Jacobean Joinery: The Panelling of the Long Gallery at Apethorpe Hall, Northamptonshire

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The comprehensive repair of the 1620s panelling in the Long Gallery at Apethorpe Hall in 2006–7 provided an unusual opportunity for investigation and historical analysis. The details of the joinery construction, typical of work of this period but little studied, are described. Besides proving it is genuine Jacobean work, the study made a number of important discoveries about the history of the panelling. A highly unusual full-size design for the original panelling was revealed on the wall face behind it. The panelling formerly housed a series of full-length portraits, an integral part of the original design. The article concludes with an account of the repair works, one of the largest joinery conservation projects of recent years.

INTRODUCTION

Although timber panelling constitutes an important element of many Elizabethan and Jacobean interiors, it has been the focus of very little detailed study.[1] One of the reasons for this is, of course, that there are often doubts about whether such panelling is original. The re-creation of oak-lined interiors was very popular in Victorian and Edwardian times, with joiners becoming extremely adept at producing authentic-looking Jacobethan panelling. Such work often also incorporates a proportion of original work, whether reused within the building or imported from elsewhere, making confident identification of original schemes even more difficult.

The panelling in the Long Gallery at Apethorpe Hall (Fig.1) was a typical case of this type, with a variety of views on its authenticity. The comprehensive repair of the panelling undertaken in 2006–7, which involved its complete removal from the walls, presented an exceptional opportunity to carry out an in-depth study, allowing us to get to grips with the details of the joinery work in a way that is not normally possible. The discovery that a very high proportion of the panelling was indeed original fed directly into the development of highly conservative repair techniques to retain the maximum possible of this precious surviving fabric.

APETHORPE HALL

Apethorpe Hall is a large, multi-period country house located near Oundle in Northamptonshire. The earliest parts date from the late 15th century, but the most important phase is the work carried out for Francis Fane, 1st Earl of Westmorland, in 1622–4. Following a direct command by James I to enlarge the house for 'the more commodious entertainment of His Majesty', Fane created an extensive state apartment with a suite of first-floor rooms culminating in the Long Gallery. With its decorative plaster ceilings, panelling and ornate fireplaces, the state apartment at Apethorpe forms one of the most complete Jacobean interiors in the country.

The Earls of Westmorland retained Apethorpe until the early 20th century, when the property was

Fig.1. The Long Gallery in the early 20th century (National Monuments Record).

bought by Leonard Brassey. He carried out extensive works to the hall and its gardens, but in 1949 the house was sold and became an 'approved school'. In 1982 the school closed and Apethorpe was bought by a Libyan businessman, who left the country soon afterwards. The house was abandoned and neglected for over two decades, becoming England's leading Building at Risk. After a long battle to save the property, leading eventually to compulsory purchase, English Heritage took over the site in 2004.

English Heritage then embarked on a Phase 1 programme of rescue works, carried out in 2004–8 at a cost of £4m. The principal focus of the repairs has been the two ranges containing the state apartment suite, with comprehensive repair of the external shell and conservation of the key internal elements, the ceilings, panelling and fireplaces. Alongside the repair programme, English Heritage is undertaking a wide-ranging historical research project. Drawing on specialists from a range of different disciplines, including architectural historians, archaeologists and many others, this is the largest country house research project undertaken in the UK in recent years.[2] Besides forming a key part of the repair programme, the study of the Long Gallery has been an integral part of the research project.

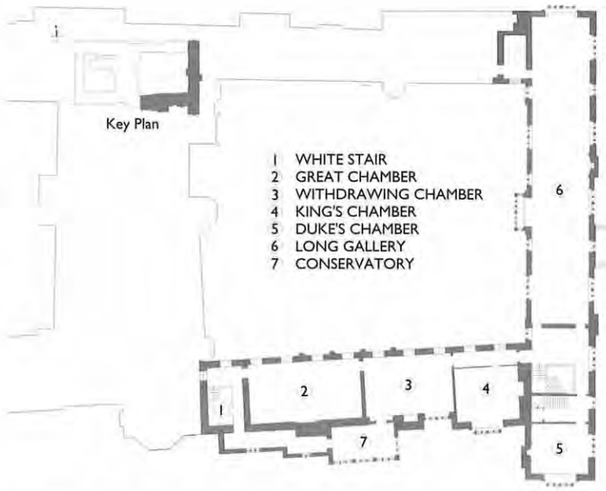

Fig.2. Plan of the first floor state apartment.

THE LONG GALLERY

The Long Gallery takes up most of the first floor of the east range and is little altered from the time it was built in the 1620s (Fig.2). By this time, long galleries were a well-established standard feature of Jacobean great houses, used as places of exercise, entertainment and display. At 34m (112ft) long and 6.3m (21ft) wide, Apethorpe's gallery is impressive, though by no means exceptional. It is well lit by large windows on both sides, with a rectangular bay window articulating the arrangement on the west and a canted bay to the north. The gallery is lined throughout from floor to ceiling in oak panelling of the typical 'small-square' type, divided into bays by pilasters. No panelling remains in the other state rooms, as these were probably hung with tapestries originally, not panelled. The plaster ceiling, also dating from the 1620s, has a rib design of Greek crosses and octagons, a popular pattern of this period lifted directly from Serlio's ceiling designs in his *Architecture*, Book IV. The gallery ceiling is surprisingly plain in comparison with the rich decoration in the other state rooms – in many Jacobean houses the most ornate ceiling is in the long gallery. In the centre of the east wall is a fine full-height stone fireplace, the most impressive at Apethorpe. Like the other 1620s fireplaces, it is of ornate classical design, here dominated by a central statue of King David playing the harp. The 1620s gallery was entered from the other state apartment rooms by the south-west doorway, though an additional doorway was added to the south-east in the 18th century. At the north end a doorway leads onto a 1620s staircase, which led up to the fine roof walk on the leads above. A balcony over the porch on the east side was originally reached by a doorway from the gallery, but this was replaced by a window in the early 20th century.

