

From Wood to Canvas

THE RIJKS MUSEUM BULLETIN

Anthonis Mor, Portraits of Sir Thomas Gresham and Anne Fernely

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n 1931 the Rijksmuseum spent almost 237,000 guilders – a huge sum at the time – on two portraits by Anthonis Mor van Dashorst (Antonio Moro), one of Sir Thomas Gresham (1519-79) and the other of his wife Anne Fernely (c. 1520-96). The works had been in the Hermitage collection since 1838, but were among several paintings from Russian museums sold by the Soviet government in an attempt to ease its financial crisis (fig. 1).¹ The Soviet authorities set up a special agency - the Antiquariat - to sell the paintings through auction houses and art dealers. For the Rijksmuseum, the acquisition of the two Mors filled a gap in its overview of important early Netherlandish painters. In 1931 in a letter to his friend, the collector Isaac de Bruijn, the then director of the Rijksmuseum, Frederik Schmidt-Degener, wrote that the two pictures raised the whole tone of the museum.²

The paintings hung in the Rijksmuseum unrestored until 2007, when yellowed layers of varnish and large areas of discoloured overpainting were removed, damaged spots were repaired and retouched, and new varnish was applied (figs. 2, 3). The restoration provided an opportunity to undertake a technical investigation of these paintings and research their fascinating restoration history. The underdrawing was revealed with the aid of infrared

Detail of fig. 1

Fig. 1 EDWARD PETROVICH HAU, Interior of the the New Hermitage. German School Gallery, 1857. Watercolour, 284 x 342 mm. The State Hermitage Museum, St Petersburg (inv. no. OR-11728). Mor's portraits can be seen on the wall to the left. reflectography. The painting technique was studied with the naked eye and with a binocular microscope. Crosssections taken from strategic locations were ground, fixed and subjected to microscopic examination.

Anthonis Mor, Thomas Gresham and Anne Fernely

Anthonis Mor (fig. 4) was born in Utrecht in 1519 and died in Antwerp between 1576 and 1578. In his youth he was apprenticed to Jan van Scorel (1495-1562). Mor went to Italy and then to Spain and Portugal, and in 1547 he registered as a member of the Antwerp Guild of St Luke. Karel van Mander





Fig. 2 ANTHONIS MOR, Portrait of Sir Thomas Gresham, 1560-65. Oil on panel, 90.1 x 67.5 cm. Rijksmuseum, Amsterdam (inv. no. sK-A-3118).

Photograph after restoration in 2007-08.



Fig. 3 ANTHONIS MOR, Portrait of Anne Fernely. Wife of Sir Thomas Gresham, 1560-65. Oil on panel, transferred to canvas, 88.5 x 57.5 cm.

Rijksmuseum, Amsterdam (inv. no. sk-A-3119). Photograph after restoration in 2007-08.



Fig. 4 ANTHONIS MOR, Self-portrait, 1558. Oil on panel, 113 x 84 cm. Galleria degli Uffizi, Florence. © 1990 Photo Scala, Florence – courtesy of the Ministero Beni e Att. Culturali. tells us that Mor achieved great status among the highest ranks. He became court painter to the Holy Roman Emperor Charles v and his son Philip II. From 1549 onwards he worked for various members of the Habsburg family in Brabant, Portugal and Spain. In 1553-54 he was in England, where he painted a portrait of Mary Tudor (fig. 5) commissioned by her intended husband Philip 11. Between 1559 and 1561 he was back in Spain. In 1561 he decided to leave his post of court painter in Madrid and return to the Netherlands. He went first to Brussels, then to his home town of Utrecht, finally settling in Antwerp, where he built up a new clientele. At the time of his death, Mor was one of the most famous and influential portraitists of his day.3

In 1564 Mor was in Antwerp where, according to a contemporary source, he was commissioned by members of the English merchant society to paint their portraits.⁴ One of these patrons was Sir Thomas Gresham, and Mor painted him and his wife Anne Fernely. Neither of these portraits is signed but the attribution to Mor, which dates from 1792, has never been doubted.

