A METICULOUS RESTORATION
Making the waterwheels turn again at Dunster Castle

Dunster Water Mill occupies a site that has seen continuous milling activity since 1086. The mill was the estate flourmill for the thriving medieval wool town of Dunster, and its place in the social history of the town is well recorded. The current buildings are principally 18th-century, and the iron mill machinery dates from the Victorian period. What is unknown is why the Victorian millwrights continued to make the wheels almost entirely from wood, rather than construct them with iron components. We can only speculate that the wheels were in good condition when the internal wooden machinery was replaced.

We are lucky to have old photographs from which we can see that our watermill seems to have gone through periods of neglect and restoration during the 20th century; it ceased operating in 1962, when it was abandoned. Its fortunes changed, however, when it came under the ownership of the National Trust in 1976 as part of the Dunster Castle estate. It was extensively repaired in 1979 by National Trust tenants Arthur and Laura Capps, who restored it back into full working order. Their achievement was recognised when they won a major conservation and heritage award in 1982. The mill was run as a private tourist attraction by various tenants until January 2014 when the last tenants decided to retire. It was then that the National Trust took the decision to manage the mill itself, giving access to Trust members and paying visitors to the castle, and adding an additional dimension to their visit.

The survival of two overshot waterwheels in tandem must be considered important in national terms: although this arrangement was once relatively common in the South West and North West of England, few such double mill layouts now survive in a complete or workable condition. It is the only example of its kind on Exmoor, and is grade II* listed.

Repairs and restoration
When we took over the management of the mill in January last year, the lower waterwheel had rotted away to such an extent that it was beyond repair; the surviving upper waterwheel needed major repairs in order for us to continue to mill flour on a regular basis. After going through a

NEW PAINTINGS FOR HAM HOUSE

Four pictures with a provenance from Ham House were purchased at auction at Christie’s South Kensington in April 2015. See also page 13.

The painting on the right was at Ham House by 1844.

Right: Follower of Pieter van Laer (Haarlem 1599-c.1642), ‘Travellers Resting’, oil on canvas. NT 2900176
tender process, our millwright of choice was Dorothea Restorations of Bristol.

The upper wheel
Work began on the upper wheel in April 2014. Many rotting wooden components were replaced, and so was the external bearing that the shaft (axle) sits in. In addition to this work, new sets of external folding wedges were fitted between the shaft and the hub that holds the arms (spokes). The millwrights separated the working set of millstones to check their condition. The upper stone (runner stone) weighs a ton, and was lifted with the stone hoist—an existing piece of equipment that is designed for this purpose. When they had separated the runner stone from the bottom stone (bedstone) the millwrights considered that the stones were still in good order; after they had carried out basic maintenance, the millwrights replaced the runner stone in its original position.

Since all the machinery associated with this wheel was in good working order, we were now in a position to mill flour for our visitors and for external customers.

The lower wheel
Members of Dunster Castle’s garden team armed with chainsaws removed the remains of the dilapidated lower wheel. Meanwhile in Bristol Dorothea Restorations began the process of manufacturing the new wheel from English oak. This was mostly made up in kit form ready to bring to the site when all the components had been made.

The first component to arrive on-site was the 750kg shaft. Using pulleys and A-frames to raise it when necessary and steel poles to roll the shaft along the ground, the millwrights pain-
takingly manoeuvred this, the wheel’s largest single component, into position and connected it internally to the pit wheel. This process took several hours.

A week or so later, the rest of the components arrived; over the following three weeks, the new lower wheel took shape. The millwrights balanced the wheel so precisely that all three tonnes could be turned by hand. A kilometre from the watermill the sluice for the leat was opened up. As the full flow reached the mill, the water was diverted, and just as the millwrights had planned, both wheels turned perfectly in unison.

Modern interventions
We needed to compromise on one historical element of the design of the wheels. Originally, the spokes were fixed to the shaft with mortise and tenon joints. This was the weakest element of the design: the tenons at the end of the spokes are reduced in width, and therefore in strength. In addition to this, water ingress in these joints would cause the timber to rot much more quickly than the rest of the wheel. The outcome would have been that the spokes and the shaft would have been at risk from rotting much more quickly than the rest of the wheel.

Therefore, in the new lower wheel we have incorporated stainless steel hubs fixed to the shaft by folding wedges to house the spokes. The spokes will still eventually rot, but the shaft will last longer as its integrity has not been compromised.

Dunster Working Watermill today
We now run both wheels on a daily basis so that our visitors can see the mill working, either freewheeling on non-milling days (with the wheels not connected to the millstones) and on milling days when we connect the upper wheel to the millstones. This year we anticipate milling six tonnes of wholemeal flour for both our visitors and external customers.

Stephen Hayes, Mill Operations and Business Support Manager, Dunster Castle
WITH A LITTLE HELP FROM FRIENDS
How the Bluefaced Leicester saved Cragside’s chenille carpet

At Cragside in Northumbria we have some wonderful intact Victorian interiors; amongst these is the Dining Room. With carved wood panelling, a heavy arched fireplace and Morris & Co stained glass panels, this richly furnished room is set off by original textiles and curtains—and a beautiful carpet. The carpet was made for the room, so it probably dates from the 1870s when this part of the house was built.

The carpet has a rich and subtle design of foliage set against a background of different shades of pink. Parts of the design are delineated with brown wool. This brown wool seems to have been the starting point for the carpet’s deterioration; a break-down of the fibres is due to the iron mordant used in the dyeing process. This inherent weakness has, with use and wear, resulted in significant losses to the design and even the structure of the carpet.

Ksynia Marko, the Trust’s Textile Conservation Adviser, visited Cragside in 2013. She at once identified the carpet as being chenille, a type of pile carpet construction invented and made popular in the 19th century, with production ceasing as recently as the 1960s. Indeed, the enormous Drawing Room carpet was also identified as being chenille. This meant an increase in known chenille carpets currently recorded in the Trust’s collection from ten to twelve, highlighting the need for further research. It seems likely that the Dining Room carpet is one of the last handmade chenille carpets and the Drawing Room carpet one of the early machine-made ones—this somehow seems appropriate for Cragside with its Arts and Crafts interiors combined with its celebration of technology.

The carpet at Cragside has been a concern for many years, with obvious areas of loss and weakness, and loose threads at great risk of further unravelling. Its evident instability has meant that the house team have been unable to clean it for the last few years. Ksynia spent a week on site with her colleague Aimee Grice-Venour, working on their hands and knees in the chill of Cragside in January. During this period they developed a method of conserving the carpet which not only stabilised the areas of damage, but infilled the losses, recreating the original design. They also very carefully vacuumed the surface and prepared the carpet for transport to the Textile Conservation Studio at Blickling.

Moving a carpet that measures almost 6 by 9 metres requires either many people or some ingenuity. Paul Hawkins, Operations Manager at Cragside, provided the latter, assembling a trolley out of scaffolding that allowed the rolled carpet to be easily trundled out of the room, down the corridor, out of the front door, across the forecourt, round the corner, under the arch, across the courtyard and under the second arch to the waiting truck.

Once at the studio the time-consuming and detailed work started by deep-cleaning the carpet more thoroughly. The normal
way to remove ingrained soil and grit is to tamp the carpet from the back with latex paddles, but with a carpet this large a less labour-intensive way needed to be found. Ksynia worked with Glyn Charnock of the National Carpet Cleaners Association (NCCA) to develop methods of cleaning the carpet that would be effective whilst preventing damage during or after the work. This collaboration between the commercial sector and the world of conservation was very successful—both parties exchanged ideas and their understanding of materials and deterioration processes. The commercial world's equipment and techniques were adapted to suit the demands of conservation.

