

A Note on Technical Peculiarities in a Portrait by Carel Fabritius

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Introduction

Carel Fabritius (1622–1654) is generally known as the most gifted and original student from Rembrandt's workshop. It was in Rembrandt's studio between around 1641 and 1643 that Fabritius was trained as a painter at the relatively mature age of 19 (apprenticeship often began at the age of 14 or younger). And it was at this time that Rembrandt finished his most ambitious group portrait *The Nightwatch*, an impressive creation to have witnessed from close-up or perhaps even to have participated in. So strong was the influence of Rembrandt on Fabritius that the oeuvre of Rembrandt has often unwittingly been extended to include pictures possibly by Fabritius.¹ In the context of the parallels drawn between the paintings of Fabritius and Rembrandt, it is also tempting to think of Fabritius' materials and techniques as being equivalent to those of Rembrandt.

The definitive oeuvre of Fabritius is limited to less than 15 pictures. It is refreshing that through the recent technical examination of his pictures, performed by the staff of the Mauritshuis and the Staatliches Museum in Schwerin, it gradually becomes possible to sift out the independent character and style of Fabritius and separate it from the vast amounts of data collected regarding the Rembrandt workshop.² In this context, recent restorations of Fabritius pictures in various museums, have provided further opportunity to collect technical data on his working methods and materials.

The restoration and technical examination of one specific painting, i.e. Fabritius' portrait of Abraham de Potter, gave rise to observations on a particular phenomenon of his technique.³

De Potter Portrait

At the age of 27, Carel Fabritius painted the portrait of his family friend Jasper's father, Abraham De Potter. De Potter was a wealthy cloth merchant in Amsterdam and it has been speculated (probably incorrectly) that the portrait was a counter payment for a borrowed sum.

The picture found its way into the collection of the Rijksmuseum in 1892 funded by the Rembrandt Society. It was most probably for this occasion that the picture was last restored. Since its introduction into the museum collection the painting has received no major restoration — documented or not — before the recent conservation treatment which began in 2003.⁴

In this way, the current restoration has accorded us the first 'accurate' appearance of the picture in over 100 years.⁵ Under the previous restorer's both intentionally coloured and strongly discoloured natural resin varnish lay the strong and immediate likeness of De Potter portrayed against a background of lively brushwork in light and cool pastel coloured paints (fig. 1). A dramatic revelation considering the positively orange picture we have all come to know and accept as a reflection of Fabritius' intention.

The present appearance of the painting is now much more in accordance with most of the paintings we know of by Fabritius, painted after 1650, the year he moved to Delft. The majority of his surviving work dates from the last year of his life, before the explosion of the Delft powder arsenal in 1654 in which he died at the young age of 32. The picture of De Potter was painted before Fabritius left for Delft, and after he had already left the studio of his teacher Rembrandt in Amsterdam for his hometown Midden-Beemster on the outskirts of Amsterdam. As a dated piece from 1649 the De Potter portrait affords us a glimpse of Fabritius' working methods and artistic style in a transitory period between his training with Rembrandt and artistic maturity; between student and professional guild member; between Amsterdam and Delft. Therefore, in comparison with both earlier and later works, the picture serves as an important link between these two worlds.

A comparison

The comparison with his only surviving early portrait, the *Self-Portrait* now at the Boymans van Beuningen