Sir Thomas Gresham was the son of Richard Gresham, a wealthy cloth merchant who became Lord Mayor of London, represented the English crown and ensured the financial funds needed to support the monarchy. Thomas also became a rich merchant and founded the Royal Exchange and Gresham College in London. He is renowned in economics for Gresham's Law: 'bad money drives out good'.

Thomas Gresham was the leading figure among a group of prosperous and influential English merchant bankers located in Antwerp. They were organized in a guild known as the Company of Merchant Adventurers of London. These English merchants acquired their wealth by importing woollen broadcloths into the Netherlands for processing and sale. They used the profits to buy arms and luxury goods, which they shipped back to England. They held the monopoly on England's continental trade in textiles and were thus a major economic force in Antwerp.5

In 1544 Thomas Gresham married Anne Fernely, the young widow of the merchant William Read. The marriage was arranged by Thomas's father in order to acquire Read's share of the market. Husband and wife saw each other infrequently as Gresham's business affairs required him to stay abroad for prolonged periods while his wife remained at home in England. Anne Fernely's job was to run the household and maintain social contacts in London and the rest of the country.⁶

In their portraits, Gresham and his wife sit in ornate armchairs facing

towards one another but looking out of the picture at the viewer (figs. 2, 3). They wear expensive but sober clothes, and there are no attributes to hint at their trade or background – they declared their status by commissioning the court painter Anthonis Mor to make their likenesses. These portraits, with their sensitive portrayal of the faces and hands and beautifully rendered fabrics, are superb examples of Mor's artistic skill.

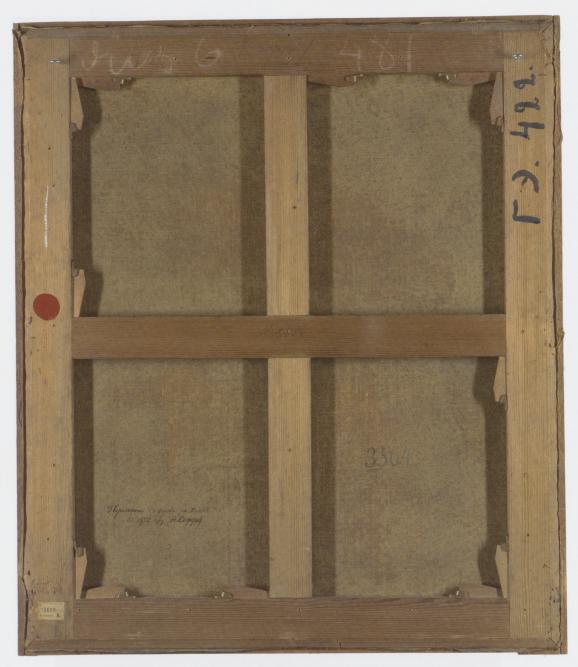
FROM WOOD TO CANVAS

Technical Aspects Supports

Thomas Gresham's portrait is painted on a panel made from three radially cut oak planks. The portrait of his wife, Anne Fernely, is on canvas. An inscription in Cyrillic script on the back of the painting provides the explanation for this at first glance surprising fact. It reads: *Moved from panel to canvas in the year 1872 A. Sidorov*. This very radical restoration method, known as

Fig. 5 ANTHONIS MOR, Mary Tudor, 1545. Oil on panel, 109 x 84 cm. Museo National del Prado, Madrid. © 2009 White Images/ Scala Florence.





Figs. 6, 7 On the right is the back of Thomas Gresham's portrait, which has been cradled. On the left is the back of Anne Fernely's portrait, which has been on



canvas since 1872. On the back of the canvas of the Fernely portrait is the note made by the restorer A. Sidorov. The numbers on the cradle and the stretcher – Г Э 421 and Г Э 422 – are the inventory numbers of the Hermitage after the revolution. The two letters stand for State Hermitage. The stencilled numbers on the cradle and the canvas may date from before the revolution. The white and orange labels and red spots were put on in the Rijksmuseum.



transfer, was commonly used in the 19th century to stabilize paintings with flaking paint or warped panels. In its stripped state (2007), Anne Fernely's portrait does suggest some history of flaking paint, but nowhere near enough for such an intrusive treatment even to be considered nowadays. It would seem that Gresham's portrait was in a more stable condition since the panel was simply reinforced with the aid of a technique known as cradling (figs. 6, 7). The substitution of the original support explains why the front of the Fernely portrait displays the typical craquelure of a panel painting as well as the knots of a canvas. Two

glued joints can be seen in the painted surface of the portrait, so it can be surmised that her panel also consisted of three planks (figs. 8, 9).

