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Silent No More:
The Material and Art Historical Analysis of an American Dummy Board

ABSTRACT

Silent companions or dummy boards are not necessarily rare objects, but they have not been given much attention in recent scholarship. These life-size, painted, wooden cutouts of common figures are now breaking their silence. On-going examination, instrumental analysis, and conservation treatment of a dummy board of a Turkish figure from the Germantown Historical Society at the Winterthur/ University of Delaware Program in Art Conservation were used for a case study of the craft practices used to create these objects. In particular the date of manufacture has been in question, and the goal of the project was to intersect material analysis with an art historical examination of primary documents, representation of costume, and painterly characteristics. Furthermore, the types of materials and preparation of the painted surface could provide clues as to the training and specialization of the craftsmen who made these objects. The previous restoration campaigns uncovered during conservation treatment also provided insight into how the significance of these objects has evolved and how subsequent stewards have interacted with dummy boards.

Figure 1. (a) ACP1552 before treatment, recto overall (b) ACP1552 after treatment, recto overall

1. INTRODUCTION

A dummy board[1] (figure 1) owned by the Germantown Historical Society (GHS) in North Philadelphia, PA was identified by the curator, Laura Keim, as needing conservation treatment mainly because degraded coatings were obscuring proper interpretation of the painted design of a figure in Turkish costume. While the dummy

[1] Although this is a nineteenth-century term, it will be used throughout to reference this type of object.

board (WUDPAC Conservation Number ACP 1552) was on site at the Winterthur/ University of Delaware Master's Program in Art Conservation (WUDPAC) for treatment there was the opportunity to investigate outstanding questions and curiosities about this particular object as well as this general type of object. This project incorporated technical analysis, art historical research, and examination of documentary evidence.

Figure 2. The author performing XRF analysis in the Winterthur Paintings Studio on the surface of the dummy board, ACP 1552, of a Turkish figure. Note the life-size scale of the object.

1.1 HISTORICAL BACKGROUND—WHAT IS A DUMMY BOARD?

Dummy Boards have a long and continually evolving social history, but little is truly understood about their original purpose and manufacture. In general, this term refers to almost life-size painted wooden figures. These figures are typically people and the occasional farm animal. The earliest known dummy boards date from the mid-seventeenth century and were produced by Dutch artists (Naumann 2015; Graham 1988, 3; Bedaux and Ekkart 2000). The craft seems to have spread from the Netherlands to England in the eighteenth century (the height of dummy board popularity) and from England to America (Edwards 2003, 87). Part of the difficulty in researching these objects is the lack of understanding of historic nomenclature. "Dummy board" is a term that begins to appear in the nineteenth century and references the unexpected muteness of such a lifelike figure (Edwards 2003, 74). "Silent companion" may be a slightly older term, but one of the few primary sources that references dummy boards simply calls the figure "a bit of painted wood" (Myers 1902, 130).

The most logical and general explanation of the purpose of a dummy board is as a decorative object that was made to enhance an interior space, although proposed functions have ranged from chimney boards to theft deterrents (Edwards 2003, 74; Landis 1987). Dummy boards may have also provided entertainment and served as props for tricks and amusement as Sally Wister describes using two painted figures to play a prank on friends during the American Revolution (Myers 1902, 127-130).

Dummy boards cannot be neatly placed into an existing artistic tradition, but rather have similarities with painted furniture, easel painting, architectural *trompe l'oeil* decoration, and theatrical set painting.

2. ART HISTORICAL COMPARISONS

Certain figural types such as soldiers and female servants were repeatedly used to decorate dummy boards. Representation of a Turkish figure is in itself singular among these types of objects. Turkish costume was familiar in eighteenth-century Western culture given the fad of *turquerie.*[2] Among dummy boards ACP 1552 is closest to a "soldier" type (see figure 3a-c)

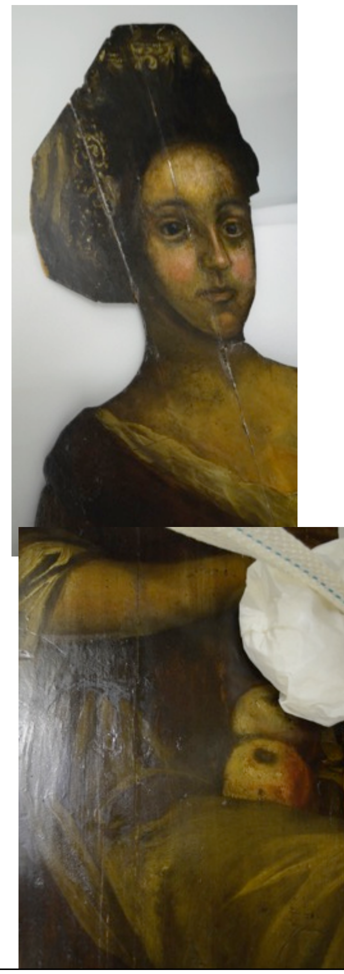
[2] Fondness of Turkish-/Eastern-inspired fashions/motifs incorporated into clothing, literature, and art of Western culture (Riccardi-Cubitt 2015). See also Williams 2014.

(a) (b) (c)

Figure 3. (a) Image of ACP 1552 after treatment. (b) Dummy board depicting a British grenadier, currently owned by the Philadelphia History Museum—Atwater Kent and previously part of the Wister family collection (c) Eighteenth-century dummy board of a Scots Guard at Canons Ashby, National Trust Property, attributed to Elizabeth Creed Pickering.

While new research into dummy boards is sparse, these figures themselves have served as primary sources for new scholarship on costumes, especially military uniforms (Cormack 2008). Repeating postures and figures suggest the use of a common image source or perhaps a manual/treatise for manufacture. Baroque Dutch genre painting has similar subject matter, highlighting female servants and jovial soldiers such as *Two soldiers and a serving woman with a trumpeter* by Pieter de Hooch (1654-1655) at the Kuntshaus, Zurich. Nicholas Maes, de Hooch, and Cornelis Bisschop all created genre scenes with women peeling apples (*Young Woman Peeling Apples*, 1655, Metropolitan Museum of Art, *A Woman peeling Apples* c. 1663, The Wallace Collection, London, and *Girl Peeling* *an Apple*, 1667, the Rijksmuseum respectively). This activity is repeated in multiple dummy boards in England and America (see figure 4). It is possible that the craftsmen were looking at print sources and visiting artist studios, or perhaps the craftsman had transitioned from the school of Dutch genre painting.

(a)



(b)

Figure 4. (a) Anonymous, *Old Maid (Seated Woman Peeling Fruit)*, c. 1730-1750, oil on wood, 118.2cm X 69.6cm X 2.4cm, Courtesy Winterthur Museum, Library and Gardens, museum purchase, 1989.2 (b) Details of a dummy board of *Young Woman Peeling Apples* c. 1690, oil on wood, 124.5cm X 70cm in collection storage at the Victoria and Albert Museum, Gift of R.W. Symonds.

For example, one of the earliest known dummy boards depicting a child in a high chair with a cat at his feet, is attributed to Cornelis Bisschop (1630-1674) (Graham 1988, 3). In

1719 Arnold Houbraken, an eighteenth-century Dutch painter and biographer, even credits Bisschop with developing the cutout human form (Edwards 2003, 84). A very similar dummy board from 1654 is actually signed by artist Johannes Verspronck (Naumann 2015, Bedaux and Ekkart 2000). What inspired these easel painters to experiment with this new format? If dummy boards are considered within the tradition of *oogenbedrieger* (Janson 2014) or Dutch *trompe l'oeil* then their construction and presentation is not that big of a leap. Seventeenth-century Dutch artists were already experimenting with more three-dimensional forms for their *trompe l'oeil* motifs such as Cornelis Norbertus Gijsbrechts *Cut-Out Trompe l'oeil Easel with Fruit Piece*, 1670-1672 at the National Gallery of Denmark. The panel is cut into the shape of an easel with an image of still life canvas on display. Gijesbrechts's *A Hanging Wall Pouch* c. 1677 is another cutout panel and currently installed out from the wall so that it casts a shadow like a dummy board (figure 5).