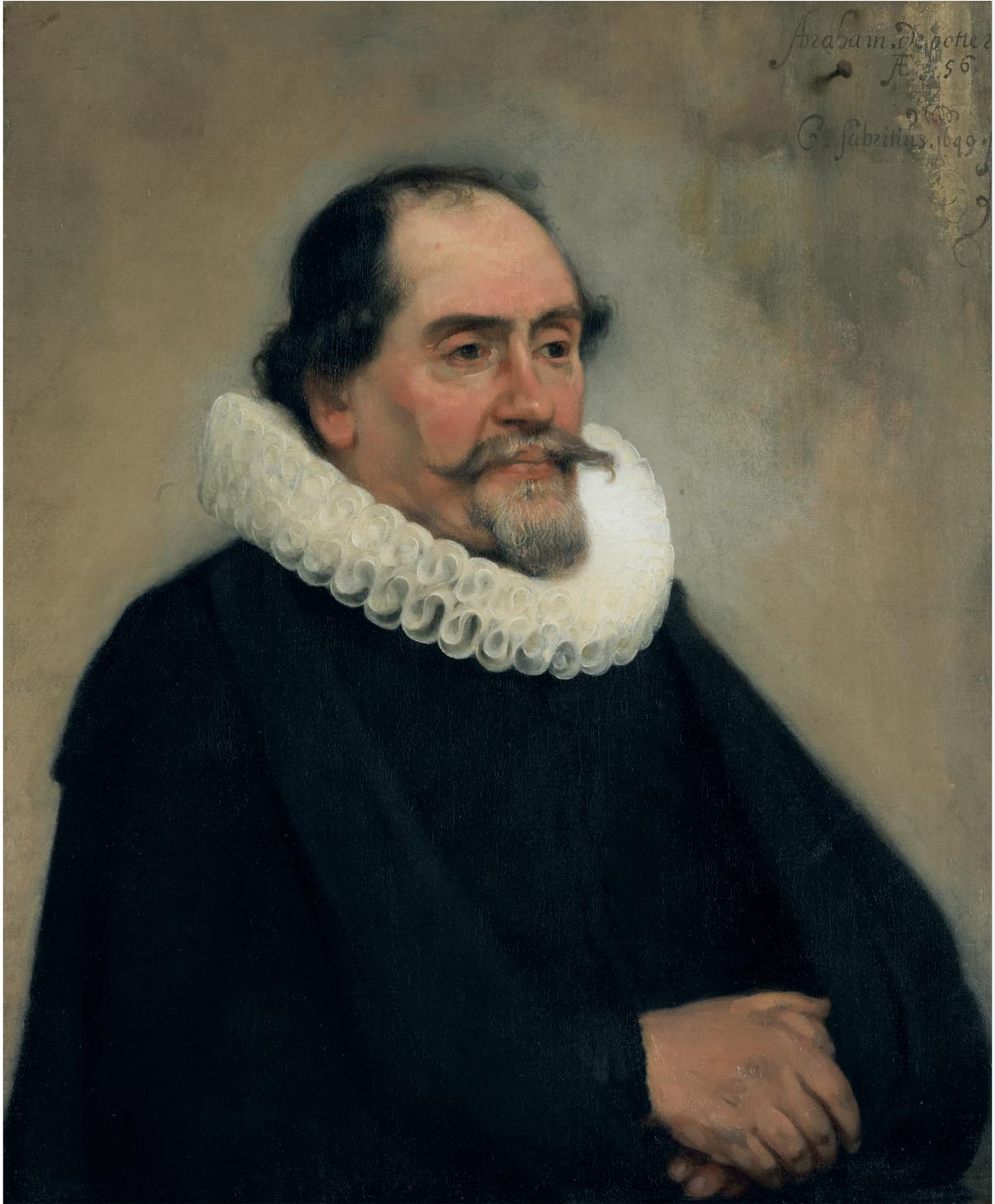


fig.1 Carel Fabritius, *Abraham de Potter*, 1649
inv.nr.SK-A-1591, Rijksmuseum, Amsterdam



fig.2 X-radiograph of *Abraham de Potter*, RMA



fig.3 X-radiograph of *Fabritius' Self-Portrait*, Museum Boymans van Beuningen, Rotterdam. (Röntgen Technische Dienst, Rotterdam)

Museum in Rotterdam, is particularly instructive in terms of this artistic development. This undated painting has been seen as a product of Rembrandt's formative influence on the young Fabritius, painted either during his apprenticeship or shortly thereafter, most probably in the latter half of the 1640s.⁶

There are certain similarities with the painting of *De Potter*. For example in the composition, in that both figures are portrayed with a slight turn to the right against a textured wall created with loose and open brushwork. Fabritius' legendary interest in illusionist effect is also visible in both cases.⁷ In the Rotterdam picture, four rectilinear, light paint scumbles create one brick, which is enough to reveal the exact nature, texture and position of the background wall. In the Amsterdam painting, two *trompe-l'œil* appeared from under the obscuring varnish and overpaint during cleaning: a nail in the wall with accompanying shadow and a thick, vertical smear of light-coloured 'plaster' brought on with a palette knife. Both of these are now apparent beneath the inscription in the upper right corner, affirming the three-dimensionality of the background wall in the face of the otherwise neutralizing effect of such an inscription.