A rotary beater bar vacuum cleaner was used with a sacrificial carpet between it and the Cragside carpet; this was very effective in tamping the carpet and releasing large quantities of dirt and grit. Following this, the carpet was turned over and wet-cleaned. Again the commercial sector was able to offer some useful equipment: fans designed to blow air horizontally at a low level across carpets. These were essential to dry the carpet quickly and prevent moisture from penetrating the jute and wool foundation weave. This collaboration was continued with a meeting between Trust conservation staff and the NCCA to explore further ways of working together.

After this deep cleaning the carpet was again turned over, and work started on the back. Many areas had been strengthened in the past with strips of glued hessian. These old repairs needed to be removed as the adhesive had gone hard. Solvents helped in softening the adhesive, but ultimately its removal came down to laborious and careful work by hand. Patches of dyed linen were then stitched over holes. Where the foundation weave had been damaged or lost new yarn was hand-stitched into place realigning broken weft threads, thus supporting and consolidating weak areas. Following this work, which is detailed here in a small paragraph but took months to complete, the carpet was turned over for work to begin on the front. Every time it needed to be moved and rolled the task took ten people, some borrowed from the Blickling estate team.

At this point the Bluefaced Leicester stepped in to offer its services. In the 1700s a breeding scheme to develop the longwool sheep resulted in the evolution of the Bluefaced Leicester, and it became the prevalent breed in Northumberland. Following a search to find suitable wool to replace the lost chenille, a double-knit wool, supplied by the West Yorkshire Spinners, was chosen. The wool is durable, strong, and takes dye well—the first two of these attributes, at least, are shared by the sheep! To match the colours and many subtle shifts in tone 129 samples were eventually dyed, and 58 final colours were selected.

Now a team of five conservators, led by Aimee, started the mammoth task of conserving the many areas of damage. The carpet was rolled onto two rollers, with the area being worked on draped over the bench. The technique established the previous year was used, with dyed yarn being laid across the areas of loss, changing the colour as the design required. This yarn was then couched into place with a neutral polyester thread, stitched every 8mm, following the original construction weave. This worked very well; the damaged areas were stabilised and consolidated and the design was replicated to great effect.

Whilst the work was being carried out two small, deliberately-made holes were found in the middle of the carpet. Their edges had been carefully bound with a rust-coloured tape. We looked closely at the Dining Room floor and spotted two pairs of small holes in a short length of floorboard. When this was lifted, underneath were two early electric sockets with their cotton-braided wiring still in place. The underside of the floor board was hollowed out to bring the sockets very close to the surface. It would appear that the holes were made to accommodate the wiring for early electric lamps set on tables. The holes in the carpet had been subsequently filled in with pink tufted wool, but we decided to remove this earlier repair and leave the holes open to reflect the use of the room.

There were also other old repairs on the carpet, not all successful. Where they were unstable and could be removed safely, they were, and the areas consolidated properly. A few areas were left, as their removal would have been too damaging.

We wanted to celebrate the conservation work whilst the carpet was away, especially as the Dining Room is such an important interior, so we set up an exhibition detailing the work being done by the Studio. Ksynia’s team carried out time-lapse photography of the cleaning, and sent up samples of materials being used, regular bulletins detailing the work, and some Chenille strands. These were especially useful in explaining the carpet’s construction and significance. At the Volunteer pre-season meeting I gave a short presentation on the carpet and the work being carried out. We wanted the Volunteers to be informed and aware of the importance of the carpet and the scale and intricacy of the work being done.

Overall the work has been a triumph: the carpet is now stable, the losses that detracted from it have been infilled, it looks brighter and fresher than it has done for years, and it is back in the room it was made for. In order to return the design integrity back to such an important room we have replaced the drugget at the end of the room with an eyemat that matches the carpet (eyemats are protective mats with a photographic image of the underlying surface). Thanks are due to Ksynia and her team who together have done such great work on our beautiful carpet.

John Wynn Griffiths ACR, Conservator North Region
A CELEBRATED THOROUGHBRED
Putting the famous Hambletonian in his new frame

The famous horse painter, George Stubbs, painted Hambletonian (1792-1818), one of the greatest horses ever, in 1800. The painting commemorates a close race against Mr Joseph Cookson’s Diamond on the 4-mile, 2-furlong Beacon Course at Newmarket on 25 March 1799. Frank Buckle (1767-1832) was Hambletonian’s jockey and his opponent was ridden by Dennis FitzGerald. An unprecedented number of people had come far and wide to watch and bet. The race was all over in 8 minutes. Hambletonian had won by little more than half a neck.

The Stubbs painting was commissioned by Hambletonian’s owner, Sir Henry Vane-Tempest (1771-1813), 2nd Bt, of Wynyard Park in County Durham, where the horse is buried. It was inherited by his only child and daughter, France Anne, born the year the painting was completed. In 1819 she married (as his second wife) Charles William Stewart Vane (1778-1854). He unexpectedly became the 3rd Marquess of Londonderry on the suicide of his half-brother in 1822. Their daughter was the grandmother of Sir Winston Churchill.

The artist has deliberately shown the supreme horse in the final stages of exhaustion, though without the wounds inflicted by the jockey’s crop. The seven-year-old horse was the winner, but was said to have been ‘shockingly goaded’, according to Sporting Magazine at the time. He is shown, rubbed down, without his victorious jockey wearing his racing colours of lilac, yellow and black, attended only by a groom—possibly his trainer, Thomas Fields (1751-1810) at Silvio Hill, Richmond—and a stable boy. Sir Henry won the enormous sum of 3,000 guineas. But the 75-year-old artist had to sue for his 300 guinea fee.
This twelve-foot-wide picture has been placed in various locations over the last 200 years. It has been hanging on the stair-case at Mount Stewart, once the country seat of the Marquesses of Londonderry, in Co. Down, Northern Ireland since around 1962. An original frame was missing from the painting as it was once set into wall panelling in Londonderry House, the London home of the family. Historical research has been carried out by National Trust curators to select a style of frame in keeping with its time. In 2014—in consultation with the current descendant of the family, Lady Rose Lauritzen, who still lives at Mount Stewart—a new frame was made by John Hart, Co Carlow, gilded by Susan Mulhall Gilders, Co Kildare, and the frame lengths run by Millview Furniture, Co Kilkenny. It was generously funded by a number of private donors.

Mount Stewart opened on 20 April 2015 after a large three-year restoration project. It now contains new loans from the London-derry collection with some original portraits of family members, including that of the ‘wild and extravagant’ Sir Henry by Eduard Ströhling (1768-1826).

Tania Adams, Pictures and Sculpture Cataloguer
Frances Bailey, Project Curator, Mount Stewart,
and Regional Curator, The National Trust

For the very first time Fountains Abbey and Studley Royal Water Garden have opened up their beautiful 18th-century folly buildings to three of the country’s most inventive theatre set designers and artists—Gary McCann, Simon Costin and Irene Brown.

The original designers of the Studley Royal Water Garden, the Aislabie family, created many follies on this vast and beautiful estate to surprise and delight their 18th-century guests. These fashionable, whimsical buildings or structures were often used by garden designers to catch the eye or draw attention to a carefully created vista.

‘Folly!’ shows the temples and follies of this World Heritage Site garden dramatically re-imagined as places of visual trickery and untold histories. The exhibition runs until 29 November.
BIG GAME HUNTING AT NUNNINGTON
The conservation legacy: do we know what we are handling?

