

# Thoroughly Modern Soane

SIR JOHN  
SOANE'S  
MUSEUM

## A TRAIL THROUGH SIR JOHN SOANE'S MUSEUM

Sir John Soane was not only a visionary architect, but he also incorporated the latest technical devices into his house at No. 13 Lincoln's Inn Fields. This trail explores Soane's house-museum looking at his use of new technologies and materials. Some of these innovations we now take for granted, such as central heating. From the extraordinary movable 'planes' he designed to display his collection of paintings to his pioneering (and temperamental) under-floor heating systems or use of hollow terracotta bricks in construction, Soane was very much a man of his times and loved experimenting with what were then novel techniques and materials.

### • *The trail begins outside the Museum*

*Look at the façades of numbers 12 13 and 14*

#### 1. 'A new style of architecture'

The façade of Sir John Soane's Museum is a good demonstration of Soane's very personal architectural style, and of how his buildings slowly evolved. Soane's first house in Lincoln's Inn Fields was the left-hand house, No. 12, which was built by the architect for his own use in 1792-94. Constructed of fine white bricks from Cambridgeshire – now much blackened with London soot – it is an elegant but undemonstrative town house, with little ornamentation save the strigillated ironwork of the balcony (strigillation is a scrolling 'S' pattern named after the ancient Roman strigil, a curved spatula used by Roman bathers). Note also the witty string course above the second floor, using bricks laid vertically to imitate the stone triglyphs (literally 'three stones') found in classical friezes.



But Soane soon outgrew No.12, and, after the sale of his country villa in Ealing in 1810, he began negotiations to buy the next door house, which occupied a much larger site, to accommodate all his collections. This was finally achieved in 1812, and the Soanes moved into their new house in 1813. No.13 Lincoln's Inn Fields was also built of brick, but has a projecting two-storey loggia in crisply cut Portland stone. Three bays wide and articulated with two tiers of arched openings, surmounted by a little squared off belvedere, it was solemn and grand, and deliberately unlike anything that had been built before, ancient or modern. All the openings of the front were originally open to the elements. This was so

Soane could get away with creating such a large and dramatic projecting portico – indeed he got into trouble with the District Surveyor who prosecuted him for encroaching beyond the building line. But the narrow balconies he created were of limited practical use and Soane gradually glazed them in – the ground floor in 1829, the first and second floors in 1830. The clever perspective 'gallery' he created along the front of the first-floor South Drawing Room is an example of the way that Soane constantly altered his house-museum, which was a sort of laboratory for his architectural ideas. However, the bringing forward of the windows must have robbed the façade of some of its original external drama by filling in the deep openings and thereby removing the contrasts of light and shade.

The stonework of the façade is smooth and simply treated, with simple grooves around the arcade on the ground floor and Soane's favourite incised decoration above. He loved this variation on 'Greek key' ornament and used it everywhere – especially on his masterpiece, the Bank of England, although critics derided its 'pilasters scored like loins of pork'. The four strange projecting brackets are mediaeval corbels, removed from Westminster Hall during Soane's restoration of 1819-20 and inserted into this façade in 1825. Oddly, they were never intended to support statues. Further up, perched on the terraces flanking the belvedere, are a pair of stern, classically draped maidens. They are made from Coad Stone, a patent frost-proof artificial stone which was manufactured to a secret recipe by Mrs Eleanor Coad in her factory in Lambeth. Soane was a good customer of Mrs Coad and her architectural ornaments appear in a number of his buildings. The statues themselves are based on the famous caryatids, pillars in the form of women, which support the porticoes of the Erechtheion on the Athenian Acropolis. In decorating his austere façade with Gothic and Grecian sculpture Soane proclaimed the Museum within to the outside world.

Mrs Soane's private apartments lay behind the little belvedere and she probably grew flowers on its sunny balconies. Did she sit out here with Fanny, her pet dog? Thus the acroteria, the little domed finials decorated with honeysuckle motifs, and the much-eroded Antique statuette of some animal (was it once a dog?) are a fitting garniture for her private eyrie. More acroteria surmount the balustrade



that runs along the parapet of the building, and Soane emphasised the plain brick garrets of the house with a framework of incised stone facings.