Beyond compositional similarities, the two portraits reveal the artist's delight in rather marked paint texture. In Fabritius' use of dry scumbles skipping over underlying unevenness, Rembrandt's predilection for impasto comes readily to mind.

The differences between the two paintings, however, are more marked, both above and below the surface. The complex build-up of body paint and glazes in the Rotterdam picture, which limited the degree of varnish removal during the last restoration, is one such difference.⁸ Most apparent however is the dissimilarity in color. The Rotterdam picture, with its prevalence of transparent browns and earth colours is much darker than the Amsterdam picture with its opaque pink-beige and light grey. It is primarily this difference, which leads us to presume that the Rotterdam picture falls between the years of Rembrandt's influence and the *De Potter* portrait of 1649.

A comparison of the grounds, as revealed in cross-sections of paint samples, serves to further underline the differences. As expected for a panel, the Rotterdam picture has a conventional chalk ground.⁹ The canvas of *De Potter*

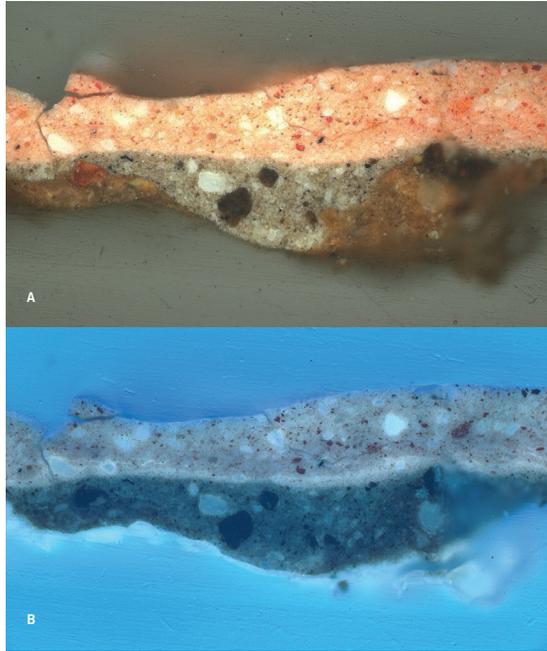


fig.4a Cross-section (200x) taken from Abraham de Potter from the face (right cheek) which is in the white area of the x-radiograph.

fig.4b Cross-section 4a. in UV light (200x)



fig.5a Cross-section (200x) taken from Abraham de Potter from the face (forehead) which is in the dark area of the x-radiograph.

fig.5b Cross-section 5a. in UV light (200x)

carries the expected double ground found on many seventeenth century paintings executed on prepared canvases bought in Amsterdam. Many of Rembrandt's canvases also contain a warm, orangey first ground layer superseded by a lighter beige colour as that found in the De Potter painting.



fig.7 'Pit' of vermilion particles in the wing of the nose of Abraham de Potter, (20x).

Looking under the surface with x-radiography, the two paintings also reveal completely different approaches in their construction (figs.2-3). The particular use of heavy-metal containing pigments, such as lead white or vermilion (both on and under the surface as registered in any x-radiograph) appears to illustrate a radical change in Fabritius' technique.¹⁰

A look at a cross-section taken from the x-ray absorbing (light) parts of the portrait of De Potter reveals the extent of Fabritius' use of a thick layer of heavy-metal containing pigmented paint, both vermilion and lead white (figs.4a-b). In comparison with a cross-section taken from a darker area of the face where this layer is much thinner (figs.5a-b), it is clear that what accounts for the mask-like appearance in the x-radiograph is indeed the generous application of paint comprised of both vermilion and lead white (fig.6). Another notable phenomenon, seen readily under magnification, is what appear to be open pits containing clusters of vermilion pigment particles (fig.7 and table 1). These pits are found in other areas of the painting, but their preponderance in the light areas of the x-radiograph 'mask', indicate that they too contribute to the formation of this mask.