The woman's portrait is now smaller than the man's, although they were probably originally the same size. They appear to have been reduced in size during an earlier restoration. Three sides of the man's portrait have been trimmed. There are remnants of original paint and ground layers extending over the top edge, but there are no such traces along the bottom edge, which has obviously been cut down. The bevelling on the back is shorter at the bottom than it is at the Figs. 8, 9 Photographs of the portraits (figs. 2 and 3) in raking light.



top. The right side retains some bevelling, the left side none at all. It would seem to indicate that the left side has been trimmed more than the right, and this correlates to the present width of the three planks. The thickness of the panel has been reduced somewhat, probably because of the cradling. The space between the bevelling and the cradle has been neatly filled with wood.

The Ground

The ground layer in both pictures is light. x-Ray fluorescence and the study of cross-sections tell us that Mor used a chalk-glue ground. This is what we see in the cross-sections and what we learned from elemental analyses of the pigments in the portrait of Thomas Gresham. The picture of his wife, remarkably, is on a zinc-based ground layer. Zinc white is an 18th-century pigment, so we must credit the restorer Alexander Sidorov for its use here (as can be seen in fig. 14).

Underdrawing

With the aid of infrared reflectography (IRR) it is possible to make out a cursory underdrawing that seems to have been done with a dry material, probably black chalk (fig. 10). The outline of Thomas Gresham's face and the detailing of ear, eyes, nose and the crease in

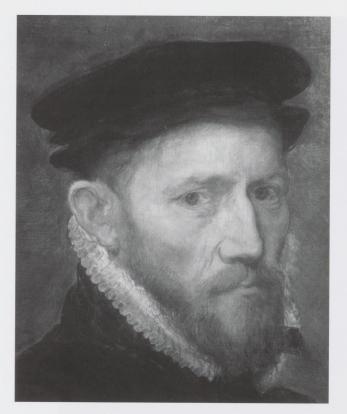


Fig. 10 IRR assembly of a detail of Thomas Gresham's portrait

(fig. 2), detail.

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his cheek were indicated with a few lines. They were placed with care, suggesting a concern to define Gresham's features accurately.7 An irregular serpentine line was drawn for the pleating of the ruffle that edges the collar. The extensive use of black in the clothes makes it impossible to detect underdrawing there, but under the lighter areas like the chair and the hands swiftly-drawn lines are visible, establishing the forms. The knuckles of both hands were sketched in with quick strokes that do no more than indicate the shape. The ring was reasonably well defined. Little attention was paid to modelling shadows in the underdrawing, and all that can be seen are a few short parallel hatching lines here and there, for instance on the forehead, by the bridge of the nose and on some of the knuckles of both hands.

As he worked up the underdrawing in paint, Mor made a few shifts in the position and changes in the shape of various elements. The ruffle, for

Fig. 11 IRR assembly of a detail of Anne Fernely's portrait (fig. 3), detail.

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instance, was placed a little lower, and the underside of the right arm and the top of the leg were made slimmer. The back of the chair was moved further to the right and the ring was positioned a fraction lower on the index finger. These, though, were little more than corrections. The artist continued to make similar adjustments to the forms as he painted; minor changes in the paint can be observed in the IRR assemblies. The cap, for example, was made slightly smaller at the top and the left side of the jacket does not protrude quite as far below the seat of the chair.

