

# The Vilhelm Hammershøi Digital Archive

## – an interdisciplinary research project on the materials and working methods of the Danish painter Vilhelm Hammershøi

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### Introduction

The Vilhelm Hammershøi Digital Archive (ViHDA) is a 5-year research project at the National Gallery of Denmark (SMK), investigating the painting technique and development of the working methods of the Danish painter Vilhelm Hammershøi (1864–1916). The project is carried out by a cross-disciplinary team of conservation scientists, paintings conservators, imaging experts, art historians and digital experts, in collaboration with museums in Denmark and abroad as well as with private collectors. More than 120 paintings by Hammershøi are being examined, resulting in visual, technical and scientific documentation.

While the comprehensive examination of Hammershøi's practice has already uncovered his extensive use of cobalt blue, chromium based green and cadmium yellow<sup>1,2</sup>, this poster will put forward results from the analyses of the painting *Woman seen from the back* (fig. 1), which has led to a revised understanding of the compositional context of this painting.

### Changes to the composition



Fig. 1. *Woman seen from the back*, oil on canvas, 63,5 x 55,5 cm. 1888(?) SMK. Visual light.



Fig. 2. *Woman seen from the back*, infrared reflectography (IRR)



Fig. 3. *Woman seen from the back*, X-ray radiography (x-ray)

A female figure wearing a black, dark-bluish garment with a white apron around her waist is positioned facing away from the viewer. A frequent subject in Hammershøi's oeuvre, which he repeated in many different settings throughout his life and often zooming in and out on the figure.

The technical images illustrate how Hammershøi first painted a thinner female figure with a slightly more side-turned position, after which he decided to change the composition into a wider figure with her back turned more against the viewer.

In infrared reflectography (IRR) it is evident how the ribbon from the apron was shifted to a lower position in the final composition, and that the concentration of carbon-containing black is higher in the garment belonging to the first version of the figure compared to the final version. Furthermore, it is evident that the artist attempted to reduce part of the composition in the area of the figure's waist by scratching the paint (fig. 2).

### Macro X-ray Fluorescence spectroscopy (MA-XRF)



Fig. 4. MA-XRF Pb L (lead white in the ground layer)



Fig. 5. MA-XRF Pb M (lead white in the paint layer)



Fig. 6. MA-XRF Zn K (Zinc white in the paint layer)

The MA-XRF scans reveal Hammershøi's use of lead white and zinc white (figs. 4-6). Both white pigments were applied throughout the various stages of the creation of the painting. The two lead maps provide a representation of the ground layer (fig. 4) and the upper paint layers containing lead white (fig. 5). Aside from being applied to paint various elements in the final composition, zinc white was used in the production of the first version, as evidenced by dense layers to the right of the figure (fig. 6). The x-ray radiograph clearly shows the different positions of the right shoulder and head in the two versions of the figure (fig. 3).

Hammershøi added an opaque line of paint measuring about 2 cm in width along the left and upper edges of the painting. This addition differs visually from the rest of the background, and the MA-XRF maps reveal a distinct difference in pigment composition, with a higher concentration of zinc (fig. 6). Interestingly, a similar line along the same edges can be seen in *Intérieur with the artist's mother and sister* (fig. 7) as well as in a number of other paintings by the artist.

### Questions arising during research

- Why did Hammershøi decide to change the composition, and who are the women depicted in the two versions?
- How much time passed between the creation of the two versions of the composition?
- What did Hammershøi block out with zinc-containing paint below the table (see fig. 6)?
- How can the changes made to the figure as well as the furniture alter our notion of how the painting fits into the oeuvre of Hammershøi?
- What was the purpose of the opaque painted line along the left and upper edges, and why did Hammershøi make it more opaque than the semi-transparent vibrant background?
- A rare example of Hammershøi's use of the blue pigment ultramarine was identified in the upper part of the black garment. Why did Hammershøi apply ultramarine in this particular painting rather than his otherwise preferred cobalt blue pigment?

### Related paintings



Fig. 7. *Interior with the artist's mother and sister*, oil on canvas, 40 x 34 cm. 1884, Private owner, deposit at Ordrupgaard



Fig. 8. *A bakery shop* (1888), oil on canvas, 113 x 91 cm, Vejen Kunstmuseum

### Conclusions

The research points towards the hypothesis that Hammershøi first painted his sister Anna, but later decided to change the composition by overpainting Anna with a new figure, possibly depicting the then maid of the family.<sup>3</sup> Changes in the area of the furniture furthermore suggest that the table might have been more rounded in the first version and that the location of the chair have shifted slightly. These changes put forward the option that the painting was originally related to a group of paintings depicting the interior of Hammershøi's living room when residing at Frederiksberg Allé, see for instance the painting *Intérieur with the artist's mother and sister* (fig. 7) and *Young girl pouring from a teapot* (1884, private collection). While the composition of the painting has previously been seen as related to the later work depicting an interior of a bakery shop (fig. 8)<sup>4</sup>, the recent technical investigations has led to a revised interpretation of the position of this painting among other works by the artist, thereby suggesting an earlier dating of the first composition to around 1884.

The interdisciplinary research supports the observation that Hammershøi's general working methods were experimental, and that he continually "built upon" his own painted figures.

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### References

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