did, and black-out the rooms with shutters or black-out blinds to rest them in the dark when the Museum is closed.



The coloured glass in the Drawing Rooms helps to reduce the impact of both UV and visible light, because it filters the light. The darker the colour of the glass, the more effective it will be at cutting out harmful rays.

25. Light damage: solar gain (heat)

Along with both UV and visible light comes heat and this too can be harmful, especially for organic materials like wood and paper. The blinds (and Soane’s coloured glass!) absorb heat and so help to lower the temperature in these rooms on very sunny days.

26. Deterioration: carpets



If you move to the south west corner of the room, by the door into the Gallery, you will see a recent carpet repair. This carpet is a facsimile and was installed in the early 1990s. Since then thousands of visitors have walked over this section to enjoy the view onto Lincoln’s Inn Fields. This traffic wore the pile of the carpet down until there was a very visible, large hole in it. Fortunately, we had some off-cuts from the carpet in store and a floor covering specialist, Robert Clements, was able to patch in the loss with these. You can see very clearly how much the rest of the carpet has faded and worn compared to this repair and how damaging light and wear and tear can be on textiles over time.

Continue through to the North Drawing Room, through the double doors.

27. Preventive conservation: measuring light exposure levels



In order to measure the cumulative effect of light exposure on our collection, we use blue wool dosimeters. You might have noticed them around the Museum and you can see one on the top of the large oil painting of *Admiral van Tromp's Barge entering the Texel* by Turner, if you crane your neck! Each dosimeter has an exposed area of blue wool; the level of fading on this wool over a period of time can be compared to an unexposed area on the same dosimeter in order to gauge potential light damage.



Highly light sensitive materials include works of art on paper, carpets, curtains, dyed leathers and wallpaper. Moderately light sensitive materials include oil paint, gilt and wooden furniture.

Dosimeters are positioned throughout the museum in order to provide readings on light exposure to a range of light sensitive objects in the collection. Dosimeters are usually kept in the same location for 12 months and are then analysed. If areas of concern are highlighted by these readings, action will be taken to further protect the house and collection.

28. Preventive conservation: environmental control

One of the key ways we look after the collection is by keeping the amount of moisture in the air, measured as 'relative humidity' or 'RH', within a prescribed range. The level of relative humidity is directly influenced by the temperature. It is important to ensure that conditions do not fluctuate wildly as sudden changes in temperature and RH can be very damaging to works of art.

Rapid changes in temperature and RH can cause materials such as wood, paper, canvas and even metal to expand and contract quickly, which can

cause wood to split or paint to begin to flake. If humidity levels rise mould may grow on painted surfaces or on the pages of Soane's books.

We use specialist sensors to measure and record temperature and RH and these continuously send data to a central computer for our conservators to analyse.



Conservation heating was introduced to the Museum at the beginning of 2017. This involved installing heating controls on our radiators to enable us to regulate humidity by controlling the temperature and keeping fluctuations in vulnerable spaces to a minimum. The sensors send data to the central computer which prompts the heating system to turn on or off. If the room gets too humid, the radiators will turn on, and if it gets too dry they will not turn on.

In addition to this, here at the Soane, we have an individual, tailored approach to how we manage environmental conditions. The Museum is a Grade I listed building with uniquely precious 'time capsule' interiors and we cannot therefore install air conditioning systems as a way of controlling the environment. Even were we to wish to do so, there is no room for air conditioning plant behind the scenes! Therefore our strategy involves simple but effective methods to keep temperature and RH at acceptable levels. These can include things as simple as asking our visitors to leave wet jackets and umbrellas at the door to prevent additional moisture entering the rooms, using fans to increase air flow through the building on very humid days, shutting doors to prevent draughts on cold days and closing blinds on sunny days to avoid large fluctuations in temperature.

This trail aims to give an insight into what is involved in preserving Sir John Soane's 'Permanently Magical' Museum for current and future generations. If you would like to know more please visit our website at www.soane.org/conservation