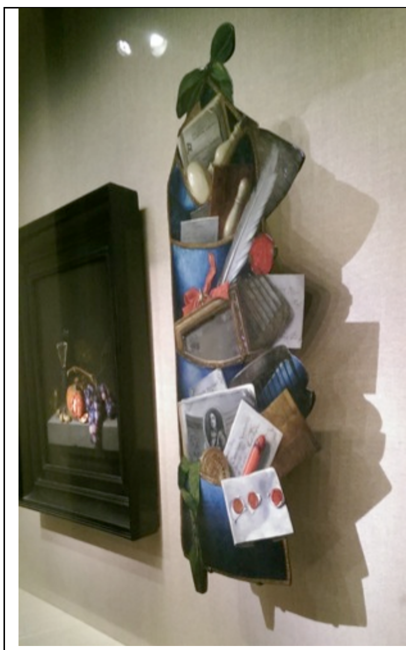


Figure 5. Cornelis Norbertus Gijsbrechts, *A Hanging Wall Pouch*, c. 1677, oil on panel, Promised Gift of Robert H. and Clarice Smith. National Gallery of Art, Washington, DC.

It is thought that the tradition of dummy boards spread from the Netherlands to England in the eighteenth century where their manufacture flourished. In England many dummy boards may have been produced by craftsmen trained as sign painters because their commissions were reduced by laws restricting signage within London districts in 1762 and 1763 (Graham 1988, 8). England is likely responsible for exporting the craft of dummy boards to the American colonies in the eighteenth century. Early American artists were also interested in *trompe l'oeil* and the social potential for material goods. In other words, how the material world could provide entertainment and interaction within an interior space. Charles Willson Peale's *Staircase Group* (1795) at the Philadelphia Museum of Art is an example of this type of social function. Peale painted a life-like scene of his two sons ascending a staircase, but in addition to the trompe l'oeil rendering, Peale attached actual molding for the frame and a real wooden step at the base to continue the painted staircase. Furthermore, Peale displayed this work in an actual doorway in Independence Hall so that those familiar with the building would be easily tempted to follow the boys up the stairs (Bellion 2015).

Similarly this very dummy board of a Turkish figure is recorded as participating in teenage prank in 1777. Sally Wister writes in her diary about how she acquired two painted figures from her Uncle Miles's house for her amusement while in exile from British-occupied Philadelphia during the Revolutionary War. One night she and some friends concocted a plot to trick another friend. Two servants hid behind the painted British grenadier and the other figure being used to fill out the space. Sally and her cousin watched in hiding on the stairs when their friend Tilly came to the door and the servant shouted from behind the grenadier "Is [sic] there any rebel officers here?" Tilly ran screaming across the field terrified that the house had been taken over by the British army (Myers 1902, 129).

While most interactions with dummy boards were probably not as elaborate as Sally's, this prank serves as evidence that these objects were seen as sources of entertainment. At the least they could enhance and enliven an interior space similarly to a decorative wall pattern. Architectural decoration also incorporated *trompe l'oeil* characteristics. At an English manor house, Canons Ashby, the same amateur artist, Elizabeth Creed, was commissioned in the eighteenth century to paint faux columns and paneling in what is now "Sir Henry's Museum," as well as paint an overmantel with the family crest and a dummy board of a Scots guard for the Great Hall (figure 6) (Garnett 2001, 6-7, 12-13).

Figure 6. Paintings by Elizabeth Pickering Creed for Canons Ashby, Northamptonshire, UK. (a) Detail of trompe l'oeil decorative scheme for the parlor now known as "Sir Henry's Museum" (b) overmantel in the Great Hall (c) dummy board of a Scots Guardsman, 1715-1717

The Turkish figure is not the only "exotic" dummy board among surviving examples. A dummy board depicting Roman gods Jupiter and Juno attributed to Peter Paul Rubens and Cornelis de Vos was used to decorate the interior of a theater in 1635 (230cm X 336cm now held at the Koninklijk Museum in Antwerp) (van Hout 2015; Devisscher 2004). The less quotidian subjects tend to be representations of religious figures such as Moses and Aaron owned by the Victoria and Albert Museum. These particular figures were once displayed on top of an altarpiece in a London church. Aside from domestic decorative elements, dummy boards could also be used as cheaper alternatives to carved sculpture (Van Hout 2015). This cost-effective decoration was not limited to religious institutions and dummy boards may have been used more generally as ephemeral decoration for events such as plays, opera, and processions (Van Hout 2015).

3. MATERIAL INVESTIGATION

This dummy board of a Turkish figure was the subject of a technical study as part of the second-year WUDPAC curriculum. While the existing scholarship addresses the construction of the wooden primary supports, there is little information about the application and decoration of the painted surface; this became the main focus of the technical study. Polarized light microscopy (PLM), X-Ray Fluorescence Spectroscopy (XRF), Cross Section Analysis, Fourier Transform Infrared Spectroscopy (FTIR), Scanning Electron Microscopy-Energy Dispersive X-Ray Spectroscopy (SEM-EDX), and Raman Spectroscopy were used to study the pigments and ground composition. FTIR and Gas Chromatography-Mass Spectroscopy were used to analyze the varnish layers present before treatment. The varnishes will not be discussed in this paper as they were determined not to be original to the object. The wood species was analyzed with help from Harry Alden. These results were not available at the time of the ANAGPIC conference, but they are provided as an Addendum to this paper.

3.1 SUBSTRATE

The construction of dummy boards in the seventeenth and eighteenth centuries follows a consistent technique of outlining a shape in a plank of wood or multiple planks adhered together and then cutting the outline to create a beveled edge; this angled edge casts a more realistic shadow to contribute to the illusion of the figure (Graham 1988, 7).

Figure 7. Effect of beveled edge on dummy board (a) photograph of ACP 1552 during treatment with unidirectional light source to illustrate type of shadow cast (b) detail of proper right shoulder of ACP 1552 from the verso, highlighting the beveled edge

As discussed earlier, the standardized format and repeated subject matter suggest the availability of a treatise or apprenticeship offering instruction on creating these silent companions. To date no such reference has been found in treatises on painting and varnishing. Dummy boards made from multiple planks are held together with battens on the verso. Examples made from a single plank are often smaller in scale (depicting children). At least 0.5in thickness is necessary in order for there to be enough wood for the craftsman to cut and bevel the outline (Graham 1988, 7).

Nineteenth-century examples often do not follow the standard construction, lacking beveled edges (see figure 8).

Figure 8. Detail of verso of a Street Pedlar, ca. 1820, in collections storage at the Victoria and Albert Museum. Oil on wood, 174cm X 56.5cm.

This later group of dummy boards appears to be the product of Victorians misinterpreting eighteenth-century craft practice. Likewise, in the nineteenth century these figures became disassociated from their original social context. It is during this time that myths about dummy boards being used as fire screens originated (Edwards 2002, 74, 91). Many small historic sites that currently own dummy boards display them in front of fireplaces because of the carry-over from the nineteenth century. However, there is no known physical or documentary evidence that would suggest that dummy boards were designed for the specific purpose of blocking the draft of the hearth when not in use.

3.2 GROUND/PREPARATORY LAYERS

Influence of a Dutch tradition is also evident in the materials and technique present on the Turkish figure. The preparatory layers consist of a double ground (figure 9); the lower layer has very coarse, large particles of mostly earthen pigments (iron oxides) and some carbon that create an overall reddish brown color. The upper layer is thicker and consists of more evenly ground particles of lead white.