The third house of the ensemble, No.14 Lincoln's Inn Fields, was built by Soane in 1824, externally a close copy of No.12. Soane never occupied this house – it was let out – but as well as bringing in rent, it also gave Soane a suitably deferential balancing 'wing' to flank the imposing portico of his house-museum. Today, Soane's three houses look like a single, planned composition, but in fact their genesis is much more complicated than that. (TAJK)

• *Enter the Museum, pass through the Entrance Hall and turn right into the Library Dining Room, walk towards the windows facing the Fields*

*In the windows you will see*

#### 2. Plate Glass

The use of large areas of glazing, in the form of windows and mirrors, was still exceptional during Soane's lifetime. Crown window-glass, with its distinctive round 'bull's eye' or 'crown' in the centre of the pane, was still commonly used in 1800. Larger panes could be produced using the blown cylinder technique, where a large blown glass globe is formed into a tube, slit and then flattened. Although plate glass had been manufactured in Britain since at least 1773 it was not until the early 1820s that it began to be made using industrial techniques. In spite of the technological

advances in its production, plate glass still remained an expensive building material until a change in government fiscal policy in 1845 made it more affordable.



Originally the projecting white Portland stone façade that fronts No. 13 Lincoln's Inn Fields was an open balcony on all three floors. The windows onto the balcony were of a traditional arched form and filled with small panes of glass (as shown in the watercolour view (above) by Joseph Michael Gandy, drawn in 1822.

Later, when the Library-Dining Room was extended to incorporate what had previously been the external balcony at the front in 1828-29, Soane took the opportunity of moving the windows outwards to re-design them completely, simplifying the glazing bars and installing large, horizontal panes of modern plate glass (see watercolour view by C.J. Richardson drawn in 1836, below). At the same time, Soane also introduced the sliding mirror-backed internal shutters which pull across the windows at night.



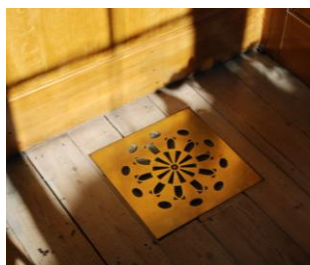
Soane himself made a careful distinction between the expensive and modern 'plate' installed in the front windows on the lower floors, where it could be admired by passers-by and the 'second glass' used on the upper floors and at the back of the building.

The uninterrupted view the new windows gave out of the Library-Dining Room towards Lincoln's Inn Fields must have been astonishing compared to that previously afforded by the cheaper crown glass or blown-cylinder window glass which required glazing bars or were partially opaque. In addition, the lavish use of the expensive and still-novel plate window glass amply demonstrated Soane's ability as an architect to use the latest building materials available in a domestic setting.

• **Turn round and walk through the door to the right of the window at the other (north) end of the room**

*Look at the floor*

### 3. Central heating



Note the brass grilles in the floors of these two rooms. These are the relics of one of Soane's central heating systems. The first system, installed in 1820, was a steam apparatus, which heated the Offices. This was soon succeeded by a hot-air system in which heat was conveyed from a hot-air stove by means of pipes to heat the Offices, the Picture Room, the Museum and the main staircase. The brass floor grilles were introduced in September 1826 when a Mr Feetham installed an improved warm-air system. In this system the

warm air was conveyed by copper flues and admitted to the room by a brass grille in the floor. The temperatures produced by this system were recorded on one day in January 1830 and ranged from 52-53° on the staircase to about 55° in the Breakfast Room. That these temperatures were accepted as being 'as they ought to be' tells us much about the difference in comfort-levels and expectations between the early nineteenth century and today, although of course the system was supplemented by coal fires in the formal rooms.

A new hot-water system installed in 1831 clearly did not come up to expectations, as it was removed in May 1832 and replaced by the last and most efficient of the systems with which Soane experimented. This was a high-pressure hot-water system patented in 1831 by A M Perkins. Heat was conveyed by above-ground pipes, of which there were 1,200 feet in all. This was divided into two circulations, the first of which warmed the Picture Room and the Monk's Parlour and Cell beneath, and the second, in the words of C J Richardson's *A Popular Treatise on the Warming and Ventilating of Buildings* (2nd edition, 1839): 'first warms the office in which the expansion and filling tubes are based; a pipe then traverses the whole length of the Museum, then passes through the breakfast-room under the long skylight, intended to counteract the cooling effect of the glass; then passes through the floor into the lower room, forms a coil of pipe of 100 feet in the staircase and returns to the furnace, passing in its course twice round the lower part of the Museum; a coil from this circulation is likewise placed in a box under the floor of the dressing-room, which by an opening in the floor and the side of the box, admits a current of warm air into the room above.' The furnace which heated the water for this system was in the Monk's Yard. So successful was the Perkins system (which produced temperatures of between 55 and 60° F) that it endured right up until 1964, with extensions and refurbishment in 1891 and 1911. (SKCP)