After 1949, when Apethorpe became an approved school, the Long Gallery was divided up by partitions to create a dormitory, though these were later removed. The lower sections of the panelling suffered considerable damage from hard usage, with many panels being replaced in veneered plywood. Along the east side most of the window seats were cut out to fit casings for radiators. However, except at these lower levels the panelling survived largely unscathed.

INVESTIGATION

The investigation and analysis of the panelling, like the wider Apethorpe research programme, made use of a wide variety of techniques, expertise and information sources. At the heart of the investigation was the detailed recording and analysis of the building fabric, carried out by the author. The rolling programme of

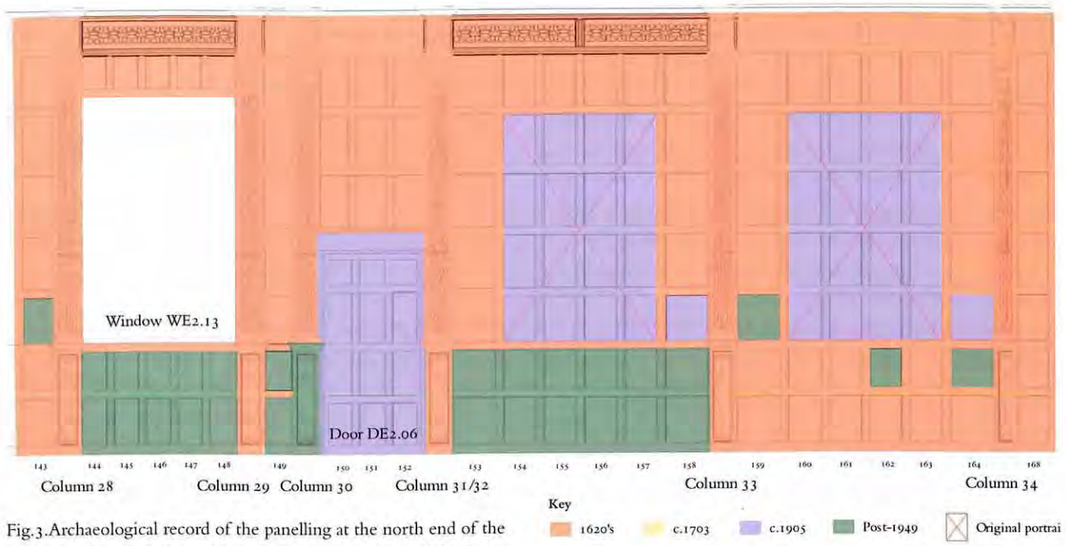

Fig.3. Archaeological record of the panelling at the north end of the west side. The original panelling is built in bay sections, divided by pilasters. The original openings for portraits were infilled in *c.*1905.

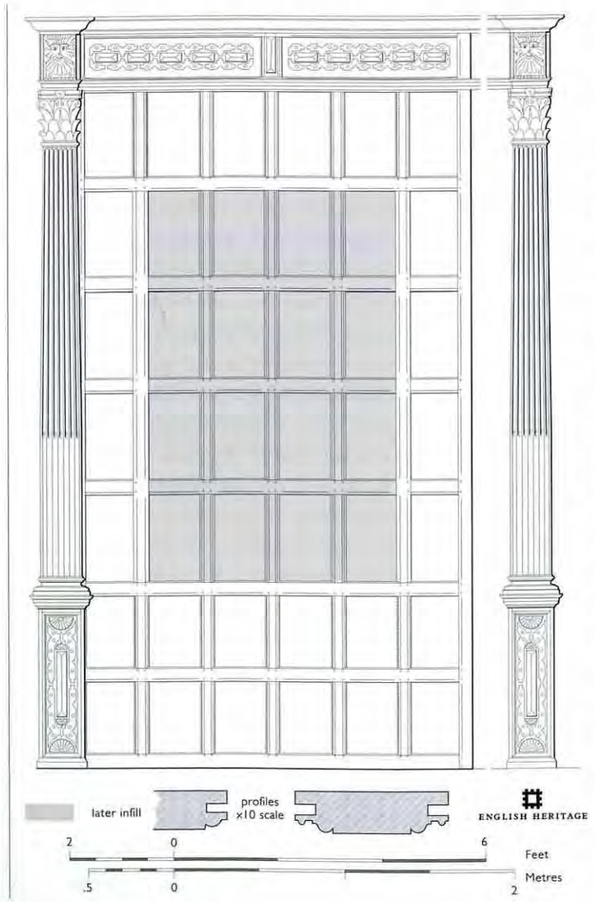

Fig.4. Record drawing of a typical panel section by Nigel Fradgley, English Heritage.

panelling removal and repair, section by section, took over 12 months, so an extended watching brief process was necessary to ensure that no information was missed, in close co-ordination with the team of joiners. Very detailed examination of the panelling and other elements was undertaken, noting all the construction details, including design variation, joints, tool-marks, fixings, etc, as described below. As familiarity grew with the characteristics of the panelling, each piece could be identified with confidence as original fabric or of later periods. The detailed record was marked up on general elevations of the gallery panelling, prepared by the project architects, Rodney Melville and Partners (Fig.3).