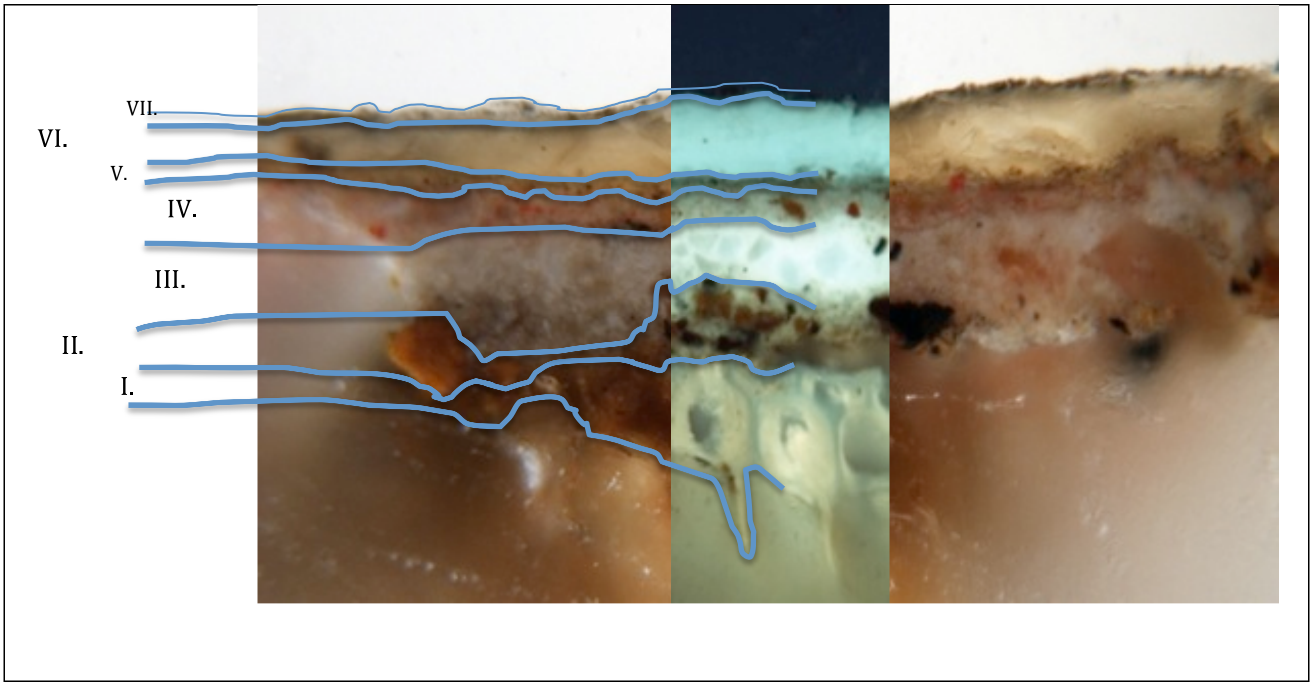


Figure 9. Photomicrograph of cross section X.12 from the proper left shoulder of ACP 1552 in a red decoration on the belt. Taken at 250X magnification; superimposed portion of same sample under ultraviolet light. There are seven discreet layers present in this sample and consistent throughout samples of original stratigraphy.

Layer Designation	***Description of Layer***
I.	Wooden substrate
II.	Lower ground
III.	Upper ground
IV.	Decorative finish (paint layer)
V.	Coating 1
VI	Coating 2
VII	Coating 3

The tradition of red-colored grounds comes from the Netherlands and Italy in the seventeenth-century (Witlox 2012, 173). These brown-red grounds have been found to contain iron- and silica-rich earths, red or yellow ochres, and iron oxide reds (Witlox 2012, 173). These findings are consistent with the silicon and iron present in the lower layers when visualized and analyzed with SEM-EDX (figure 10).

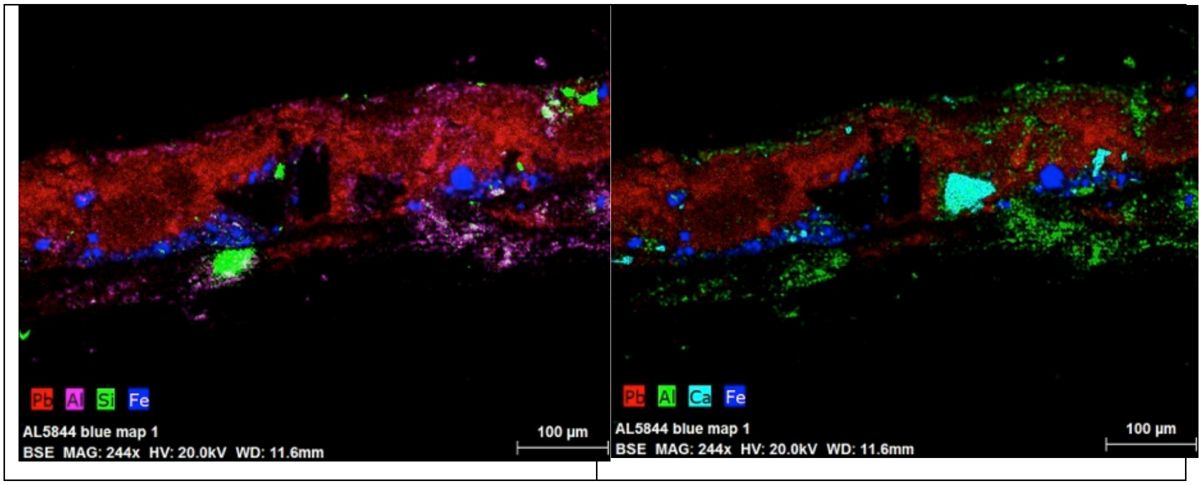


Figure 10. False-color elemental maps of cross section sample X.8 from blue area at the top of the turban of ACP 1552.

For eighteenth-century artists' panels it was not uncommon to use glue as the binding media for the ground, followed by decoration in oil. However, ACP 1552 shows the use of oil medium throughout (based on positive reactions to fluorochrome stain, Rhodamine B), more common to canvas painting (Witlox and Carlyle 2005, 525). The use of double oil grounds spread to Northwestern Europe in the eighteenth century and is believed to be an economic solution of quickly filling and smoothing out the substrate (Witlox 2012, 175). In fact, the visual appearance of the first ground layer on ACP 1552 suggests the use of palette scrapings. Ground colors varied greatly, but there was a general trend towards whiter/lighter grounds beginning in the late eighteenth century (Witlox 2012, 176). Many eighteenth-century American easel painters, such as Gilbert Stuart and John Singleton Copley, preferred white grounds (Cross and Brummitt 2011, 92-93; Shank 1984).

ACP 1552 has a palette consistent with those of the aforementioned American easel painters, but the ground preparations differ. Stuart's grounds are consistently a mixture of lead white and chalk ($CaCO_3$) (Cross and Brummitt 2011, 92-93). Copley also had a preference for calcite grounds sometimes mixed with lead white (Shank 1984). The calcium detected in ACP 1552 by SEM-EDX (figure 10b) is present throughout the stratigraphy. The large calcium inclusions are found in the lower preparatory layer of oxide and carbonaceous particles (layer II) rather than mixed with the lead white. Stuart sometimes tinted his grounds, but usually towards a blue (Cross and Brummitt 2011, 93). The tradition of red-colored grounds comes from the Netherlands and Italy in the seventeenth century (Witlox 2012, 173). These brown-red grounds have been found to contain iron- and silica-rich earths, red or yellow ochres, and iron oxide reds (Witlox 2012, 173). These findings are consistent with the silicon and iron present in the lower layers of the BSE elemental maps of ACP 1552 (figure 10).

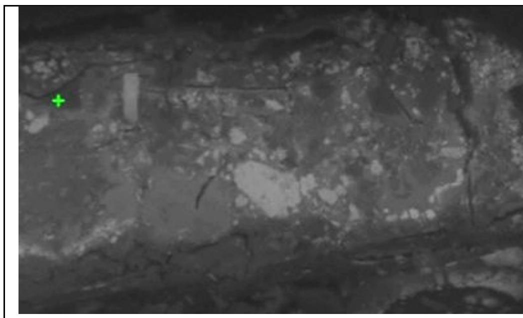


Figure 11. Detail of backscattered electron image of sample X.8 from turban of ACP 1552 focusing on second ground layer. Image taken at 437X magnification, 20kV.

The heterogeneous particle size (amplified in the BSE image (figure 11) in the lead white (layer III) is certainly an indication of hand-ground pigments, but could also be linked to the Dutch stack process[3] of making lead white (Loeblich 2009, 26). Further comparison with reference standards or XRD examination of the crystalline structure would be necessary to draw significant conclusions, but visual comparison is still convincing with reference images from Carlyle et al.'s 2007 article "Historically accurate ground reconstructions for oil paintings."

The preparatory layers on the Turkish figure share more in common with the aforementioned Dutch traditions than American practices, and this comparison serves as further evidence that these objects originated within Dutch culture. The attention given to the preparation of the substrate further supports an eighteenth-century date of manufacture as the layer structure for panel grounds became less complex into the nineteenth century when single grounds were common (Witlox and Carlyle 2005, 523).

[3] The so-called Dutch stack method refers to one of the earliest processes of making lead white whereby sheets of lead are suspended in pots with vinegar in a dung bed; these pots were stacked on top of each other in the bed, lending the name to the process. More modern manufacture of lead white is also based on an acid corrosion of lead. However, instead of using dung or tanner's bark to produce carbon dioxide gas, hot carbon dioxide gas was directly sprayed onto finer lead particles. This "modern process" is sometimes referred to as the Carter Process, developed in the 1870s (Natural Pigments 2013). One of the key chemical differences between the results of each process appears to be the relative proportion of lead hydroxide; the stack method typically results in a higher ratio of lead hydroxide to lead carbonate, which was historically seen as advantageous (Carlyle 2001, 513).

3.3 PIGMENTS/DECORATIVE SURFACE

Elemental analysis has frequently been used for the study of pigments on eighteenth-century easel paintings (Cross and Brummitt 2011; Mayer and Myers 2011; Shank 1984). Gilbert Stuart, for example, was found to favor a limited palette consisting of Prussian blue, vermillion, red lake, yellow ochre, green earth, bone black, and lead white (Cross and Brummitt 2011, 93; Mayer and Myers 2011, 50-51). In the mid-to-late 1700s, American easel painters such as Benjamin West, John Singleton Copley and Gilbert Stuart had strong connections with England for materials and techniques (Mayer and Myers 2011, 1-5). Vermillion, was supplied to England by the Dutch and was directly exported from the Netherlands to the Americas from 1737 into the nineteenth century (Candee 1967, 14).