The Fife family of Nunnington Hall, North Yorkshire (situated in a tranquil spot by the river Rye), like many families of the upper classes, lined their entrance hall with trophies of big game hunting. Indigenous societies have hunted big game for many centuries; however, it became a popular and fashionable European and American pursuit from the late 19th century to the first half of the 20th century, particularly in East Africa and India. Big game hunting was imbued with a romantic concept of sportsmanship, involving as it did danger and adventure.

Colonel Ronald D’Arcy Fife, a professional soldier, was seriously wounded in the First World War and invalided out of the service. The Colonel spent time recuperating at home, but also found the time to pursue his passion for big game hunting further afield; the trophies of that period are what we see today in the Stone Hall at Nunnington.

This article is not concerned with the discussion of the rights or wrongs of hunting safaris and their spoils, but with the consideration of the conservation challenges we are now facing in the long-term care of sporting trophies.

The collection at Nunnington consists of 26 specimens ranging from tiger skins and sassaby heads (a sassaby is a large South African antelope) to the skull of a dik dik (a small East African antelope). The plinth-mounted heads in the hall have already undergone conservation treatment and are considered to be stable in the current environment. However, the four textile-mounted skins of two tigers, a lion and leopard are still awaiting conservation funding for essential remedial treatment.

So how should we care for these objects meanwhile to improve their stability and presentation? We needed to consider a programme of cleaning for the dusty skins, but we had concerns over the presence of heavy metals or pesticides that might be hazardous to health.

The textile adviser Ksynia Marko was invited to Nunnington to carry out cleaning tests. The use of a museum vacuum with a soft goatshair brush attachment showed that at best the skins were very dusty. At the same time samples of hair and skin were taken from the four textile-mounted skins and sent to University College London (UCL) for testing (as part of a student project) to establish any presence of hazardous substances linked to the preservation of the skins, such as traces of arsenic or mercury, to identify potential health and safety issues, and to recommend a safe surface-cleaning protocol.

Heavy metals such as arsenic and mercury (in the form of mercuric chloride) were commonly used throughout the 19th and 20th centuries in compounds developed as pesticides for treating skins, furs, and taxidermy. They are highly toxic, carcinogenic, and as with other heavy metals, exposure is cumulative. Both arsenic and mercury are permanent, and residues remain long after application.

The samples sent to the lab included hair, dust, skin, and loose pelt fragments. As the sample sizes were small it was decided that chemical analysis would prove inconclusive, as
there would be insufficient material to work with. Therefore the testing techniques used were Portable X-ray Fluorescence (pXRF) and Scanning Electron Microscopy with Energy Dispersive Spectrometer (SEM-EDS). Both these analytical techniques identify elements rather than chemical compounds, and in this case, given the sizes of the samples, it was understood that they would only be used for qualitative rather than quantitative results in an attempt to identify the presence of arsenic and mercury.

For the pXRF tests a handheld XRF spectrometer, Olympus Delta Premium DP-4000 in Soil Mode (standard and 3-beam) was used. SEM was conducted on a Hitachi SEM S-3400 N fitted with an Oxford Instruments EDS 7021 INCA x-ray Energy Dispersive Spectrometer, and the samples were carbon-coated. It is worth highlighting that sample size severely challenges the reliability of results from both techniques, more so for pXRF as it is difficult to ensure that the beam hits the sample. In these tests the camera/collimator in the machine was used to help focus the beam on the sample.

The results from the pXRF tests were not completely conclusive. The results for Tiger 2 (CMS 980386.2) gave positive readings for the presence of arsenic. Readings for Leopard (CMS 980387) showed both arsenic and mercury. The results for Tiger 1 (CMS 980386.1) and Lioness (CMS 980388) returned readings that were either very low or below the level of detection. It was expected that the results from SEM testing would provide greater accuracy, so it was surprising that the results from the SEM testing showed no arsenic or mercury in any of the samples analysed.

This discrepancy in results could not be satisfactorily explained. Given the nature of the samples and the quantities of heavy metals likely to be involved, it was unlikely that further tests on the samples provided would clarify the situation. It was not possible positively to establish the presence of arsenic and/or mercury on the skins, even though there was some evidence to suggest that mercury is present on Tiger 2 (CMS 980386.2) and arsenic and mercury for Leopard (CMS 980387).

So where does this leave us in our quest for improving the appearance of the skins? We need to make sure that our interventions are safe, both for the specimens and for our conservation staff. In view of the results, a precautionary approach was recommended for handling and cleaning the skins—arsenic and mercury might be present. We are also presuming that as the Nunnington skins were collected at about the same time they have all been treated in the same way.

Most of the recommendations specified in the report reiterated what we as a conservation organisation already practise. However, to safeguard ourselves and these collections we need to review handling and display procedures for natural history on open display. We are currently developing guidance to support training for property teams in the routine cleaning of natural history objects.

Sandra Howe ACR, Conservator North Region

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Acknowledgements
Andrew Barber, Jonathan Marsden
Notes
National Trust/Institute of Archaeology Student Projects: Nunnington Hall June 2014, Technical Report by Carmen Vida

The head of a tiger, part of a skin hung on the wall in the Stone Hall
REVELATIONS THROUGH SCIENCE

‘A Magus at a Table’ by Jan Lievens at Upton House

Advances in the technical analysis of paintings over the past twenty years have enabled conservators and curators to re-examine paintings with regard to attribution, the materials and techniques used by the artist, and also changes in the composition. The painting A Magus at a Table by Jan Lievens (1667-74) at Upton House, Warwickshire has had an interesting history in that its attribution and subject matter have been much discussed; it was, therefore, an ideal candidate for technical analysis and conservation treatment.

The Upton painting (557mm x 484mm x 9mm, painted on an oak panel) is a beautiful, intimate portrait of an old man wearing a golden robe, standing in profile before a table covered in a gold brocade tablecloth and supporting an open book on his left arm. Within the darkened interior, candlelight bathes the figure. A heavy circular curtain and a curule chair (a chair constructed like a camp stool with curved legs) emerge from the darkness, but the most intriguing image is the faint trace of a leafy branch above the table. The painting is signed Rembrandt f.16, in the lower left-hand corner.

The painting entered Lord Bearsted’s collection in 1937, having been purchased at a sale of Pictures by Old Masters at Messrs. Christie, Mason & Woods in London on 18 June of that year. In the catalogue it is listed as A High Priest at an Altar by Rembrandt van Ryn from the collection of Mrs Maria Chippindall, 1903. However, during its past history it has not only been considered to be by Rembrandt but has also been attributed to Rembrandt and to Rembrandt and his circle; it has additionally been considered to be by Jan Lievens, attributed to Jan Lievens, and thought to be the prime copy of a lost Lievens (a copy of Lievens’s original is probably the picture listed in the inventory of Rembrandt’s possessions in 1656 as No. 58, One Priest after Jan Lievens). Just as contentious as its attribution is the identity of the old man. The setting, too, has been subject to different interpretations. The figure has been identified as a priest, a rabbi, the Prophet Zachariah, a scholar, or a magus. The setting further confuses the identification: there are elements of opulence, such as the gold brocade cloth on the table, the gold gown, the large, fringed curtain, and the curule chair, but elements such as the bare floor and the curious circular insertion in the floor suggest a humble interior. The presence of the leafy branch adds another element of mystery. Alastair Laing (former Curator of Pictures and Sculpture for the National Trust) has identified the figure as a magus—the suggestion of alchemy or magic is enhanced by the interior setting, which contrasts the opulence of the Orient with the unusual starkness of the floor and the leafy branch above the table.