To complete the more detailed record, a bay of panelling selected as typical was measured and drawn at a larger scale by Nigel Fradgley of English Heritage's Architectural Graphics Team (Fig.4), and a programme of photographic recording was carried out by Pat Payne of English Heritage's photographic team. Dendrochronology was undertaken by Robert Howard of Nottingham Tree Ring Dating Laboratory, and Helen Hughes of English Heritage examined paint traces on the panelling. The discovery of the unusual painted panel design on the south wall (see p.17) demanded its own high-quality record, which was carried out by historic buildings specialist Richard Bond. The series of

Fig.5. Drawing of the Gallery in *c.*1846 by Bradford Rudge, looking north-east (copyright Northamptonshire Record Society).

portrait paintings in the gallery has been the subject of a further research project by Kathryn Morrison.[3]

Documentary sources assembled as part of the wider Apethorpe research programme also provided key information. Although no building accounts survive for the Jacobean house, there is a good series of inventories from 1629 onwards which list the contents of each room. A series of historic plans, starting from 1848, helped to elucidate the later history of the gallery. Of particular importance was a watercolour view of the gallery in *c.*1846, one of a series made at this time (Fig.5). From 1904 onwards there are several series of high quality photographs that depict the gallery in its last stages as a country house (see Fig.1). To understand the panelling in a wider context of comparable work, available information on many other panelling schemes has been reviewed and visits undertaken to a number of houses to examine these in detail. The study has been brought together as a report, one of the series produced in the Apethorpe Hall research programme.[4]

THE PANELLING DESIGN

The detailed analysis found that a very high proportion of the panelling was original Jacobean work. All of this panelling was of characteristic design and detail, with subtle but clear differences between original and later phases. Dendrochronology supported the early date of the panelling, indicating a date in the second quarter of the 17th century, though the lack of sapwood (as is to be expected on panelling) meant that precise dates could not be obtained. Overall, it was found that around 70% of the original panelling survived. Losses had mainly occurred at lower level, with over 90% survival of the upper panelling, frieze and all decorative elements.

The design is of typical 'small-square' Jacobean type, with seven tiers of rectangular panels. The panelling covers the walls completely, running from floor level right up to the ceiling, surmounted by a jewelled cutwork frieze (Fig.6). Dividing the panelling into bays are fluted Corinthian pilasters, with jewelled cutwork pedestals and 'grotesque' masks at frieze level. This division into bays is vital to an understanding of this type of Jacobean panelling. Each bay of panelling is constructed as an independent, framed section. The width of a bay was restricted by the length of timber available for the horizontal rails, and the maximum size for manhandling. At Apethorpe the typical panel section size is around 2.4m (8ft) wide by 4.4m (14ft 5in) high, with the largest section 2.6m (8ft 6in) wide. Each section is then fixed to the wall, and the application of the pilasters covers the junction. Once understood, this system gives an immediate insight into the spacing of the pilasters at Apethorpe. Pilasters are necessary to cover the junction at every window reveal, and also to each side of the original doorways. This results in an irregular spacing, particularly

Fig.6. A typical panel bay after completion.

noticeable around the doors. The internal logic of this system also provides the ultimate confirmation that the whole original scheme belongs to a consistent single design, as each bay of the decorated frieze (which survives almost completely intact) had to fit the correct bay dimension for its specific location.[5]

Examination of the panelling design around the windows proved interesting. On the west side the window sills are still at their original, higher level, but on the east side there are lower sills, with window seats. Documentary references record that the eastern sills were lowered in 1703, and the panelling shows clear evidence that it has been adapted to suit. It seems that originally only the northern bay window had a lower sill with a window seat.

The design of the Apethorpe panelling with its square panels and simple mouldings is quite plain in comparison with many other long galleries of the period, for example at Hatfield House (Hertfordshire), Haddon Hall (Derbyshire) or Aston Hall (Birmingham). Only the pilasters and the frieze are ornamented (Fig.7) and even here the work is not particularly ornate. The detail design elements are generally of very standard Jacobean type, with strapwork and jewelling of typical Flemish-derived character. However, the most unexpected discovery about the Apethorpe panelling shows that the design emphasis lay not in the panelling itself, but in what it was intended to house.

Fig.8. Rear face of panel section, with the original portrait opening infilled with panelling of *c.*1905.

THE PORTRAITS

Anomalies in the panel framing were evident before panel sections began to be removed. Once the back of the panelling became visible, it was immediately obvious that a major alteration had been undertaken, concealing a key feature of the original design (Fig.8). In the centre of each panel section there was a large gap in the panelling, with clear evidence from the absence of mortices that this was the original design. Research quickly showed that these spaces had been filled in with matching panels by the Brasseys around 1905. Photographs immediately prior to this, in 1904, showed the openings covered by panels of damask. Careful tracing of the surviving evidence – in some cases only peg holes – eventually demonstrated that the original panel design incorporated sixteen large-size openings. All were four panels high, and most four panels wide, giving a standard opening size of *c.*2.3m high by 1.47m wide (7ft 6in by 4ft 10in). There could only be one explanation for such a feature: the panelling had been designed from the beginning to incorporate a major series of paintings.