The pigments suggested by PLM and XRF analysis on ACP 1552 (Prussian blue, vermillion, lead white, yellow earth, carbon black, and chalk) are consistent with those available in the eighteenth century and are common in the Pennsylvania German palette (Harley 2001; Carlson 1999; Carlson 1985; Carlson 2001; Carlson and Krill 1978).

Initially an organic yellow colorant (that had faded) was suspected in the area of the pants because of the stark contrast between the brilliant vermillion decoration (suggested by Hg in XRF and confirmed with Raman) and muted off-white color of the pants (even post-cleaning). However, Raman analysis did not suggest an organic yellow, but rather yellow ochre. PLM confirmed the presence of a yellow earth by “partial birefringence” exhibited under crossed polars (Gifford 2015). Yellow ochre is an inexpensive pigment and was used by many eighteenth-century American artists and craftsmen including the Pennsylvania Germans. As Robert Dossie describes in *The Handmaid to the Arts*, yellow ochre is only moderately bright (Dossie 1758, 93), and so the tone visible today in the pants is likely similar to the original decoration.

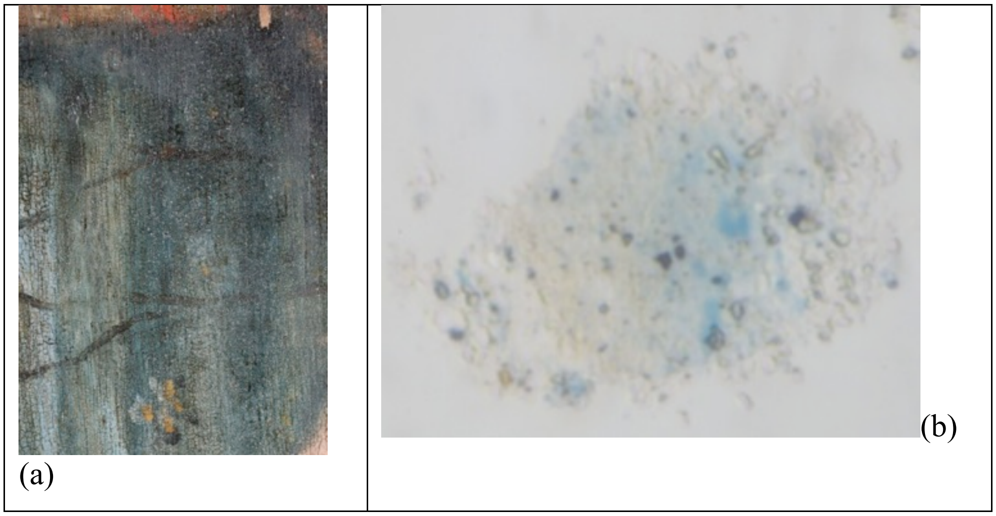


Figure 12. Prussian blue present in decorative layer on ACP 1552. (a) detail of dress that is predominately blue. (b) photomicrograph of dispersed pigment sample from the dress showing the early-process form of Prussian blue present.

The blue pigment was challenging to distinguish from smalt using PLM because of its glassy appearance (figure 12), which starkly differs from modern commercial Prussian blue. Early processes of manufacturing Prussian blue can produce these characteristics (Gifford 2014). Philadelphia was one of the first American cities to import Prussian blue in 1747 (Candee 1967, 18). Finally FTIR was used to confirm the presence of Prussian blue with a positive match based on a clear band near 2100cm^{-1} due to the ferric ferrocyanide bond in the molecule (Derrick, Stulik, and Landry 1999, 94). Other than this significant band, the spectrum for Prussian blue is very simple. Although the band around 2100cm^{-1} in the sample spectrum (figure 10, red) is not as intense as the one in the reference spectrum, it is a clear indicator of Prussian blue. The sample spectrum includes many more bands likely attributed to lead white (typically mixed with Prussian blue) and the binding media (drying oil). There may be a small amount of gypsum either mixed with this paint layer or mixed with the lead white ground just below. Gypsum, like chalk, was often added to paints especially lead white as filler material. In fact, kaolin, has been found as a common filler specifically for Prussian blue (Delamare 2013, 161), which could also explain the significant presence of aluminum and silicon in the EDX spectrum spot analysis for the blue paint layer (figure 18).

No cobalt or sodium were detected by SEM-EDX that could suggest the use of smalt or ultramarine. Potassium (present in the spectrum) is also used as a marker for smalt, but in this case potassium is likely associated with potassium prussianate ($K_4[Fe(CN)_6]$ (Delamare 2013, 147). The metal complex inherent to the structure of Prussian blue, like a chelator, can take on monovalent cations, which can have an effect on the color, solubility, and stability of the overall compound (Delamare 2013, 147). Potassium prussianate is the oldest combination, but ammonium prussianate is now more commonly used in modern formations (Delamare 2013). Potassium prussianate is also sometimes referred to as "soluble blue" because of solubility in water and instability (Delamare 2013, 147). Eighteenth-century accounts reference color change to green and fading as drawbacks, and in the nineteenth century, accounts attribute these negative reactions to excessive light exposure (Delamare 2013, 151, 192). Dossie outlines that wainscoting painted with Prussian blue "…in a short space of time [will] turn to an olive or greenish grey colour" especially if the quality is lesser and iron precipitated from vitriol (iron sulphate) remains extant (Dossie 1758, 82). Given that a strong acid (HCl) is used to achieve the desired blue color in initial manufacture, it is logical that Prussian blue is also sensitive to alkaline conditions. The greenish tint of some areas of blue on ACP 1552 could suggest a previous cleaning with a caustic solution.

The oil binding media detected through fluorochrome staining (figure 5) does not completely exclude ACP 1552 from the tradition of sign and house painting, but oils did not surpass distemper (for interior) and casein (for exterior) paints in the house painters trade until the mid-nineteeth century (Candee 1967, 4). Eighteenth-century trades were, however, fluid within the American colonies with one shop offering house, sign, and furniture painting, wallpapering, gilding, glazing and refinishing (Reynolds 1978, iv).

4. ARCHIVAL INVESTIGATION

This particular dummy board also came with additional questions unique to its provenance. ACP 1552 was owned by the John Wister family of Philadelphia (immigrants from Germany in eighteenth century) until 1931 when it was donated to

GHS by descendants. Another dummy board of a British grenadier (HSP.1931.5) was gifted in the same year to the Historical Society of Pennsylvania, now the Philadelphia History Museum—Atwater Kent. A sketch made by Joseph Pennell in 1912 shows these two objects on display together at the Grumblethorpe homestead when they were still owned by Wister descendants. As mentioned previously Sally Wister (1761-1804), granddaughter of John Wister (1708-1789), kept a diary from 1777-1778 in which Sally describes her interaction with these two painted figures. Before 1777 the dummy boards were in the possession of Colonel Samuel Miles, Sally's maternal uncle (Myers 1902, 49, 127). It is still unclear where Miles acquired the dummy boards and why he had them. The "other figure" in the diary is not described in detail, but it has always been assumed to be the Turkish figure and the recent pigment analysis supports an eighteenth-century date of manufacture.

Continued provenance research was conducted in partnership with Katie McKinney, Lois F. McNeil Fellow in the Winterthur Program in American Material Culture. A more in-depth analysis of this research was co-presented at the 2015 Emerging Scholars Symposium at Winterthur. Originally, a goal was to help date the object based on style of the costume, specifically the turban. It was not possible to connect this example to a specific nomenclature or historical uniform. However, similarities were found in images depicting theatrical costume. A close match to the facial hair and expressions of the Turkish figure is *A Portrait of a Turk's Head* by William Hogarth (see http://www.christies.com/lotfinder/lot/william-hogarth-a-turks-head-mr-henry-4825626-details.aspx?intObjectID=4825626). This painting actually depicts actor, Henry Mossop as the character Bajazet from the play *Tamerlane*. *Tamerlane* is one of many plays from the eighteenth century set in the Middle East. Warring rulers and religious disagreements in the East served as allegories for the contemporary Western political and social climate. *Tamerlane* is particularly significant because it was performed in Philadelphia three times between 1747 (when Prussian blue was first imported into Philadelphia) and 1777 (when Sally writes about the prank in diary) (NewsBank and Redex 2015).