The portrait of Anne Fernely reveals even sparser underdrawing, but parts may well have been lost as a result of the treatment to which it was subjected in 1872 by Alexander Sidorov, who after all replaced not just the wooden support but the original ground too (with the underdrawing immediately on top of it) (fig. 11). Just a few lines can be seen in the face, the cap, the hands, at some places in the clothes and in the chair. The transparency of the light shade in the undersleeves means that a few swiftly set down indications for the wrinkles can be seen here particularly in the left sleeve. Here, in contrast to the portrait of the man, no underdrawing can be observed in the rings on the fingers or the ruffles edging the collar. Although it is difficult to see, the ruffle at the wrist of the right sleeve does appear to have been sketched in with a serpentine line. Hatching is found only in the face around the chin and at the transition from the eyebrow to the nose.

There were also minor departures from the underdrawing in the Fernely portrait that occurred when the paint was applied. Among other things, the wings of the cap were made rather wider, the neckline was altered a little, some of the creases in the sleeves run in a slightly different direction and the position of the arm of the chair in the foreground was altered. Here, too, the artist made small corrections as



he painted. The most striking are the lengthening of the thumb and fingers of the right hand, making it look more elegant, and the addition of the nails on the back of the chair.

Painting Technique A tiny gap in Mor's final layer of paint gives us a glimpse of what is known as the dead colouring – monochrome underpainting that establishes the tonal relationships and the composition. The cuff of Gresham's right shirt sleeve was modelled in dead colouring in the same way as the rest of the picture (fig. 12). The build-up of the painting is quite straightforward. Gresham's face was reserved in the background and where the reserve was too wide it has been skilfully retouched.

There is a touch of deep red just below Gresham's nostril. This was a popular device used by painters of the day to create volume and depth in the flesh tones. Cross-sections give us greater insight into how the flesh tones were built up. On top of an off-white imprimatura there are two layers each of lead white and vermillion, with a touch of black in the male portrait (fig. 13). A sample *Fig. 12* Detail fig. 2. The dead colouring is visible.



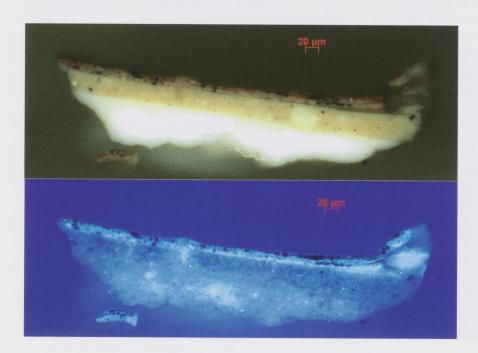


Fig. 13 The incarnate colours on top of a white imprimatur, sample taken from Gresham's right hand. Cross-section photographed in bright field illumination and ultraviolet fluorescence.

Fig. 14 Examination of a shadow area in the flesh tone of Anne Fernely's cheek on top of Sidorov's 19-century zinc preparation layer. Cross-section photographed in bright field illumination and ultraviolet fluorescence. taken from a shadow in the flesh tone of Anne Fernely's cheek reveals lead white mixed with organic red lake and vermillion, plus umber and charcoal used as a scumble. These scumbles in the flesh tones are greyish and create a translucent effect (fig. 14).

Shadows and highlights in the black fabric of Gresham's suit were worked wet into wet in swift touches of darker and lighter zones. The addition of a tiny amount of organic red lake to the mixture of lead white and black produced a warmer tonality. Some of the darker strokes are woven into the lighter areas and vice versa. It would appear that this was done with a comb or special brush. A sample taken from the green tassel on the chair reveals verdigris and carbon black over a layer of earth pigments, lead white and black (the brown wood of the chair). The emerald in Anne Fernely's ring was painted with a pigment containing copper, while azurite was used for Gresham's sapphire.