The painting had been previously examined in 1981 by Professor Ernst van de Wetering and Professor Bruyn of the Rembrandt Research Project at the Hamilton Kerr Institute. Based on their visual inspection, which noted the stylistic differences in the handling of the paint in different areas, they attributed the painting to Jan Lievens, dating the painting to 1631–32.

Concurrently, dendrochronology had been undertaken by Dr Fletcher of Oxford University. This was problematic: the oak panel had been sawn ‘through and through’ (cut through the centre part of the tree as opposed to a radial cut) and ‘ray staggers’ were frequent throughout the ring sequence. Sawing wood in this way causes the sequence of growth rings to be out of alignment on either side of the medullary rays (ribbon-like structures perpendicular to the growth rings which enable the transmission of sap through the tree), thus making it difficult to have a clear sequence of growth rings. Prefacing his report with the comment that ‘the result is a degree lower in reliability than we achieve with the more usual radially split panel’, Dr Fletcher provided a felling date and use of the panel of after 1660. With this additional information, the date of 1631-32 and attribution to Lievens was retracted in the final report, in which the painting was thought to be a copy after Lievens since ‘after 1660, Jan Lievens’s style had changed’.

Because of the conflicting attributions, and also the confusion surrounding the composition, particularly in relation to the different levels of competence in the handling of the paint in different areas, the Trust decided to send the painting to the Hamilton Kerr Institute for conservation and technical analysis in 2014. The work was undertaken by Shan Kuang and Mary Kempski, and I am indebted to them for their research and expertise.

The re-examination of the painting in 2014 provided an
opportunity to reconsider the original dendrochronological results, particularly in light of the research undertaken by Ian Tyers and Jennifer Hillam on the Fletcher archives which refuted many of Fletcher’s original dates of panels.4 Whilst it was still not possible to undertake dendrochronology owing to the nature of the panel, the rejection of Fletcher’s date of 1660 suggested that the painting could be of the earlier date of 1631–32, thus placing it back within the realm of Lieven’s Leiden period.

Although the painting had been X-rayed previously, advances in X-radiography enabled a greater understanding of the composition and subsequent changes to it. Whilst infrared reflectography was unable to detect any carbon-based underdrawing, the X-ray revealed elements of the initial sketch including the old man, the chair, the curtain outline, possibly a large, open book standing on the altar/table, and several volumes in the foreground. When the X-ray was overlaid on the final image, several changes were immediately apparent. The figure appeared to be slightly hunched, which could account for the original placement of the chair closer to the figure as if the old man had just stood up. Although the image was difficult to interpret, it appeared that he was holding a candle in his right hand and reading a book which was lying on the table. The large curtain was hung higher, and the curtain folds were closer, making a different shape to the fuller hanging curtain in the final composition. It is possible that a passageway was originally intended behind the chair, but was painted out when the curtain was repositioned. The fact that numerous elements in the original composition were subsequently painted out indicates that the painting is not a copy, contradicting the suggestion in the 1983 report.

In the earlier paint analysis the number of samples had been limited owing to the lack of sites from which samples could be taken. However, in the 2014 analysis the use of the non-invasive technique of macro X-ray fluorescence allowed for more extensive sampling.5 This technique maps the distribution of a particular element (cobalt, calcium, iron, or copper, for example) which can then be linked to a certain pigment. By mapping specific elements it was possible to see further compositional changes not visible in the X-ray or infrared reflectograph. By scanning for copper (verdigris, copper resinate glazes or azurite), the leafy branch revealed to be a large spray of leafy branches in a vase on the altar/table. The vase was later painted out, and the branches were possibly toned down but not completely removed.

Scanning for magnesium and iron (earth colours) revealed a large, ornate monument or niche located behind the table in the background. This was subsequently painted over. This change, along with the reduction in the size of the floral spray and the lowering of the curtain to cover a possible passageway, may reflect a decision by the artist to focus more attention on the figure and the table, as the background would appear darker.

The presence of compositional as well as colour changes (these were most notable in the tablecloth, which was originally green, then red with light purple detailing, and finally gold and silver) clearly indicated that the painting was not a copy but the prime version (several copies of the painting exist in other private collections). The extensive re-working was also more typical of Lieven than Rembrandt, as Lieven was noted for ‘his inventiveness and audacious themes and forms.’ Melanie Gifford of the National Gallery of Art, Washington examined the painting. She commented that Lieven’s final image often deviated from the preliminary sketch, and that extensive reworking during the course of painting was more typical of Lieven than of Rembrandt.

Whilst the painting can be attributed to Lieven, the changes in the subject matter revealed by the analysis raise more questions about the nature of the subject and its meaning.

Christine Sitwell, National Trust Paintings Conservation Adviser

1 Alastair Laing’s (former Curator of Pictures and Sculpture for the National Trust) catalogue entry listing its past attributions
5 The macro X-ray fluorescence was undertaken by Stijn Legrand from the University of Antwerp
David Pearson's article in the National Trust issue of Apollo this summer describes very neatly one of the core purposes behind the cataloguing of our libraries, which has been being done in electronic form since the early 1990s. At that time, with so many libraries cataloguing their holdings online, or seeking to embark upon mass digitisation projects, we needed to consider what it would be about our efforts which could add value both to the national printed heritage and to the National Trust's efforts to make inventories of its collections. We decided to leave it to those with the equipment and expertise to digitise the texts. Our interest was more in the physical items. We would have them in perpetuity, so we needed to describe what we had in enough detail to enable us in future to make that information available for research into our collections, both internally and externally.

The electronic world offered us the opportunity to get away from our inheritance of shoe boxes full of 5 x 3 index cards—these could hold only a limited amount of information. We could catalogue by downloading records from other institutions where we owned the same texts, saving years of manpower. In order to try and show that what we had was potentially unique, we decided to concentrate our efforts on adding to the catalogue records detail which had previously gone either totally unrecorded, or had been only partially recorded in an unsystematic manner on the index card system. We were looking for signs of ownership, of reading, of storage, of personal taste in bindings, and sometimes the inclusion of illustrative material where it was for sale as an optional extra. Over the years, we have built up a substantial picture of our holdings. Now that we are completing the cataloguing of entire collections and making those catalogue records available online, we are starting to reap the benefits of our work.

Patterns begin to emerge within collections, between collections which have historic family links, and even across European and international boundaries where collections have been dispersed. Most of what we find is usually in the form of bookplates, signatures or armorial stamps on bindings. Peter Hoare's article on the library at Belton, written as cataloguing was reaching completion, gave details of the ownership of large numbers of volumes by the major members of the Brownlow and Cust families who had owned Belton—we had expected this. What it also revealed, rather more unexpectedly, was that the books contained the inscriptions or bookplates of 150 other members of the family. Some were in children's books or school texts, showing evidence of readership of small numbers of volumes at Belton by owners who may well have formed later, larger collections elsewhere. These odd childish survivals can sometimes be the only remaining evidence of readership by owners whose later collections have been dispersed, or swallowed up within larger collections of which they only form a small part.
More recent research into the Italian books at Belton focuses on a particular area of research—book-buying related to the Grand Tour. This covers books bought for planning a Grand Tour, such as guide-books, maps, foreign language aids, and works on foreign collections, as well as those items brought back from abroad. Such patterns of preparation for the Grand Tour can be found from a century earlier at Kingston Lacy, Dorset. The Bankes brothers’ purchases on their tour came not only from Italy, but France too; they also bought works published abroad from booksellers in England. It would be no surprise to find that as we document our 19th-century holdings we find more similarities in book buying habits with tourists in previous centuries.