The portrait was painted in a relatively direct manner in comparison to the earlier Rotterdam picture. The initial build-up of De Potter's head was given a contrasting, light grey 'halo' of background paint to set it off thereby suggesting volume. The face is masterly, as it is convincingly modelled without strong shadow in an even light using primarily the texture of opaque scumbles of lead white and vermilion. Dabs of this pink paint can also be discerned outside the boundaries of De Potter's head: to the right of the head in the background

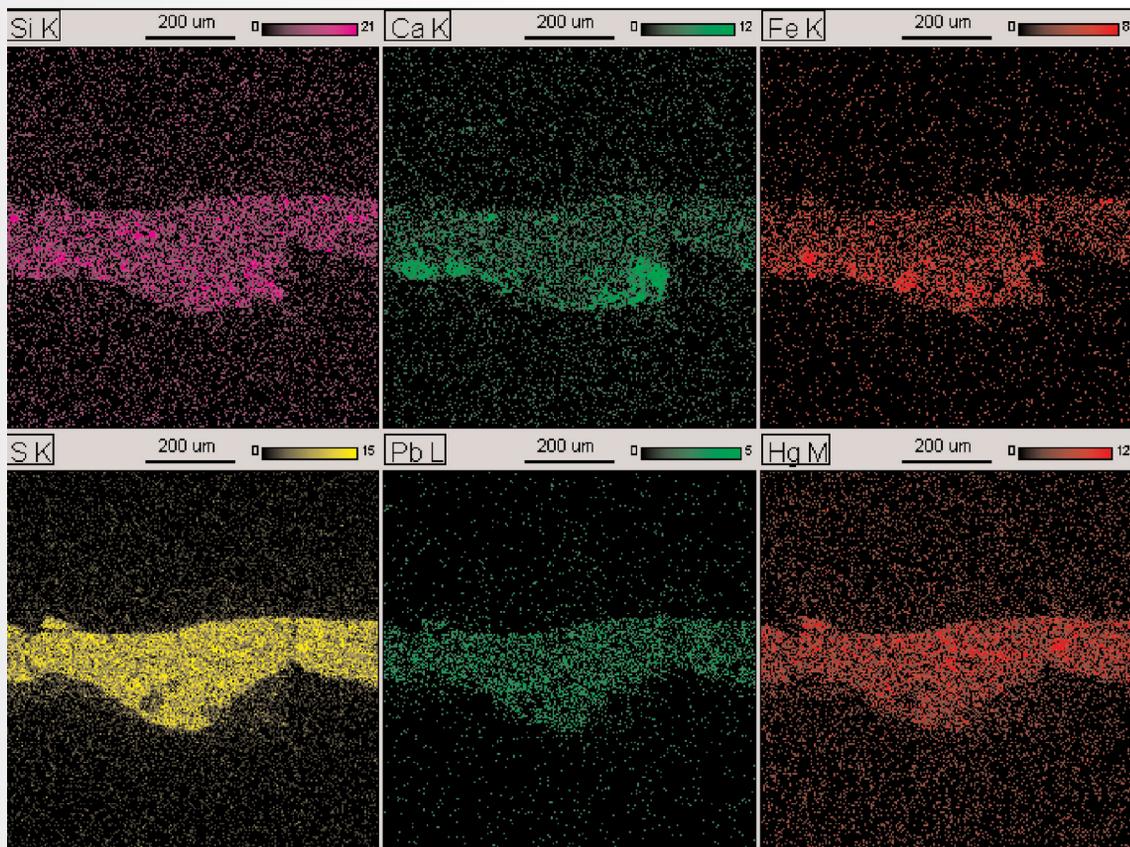


fig.6 Spectral image of element distribution in the cross section of the pink paint of the face (detail of figure 4).
 Si, Fe, and Ca refer to iron oxides, calcite and silicate minerals like feldspar in earth pigments in the lower paint layer. Pb refers to the presence of lead white. Hg and S indicate the distribution of vermilion (mercuric sulphide).

where Fabritius probably wiped his brush while constructing the face before adding the final beige background paint. The thick and 'short' paint of the face is at times applied in open scumbles over the ground or dead colour, so that the greyish brown underlayers shimmer through — as seen around the eyes. Rembrandt also often deliberately employed this effect in his paintings. Over these highlights, Fabritius applied on occasion smoother layers and strokes. A translucent, deep red set around the eye sockets, suggests a sense of depth; thin sparkling white highlights indicate moisture under the curvature of the eyeballs. In some areas he used a wet-in-wet technique. Some curls of hair and beard are 'drawn' in wet paint possibly with the back-end of a brush, effectively suggesting unkempt hairs through textural relief.