Alexander Sidorov and the Technique of Transfer

In February 1852 the New Hermitage, the purpose-designed museum building in the Winter Palace complex in St Petersburg, opened its doors to the public. A great many paintings from the Imperial collection had to be restored at short notice for this special event.8 A shortage of restorers9 and the fact that low-skilled workers were cheaper led the authorities to call on the brothers Nikolai, Efimen and Alexander Sidorov, actually the Hermitage carpenters, to undertake the structural aspects of the restoration work (fig. 15). They started out as assistants to Fyodor Tabuntsov (?-1861), who after the death of his teacher Andrei Filippovich Mitrohin (1765/6-1845), the founder of the Russian School of Restoration, was the sole remaining technical restorer in the Hermitage. He certainly needed help in relining canvases and trans-



ferring paintings to a new support. Thus began the history of the Sidorov dynasty of restorers. Members of the family continued to work in the Hermitage for the best part of a century and carried out the most complicated structural procedures on the most important works of art in the collection.

The Sidorovs are best known for a number of drastic restorations in which famous paintings were given a new support (fig. 16).¹⁰ In the 19th century canvas was thought to be the ideal support for paintings. WoodFig. 16 Restorer Alexander Sidorov's note on the back of the new canvas support of Anne Fernely's portrait (fig. 3).



Fig. 15 The three Sidorov brothers. worm damage and the warping of panels, which often caused paintings to crack and the paint to flake off, was regarded at the time as a great danger, the start of inevitable complete decay. The transfer of paintings to new supports was consequently considered to be a vital measure in the conservation of works and was one that was used throughout Europe.

Alexander Sidorovich Sidorov (1835-1906), the restorer of Mor's Portrait of Anne Fernely, was the most famous member of the Sidorov dynasty. Born a serf in the Kostromskaya Oblast (to the northeast of Moscow on the River Volga), he worked his way up in the Hermitage from carpenter to curator of the painting gallery. Alexander Sidorov was awarded several decorations and medals for his work as a restorer and he was even granted an aristocratic title. In the course of his career he transferred more than two hundred paintings from various collections on to new supports, among them masterpieces by Leonardo, Raphael, Rubens and Hugo van der Goes. We know that as early as 1855 Alexander took just six months to transfer Leonardo da Vinci's painting of the Litta Madonna from panel to canvas. The director of the Hermitage, Stepan Alexandrovich Gedunov (1815-78), was delighted with the result and wrote that 'no other museum in Europe can show an example of such a perfect transfer, successful in every respect, of a painting on to a new support'."

The restoration of Raphael's *Conestabile Madonna* was also widely praised. Vladimir Vasilievich Stasov (1824-1906), a well-known Russian art critic, published an article in which he compared the transfer of the *Conestabile Madonna* to the restoration of the *Folio Madonna* carried out in Paris in 1801 by Francois-Toussaint Hacquin, a pioneer in the field. Stasov wrote that Sidorov had refined this method to the highest

level. The article's main importance, however, lies in the fact that it contains a detailed description of the transfer process, which had long been a wellkept secret among restorers.¹²

Stasov reported that prior to restoration the Conestabile Madonna consisted of a single piece of wood, including the frame. Alexander Sidorov began by using a fine saw to cut the central section with the image of the Virgin and Child out of the panel. The next day, cracks in the wood were glued. A few days later the front of the painting was faced with several layers of paper. A piece of canvas was stuck on top of the facing and stretched in a frame. This supported and secured the paint layers from the front during the process. The panel was then planed away from the back until all that was left was a very thin layer of wood, which was removed down to the priming with pieces of broken glass and a scalpel. After this, even the original chalk-glue ground was removed in its entirety with the aid of wet cloths. All that remained of the painting was the paint layer. At this stage it was possible to see the lowermost layer of paint and it emerged that Raphael had initially conceived the composition differently. In the first version Mary had a globe in her hand.¹³ Later Raphael replaced it with a book. Sidorov and Stasov were thus able to look right through the paint layers before the discovery of x-rays in 1895.