Wooden cutout figures were used not only to decorate theaters (like Rubens's *Jupiter and Juno*), but also as part of the set design. The Drottingshoms Slottsteater in Sweden is one of the few surviving eighteenth-century theaters, built in 1766. Original sets are also still preserved and utilized at Drottingshoms (see http://www.dtm.se/eng/eteatern/about-the-theatre). One of the sets showcases the use of wooden cutouts protruding from the floor, a convention still used in modern theater.

The Revolutionary climate in Philadelphia further supports the use of dummy boards as theatrical props. Theater was not popular in the Quaker-dominated city and being an actor was considered a lowly, disrespectable profession (Silverman 1987, 66, 104). At the same time, a majority of the adult, male population was fighting in the Continental Army. It is logical that wooden cutouts could be employed as "extras" or "silent companions" in the scene when warm bodies were scarce. The only documented set painter in Philadelphia in the eighteenth century was William Williams (Silverman 1987, 334). However, it is possible that a local amateur artist created some sets especially for one of the short-term theater companies in Philadelphia.

5. CONSERVATION TREATMENT SUMMARY

The majority of conservation intervention focused on the removal and reduction of discolored and degraded coatings. A solvent gel system was used for better control of solvent penetration and for a safer working environment.

Cleaning Solution	Clearance
20mL Ethomeen C-25 2g Carbopol 934 100mL acetone 8mL deionized water 10% of final weighed gel mixture (wt/vol) benzyl alcohol	2 parts odorless mineral spirits 1 part isopropanol

(a)

(b)

(c)

Figure 13. Cleaning and varnish reduction on ACP 1552. (a) The author working in the paintings studio at Winterthur. (b) Detail during cleaning under ultraviolet light illustrating the varnish "skin" remaining on the surface (c) Image taken mid-cleaning used to print out an almost full-scale reproduction for GHS to keep on display during treatment.

The goal of cleaning was to improve the visibility of the costume and figure while still leaving a thin varnish "skin" on the surface (figure 13). Select areas of overpaint were also reduced with aqueous solutions and mechanically as necessary. The surface was brush varnished overall with B-72 in Shellsol A-100 to, which provided a matte appearance. Losses were filled with a custom hide glue putty (figure 14) adapted from Katerine Stainer-Hutchins 1990 recipe for traditional panel painting fill material, courtesy of the Walters Art Museum. Modifications to the recipe were based on conclusions in Fuster-Lopez et al.'s 2007 study "Filling materials for easel paintings: when the ground reintegration becomes a structural concern."

Fill Material
15g hide glue 222 bloom strength
30g kaolin
3g raw sienna
7g raw umber
1.25g burnt sienna

(a) (b) (c)

Figure 14. Details of old losses in the face of ACP 1552. (a) after cleaning (b) after filling (c) after inpainting

One loss was filled with Araldite AV 1253 two-art epoxy for added structural integrity because the loss was more vulnerable to physical forces extending to the edge of the board (figure 15). A coat of hide glue was applied with a brush and allowed to set until just tacky before applying the Araldite putty. Blue tape was placed around the border of the loss to protect the painted surface while filling. After setting for at least 24 hours the Araldite was carved down with a chisel.

(a) (b)

Figure 15. Detail of old loss at edge of proper right hand ACP 1552 (a) after applying Araldite epoxy (b) after leveling and inpainting

Technical analysis was useful in identifying previously reconstructed or retouched areas of the dummy board of a Turkish figure. X-radiography and XRF showed significant differences in the elements present on the two far sides of the turban. Mercury was found throughout all other red areas of the decorative surface, but no mercury was detected in the red area on the turban. Consultation with panel specialist from the Metropolitan Museum of Art, Alan Miller, also led to the conclusion that the wood under these areas of the turban was a later addition as well. Therefore, overpaint removal was not attempted in these areas as no original paint was present underneath in cross section. Instead, retouching was performed over an isolating varnish to reintegrate these additions with the rest of the surface.

Inpainting was carried out first in larger areas of loss with Golden PVA colors to block in the tone. Gamblin colors were built up in thin glazes to achieve the final tone. A modified *tratteggio* technique was found to be successful on this surface to imitate the vertical wood grain that shows through overall.

6. CONTINUING THE CONVERSATION

This study is the first to date to investigate the material composition of a dummy board in depth. These objects may be rare among major institutions, except for the Victoria and Albert, which has a collection of fifteen dummy boards. Nonetheless, dummy boards are located in many small historic homes and local societies. The author hopes that this study will inspire colleagues to investigate other dummy boards and continue to build a base of knowledge about this craft. Not only are dummy boards significant in the current antiques market,[4] but they also continue to influence contemporary artists and popular culture.

In the immediate future, the author plans to continue the study by comparing the elemental composition on the surface of the companion grenadier dummy board also

[4] At the most recent NYC Antiques Show in January 2015 a pair of dummy boards was on the market for $18,000.

owned by the Wister family. XRF analysis will be performed on-site at the Atwater Kent in Philadelphia in June 2015.

The types of materials and techniques used on this dummy board demonstrate a knowledge of easel painting with diverse European and American influences. The double ground with red/brown iron-based pigments is strongly rooted in Dutch tradition. The simple decorative palette consisting mostly of Prussian blue, vermillion, lead white, and carbon black is faithfully American. Dummy boards cannot be neatly categorized within the tradition of panel painting and really deserve their own designation and investigation as a historic craft practice. Some of the mystery as to the origins of this Turkish figure has been resolved, and it appears that it was created around the time of the grenadier (HSP 1931.5) 1750-1777 based primarily on the presence of Prussian blue. The results of this study speak to the skill and training of the unknown maker of this dummy board. More comparative research is necessary and encouraged in order to establish trends within this specific trade.

ADDENDUM

The wooden substrate of ACP 1552 was identified as a softwood by the author and Winterthur furniture conservators. The use of a softwood instead of a hardwood in it itself differs from the tradition of panel painting where poplar and oak were the most common substrates (Wadum and Streeton 2012, 74, 86). The suspicion was that the species was either white pine or cedar, both common to the Northeast Atlantic coast. For confirmation, a small sample was sent to Harry Alden for specific identification. Alden's analysis concluded that the species is spruce. This wood identification alters the perception of manufacture of this object. Spruce is much more common in England, and was not a primary choice among Colonial American woodworkers. It is now more likely that this dummy board of a Turkish figure was produced in England. With the wealth of native American hard and softwoods it would not be economical to have imported the spruce specifically to make this object.

ACKNOWLEDGEMENTS

The conservation and analytical study of this object would not have been possible without the generous support of the Mellon Foundation to the Winterthur/ University of Delaware Program in Art Conservation. Analysis was conducted under the mentorship of Dr. Jennifer Mass, Senior Scientist for the Winterthur Museum and Affiliated Associate Professor, Catherine Matsen, Associate Scientist and Affiliated Associate Professor, Dr. Chris Petersen, Affiliated Associate Professor, Dr. Kate Dooley, Imaging Science Postdoctoral Research Fellow at the National Gallery of Art, Washington, DC, and Damon Conover, Electrical and Computer Engineering Doctoral Candidate, The George Washington University. Conservation treatment was supervised by Dr. Joyce Hill Stoner and Richard Wolbers, with consultations provided by Mary McGinn, Alan Miller, Dr. Stephanie Auffret, Mark Anderson, Dr. Susan Buck, Peggy Olley, Dr. Melanie Gifford, Dr. Joelle Wickens, Kristin DeGhetaldi, Brian Baade, and Jim Schneck.

The author greatly acknowledges Laura Keim, Curator for Germantown Historical Society, for the opportunity to work on such an interesting object and for her contributions to art historical and provenance research. Lois F. McNeil Fellow, Katie McKinney, of the Winterthur Program in American Culture is continuing to assist with art historical research. Kristen Froehlich, Director of the Collection for the Philadelphia History Museum at the Atwater Kent, graciously provided access to a comparable object for this study. Additional Philadelphia institutions including the Library Company, the Historical Society of Pennsylvania, and the Philadelphia Society for the Preservation of Landmarks significantly contributed to preliminary historical research on this object. Thanks to colleagues at the WUDPAC and WPMAC programs for their collaboration and cooperation with sharing resources.

The author would also like to acknowledge the assistance of The Kress Foundation, The National Trust, UK, William Newton and Furniture Conservation Department of the Victoria and Albert Museum, Debbie Hess Norris, Charlie Hummel, Constance Hershey, Harry Alden, Dr. Maartje Stols-Witlox, and Nico van Hout for their financial, moral, and intellectual contributions to this project.