The character of this painting is further marked by some rather summarily rendered passages, such as stark color contrasts within the flesh color of the face, particularly by the cheek bone, the remarkably flatly-executed hands, and the simple rendition of the sitter's black

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		Fabritius red layer sample 111/10		PDF 42-1408	HgS
I/I*	4 Q	Q	d	I/I	dA
2	49.620	12.405	3.589	5	3.594
90	52.940	13.235	3.367	100	3.361
15	56.080	14.020	3.182	23	3.165
1	59.240	14.810	3.016		
100	62.600	15.650	2.858	93	2.865
1	65.040	16.260	2.753		
7	75.480	18.870	2.384	5	2.375
20	87.100	21.775	2.078	21	2.074
5	89.340	22.335	2.029	6	2.027
30	91.520	22.880	1.983	19	1.981
1	95.300	23.825	1.908	2	1.901
12	103.420	25.855	1.768	13	1.765
25	105.620	26.405	1.733	14	1.735
35	109.060	27.265	1.683	16	1.680
3	116.640	29.160	1.582	4	1.582
2	117.960	29.490	1.566	3	1.563
7	130.240	32.560	1.432	4	1.433
1	133.760	33.440	1.399	1	1.401
15	139.560	34.890	1.348	5	1.345
17	144.980	36.245	1.304	5	1.305
9	151.180	37.795	1.258	3	1.258

Table 1 Diffraction pattern of red particles.

clothes. It is perhaps instructive to try to follow Fabritius' use of heavy-metal containing pigments by looking at the x-rays of his portraits after 1649. Again, due to the small size of Fabritius' extant oeuvre, we are limited to one portrait, another possible *Self-Portrait* dated 1654, the year of his death, now in the collection of the National Gallery, London. An x-radiograph of this painting reveals yet another technique. There is virtually no information found in the area of the head other than a thin line demarcating the bridge of the nose and one at the forehead above the sitter's right eye.¹¹ Looking at the ground, we find a single layer of a light cream colour. This difference is not surprising in light of the fact that Fabritius was now obtaining his prepared canvas in Delft rather than in Amsterdam. Given the even tone and evident canvas weave of the x-radiograph, the ground is probably a heavy-metal containing one (such as lead-white). That he was satisfied with the change in materials is evident from the fact that he himself felt no need to add another coloured ground layer.

Notes

1 Some of his paintings bear the imprint of Rembrandt's style so strongly that they were attributed to Rembrandt. Good examples are a pair of pendant portraits in the collection of the Duke of Westminster, and the portrait of a woman in the Museum of Toronto. These paintings have quite convincingly passed as Rembrandts for a long time and their attribution is still debated. Also his *Self-Portrait* was bought as a Rembrandt for the Boymans van Beuningen Museum in Rotterdam. See W. Sumowski, *Genilde der Rembrandt-Schilder*, vol II, *G. van den Eckhout–I. de Joudreville*, (Landau/Pfalz, 1983), 985; J. Bruyn et al., *A Corpus of Rembrandt Paintings*, vol. 3, (Dordrecht/Boston/London, 1989), 668–673; (*Portrait of a Man*, C106, Duke of Westminster), 674–678 (*Portrait of a Woman*, C107, Duke of Westminster), 716–722; (*Portrait of a seated woman with a handkerchief*, C114, Art Gallery of Ontario, Toronto).

2 Technical data regarding Fabritius-paintings were collected by the Royal Picture Gallery Mauritshuis and the Staatliches Museum in Schwerin in connection with a major exhibition of paintings by Fabritius scheduled in the Mauritshuis (25 September 2004 – 9 January 2005) and Schwerin (28 January – 16 May 2005). Technical data on the

Fabritius pictures are presented in the entries in the exhibition catalogue— F. J. Duparc, G. Saaleg, A. van Suchtelen, *Carel Fabritius (1622–1654)*, forthcoming. In addition J. Wadum and A. van Suchtelen, *Mauritshuis, The Hague*, are preparing an extensive study of Fabritius' technique, which will be presented in a forthcoming publication.