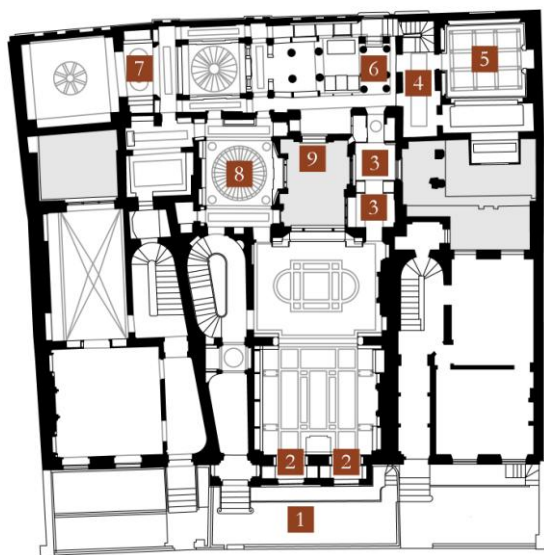
• **Pass through the door at the further end of Dressing Room, turn right into the Museum Corridor**

*Look at the way the light falls on the sculptures on the walls*

### 4. Lumière Mystérieuse

The sculptures lining the walls of the Museum Corridor are lit by what Soane's friend, the lady novelist Mrs Barbara Hofland, called 'that soft primrose hue so peculiarly adapted for the exhibition of marbles', a yellow light created by the coloured glass in the skylight above. Soane is credited with being one of the earliest architects to make use of plain coloured glass to create what he called 'lumière mystérieuse ... a most powerful agent in the hands of a man of genius'.

He was much inspired by the French theorist Le Camus de Mézières, who had written that a house should be like a theatre in which every room evoked different and appropriate



GROUND FLOOR



sensations, with light and illusion used to create the different moods. Barbara Hofland described exactly this contrast when she wrote of the view from Soane's ground floor Ante-Room into the basement where 'looking downwards ... we behold the catacombs pale and shadowy in their solitary crypt; looking upwards, the beams of golden light fall on ... lovely specimens of art'. Through his innovative use of coloured glass, often combined with panels of historic 16th and 17th century stained glass, Soane created effects with coloured light similar to those created by an artist applying colour to a canvas. (HFD)



• **Walk back to the east, through the Corridor and through the door into the Picture Room**

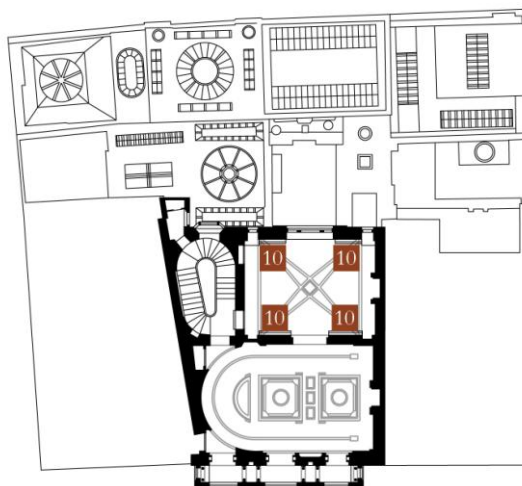
## 5. A modern top-lit gallery

Soane's innovations extended to changing the way in which we understand the 'modern' gallery space. His use of indirect, natural light, illuminating works of art through clerestory windows, was developed at Dulwich Picture Gallery, constructed between 1811 and 1815 and the first public art gallery in England. It later was used in Soane's own small Picture Room at No. 13 Lincoln's Inn Fields. Here, he devised a light timber and plaster roof, combining 'gothic' vaults with applied classical decoration and incorporating a half-round

central skylight. The clerestory glass beneath allows natural light to enter the Picture Room below.