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APPENDIX

INSTRUMENTATION SPECIFICATIONS

Table 1. Identifying characteristics of dispersed pigment samples from ACP 1552 using PLM

Sample Number / Color	Colors in sample	Refractive Index	Birefringence/Polarization Colors	Distinguishing Characteristics	Identification
R1 Red	Deep red and yellow White	n>1.66 n>1.66	Fiery red and orange Rainbow colors and bright white	Dark red almost black in plain polarized light	Vermillion Lead white
R2 Red	Red/orange White	n>1.66 n>1.66	Fiery red Bright white	Dark red almost black in plain polarized light Very birefringent Consistent polarization colors (compared to heterogeneous samples of red and yellow ochres)	Vermillion Lead white
R3 Red	Red Black White	n>1.66 opaque n>1.66	Fiery red and orange Isotropic Rainbow colors and bright white	Dark red almost black in plain polarized light Black particles are truly opaque and do not exhibit any polarization colors	Vermillion Carbon black Lead white
R4 Red	Pink	Becky Line test only indicative	Isotropic	Very transparent; smeared clusters	Red lake

	Red Black White	of medium n>1.66 Opaque n>1.66	Fiery red Isotropic Rainbow colors (pink, blue, yellow)	Black particles are truly opaque and do not exhibit any polarization colors Lead white can appear more yellow/brown in clusters in plane polarized light	Vermillion Carbon black Lead white
W1 White	White (traces of red from earlier layer)	n>1.66	Bright yellow/white with blues and pinks		Lead white
W2 White	White	n>1.66	Rainbow colors		Lead white
G1 Blue	Blue (traces of red from earlier layer) Black Yellow White	n<1.66 Opaque n>1.66? n>1.66	Isotropic Isotropic Isotropic Bright whitish blue and yellow	Smears of light blue in addition to some discreet particles Melanie Gifford thought had "pre-paint out preparation flaky characteristics" Yellowish brown color in plane polarized light typical of yellow lake; extremely transparent smear; small possibility could be yellow ochre	Prussian blue Carbon black Yellow lake?? Yellow earth? Lead white
G2 Blue	Blue Yellow	n<1.66 n>1.66?	Isotropic Isotropic	Yellowish brown color in plane polarized light	Prussian blue Yellow lake

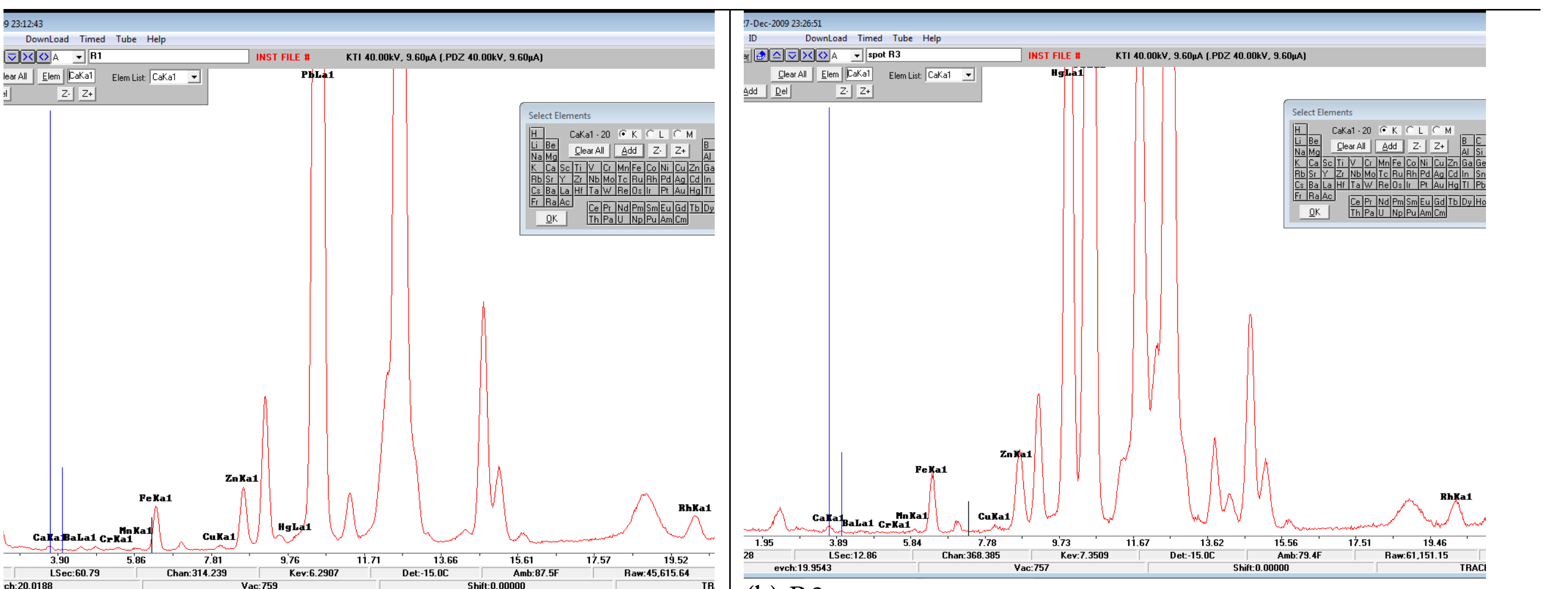
	Black White	opaque n>1,66	Opaque Bright white, blue and yellow	typical of yellow lake; extremely transparent smear; small possibility could be yellow ochre	Carbon black Lead white
WY5	Yellow Black white	n>1.66 ??? n>1.66	Isotropic with bright birefringent bits in centers of particles that go to extinction Opaque Bright white and rainbow-like	Fairly pure, consistent orange rusty yellow color angular particle shape similar	Yellow earth Carbon black Lead white

Table 2. Results from XRF spectroscopy on surface of ACP 1552

Sample # and Presentation color	Varnish Reduction Performed?	Major Elements present in XRF spectrum	Minor Elements present in XRF spectrum	Potential Materials Present	Common Names
XRF.R.4 Red, restoration	No	Pb, Fe, Zn	Ca, Ba, Cr, Mn, Cu	$2PbCO_3 \cdot Pb(OH)_2$; Pb_3O_4; Fe_2O_3 (Mn likely associated with umbers); ZnO, $CaCO_3$; $CaSO_4 \cdot 2H_2O$; $BaSO_4$; $BaCO_3$; $PbCrO_4$; $PbCrO_4$ and PbO	Lead white; red lead; iron oxide red; zinc white; chalk; gypsum; barytes; chrome yellow; chrome red (orange
XRF.R.3	No	Hg, Pb	Ca, Fe, Cu, Zn,	HgS; $2PbCO_3 \cdot Pb(OH)_2$; Pb_3O_4; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; Fe_2O_3; ZnO	Vermillion; lead white; red lead; chalk; gypsum; iron oxide/earths; zinc white
XRF.R.5 Red	No	Pb, Fe	Hg, Ca, Cu, Zn,	$2PbCO_3 \cdot Pb(OH)_2$; Pb_3O_4; Fe_2O_3; HgS; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; ZnO	Lead white; red lead; iron oxide red; vermillion; chalk; gypsum; zinc white
XRF.R.6	Yes	Pb, Hg	Ca, Cu, Fe, Zn	$2PbCO_3 \cdot Pb(OH)_2$; Pb_3O_4;HgS; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; Fe_2O_3; ZnO	Lead white; red lead; vermillion; chalk; gypsum; iron oxides/earths; zinc white