So far the process had taken two weeks; the next operation took two months. The paint layer was given a new oil-based ground. In his article Stasov did not identify the filler that was used, but the examination of Mor's *Portrait of Anne Fernely* revealed that in restoring it Alexander Sidorov used zinc white. A few layers of pure glue and gauze were applied on top of the new ground of the *Conestabile Madonna*. The idea of this gauze laminate was to ensure that the

weave pattern of the canvas would be impressed as little as possible on to the smooth surface that is characteristic of panel paintings. (In the recent restoration of the Portrait of Anne Fernely, no gauze was found between the paint layers and the support. In this case Alexander Sidorov evidently skipped that part of his method and in consequence small knots in the canvas are visible on the surface of the painting.) Once the ground was dry and hard, the last layer of glue was applied and the painting was stuck to a new canvas support by the same method used to reline paintings on canvas. Finally, the paper was removed from the front.

Stasov was greatly impressed by the skill with which the restorer had transferred Raphael's painting to the new support and described Alexander Sidorov in his article as an 'art surgeon'. From then on it was believed that all paintings could now be transferred to a new support 'without damage' and thus be saved from an inevitable process of decay. The replacement of coarse, porous original grounds with a thin, but strong and elastic oil-based ground was also seen as progress. Restoration ceased to be regarded as just a method for conserving works of art, and was seized upon as an opportunity to 'perfect' their technical aspects. Confidence in the Sidorovs' craftsmanship was so great that even the most valuable paintings in the collections in Moscow were entrusted to the 'surgeons of the Hermitage' for restoration.

In 1873 Alexander Sidorov was put in charge of technical restoration at the Hermitage and he continued to run the department until his death in 1906. The main claim to fame of his brothers Nikolai Sidorovich (1825-88) and Mikhail Sidorovich (1843-1912) was their skill in lining large canvases – in 1867 Nikolai was awarded a silver medal by the state ('Za Userdie' – 'For industry'). They also stabilized a number of paintings on panel by cradling them, including – possibly – the Rijksmuseum's *Portrait of Thomas Gresham* by Mor.

The children of the Sidorov brothers carried on their fathers' work. Alexander's son Nikolai Alexandrovich started working with his father in the Hermitage in 1886, and in 1912 he succeeded his late uncle Michail Sidorov as technical restorer. Working with him was his cousin Isidor Michailovich, Michail Sidorov's son, and his children Nikolai Nikolaevich and Sergei Nikolaevich.14 These last Sidorovs witnessed the Soviet government's sale of a number of masterpieces from the nationalized Imperial collection, among them paintings restored by their grandfathers. And so it was that in 1931 Mor's two portraits left St Petersburg for good.

The 2007 Restoration

In 2007 Mor's portraits were restored again, this time in the Rijksmuseum's workshop. The paintings were in sound condition structurally and the adhesion of the paint and ground to the supports was good. The problems were primarily cosmetic. The Russian varnishes were badly oxidized and had consequently yellowed, making the pictures look very flat. It was also possible to identify intrusive and inaccurate retouches in oil paint that had subsequently darkened, particularly in the backgrounds.

After the surface dirt had been cleaned off with saliva, the varnishes and retouches were removed with a cocktail of organic solvents (figs. 17, 18). It was only at this point that it became clear just how extensively and integrally the backgrounds had been overpainted. The retouches camouflaged damage along the glued joints and larger areas of abrasion in the background caused by overzealous cleaning in the past. By present-day standards the degree of abrasion and the number of filled areas did not justify wholesale



overpainting. However, wholly in line with current professional ethics, the Russian restorers had executed the overpainting with reversible paint, and it came away easily. In their stripped state, after dirt, varnish, overpainting and excess filler had been removed, the paintings presented a clear record of the damage they had suffered. Aside from the abraded state of the backgrounds, it was noticeable that both paintings showed damage attributable to flaking paint in the past – admittedly rather more in the transferred portrait of Anne Fernely than in Gresham's cradled portrait, but nonetheless not so much that one could now justify transfer as an appropriate treatment.