Just as Peter Hoare has documented at Belton, we are finding a similar range of signs of ownership in books in other collections. The most typical are the bookplates, signatures inside the front covers, and armorial stamps in blind or gilt-tooling on the covers. (Collage 1) ‘All of these individual signs of ownership have value when trying to reconstruct the historical landscape of private libraries, so many of which have been dispersed or destroyed over the centuries.’ Owners often mark their books in more than one way and are not always as systematic in their habits as we would like. Philip Yorke, a simple lawyer to start with, then later Baron and subsequently Earl of Hardwicke, marks his earlier book purchases with his signature on the verso of the title-page; he later uses his bookplates either as Baron (1733-54) or as Earl of Hardwicke (after 1754). His signature is more often than not the most revealing in conveying his patterns of ownership to us over two hundred years later: he will often add a date, the cost of purchase, or a comment about the book being a gift. There is also a pattern emerging of lawyers in this late 17th- to early 18th-century period signing or putting bookplates on the title-page verso. This can also be found, for example, in the books owned by John, Lord Somers’ and William Dohyns of Lincoln’s Inn.

The bookplates at Wimpole, and potentially other houses, can be less revealing, as in theory, and often in practice, they can be pasted in by later members of the family. The Earl’s plate in particular has a longer usage than expected as it is found in purchases made by the 1st and 3rd Earls and possibly others in between. When the bookplate is used by the 1st Earl, it is not usually in every volume in a set; when it does occur in more than one volume it is suspected that this may be because a later member of the family added plates into the set. This may be owing to the lending out of the set or of odd volumes, as the Wimpole library was certainly used by friends of the family and the rector of Wimpole in the 18th century. The 2nd Earl seems to have re-used the 1st Earl’s bookplate, while the 3rd Earl had his own armorial bookplate, which is not found in many volumes still at Wimpole. Recording the instances of ownership helps us to understand that ‘libraries are often integral to the histories of houses and families, just as gardens and buildings are, but they are also part of the broader fabric of our national printed inheritance.’ Where collections have been dispersed, they can be brought back together virtually. In a small way, we can do this with the books owned by the Kipling family, which moved from Batemans to Wimpole Hall when Rudyard Kipling’s daughter Elsie Bambridge inherited various family books from her father. We can re-unite all of the Kipling/Bambridge-owned books in a virtual environment, which gives us the opportunity to see a wider picture of family ownership across more than one property.

With our holdings now online, researchers are able to approach...
our collections with such specific questions in mind. We are moving beyond explaining what sort of books we have in general terms; we can now discuss what may be in individual collections, how items got there, and why something may have been kept when other items were sold along the way. Researchers send in challenging questions about our collections, or about specific copies. ‘The Trust may have 50 or more copies of certain popular 18th-century books, but each of them is unique as regards its own history and copy-specific properties, all of which are worth investigating and recording.’ (Collage 2)

Some of the odder things we find in books are proving to be of wider interest. It is not unknown to find a range of items such as botanical specimens or Chinese wallpaper in books. A circular stain from a small cup or glass mid-way through an otherwise unmarked architectural work allows us to speculate that its 18th-century owner studied at least one of the prints in the volume, and probably more. Slowly but surely we are starting to collect images of the decorated papers which were used as endpapers or bindings. As paper researchers may well agree, finding papers in contemporary bindings around texts printed at the same period can be a great help in dating the production of books. At Wimpole, for example, we have a set of individually printed Forms of Prayer in dark blue morocco bindings of £1750, which have a range of different endpapers. This is something to be treasured: in a larger institutional collection, such short items of around thirty pages could well have been dis-bound and then re-bound into multi-item volumes to save space, with the complete loss of the original binding and endpapers. We also keep a close look-out for signatures appearing in odd places in the middle of a book. Amateur drawings can turn up on blank interleaved pages bound into books for continental tourists. Pieces of cutting out or botanical specimens can be found in large books, just laid in deliberately to be kept flat, then forgotten for generations. As succeeding generations had different interests, or were not of a bookish inclination, little clues to life in earlier times were left hidden for us to find.

Of our libraries, their books and collections, I have to agree with David Pearson: ‘Their research value has huge and largely untapped potential and there are many discoveries to be made.’

Yvonne Lewis, National Trust Assistant Libraries Curator

1 David Pearson, Why does the National Trust need so many books?, in National Trust Historic Houses & Collections Annual 2015, p. 45.
2 The Kelkleton copy of Richardson’s work on ceilings, for example, is unusual in having two sets of plates, one hand-coloured and the other left as printed. The copy has been used to colour match with paint scrapings taken from ceilings in the house when restoring historic colour schemes.
4 Institutions like the British Library and Bodleian did not in the past systematically record previous ownership beyond giving large donated collections the name of their previous owner. Small donations would remain unrecorded in their catalogues.
6 David Pearson, op. cit., p. 47.
7 Part of the collection of John, Lord Somers, Baron of Evesham (1651-1716) came to the Yorke family through the inheritance of Margaret Cocks, niece to John Somers and wife of Philip Yorke, 1st Earl of Hardwicke (1690-1754) and is now subsumed within the Wimpole Hall library.
8 The books owned by the lawyer William Dobyns were sold in 1708 and can be found at both Wimpole Hall and Felbrigg Hall.
9 See Collage 1 for amendment of the 1st Earl’s mid-18th century bookplate for use by Charles Philip, 5th Earl of Hardwicke (1856-197) in one of the few books with his provenance.
10 The 3rd Earl’s bookplate is of the same design as the gilt armorial stamp on the front cover of the red morocco binding in Collage 1.
11 David Pearson, op. cit., p. 49.
12 For a work in progress to reconstruct the collections of Sir Hans Sloane (1660-1753), see http://www.bl.uk/catalogues/sloane/
13 See letter from Apsley Cherry-Garrard in Collage 1. He was returning a copy of Kim to Kipling which he had read on Scott’s last Polar expedition.
14 www.copac.ac.uk (National Trust as a library can be used as an additional search term to find NT books, or NT copies of specific works only.)
15 David Pearson, op. cit., p. 49.
16 See Collage 2 – the gilt and multi-coloured floral paper and the gilt and white paper are both from this set.
17 David Pearson, op. cit., p. 49.

Acquisitions

HAM HOUSE

Four pictures with a provenance from Ham House were purchased at auction at Christie’s South Kensington in April 2015 (also see page 1).

The van Stalbemt and the van Laer were at Ham House by 1844 and the Neefs by 1904. The sitter in the Cosway drawing, Maria Caroline Manners, was the second daughter of John Manners and Louisa, Countess of Dysart (who inherited Ham House in 1821). Maria Caroline married James Duff, afterwards 4th Earl of Fife, in 1799, but died at the age of thirty in 1805. This work, executed in 1806, was commissioned by her husband in memoriam.

The four pictures came from the estate of Barbara Judd (1926–2013) and had previously been owned by her grandfather Sir Lyonel Tolleghem, 4th Bt. (1834–1932), who together with his son gave Ham House to the National Trust in 1948.