XRF.W.1 White	No	Pb	Fe, Zn, Hg	$2PbCO_3{\cdot}Pb(OH)_2$; PbO (yellow) Fe_2O_3; ZnO; HgS; Hg_3SO_6 (yellow)	Lead white; lead oxide; iron oxides/earths; zinc white; vermillion (likely overlap with red decoration); Turbith mineral
XRF.W.2 White, restoration	No	Pb	Ca, Ba, Cr, Mn, Fe, Cu, Zn, Hg	$2PbCO_3{\cdot}Pb(OH)_2$; PbO; $CaCO_3$; $CaSO_4{\cdot}2H_2O$; $BaSO_4$; $BaCO_3$; $PbCrO_4$; Fe_2O_3; ZnO; HgS; Hg_3SO_6	Lead white; lead oxide; chalk; gypsum; barytes; chrome yellow; iron oxides/earths; zinc white; vermillion; turbith mineral
XRF.W.3 White, yellow?	Yes	Pb, Fe	Ca, Cu, Zn, Hg	$2PbCO_3{\cdot}Pb(OH)_2$; PbO; Fe_2O_3; $CaCO_3$; $CaSO_4{\bullet}2H_2O$; ZnO; HgS; Hg_3SO_6	Lead white; lead oxide; yellow ochre; chalk; gypsum; zinc white; vermillion; turbith mineral
XRF.W.4 White, yellow?	No	Pb, Fe	Zn, Cu, Hg	$2PbCO_3{\cdot}Pb(OH)_2$; PbO; Fe_2O_3; ZnO; HgS; Hg_3SO_6	Lead white; lead oxide; yellow ochre; zinc white; vermillion; turbith mineral
XRF.hand White	Yes	Pb, Fe	Ca, Ti, Cu, Zn	$2PbCO_3{\cdot}Pb(OH)_2$; PbO; Fe_2O_3; $CaCO_3$; $CaSO_4{\cdot}2H_2O$; TiO_2; ZnO	Lead white; lead oxide; yellow ochre; chalk; gypsum; titanium white; zinc white
XRF.G.1 Blue	No	Pb, Fe, Zn	Ca, Ti, Mn, Cu,	$2PbCO_3{\cdot}Pb(OH)_2$; $Fe_4(Fe[CN]_6)_3$; ZnO; $CaCO_3$; $CaSO_4{\cdot}2H_2O$; TiO_2; $2CuCO_3{\cdot}Cu(OH)_2$	Lead white; Prussian blue; zinc white; chalk; gypsum; titanium white; azurite/blue verditer
XRF.G.2 Blue	No	Pb, Fe, Zn	Ca, Ti, Mn, Cu	$2PbCO_3{\cdot}Pb(OH)_2$; $Fe_4(Fe[CN]_6)_3$; ZnO; $CaCO_3$; $CaSO_4{\cdot}2H_2O$; TiO_2; $2CuCO_3{\cdot}Cu(OH)_2$	Lead white; Prussian blue; zinc white; chalk; gypsum; titanium white; azurite/blue verditer
XRF.G.3 Green overpaint	No	Pb	Ca, Ba, Cr, Mn, Cu, Fe, Zn	$2PbCO_3{\cdot}Pb(OH)_2$; Pb_3O_4; $CaCO_3$; $CaSO_4{\cdot}2H_2O$; $BaSO_4$; $BaCO_3$; Cr_2O_3; $PbCrO_4$; $2CuCO_3{\cdot}Cu(OH)_2$; $Cu(CH_2{\cdot}COO)_2{\cdot}2Cu(OH)_2$; Fe_2O_3; ZnO	Lead white; lead yellow; chalk; gypsum; barytes; chrome green; chrome yellow; azurite/blue verditer/malachite/green veridter; verdigris; yellow ochre; zinc white
XRF.G.4 Blue	No	Pb, Fe	Ca, Ba, Mn, Zn,	$2PbCO_3{\cdot}Pb(OH)_2$; $Fe_4(Fe[CN]_6)_3$; $CaCO_3$;	Lead white; Prussian blue, chalk; gypsum;

			Cu,	$CaSO_4 \cdot 2H_2O$; $BaSO_4$; $BaCO_3$; ZnO; $2CuCO_3 \cdot Cu(OH)_2$	barytes; iron oxides/earths; zinc white; azurite/blue verditer
XRF.G.5 Blue	Yes	Pb	Ca, Ba, Mn, Cu, Zn, Fe	$2PbCO_3 \cdot Pb(OH)_2$; $Fe_4(Fe[CN]_6)_3$; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; $BaSO_4$; $BaCO_3$; ZnO; $2CuCO_3 \cdot Cu(OH)_2$	Lead white; Prussian blue; chalk; gypsum; barytes; iron oxides/earths; zinc white; azurite/blue verditer
XRF.Br.1 Brown	No	Pb, Fe	Ca, Cu, Zn, Hg	$2PbCO_3 \cdot Pb(OH)_2$; PbO; Fe_2O_3; HgS; Hg_3SO_6; ZnO; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; $2CuCO_3 \cdot Cu(OH)_2$; $Cu(CH_2 \cdot COO)_2 \cdot 2Cu(OH)_2$	Lead white; lead oxide; red lead; iron oxides; vermillion; turbith mineral; zinc white; chalk; gypsum; azurite/blue verditer/malachite/green veridter; verdigris;
XRF.Br.2 Brown	Yes	Pb	Ca, Mn, Fe, Cu, Zn	$2PbCO_3 \cdot Pb(OH)_2$; PbO; Fe_2O_3; ZnO; $CaCO_3$; $CaSO_4 \cdot 2H_2O$; $2CuCO_3 \cdot Cu(OH)_2$; $Cu(CH_2 \cdot COO)_2 \cdot 2Cu(OH)_2$;	Lead white; lead oxide; red lead; iron oxides; zinc white; chalk; gypsum; azurite/blue verditer/malachite/green veridter; verdigris;



(a)R4 (b) R3

Figure 16. Spectra from red-colored areas on ACP 1552. (a) XRF.R.4 taken in the red reconstructed area of the turban does not contain any peak for Hg, which is one of the major elements present in (b) XRF.R.3 taken from the figure's red shoe.

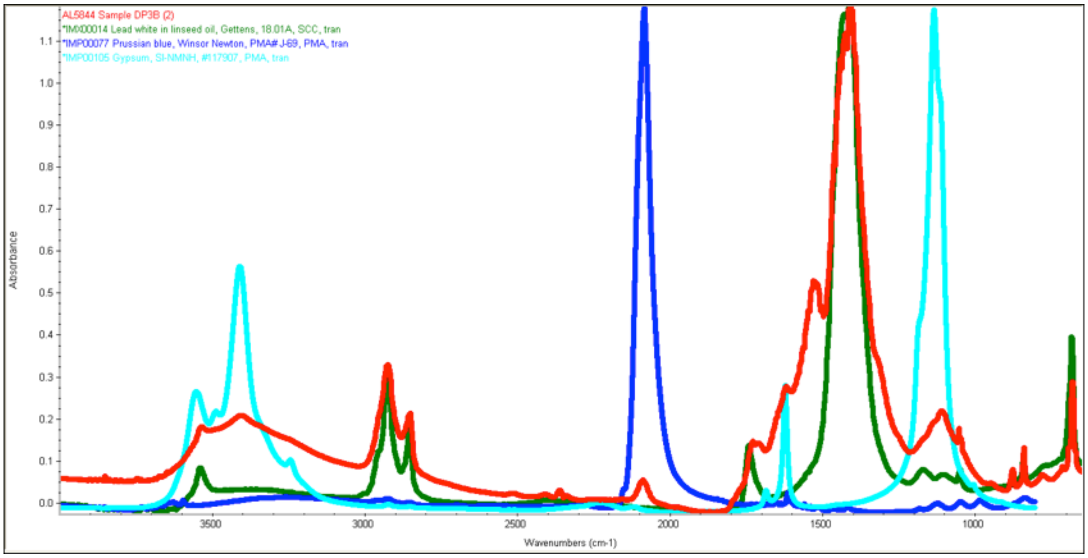


Figure 17. FTIR Spectrum of dispersed sample (DP3B) (in red) from blue area in robe of ACP 1552 confirming identification of Prussian blue. Reference spectra include linseed oil (in green), Prussian blue (in dark blue), and gypsum (in light blue).