Fig.7. Detail of the capitals, masks and frieze at the top of the panelling (after completion).

Using the documentary sources, the presence of the paintings could be traced backwards in time. The illustration of *c.*1846 (Fig.5) shows the whole gallery lined with portraits. In 1790 John Byng, later Viscount Torrington, described the gallery as 'fill'd with full length family pictures, neglected to decay'.[6] The inventory of 1705 listed 'Sixteen Pictures drawn at length' in the Long Gallery.[7] The detailed research carried out by Kathryn Morrison was able to show that the original set of sixteen portraits consisted entirely of family members and was not completed until 1640, by the 2nd Earl of Westmorland long after the 1st Earl's death in 1629.[8] The portraits, most of which have been traced, are of high quality, with some possibly by Van Dyck or Cornelius Johnson, though the attributions are uncertain.

To commission a scheme in the 1620s that involved sixteen full-length portraits was an exceptional and highly ambitious undertaking. Even more exceptional was the decision to leave holes in the panelling to receive the portraits, rather than simply hanging them over the top of the panelling in the normal manner. Although the scheme took over a decade to complete, it was carefully planned from the outset, based on a very specific dimension for the intended portraits. Twelve of the portrait openings were made the standard *c.*1.47m (4ft 10in) width, which in six cases meant that the vertical stiles to either side of the opening had to be offset, disrupting the overall pattern of the panelling. Two narrow portraits filling the 1m (3ft 3in) wide openings on either side of the northern bay window pre-existed the panelling scheme, having been painted in 1613. In the remaining two cases the opening width was *c.*1.35m (4ft 5in), with the constraints of the room dimensions dictating that these could be no wider.

No contemporary examples of portraits on canvas housed into panelling have yet been traced. The idea of fully integrating the wall finishing with a scheme of paintings is not generally found until a much later date, in the 18th century. One of the closest parallels to the portraits so far identified is in the Star Chamber at the Little Castle, Bolsover, of *c.*1620, but the painting here is carried out directly onto the face of the timber panels, not on canvas. It is unclear how the portraits were fitted into the panelling but it seems likely that the canvas was fitted to its stretcher frame and slotted into the panelling recess, with no additional picture frame. Around the mid-18th century the portraits were rehoused in normal frames and rearranged, with various subsequent substitutions and additions.

JOINERY DETAILS

Dismantling the Apethorpe panelling for repair allowed an unusual opportunity for close study of the construction details of Jacobean panelling. Most of the methods used seem to be very typical of the period. The panelling is made up of horizontal rails and vertical stiles, with tenoned joints, each fastened by two oak pegs.

The panelling has two types of moulding (Fig.9). On the short vertical muntins the moulding has an ogee with a very finely formed projecting bead to the inner edge. Mouldings with this characteristic fine beading have been noted by the author in several other houses, including the galleries at Hatfield House

Fig.9. Detail of the two types of panel moulding, with run-out stops not mitred joints.

(Herts), Lanhydrock (Cornwall) and Penshurst Place (Kent), and other examples have been recorded elsewhere.[9] However, the moulding at Apethorpe does not return around the top of the panels with a normal mitred joint, as seen at the other examples mentioned. Instead, a simpler ovolo moulding is used, which has run-out stops, avoiding mitred joints. The ovolo moulding type is also used for the edge stiles of each panel section. Although the run-out moulding type appears more primitive, fully mitred mouldings were in use from Elizabethan times, and it seems the run-out type is, in fact, a later development, as noted by Linda Hall at Kew Palace in 1631 and Chawton House (Hampshire) in 1655.[10]

Close examination of the Apethorpe panelling revealed something of the tools used to make it. The front face of all timbers was planed smooth, but the rear face showed a pattern of saw marks. The joiners were clearly very skilled in the use of the saw, as even the panels themselves, only about 8mm (5/16in) thick, were sawn from a single piece of timber. The saw marks on the original timber showed a distinctive hand-cut character, with a slight variation in angle between the saw strokes. The timber of 1905 was machine-cut, with all saw marks very regular and parallel. The exactness of cutting to the mouldings showed that moulding planes were employed, for both types of moulding. The use of moulding planes means that one could expect the same mouldings to recur on other sites where the same joiners worked, an area that could repay further detailed study. The grooves into which the panels were set were also very precisely formed, and a run-out grooving found in one location proved that the grooves had been produced with a plough plane, not a chisel. On the rear of the panels, a bevelled chamfer is formed to enable the panels to fit into the groove. The irregular cutting of the chamfer indicated that this was probably done with a chisel or draw knife.

Study of the decorative frieze and pilasters revealed further details. The jewel decoration to the frieze and pedestals was cut as a separate piece and applied to the face, generally fixed with nails. Glue, without nails, was also used for fixing the jewels to some of the pedestals. The use of both 'naylles and glew' in the construction of panelling is noted in a building contract of *c.* 1580.[11] A particularly sophisticated technique was the use of 'rubbed' glue joints in various places for the capitals and masks, which were often formed of two or more pieces of timber. Building up sections of oak in this way for

Fig. 10. The two slightly different designs of pedestal. Apart from the difference in pattern, the left-hand type is of panelled construction, while the right-hand type is a single solid piece.

these larger pieces would have allowed more economical use of timber, as well as giving better control of shrinkage and cracking. The decorative detail showed the individual variation of hand-carved work, though features such as the fluting on the pilasters were created with remarkable skill and accuracy. Subtle differences of design in the pedestals and pilasters were noted, forming two different types located towards the north and south halves of the room (Fig. 10). This suggests that there were two teams of joiners at work, each starting at one end of the room. Each team probably included skilled carvers to carry out the more ornate work as well as ordinary joiners to make the main panelling. Where the two teams met in the middle there is a merging of the different design types.