Left: Peter Neefs the younger (Antwerp 1620-Antwerp after 1675) and a follower of Frans Francken II (Antwerp 1582-Antwerp 1642), ‘The Interior of the Cathedral of Our Lady, Antwerp, with Mass being Celebrated on One of the Altars, and Other Elegant Figures Conversing’, 1656 (signed and dated), oil on panel. NT 2900122

Right: Richard Cosway RA (Tiverton, Devon 1742-London 1821), ‘Maria Caroline Manners, Lady Duff (1775-1802)’, 1806, pencil and watercolour on paper. NT 2900117

Above: Circle of Adriaen van Stalbemt (Antwerp 1580-Antwerp 1662), ‘Christ and the Woman of Samaria at the Well’, oil on canvas. NT 2900115

Emile de Brujin, Registrar (Collections & Grants)
TREDEGAR’S ENIGMATIC ARCHITECTURE
First steps towards an understanding of this Restoration gem

As Howard Colvin put it, Tredegar House, on the outskirts of Newport, South Wales and the seat of the Morgan family for some 600 years, is a house sui generis. An eccentric mix of Tudor stonework, bravura Restoration brick and 19th-century antiquarianism, the house reflects not only the changing fortunes of the Morgans, but also how they saw their place in the world. During research for the Conservation Management Plan a richer timeline for the development of Tredegar House has been created. However, as is often the case, there are now more questions than answers.

It is presumed that William Morgan (succeeded 1664, d.1680) dramatically remodelled the Tudor stone-built house in a single phase to create the present quadrangular plan. The assumption is that the new north-west range, with its cupola and projecting pavilions, filled the previously open side of the courtyard. Whilst significant alterations clearly occurred around 1670, there is some indication that there was an earlier range on the north-west side. Most of the evidence for this potential phase is elusive. However, two distinct types of blocked door within brick fabric were revealed behind the panelling of the Brown Room in 1980 (the interior of which has elements dating to no later than 1675). There is also the built fabric. Before the Civil War William Morgan (d.1653) was master of Tredegar for some 50 years; his son Thomas (d.1664) presided over the house during the Protectorate and the years immediately after the Restoration. Either of these two men may have had the means and motivation to make changes to Tredegar. Alternatively, on inheriting in 1664 Thomas’s son William (d.1680) might have undertaken an initial phase of alteration to reflect the new age of flamboyant opulence. If this is the case, it must have been rapidly superseded by, or incorporated into, the more substantial alterations of the 1670s.

For these alterations, it would seem that William looked to Clarendon House, Piccadilly, built by Sir Roger Pratt (1620-83) for the Earl of Clarendon between 1664 and 1667. Howard Colvin considered that the closest parallel to Tredegar was Ragley Hall in Warwickshire. It has been established that the essentials of the design of Ragley were due to Roger and William Hurlbutt, master carpenters of Warwick. The Hurlbutts are also associated with the stables at Warwick Castle, and Giles Worsley has proposed that they are also responsible for the stables at Tredegar. However, as Ragley was begun in 1679 it is later in date than Tredegar. Dendrochronology has also given a date of 1670/71 for the stables, making them contemporary with the house.

Colvin also drew comparisons between the façades at Tredegar and the principal doorway of Maiden Bradley in Wiltshire, built by Sir Edward Seymour in the 1680s. The architect is unknown, but in 1683 Lord Conway mentions in a letter that Sir Edward had taken ‘Mr Halbert’ with him to Maiden Bradley. Thirty miles away was Amesbury Abbey, built by John Webb some time before 1660 for William Seymour (1587-1660). Amesbury has been described as Webb’s ‘triumph in country house design’ and clearly belongs to a more sophisticated tradition than Tredegar. However, there are similarities between the two buildings. Specifically, Amesbury and Tredegar both have a staircase placed centrally at the rear of the entrance range, as well as a cupola and viewing platform sitting on top of the staircase tower.

Like William Morgan, the men who commissioned these buildings were connected to the Royalist cause and politically active during the turbulent times of the Civil War. Whilst it is not known whether William Morgan was well acquainted with these men, it is clear that they were exposed to the same cultural influences which gave rise to the great country houses of the Restoration.

There are also interior features at Tredegar which survive from the 1670s. For example, although the Great Staircase has been altered, there are similarities between the Tredegar balustrade and two other known examples. The contemporary balustrade at Sudbury...
was carved by Edward Pierce (c.1630-93). Whilst the surviving elements of the Tredegar balustrade may not be of the same quality, it is possible that the source material was the series of engravings by Pierce’s father entitled Designs for Friezes and first published in 1640. The second example can be found at Eltham Lodge, a house designed by Hugh May (1621-84) for the banker Sir John Shaw in 1669-64. Indeed, the slightly flatter execution of the acanthus scrolls is more akin to the Tredegar carving.

That William’s son Thomas Morgan (succeeded 1680, d. 1700) travelled to the continent between 1682 and 1684 has been somewhat ignored when considering the architecture of the house. It seems unlikely that an impressionable young man, travelling firstly with Richard Graham, Lord Preston and secondly with John Cecil, 3rd Earl of Exeter to the great cities of Europe would not have wished to make his mark on Tredegar when he returned home.

The only surviving physical evidence of Thomas’s changes may be the decoration of the Brown Room. Stylistically it seems no earlier than 1680; indeed, as Thomas was only 16 when he became master of Tredegar, it is unlikely that he started work before reaching his majority in 1685. The suggestion that Thomas reconfigured the Brown Room is supported by the disturbed brickwork and blocked-up doors which were revealed when the panelling was removed. Whilst some of the carving must surely date to his father’s time (the coat of arms above the fireplace, for example), other elements are almost certainly later. Much of the carved decoration is nailed in place, making alteration and re-use possible.

Parallels between the Tredegar door cases, their associated decoration and those found in the Long Gallery at Chirk (dated 1678) are obvious—see photo opposite.

It has been suggested that Sir Thomas’s architect was William Winde. Although it is currently not possible to make a direct link between Winde and Tredegar, he did undertake work at nearby Rupera whilst it was in the ownership of Sir Charles Kemeyes (a relation of the Morgans by marriage): ‘I transplanted Trees of a considerable bigness, wch dide very well & ye same I dide at Sir Charles Kemeyes orchard, at Rupera in Wales; withe good success’... This comment is made in an undated letter, but was probably written in 1698/99. It is therefore tempting to speculate that Winde might have at least advised Thomas on changes at Tredegar.

It is now difficult to appreciate fully Tredegar’s interiors of the late 17th and early 18th centuries. Major alterations were made to the house in the mid-18th century; certainly the staircase was altered at this time, as was the configuration of the first-floor rooms at the head of the stairs. The antiquarian additions and alterations made in the 19th century further obscure the original floor plan and architectural quality. What is clear is that Tredegar House remained central to the identity of the Morgan family throughout their long history. In the 19th century they resisted the temptation to knock their unfashionable house down and build a new mansion. The Morgans of Tredegar chose to adapt rather than overwrite their identity. In the newly industrial age, with the influx of new people and new money, the Morgans felt the need to re-state their lineage. This statement was expressed through architecture; examples are the early 19th-century addition to the façades of Morgan family shields and supporters, the continued reluctance to demolish or obscure the Tudor parts of the building, the addition of the antiquarian porch on the east front, and the decorative schemes found within the north-east range. The architecture of Tredegar told the world that the Morgans had been in South Wales forever; whilst they were amongst the new ‘Kings of South Wales’, they were also descended from the five royal tribes of Wales.

Bryher Mason, Conservation Plan Consultant

4 As Speaker of the House of Commons between 1673 and 1679, Sir Edward Seymour must surely have known William Morgan. Indeed it was noted that ‘He knew the House and every man in it so well that by looking about him he could tell the fate of every question.’
5 Chirk Castle, National Trust Guidebook, p. 26
7 Ibid
CONSERVING A TREASURE FROM INDIA

The full glory of Tipu’s tent revealed at Powis Castle

That so many Indian treasures reside in a medieval castle in mid-Wales can come as somewhat of a surprise—even if they have been firmly ensconced there for more than two hundred years.

