



Preventive
Conservation
in Historic Houses
and Palace
Museums:
Assessment
Methodologies
and Applications

SilvanaEditoriale

Preventive Conservation in Historic Houses and Palace Museums: Assessment Methodologies and Applications

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Balancing Conservation Risk Management and Enhancement of Light Within Historic Royal Palaces

Abstract

Choosing how and when to control and use light within historic spaces involves finding a balance between conservation risk management and enhancement. This article outlines how Historic Royal Palaces has used both traditional and innovative techniques to control natural light within display rooms, which are sympathetic to the architecture and atmosphere of the historic spaces, whilst also using enhanced artificial lighting to help visitors to view artworks and interiors as they may have originally intended to be seen.

Keywords

Historic lighting, light management, LED lighting, explaining tapestries.

This article aims to present an holistic review of research, technologies and methodologies for the management and augmentation of visible and ultraviolet (UV) light within the six heritage sites managed by Historic Royal Palaces, the independent UK heritage charity that looks after the Tower of London, Hampton Court Palace, the Banqueting House, Kensington Palace, Kew Palace and Hillsborough Castle.

Natural light levels are traditionally mitigated using UV window filters and window blinds, but the historical significance and variety of windows at each palace requires preventive conservators to research and develop innovative solutions to achieve high standards

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Fig. 1
Technical trial of historic candlelight at Kensington Palace.



Fig 2.
Window protection
considering architectural
views.

of conservation for individual artworks, within the overall holistic preservation of historic State Rooms. Aesthetic and physical consideration extends to internal and external architectural views of windows. Recent research includes bespoke risk-based solutions using (for example) electrically switchable LCD window films that are pressure mounted into window linings using magnet systems with no permanent fixings into historic stonework.

Next, a technical trial of historic candlelight, carried out at Kensington Palace, investigated the appearance of State Rooms in historically accurate lighting, and identified artificial (LED) lighting options for replicating this. Measurements recorded spectral output, colour temperature, colour rendering index, lux levels and flicker of historically accurate candle light, and a series of LED candle lamps were chosen for the lamp aesthetic, colour temperature, lumen output, dim ability and supplier availability. This trial aimed to inform decisions on lighting choices to ensure that a balance is achieved between the use of lighting to achieve an historic effect, whilst striving to optimise the conservation-safe illumination of individual works of art and meeting visitor expectations of artwork viewing conditions.

Finally, an award-winning scientific research project, *Henry VIII's Tapestries Revealed*, showed how digital light effects could be used to

produce a virtual colour reconstruction of an important tapestry at Hampton Court Palace. This research resulted in an animated projection within an immersive exhibition that profiled conservators' work and the use of light technology in explaining tapestries to enthralled visitors.

This review of one organisation's experience aimed to initiate discussion between delegates to evaluate and share conservation-safe solutions for the management of lighting within historic houses, within the context of modern visitor expectations.

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Henry VIII's Tapestries Revealed (Youtube video, accessed on 12 July 2018), <https://www.youtube.com/watch?v=Xzp6CVZnh8c>.



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