A variety of fixings was used to attach the panelling to the walls. In many cases split oak wedges were driven into the joints of the stone rubble walling, and the panelling was fixed into these with nails. A more sophisticated fixing was possible where the masonry behind was ashlar, like the jambs of the window reveals. Here the freestone allowed a neat circular hole to be drilled. Tapered oak pegs of about 10mm (3/8in) diameter, with square heads, were then driven through the face of the panelling and into the wall. This system

Fig. 11. The design discovered behind the panelling on the south wall.

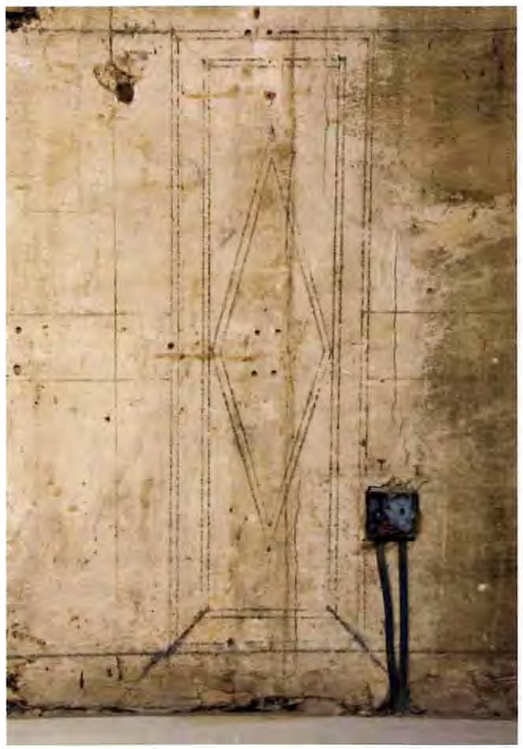

Fig. 12. Detail of a pedestal base, painted in straight black lines onto the plaster.

was reused wherever possible in refitting the panelling, providing an excellent method of accurately locating the panelling in its original position.

THE PAINTED PANEL DESIGN

A major discovery was made when, towards the end of the repair programme, the panelling was removed from the south wall. A design for panelling had been painted onto plaster across the whole wall and survived in remarkably intact condition (Figs. 11–14). It was painted in black, with the straight lines set out very accurately, probably by dipping string in black paint, stretching it taut and 'snapping' lines on the wall. The design was painted only on the south wall, with the other walls left bare. Although finely drawn, it was clearly a design for the proposed scheme rather than a finished decoration in its own right. A full-size drawing of this type would be of no special use to the joiners constructing the panelling, so its principal purpose was probably to give the client a clear impression of the planned design. Whether it was drawn by the joiners or a master designer is unclear, though the use of 'snapped' string lines would be a technique familiar to joiners and one that is still in use today. The panel design is a rare survival, with nothing comparable as yet identified.

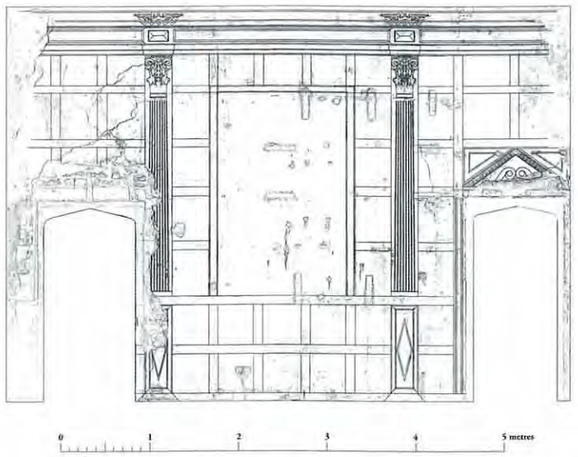

Fig.13.Record drawing of the panel design with lines enhanced (Richard Bond).

The design is quite similar to the oak panelling as fitted but also has various differences from it. Like the oak panelling, the design has rectangular panels in seven tiers, divided into bays by fluted Corinthian pilasters, with a frieze at the top. Most interestingly, the design incorporates an opening for a portrait, which is the same size as the standard opening in the panelling. Clearly, portraits of a very specific dimension were intended right from the beginning. The spacing of the pilasters is, however, different from the as-built panelling, as is the detail design of the frieze, the pedestal bases and the door head. The Jacobean joiners were clearly able to develop the design significantly during construction. References to drawings for panelling in this period are very rare, though Nathaniel Lloyd gives an example from a building contract of *c.*1580 where the joiner was 'to seall [i.e. panel] the same parlour … according to a pattern drawn for the same', although other contract details were left to the joiner, with no drawings 'and a coberd … with arkitrave frisse and cornish as himself shall think fytte'.[12]