The Indian collection at Powis Castle, Powys is of international importance. Over three hundred items from India and the Far East, dating from the 17th to the 19th century, are housed at the castle; they include ivories, textiles, statues of Hindu gods, ornamental silver and gold, and weapons and ceremonial armour. It is the second most important collection of Indian objects in the UK (the premier collection is housed at the Victoria & Albert Museum in London).

In Autumn 2015, the V&A Museum will showcase one of the masterpieces of the Powis Castle Indian collection: a large tent, formerly owned by Tipu Sultan, will be erected in the galleries in a new temporary exhibition entitled *The Fabric of India*.

Why is Tipu’s tent at Powis Castle?

The marriage of Lady Henrietta Herbert, Countess of Powis (1758-1830) to Edward Clive (1754-1839) in 1784 joined together two important families. On one side was the aristocratic Herbert family, who for generations had held high-ranking posts at Court and had been rewarded with titles whilst holding on to their prestigious seat at Powis Castle; on the other was the more recently socially-ambitious Clive family. Edward was the son of the famous Robert Clive (1725-74), also known as Clive of India, whose service in the East India Company military forces between 1744 and 1767 saw him defeat Indian uprisings and (controversially) amass a vast personal fortune along the way. The marriage of Henrietta and Edward provided a sound financial future for Powis Castle.

Following in his father’s footsteps to India, Edward Clive was appointed Governor of Madras in 1798. Rather unusually for that time, Henrietta and their two daughters also went to India with him, and stayed for three years. In India, the tension between the local population and the British increased in the late 18th century, with Indian opposition led by Tipu Sultan, the ruler of the south Indian state of Mysore. Tipu hated the British and the British East India Company, and he allied himself with the French. Events came to a head at the Battle of Seringapatam in May 1799. The British forces were nominally led by the Governor General, Lord Mornington, subsequently assisted in administrative affairs by Edward Clive, Governor of Madras, and Lieutenant-General George Harris as executive officer. Tipu Sultan was killed, and Seringapatam, the richest city in South India, was now in British hands. Many of Tipu’s possessions were acquired by the British as spoils of war. Among the spectacular items to arrive in Henrietta and Edward’s possession was Tipu’s magnificent state tent.

Henrietta and Edward were enthusiasts of Indian culture and collected a variety of Indian artefacts; their tastes were wide and varied, and they were not just attracted to treasure and high-status objects. Following the death of Tipu Sultan, southern India was more stable. Henrietta was able to travel; she spent seven months exploring Mysore, where she began assembling a collection of rocks and minerals (Henrietta’s collection of mineral specimens and her two handwritten catalogues are now at the National Museum of Wales, Cardiff, where they are considered to be one of the most important mineral collections at the Museum).

In 1804 Henrietta and Edward’s Indian treasures, including the magnificent tent, first arrived at Powis Castle.

The tent

The tent is dated on stylistic grounds to c.1750, and the pattern design inside is a chintz—printed, painted and dyed on a white calico backing. Small wooden blocks were used to print the pattern, one block for each colour; after each colour was added, the fabric would be dried in the sun before the next colour was printed. The fabric design has a central vase with a symmetrical flower and leaf pattern around it common in India, and similar to Persian patterns of the 16th and 17th centuries. The fabric was possibly made in Burhanpur. The outside surface of the tent is plain white except for striped valances.

The tent is actually in four separate pieces; it was believed that the tent consisted of one canopy, and three walls, or *gannat*. The vast canopy is kept in store at the Castle, because at eight meters...
in diameter it has always been too large to display; of the three qanats, two are also in store, with only one qanat partially on show as part of the Tent Room display.

Many of the Indian objects at Powis Castle went on display at the major Indian Heritage exhibition at the V&A Museum in 1982. This encouraged the National Trust to review how the collection was displayed at Powis Castle. Until the mid-1980s many of the Indian treasures were dispersed throughout the Castle rather than displayed together as a unique collection. Following a fundraising appeal the Trust reviewed the display, and in 1987 dedicated exhibition spaces were created off the Ballroom at Powis Castle, now known as the Clive Museum and the Tent Room. This was the first time the Indian curiosities had been studied, catalogued and assembled in one place; Treasures from India: the Clive Collection at Powis Castle was published in 1987.

Research and investigation

For nearly three decades, new research into the Powis Castle Indian collection has not been as active. However, in 2013 the V&A once again approached the Trust with a request to borrow Tipu Sultan’s magnificent tent for a forthcoming exhibition. This request was to lead to a concentration of conservation and curatorial research which has culminated in a new understanding of Tipu’s tent and its significance.

In May 2014, a week-long research visit was programmed. Rachel Langley, National Trust Senior Textile Conservator, and Elizabeth-Anne Haldane, V&A Senior Textile Conservator visited Powis Castle to examine the tent and assess its suitability for exhibition. Space was at a premium to enable the research team to examine the four large sections of the tent. The Ballroom was used as a huge arena for unrolling each section of the tent in turn. Additional help was required to move the largest pieces—particularly the canopy—and house teams from nearby Chirk Castle and Erddig joined the Powis staff and volunteers. Visitors had access to the threshold of the Ballroom and were able to view the experts at work on Tipu’s tent, and to marvel at its size and appearance.

Also at Powis Castle in May 2014 as part of the research visit were Professor and Mrs Andrews, the world’s leading authorities on tents in the Islamic world, who looked at the tent pieces in detail. Professor Andrews’s research and conclusions are detailed in his 2015 paper Tipu Sultan’s Campaign Tent, which meticulously examines the structure, make-up, fastenings, pattern design and proportions of the roof canopy and the three side qanats as well as the history, provenance and acquisition of the tent. Originally the canopy would have been supported by a central pole, but this no longer survives; thirteen bamboo poles are sewn into pockets of the qanat on display; ten other poles survive loose, and two have been built into a sledge which remains in store at Powis Castle. Mrs Andrews concentrated on studying the beautiful design and pattern of the tent. Assisted by the team of house staff and volunteers, she traced the intricate pattern on sheets of melinex (high clarity polyester film).

Close study of the three side qanats has revealed an unexpected conclusion. Whereas previously Tipu’s tent was thought to be one canopy and three side qanats from the same tent, Professor Andrews concludes that what we have at Powis Castle is likely to be one canopy, one vertical side qanat, a possibly slanted qanat, and perhaps an awning, all from different tents, judging by their measurements and fastenings. In 18th-century southern India, tented villages would have existed with huge numbers of tents, some in suites of the same interior design and pattern. It would seem that Tipu’s tent has been formed from several different tents with the same pattern.

The Exhibition

The V&A has borrowed the tent canopy and one side qanat, which is the show-stopping centrepiece of The Fabric of India exhibition. Elizabeth-Anne Haldane, along with other V&A exhibition specialists, and supported by National Trust textile conservators, designed and made a specially-constructed support and hanging device for the tent canopy and side qanat.

In September, I was fortunate to accompany Fernanda Torrente, Registrar (Loans and Exhibitions) to the V&A to see the canopy erected at the very beginning of the exhibition installation.