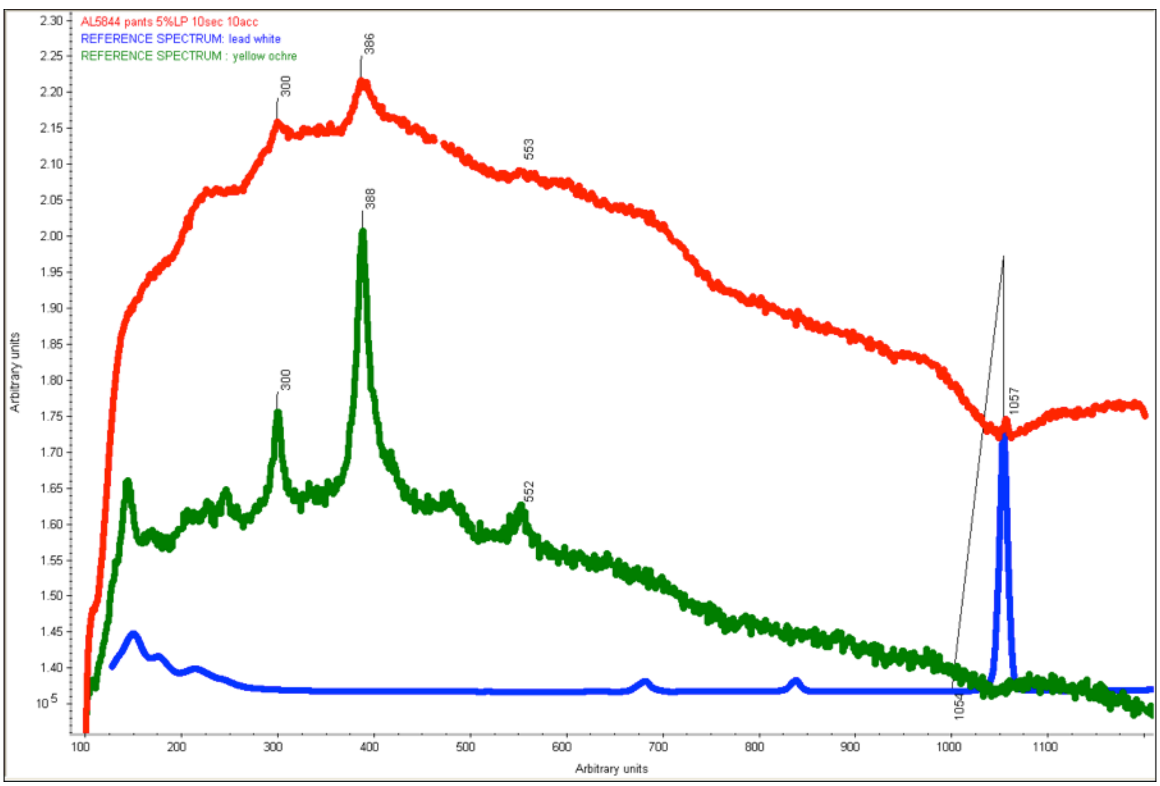


Figure 18. Raman spectrum (in red) of dispersed pigment sample (WY.5) from pants of ACP1552 compared to reference spectra for yellow ochre (in green) bound in gum Arabic from Winterthur Scientific Research and Analytical Laboratory paint out and lead white (in blue).

Figure 19. X-radiograph of ACP1552 detailing head, 25kV and 3mA for 30sec.

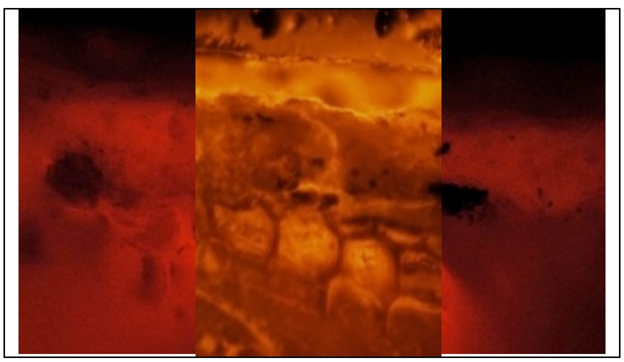


Figure 20. Photomicrograph of cross section X.12 from ACP 1552 at 250X under green cube of Leitz epifluorescent microscope. Superimposed image under same illumination and magnification after staining with Rhodamine B for presences of lipids. Positive reaction (bright orange) occurred throughout all layers.

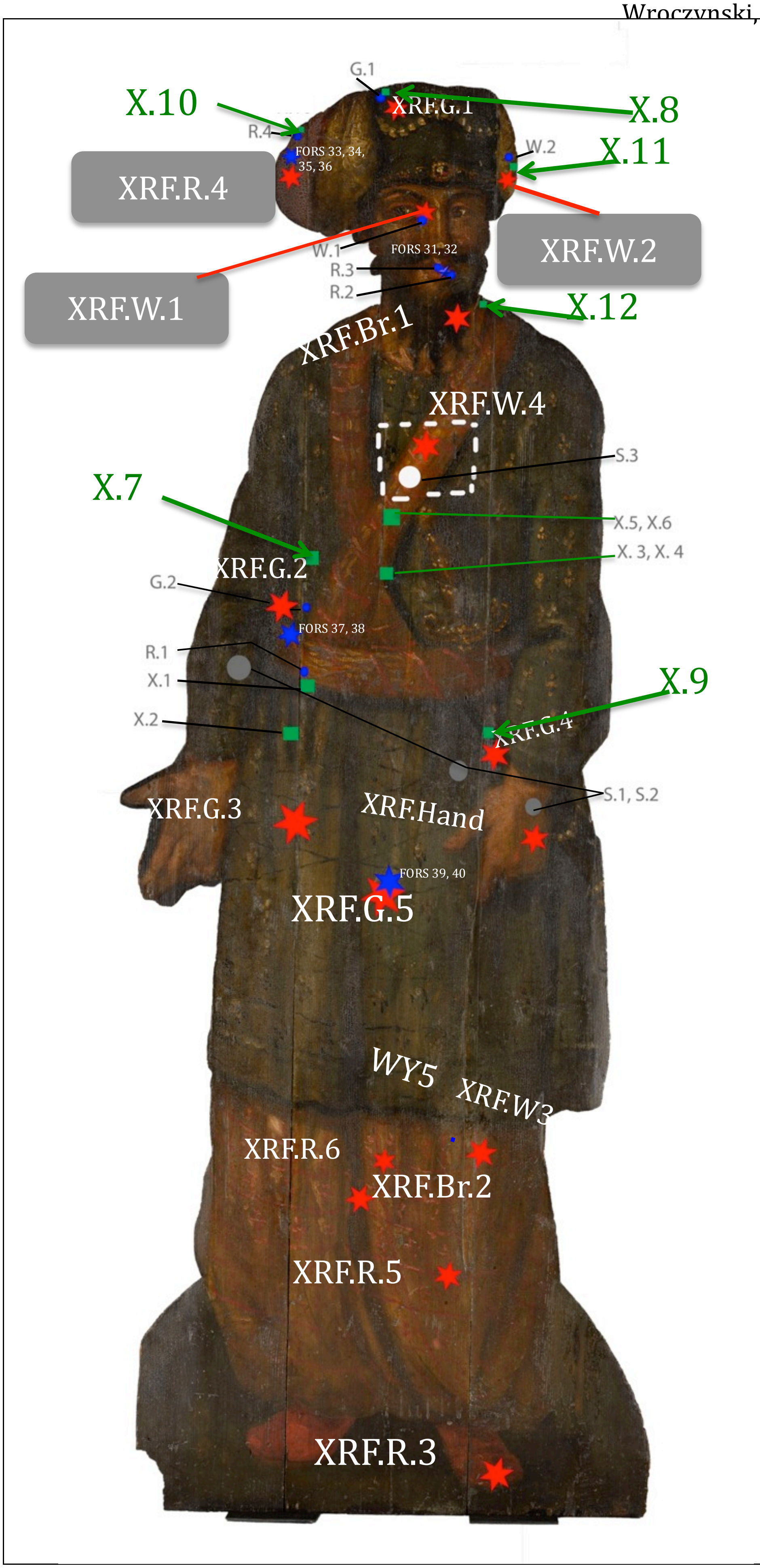
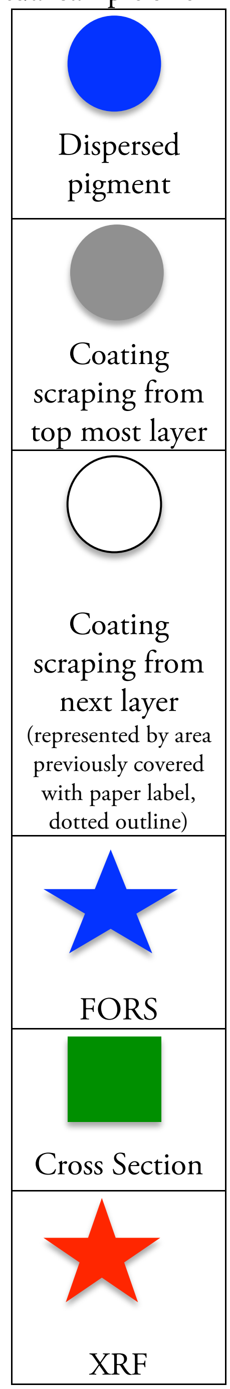


Figure 21. Diagram of all areas on ACP 1552 sampled for analysis by varying techniques during this study.

KEY: Symbols are not to scale of the actual sample size



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Emily Wroczynski is a second-year WUDPAC Graduate Fellow in Paintings Conservation with a specific interest is in the historic interior. She completed her B.A. in Art History and Spanish from the University of Rochester in 2010.

Emily has combined training in paintings and paper conservation and has worked on various wallpaper projects including historic printing of wallpaper at Allyson McDermott Historic Interiors and treatment of wallpaper fragments from the Harry S. Truman Home, supervised by Tom Edmondson. Emily will travel to Hawaii this summer to work on painted wooden doors and ceilings at Doris Duke's Shangri La.