FINISHES

Elizabethan and Jacobean oak panelling was frequently fully painted, in highly ornate style. Such gaudy paintwork has often been comprehensively stripped at a later date. At Apethorpe the panelling had been varnished at a later date, but a careful search for evidence found no trace of paint, even in hidden crevices, so it seems there was never an overall paint application. However, a painted detail discovered on the wall face behind the panelling gave an indication of how the panelling might have been decorated (Fig.15). Two coloured armorial designs were painted

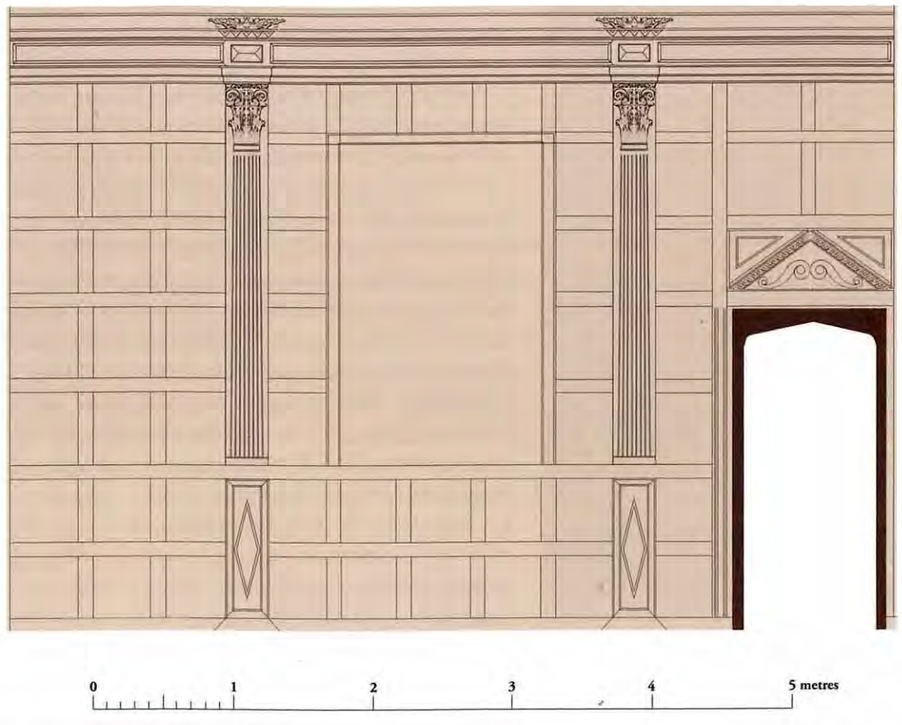

Fig.14.As restored drawing of the panel design (Richard Bond).

Fig.15.Armorial design painted onto the plaster behind the panelling, with the Despencer fret of Francis Fane's ancestors.

onto the plaster face. They were carefully executed, but were clearly trials not intended as a finish in themselves. It is possible that each panel square was painted with such devices, in the same manner as the surviving scheme at Canons Ashby (Northants). Painted work on such flat panel faces could have been easily removed, leaving no trace.

REPAIR AND CONSERVATION

The repair of the Long Gallery panelling at Apethorpe (Fig.16) is probably one of the largest conservation joinery projects undertaken in England in recent years. The panelling repair, costing £300,000, was carried out as one element within the main Phase 1 repair contract, the total contract value being £2.8m. The project architects were Rodney Melville & Partners, with Stephen Oliver specifically in charge of the panelling. Adrian Stenning of Bare, Leaning and Bare was quantity surveyor to the project. The main contractor for Phase 1 was E. Bowman & Sons of Stamford, and the panelling work was undertaken in house by their own joinery team, the on-site team being led throughout by Martin Stapleton.

Following initial assessment by the architects, it was agreed that it would be best to remove the whole of the panelling to carry out repairs. Quite a number of panel sections had already been removed by the previous owners to check the condition of suspect oak lintels in the wall behind, and there was a need to remove further sections for similar reasons. Many areas of panelling were in poor condition, with timber decay, distortion and loose fixings. To carry out the major programme of work on the panel frames in situ would clearly be impracticable, making comprehensive removal the only way forward.

Fig.16.Removal work getting under way in 2006.

Removal of the panelling, however, was far from straightforward. With major structural problems in the gallery roof and long-term leakage, the decorative plaster ceiling had sagged downwards. The ceiling movement had distorted and crushed the upper parts of the panelling and the top timber cornice was clearly in many areas now providing vital support to the plasterwork. Extensive propping had been installed earlier to prevent collapse, but this further complicated access to the panelling. Before the panelling could be removed it was necessary to carry out an initial programme of plaster consolidation works to the ceiling.

Careful planning was necessary to ensure that the panel sections could be refitted in exactly their original locations, butting tightly up against the distorted line of the ceiling. The joinery team carried out a detailed record survey, with preparation of full-size vertical and horizontal timber rods to record all key panel dimensions against fixed datum points. The existing profile and line of the ceiling and panelling were then plotted against these datum lines. It was agreed that the best method would be to commence at one end of the room on a rolling programme of removal and repair, leaving some sections in situ for ongoing reference, rather than to remove the whole of the panelling at the outset. All panel sections were carefully identified

Fig.17.A re-fitted section of panelling with new oak base replacing modern plywood, before applying finish.