Once the stripped state had been achieved, gaps in the paint layer and the glued joint were filled with a water-soluble filler. To give the paintings the saturation needed in order to retouch them without giving them too Figs. 17, 18 The portraits (figs. 2 and 3), photographed during the removal of the varnish in 2007.



much shine, they were varnished with a solution of a stable and reversible synthetic resin.¹⁵ The damaged, filled and abraded areas were then retouched with a stable and reversible paint.¹⁶ A natural resin solution was used as the final varnish to provide the saturation and gloss of the paintings in the same way varnishes did in Mor's day. This last varnish is reversible but not stable, so a substance was added to it to delay the aging process.¹⁷ The aim of this restoration was to return the works as far as possible to the artist's original intentions. Reversing Sidorov's transfer, however, would have been too drastic an intervention. All the same, a piece of Russian restoration history has been highlighted in the Netherlands in the year the Hermitage opened an annex in Amsterdam. NOTES

- Peter Hecht, 125 jaar openbaar kunstbezit met steun van de Vereniging Rembrandt, Zwolle 2008, pp. 81-83.
- 2 Gijs van der Ham, 200 *jaar Rijksmuseum*, Zwolle 2000, p. 265.
- 3 Joanna Woodall, Antonius Mor. Art and Authority, Zwolle 2007; Thera Coppens, Antonius Mor. Hofschilder van Karel v, Amsterdam 1999; M. van de Laar, M. Wolters, A. Wallert, 'Anthonis Mor and the portrait of Thomas Gresham', Making Art in Tudor Britain, Abstracts from Academic Workshops (2007-2008), internet publication on: http://www.npg.org.uk/research/ programmes/making-art-in-tudor-britain/ workshops/workshop-3-abstract-1.php
- 4 Woodall 2007, op. cit. (note 3), pp. 415-16.
- 5 Ibid., pp. 414-17.
- 6 Ibid., pp. 431-32.
- 7 Although cartoons were sometimes used for portraits, there are too few indications to suggest that this was the case here. For the use of cartoons (indented and/or pricked for transfer) see e.g.: Brugge en de Renaissance. Van Memling tot Pourbus, Memlingmuseum – Oud-Sint-Janshospitaal, Bruges 1998, cat. nos. 36, 62 and Hans Holbein. Portretschilder van de Renaissance, The Royal Picture Gallery, Mauritshuis, The Hague 2003, cat. nos. 3, 14, 15.
- 8 An immense amount of work was involved, not only because of the impending opening of the new museum, but also because part of the Imperial collection had been damaged in a serious fire in the Winter Palace in 1837.
- 9 The Hermitage's restoration workshop suffered a series of major blows in 1845: the restorers Andrei Mitrohin and Jakov Dushinsky (born in 1800) died and another restorer, Fyodor Rybin (born in 1795), fell ill and was dismissed a year later.
- 10 Cleaning (to a limited extent) and retouching was traditionally done in the Hermitage by restorers with painting qualifications.
- 11 Алёшин А. Б., Реставрация станковой живописи в России. Художник РСФСР, Ленинград 1989, р. 78. [Aljoshin. A. B., Restavratsia stankovoj zhivopisi v Rossii. Hudozhnik RsfsR, Leningrad 1989, p. 78.]
- 12 Стасов В. В., Художественная хирургия. Избранные сочинения, т. 2. Искусство, Москва – Ленинград 1937. [Stasov V. V., Hudozhestvennaja hirurgija. Izbrannye sochinenia. Iskusstvo, Moskva – Leningrad 1937]. Transfer from panel to canvas by the

Sidorovs is also treated by Bohdan Marconi in his article 'The Transfer of Panel Paintings on Linen by Sidorov (Hermitage Museum, St Petersburg) in the Nineteenth Century', Application of Science in the Examination of Works of Art. Seminar conducted by the Research Laboratory Museum of Fine Arts Boston Mass., September 7-16, 1965, pp. 246-54.

- 13 The image revealed by the lowest layer of paint was traced on to translucent paper by N. A. Lukasievich and subsequently published.
- 14 Isidor Michailovich worked in the Hermitage between 1906 and 1914; Nikolai Nikolaevich between 1918 and 1931; Sergei Nikolaevich between 1919 and 1934.
- 15 Paraloid B 72.
- 16 Dry pigments and a solution of PVA Mowilith 20.
- 17 Tinuvin 292.