3 The research and restoration of this painting was initiated in the context of the Fabritius-exhibition in the Mauritshuis and Schwerin (see note 2). The author enjoyed the hospitality of the Conservation Studio of the Mauritshuis for this restoration, and wishes to thank Jorgen Wadum and Ariane van Suchtelen for valuable advice and open discussions on Fabritius' technique.

4 The author is indebted to Dr. A. Wallert (Rijksmuseum) for the analyses of the pigments and paint stratigraphy of the Rijksmuseum's *Portrait of De Potter* by Fabritius, performed in conjunction with the conservation treatment. Observations of cross-sections were made by him under the light microscope, and with polarized light microscopy (PLM), micro-chemical analyses (MCA), x-ray diffraction (XRD) and with the scanning electron microscope, equipped with a facility for energy dispersive spectrometry (SEM-EDS).

Conclusion

A comparison of only the x-radiographs of these pictures reveals a creative spirit using various materials and techniques to achieve three individual portraits. From the methodically constructed painting in Rotterdam with the heavy-metal pigments containing painted sketch upon which the portrait is based, to the heavily applied pink paint seen in the x-radiograph 'mask' in the Amsterdam portrait, to the apparently thin construction (at least not using heavy-metal containing paint) of the London portrait, we clearly see three different methods. Significant changes in Fabritius' portrait technique, in a short period of no more than 10 years in three locations, from a single-ground panel built up in a dark Rembrandtesque palette, via a double-ground canvas followed by a lighter palette, to a single-ground canvas succeeded by even lighter paint, may reflect a change in taste and hence style. The single constant in all three pictures is the three-dimensional aspect of the rich, short oil paint itself — the textural quality that the artist quite obviously delighted in exploiting.

PLM was carried out with a Leitz Orthoplan microscope (objective magnifications: 20x, 40x, 100x and 100x oil immersion). MCA was done with the use of several wet chemical tests as described in C.J. van Nieuwenburg and J.W.L. van Ligen, *Chemische Microanalyse*, Hilversum, 1961. XRD analyses were done with 57.3 mm Gandolfi cameras with CuK_α radiation. The voltage was always set at 40kV, with the current at 30mA. Exposure times varied from 0.50 to 13.0 hours. The SEM/EDS analyses were performed on a JEOL JSM-5900 LV instrument, usually at 10kV, 25kV, with a 39mm working distance. Samples were examined in the low vacuum mode or coated with a thin carbon coating to improve the conductivity of the sample and so prevent the accumulation of charge. EDS analyses were performed at various points throughout the cross-sections by measuring the emitted X-rays with a Noran Vantage EDS-system with Pioneer Norvar detector.

5 Though a varnish removal can restore a much more accurate appearance of the original brushwork and coloration of a painting, the alterations due to particular restoration treatments in addition to the natural aging of the paint itself make a complete return to the original intention of the artist impossible.

6 Dating of the painting has been primarily based on judgments of the sitter's appearance. The panel in the Museum Boymans van Beuningen, Rotterdam measuring 65 x 49 cm, is signed: *fabritius f.* On the basis of its Rembrandtesque chiaroscuro this painting has often been dated around 1645. Comparison with the facial features of the *Self-Portrait* in the London National Gallery dated 1654, however, would suggest a closer date.

7 Ch. Brown, *Carel Fabritius. Complete Edition with a Catalogue Raisonné*, (Oxford, 1981), 43.

8 Issues on the technique of the Rotterdam painting were clarified in a discussion with the restorer who treated the picture, A.M. Roorda Boersma-Pappenheim.

9 A thin chalk ground was identified in March 1993 by C.M. Groen (Netherlands Institute for Cultural Heritage, Amsterdam) in a paint cross-section.

10 It is possible that this build-up is more similar than can be seen using x-radiography due to a choice of non-metal containing pigments for the Rotterdam portrait.

11 The author is much obliged to Larry Keith, Painting Conservator, National Gallery, London, for his observations regarding the x-radiograph of the Fabritius *Self-Portrait* in the National Gallery.