Fig.18.Martin Stapleton of Bowmans repairing an original panel section.

during dismantling, using label tags. The sections removed earlier by the previous owners had been marked crudely in chalk, leaving the team a difficult jigsaw puzzle to solve where the chalk had rubbed off. Removal of the panel sections required considerable care and patience, using wooden wedges of varying lengths and thickness to 'tease' the panel away from the wall with the minimum amount of flexing. The main panel sections, which required several people to manhandle, were then transferred to a specially built cradle, which held the panel in a vertical position and allowed access to both faces for assessment (see Fig.8).

The repair programme itself involved two very different types of approach. For the areas that had been replaced in plywood by the school (chiefly the lower sections) or other losses, comprehensive restoration was undertaken, with new panelling to match the original, made of carefully selected English oak (Fig.17). For the historic panelling, however, especially once it was recognised that such a high proportion of the 1620s work had survived, a very conservative approach was adopted, to retain a maximum of original fabric (Figs. 18–21). All of the main panel repairs were carried out on site in the Long Gallery by the joinery team, ensuring close control throughout the whole 12-month process.

At the outset, a master-class session was arranged for the Bowmans joiners and other members of the project team with Ray Stevens, a joiner with the National Trust. A former SPAB William Morris Craft Fellow, Ray Stevens has worked on the panelling at Hardwick Hall for many years and developed a range of special conservative techniques. The first essential step in retaining the maximum original fabric is to avoid dismantling panelling frames wherever possible. The actual process of dismantling in itself causes considerable disruption and leads inevitably to loss of material. The primary technique developed by Ray Stevens involves the use of thin stainless steel plating screwed to the rear face of the panelling, reinforcing weakened joints. The steel plate is specially bent to the appropriate shape to fit the individual panel sections snugly, providing support where it is needed, without the need to dismantle and splice in new timber (Fig.22).

Developed during the repair programme by the joiners, this system proved remarkably adaptable. It is also, of course, entirely reversible if further repairs are needed in future. As confidence grew with the system, it was used in quite challenging situations, such as the top carved frieze panels. In some areas, these panels, only 3mm (⅛ in) thick in places, had become badly distorted and very fragile, affected by the crushing action of the ceiling above together with decay and death watch beetle. The delicate panels, with their fine Jacobean carving, were carefully eased back together, with supporting backing boards and stainless steel strapping. In some instances the panels were holed right through, but instead of cutting in new wood a

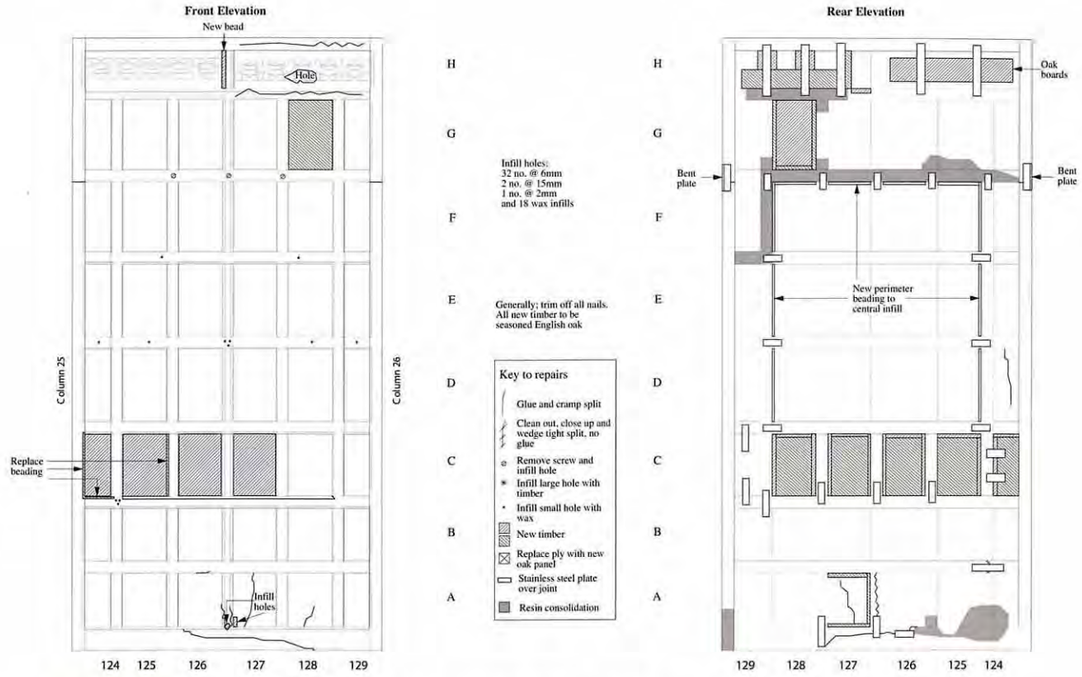

Fig.19.Drawing showing typical repairs to a panel section, Rodney Melville & Partners.