The Fabric of India exhibition opened on 3 October and runs until 10 January 2016. It celebrates handmade Indian textiles; exhibiting over 200 objects from the 3rd to the 21st century, it displays the skills, rich tradition and heritage of Indian textiles. And for the first time in a generation, the full glory of Powis Castle’s Tipu’s tent will be unveiled and enjoyed.

http://www.vam.ac.uk/content/exhibitions/the-fabric-of-india/

Susanne Gronnow, House and Collections Steward, Erddig

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‘THE RECEPTION OF AN EMBASSY’

The painstaking conservation of Powis Castle’s enigmatic tapestry

Without doubt ‘The Reception of an Embassy’ is the most enigmatic tapestry in the National Trust’s collection. Clearly intended to represent a specific event, hinted at by the date, coats of arms and Latin inscription, the subject of the tapestry has so far eluded identification. The only significant study of the tapestry was made by A J B Wace and Muriel Clayton in 1938.

The design of the ‘Embassy’ is ultimately based on a painting in the Louvre, The Reception of the Venetian Ambassadors in Damascus, by an unknown Venetian artist. The setting of the painting is identifiable as Damascus owing to the accurate rendering of many architectural details, most notably the Great Umayyad Mosque. The date 1511 has recently been discovered on the painting. The tapestry at Powis is not directly based on the Louvre painting; in fact it is much closer to three later painted variants of the image, all of which surfaced in French collections during the later 19th and 20th centuries. All three are today untraced, but two were illustrated in Wace and Clayton.

Although based on an image of a Venetian delegation meeting the viceroy of Damascus, the tapestry may in fact represent a different event. Some new elements have been introduced in the tapestry design which do not appear in the original painting; most importantly a date, a Latin inscription and two coats of arms.

The date of 1545 pinned to a scroll on a tree at the right-hand side may simply be the date the tapestry was completed, but its prominent position suggests that it has some bearing on the subject of the tapestry. The Latin inscription, ‘EX FERRO / FI[U]NT / QVE / DVRATVRA / PER EVVM’ translates as ‘out of iron come things that will last forever.’ Ferro (‘iron’ may refer to arms and warfare, suggesting that the tapestry may commemorate the negotiation of an alliance after a period of conflict.

The heraldic evidence, and the fact that all three later versions of the Louvre painting, one of which was probably the basis of the tapestry, have surfaced in France, strongly suggest a French patron for the tapestry. There were numerous French diplomatic and trading missions to the Ottoman Empire in the early 1540s, and the tapestry may have been commissioned to commemorate one of these. The tapestry has no obvious signs of its place of manufacture. The millefleurs ground does not appear in any of the painted versions of the design, and was probably added either by a cartoon painter or at the weaving stage. Floral decoration like this was a standard background used for a variety of subjects in the first half of the 16th century. In this case it has been used to fill blank areas in the foreground, although the result is somewhat incongruous next to the clearly Middle-Eastern architecture. The execution and colouring of the tapestry are consistent with an origin in the Southern Netherlands or France, but in the absence of further evidence it is not possible to be any more specific. If the tapestry was made in the Southern Netherlands, the relatively coarse quality of the weave and execution would suggest one of the lesser weaving centres, rather than Brussels.

The early provenance of the tapestry is unknown, although a story has long been attached to it that it was acquired by Lord Herbert of Cherbury, whose descendants were joined with the Earls of Powis by marriage in the 18th century. Lord Herbert of Cherbury travelled widely in Europe and was made Ambassador to France in 1624, and could potentially have received the tapestry as a gift or acquired it in some other way on one of his voyages.

The tapestry was reputedly found at the end of the 19th century at Lymore House in Montgomeryshire, which is situated in the grounds of Montgomery Castle, Lord Herbert of Cherbury’s residence. By 1916 it was hanging in the West Tower Bedroom at Powis, where it appears in a Country Life photograph. However, in a 1944 inventory of Powis Castle it appears as follows: ‘In an old French chest. Panels of Old Flemish tapestry, Deputation to the Sultan, 18ft. x 12 ft. £200.0.0’ (Lofts and Warner, 1944).

Funding for the conservation of the tapestry was secured from the Wolfson Foundation and matched by the National Trust. The conservation work was carried out at the National Trust’s Textile Conservation Studio in Norfolk, apart from the wet cleaning, for which the tapestry was sent to a specialist facility in Belgium.

At some point in its chequered history the tapestry has been cut into quarters, maybe the ‘panels’ referred to in the 1944 inventory,
and then re-joined. The reason for this is not documented—it may have been too large to display as one hanging and was cut down to make four smaller panels. The four panels have since been re-joined with no significant loss along the cut edges. So the picture is continuous. These four panels must have been displayed in different locations: the top left-hand quarter was significantly more faded and soiled, and also had staining which had weakened the fibres, resulting in areas of loss which had been subsequently crudely patched. One of the main aims of the conservation was to clean the tapestry to reduce the staining and give it a more homogeneous appearance.

Another significant problem with this tapestry was the degradation of the dark brown wool weft. This is common in all tapestries of this age, as iron salts were used as a mordant to fix the dark brown dyes; these accelerate the degradation of the wool fibres. In this tapestry, at some point in the past areas where the original dark brown wool weft had been lost were re-woven with various degrees of sympathy using a black yarn. When fibre identification was made of this black yarn under the microscope it was found to be 100% acrylic.

When conservators decide whether or not to remove previous repairs, a balance has to be found between their being part of the history of the object, any damage that they may be causing, and their aesthetic appearance. With the ‘Embassy’ tapestry we felt that some of the re-weavings were so crudely executed, and the black colour of the yarn so harsh, that we could justify removing them in the most significant areas of the design—for example, in the lettering above the archway and in the outlining of architectural details. The decision as to which areas of re-weaving to replace was made during the initial estimating process when each re-woven area could be judged against the overall design of the tapestry.

The Textile Conservation Studio has built up a good working relationship with the De Wit Royal Manufacturers in Mechelen, Belgium, which has a custom-built wet cleaning facility. Because of the extensive previous repairs, which can cause dye bleeding during wet cleaning, and the differential soiling and staining across the tapestry, a conservator from the Studio travelled out to Mechelen to oversee the wet cleaning. The tapestry was washed at a slightly lower pH (in a slightly more acidic solution) to inhibit any possible dye bleeding, and the more stained and soiled quarter was given extra mechanical action. It was not possible to remove all the stains completely, but following the cleaning the overall appearance of the tapestry was more harmonious.

Over 2,000 new warps were inserted across the vertical cut in the join during the initial estimating process when each re-woven area could be judged against the overall design of the tapestry.

The horizontal join was basically sound, and was reinforced with stitching using the cotton-covered polyester thread. The aesthetic appearance was improved by stitching in wool and stranded cottons. However, the join running vertically down the tapestry cut through all the warps, and was weak and separating in some areas. For aesthetic and structural reasons it was decided to insert new warps across the join and couch these in place to strengthen and disguise the join. We calculated that based on a warp count of 3½ per cm, and a total height of 370cm, we had inserted over 2,000 warps. Needless to say, this section of the tapestry was by far the most labour-intensive—it took 360 hours to complete a 20cm section.

Once all the conservation stitching had been completed the tapestry was lined with closely-woven plain cotton cambric. This lining will have a dual function: it will protect the loose ends of the conservation stitching, and also, as it is closely woven, it will inhibit the passage of air through the tapestry and so reduce the airborne soiling that can be deposited within the tapestry. The tapestry is now hanging in the Ballroom at Powis Castle.

Rachel Langley, Senior Textile Conservator
Helen Wyld, Curator, National Trust for Scotland

References
Lofts & Warner, 1944: Messrs. Lofts and Warner, Inventory and Valuation of the Furniture ... and Effects at Powis Castle, Welshpool ... The property of Viscount Clive, Deceased, 1944

Removal of old lining and previous repairs before wet cleaning