The use of clerestory lighting allowed the maximum wall space to be used for the display of paintings (in the case of the Picture Room this was extended through the novel use of hinged 'planes'). As well as saving wall space, the use of clerestory lighting created the most advantageous conditions under which paintings could be viewed, something that Soane also recognised. This use of indirect top lighting has been replicated in most subsequent, purpose-built galleries. Soane's legacy can be seen in such diverse galleries as the National Gallery in London, Frank Lloyd Wright's central light well at the Guggenheim in New York (1956-58), Robert Venturi and Denise Scott Brown's Sainsbury Wing at the National Gallery in London (1985-91) and even in the contemporary 'white cube' space. It also inspired the American architect Richard Meier when he designed the new Getty Center in Los Angeles, which opened in 1997. (JJK-B)



FIRST FLOOR

• **Pass back through the door, and walk ahead**

Above you is the Upper Drawing office

## 6. A 'floating' room:

13 Lincoln's Inn Fields was not just a family home for Sir John Soane and his wife Eliza, it also was a working space which served as the office for his architectural practice. In order to create a functional working space contained within the building, yet separate, Soane developed an ingenious 'floating' and self-contained space – an upper office which he later referred to as the 'Student's Room' - which was clearly demarcated from the Museum and domestic areas of the house. (See Soane's section design for the Upper Drawing Office, c.1821, below)



Installed in 1821 and subsequently altered by Soane in 1824, the structure does not engage with the main walls of the surrounding architecture on the north and south sides. Instead, the Office is raised (or floats) above the ground floor of the Museum on a series of slender metal columns. The Corinthian colonnade (in wood and plaster) below the Upper Drawing Office performs no structural function.



Soane's innovative concept of demarcating a smaller, structurally independent 'floating' space within a larger architectural framework has influenced a number of contemporary architects. Richard MacCormac's Ruskin Library at the University of Lancaster uses a similar 'floating box' structure as does the King's Library in Sir Colin St John Wilson's British Library in London.

The German architect Stefan Braunfels also cites Soane's development of a 'structure within a structure' in the Hearing Chamber of the Marie-Elizabeth Lüders Building, Berlin, part of the redevelopment of the governmental quarter in that city. In addition, the use of slender supports to raise a structure above ground level anticipated Le Corbusier's use of such 'pilotis' (columns) in buildings such as his seminal modernist work the Villa Savoye, Poissy-sur-Seine, France, 1929-30. (JJK-B)

• **Continue from the Colonnade under the Upper Drawing Office, round The Dome and into the Apollo Recess at the further end**

*Look below the statue*

## 7. A 'modern' work station

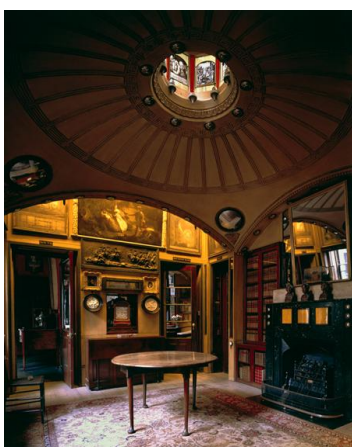
Tucked into the marbled base of the full-scale cast of the famous classical statue the *Apollo Belvedere* is a delightful small table, designed by Soane. This once provided a tiny 'work station' in what was originally a bookcase-lined recess (in Soane's day there was a solid wall between this area and the adjacent 'New Picture Room', which is in fact at the back of No. 12 Lincoln's Inn Fields and was only connected through to this area in 1889-90, long after Soane's death).



It is a wonderful example of Soane's approach to practical, small-scale, living as well as an example of the kind of whimsical effect, verging on the humorous (a table emerging from beneath Apollo's bottom!) in which he delighted. (HFD)

• **Turn around and go through the door to the left of the Apollo, through the small Ante-Room and into the Breakfast Room**

## 8. Optical effects



This domed interior, despite its small-scale, is a *tour de force* of Soane's ability to create picturesque effects, particularly by the use of mirrors – of which there are almost 100 within the room, in doors, above the window, in the mantelpiece and studding the edges of the Dome itself. Inset into the central dome are four large circular convex mirrors which transform reflections of the interior beneath into framed works of art in the same way that followers of the Picturesque movement used

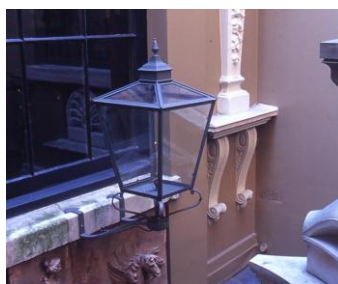
hand-held convex 'landscape mirrors' to transform the English countryside into framed views reminiscent of the tranquil paintings of Claude and Poussin. The effect here is imaginatively amplified by the sequence of reflections created by the mirrored doors in all the openings around the room. Soane shared his interest in optics and the effects of reflection and refraction with his great friend the painter J.M.W. Turner and other contemporaries – including Mr Dolland (the founder of Dolland and Aitchison the high street opticians), from whom Soane acquired a number of his convex mirrors.