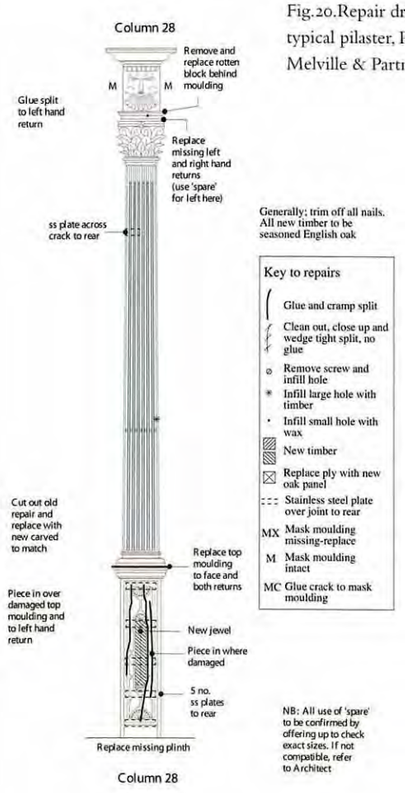

Fig.20.Repair drawing for a typical pilaster, Rodney Melville & Partners.

piece of oak was simply placed behind the hole and stained to match, with the original timber left untouched (Fig.23). Once the panel was reinstated, these high-level holes blended into the background – the ultimate minimum intervention approach.

Where timber sections were too badly decayed or missing, traditional spliced joinery repairs were made. Panel sections were eased back together, cracked sections being closed up with the use of wedges rather than glue where possible to avoid glue stains on the front face. Another technique developed by the joinery team allowed quite a number of timbers to be retained that at first sight appeared to be decayed beyond the point of redemption. This was the application of a resin consolidant Paraloid B72. Brush-applied to the rear face of timbers, generally where the back side was riddled with beetle holes, the resin provided very useful consolidation, giving enough strength for the sections to perform their role once again. Resin repairs have gained a suspect reputation in some conservation circles, but careful and selective use of such modern materials can in fact be of great benefit in particular circumstances like these. The use of chemicals for timber preservative treatment, however, was something that was completely avoided during the Apethorpe programme. Once the oak panelling was properly

Fig.21. Original and newly carved masks.

repaired, and with water ingress eliminated, chemical treatment would achieve nothing.

Refixing of the panel sections was generally done with screw fixings into timber wedges, replacing the original wedges where these had decayed. Where possible, the original holes from the nail fixings were used, but in some cases the holes were too large, so new fixing positions had to be agreed. New holes were generally countersunk and filled with oak pellets, while existing holes were best filled with coloured wax. As noted above, the original oak dowel fixings were also reused where possible, which aided the accurate repositioning of the panels.

The final stage of the work was the cleaning, toning and waxing to give the panelling its finished appearance. This was a demanding process, led by specialist conservator Sarah Warburton and carried out over many months. Trials of all methods had to be carried out at each stage and the process varied to suit the varying conditions on each panel section. First was the cleaning of the existing panelling with acetone-soaked swabs of cotton wool, in particular to remove the heavier accretions of later varnish. Next, a 'reviver' mixture of linseed oil, white spirit and methylated spirit was applied to the old panelling. The new panelling was toned in with a very thin sealer coat of pigmented shellac (Fig.24), and varying applications of pigmented beeswax were then made to the whole of

Fig.23. Repair to frieze section with a backing piece (still to be toned to match), instead of cutting in new timber to fill the hole.

Fig.22. Detail of stainless steel plating to panel joint.

Fig.24. Conservator Sarah Warburton applying the first coat of pigmented shellac to a new section of panelling.

Fig.25. View of the Gallery in 2007 as completed.

the panelling, paying particular attention to the bleached-out areas of the old work. A mixture of mars black and burnt umber pigments was used. The final finish of natural beeswax was then applied.

With the repairs finished, the Long Gallery panelling now has a beautiful, mellow appearance, taking its place once again as the most impressive of Apethorpe's Jacobean state rooms (Fig.25). And beyond the first impression of a uniform whole, close inspection still reveals all of the different phases of work that make up its complex and intriguing history.

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All figures except where noted are English Heritage copyright. Figs.6, 7, 9–12, 15, 16, 18 and 21–25 are by English Heritage photographer Pat Payne.

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1 The best current source is in Linda Hall's *Period Fixtures and Fittings 1300–1900* (Countryside Books, 2005), pp.136–40. Also useful, though now dated, is Nathaniel Lloyd's *History of the English House* (originally published in 1931, reprinted by the Architectural Press in 1975). Most other sources give only a brief and superficial treatment of the subject.

2 An initial series of brief articles on aspects of the Apethorpe Hall research programme was published in English Heritage's *Research News*, No.5, Winter 2006–7. A full monograph is planned for publication in 2009.

3 Kathryn A. Morrison, 'The Long Gallery Portraits of Apethorpe Hall, Northamptonshire', forthcoming.

4 'Apethorpe Hall: The Long Gallery Panelling Recording and Analysis', English Heritage Report, Nick Hill (2008).

5 An understanding of this bay system could provide insights into other panelling schemes. For example, at Levens Hall (Cumbria) the pattern of pilasters shows that the whole of the panelling in the Drawing Room (dated 1595 on the fireplace overmantel) is original and that the door to the adjoining Small Drawing Room has been moved from the corner to the centre of the wall.

6 C. Bruyn Andrews (ed.), *The Torrington Diaries* (London, 1954), p.278.

7 Northants Record Office W (A) Misc. 55 F.

8 Morrison, op. cit.

9 Lloyd (1931) records two examples (p.76) at Little Moreton Hall (Cheshire) and a further six unidentified examples (p.404). In her chapter on fixtures and fittings in Edward Roberts' *Hampshire Houses 1250–1700* (Hampshire County Council, 2003) Linda Hall gives a further six examples (p.88).

10 Hall (2005), pp.138–9.

11 Lloyd (1931), pp.77–8.

12 Ibid.