The side table beneath the clock on the south side of the room is a good example of Soane's stream-lined, dual-purpose furniture, incorporating a portfolio cabinet for large architectural books in its base, and having a single flap to provide extra working space. Although simple and straightforward it is, like the table beneath the Apollo, marvellously modern – almost minimalist – in its practical response to the challenge of furnishing a modestly-sized room. (HFD)

• **Walk over to the window and look out**

*In the courtyard on the wall to the left*

## 9. Gas light



The use of gas lighting in the early 19th century was still something of an innovation. Sir John Soane first introduced gas lighting to No. 13 Lincoln's Inn Fields in 1828 when he paid John Anchor 'for gas apparatus furnished and fitted up- pipe etc' in the Monk's Yard. The flame produced by gas was much brighter than that obtained from oil, which helped spread its popularity. Lincoln's Inn Fields was one of the areas where this new lighting was being introduced. In 1819 the Trustees of Lincoln's Inn Fields paid the Gas Light and Coke Co. for four large gas lamps with square lanterns on the north and south sides of the square (the firm also supplied Soane's gas). Hitherto, the square had been lit with oil lamps but by 1824 the remaining oil lamps were replaced by gas. The obelisk bases for these older oil lamps were saved by Soane and can be seen in the Monk's Yard, New Court and at the western end of the crypt.

Although gas was also starting to be used within domestic interiors at this date, it was not popular. It was smelly and the greenish hue of the light was considered unflattering to ladies' complexions. In addition, the

technology was still unreliable. Soane dismantled the gas light in the Monk's Yard in 1830 and then had another installed on the north window sill in the Monument Court. This gas light proved equally problematic, with water entering the pipes and the burner requiring frequent attention. The present light in the Monument Court is a modern reproduction, but at night the 'fishtail' flame of the burner animates the carving of the pasticcio in just the way that it would have done in Soane's lifetime. (SA & JJK-B)

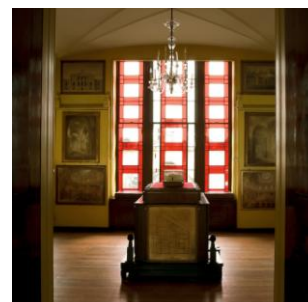
• **Go through the door to the right of the clock, up the Staircase to the first floor through the South Drawing Room, turn left and into the North Drawing Room**

*Look at the cabinets either side of the door and the window opposite*

## 10. Innovative display

Amongst Soane's most unusual and innovative effects are created by the 'moveable planes' and picture 'cabinets' he constructed in three areas of the Museum – the Picture Room, the Breakfast Room and here in the North Drawing Room.

These were probably inspired by similar planes used by Alderman John Boydell in his print shop on Cheapside in the second half of the 18th century – hinged screens allowing the display of a large number of framed pictures on a small area of wall. The planes on the south side of the Picture Room are on a large scale and Soane described them as enabling pictures to 'be seen under different angles of vision'. The smaller ones in the Breakfast Parlour incorporate mirror glass which would have amplified the theatrical effect as they were opened by lamp or candlelight. Those in the North Drawing Room, unlike the other sets, are constructed proud of the walls and treated almost like sculptural features in their own right, topped with elaborate pineapple finials. Soane initially had three and then five sets of these 'cabinets' with pictures hung on the front and on two surfaces within, in this room. There are four today – the fifth was displaced by the large Turner oil painting which now hangs opposite the fireplace. By installing these 'cabinets' Soane was able to create a layered gallery for his own architectural schemes within this relatively small room, showing three times as many works as would normally fit on the available wall area. (HFD)



*Contributors: Tim Knox, Helen Dorey, Dr. Jerzy J. Kierkuc-Bielinski, Stephen Astley and Sue Palmer. Designed by John Bridges*