

Milano, 23/02/2011

Nr. 2AN-7751

**Results of scientific studies on the
portrait of a girl, oil on canvas (46 x 33 cm)**



At the paintings for compatibility comparison between the age of materials used and the corresponding period in which these Materials were applied by means of scientific studies spectroscopic dating, microscopic IR reflectography, Wood's Light and FT-IR spectroscopy.

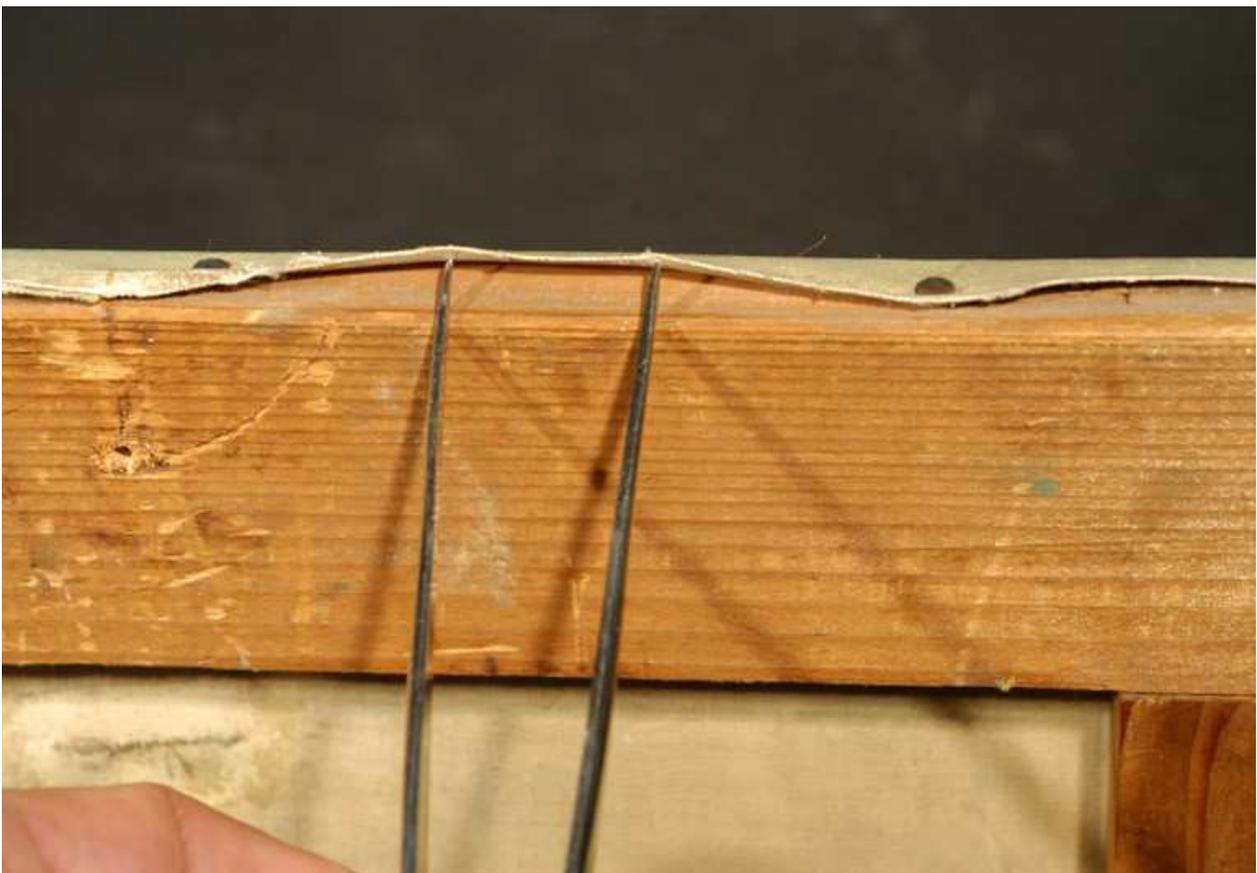
The customer keeps the painting for a work from the time of Painter Pierre-August Renoir.

Preamble:

The painting is generally very good - except for three small, two centimeters long cracks at the bangs near the right shoulder and in the cord at the chair, which were partially restored. Moreover, small restoration along the outer edges are visible.

At a precise preliminary could find that it is the present clamping frame is the original. The holes in the clamping frame and the canvas are exactly the same. (Photo # 2)

Additional facilities at the front of the image parallel cracks, that exactly match the inner edge of the clamping frame, an effect that results from a long succession of chairs and canvas stretcher.



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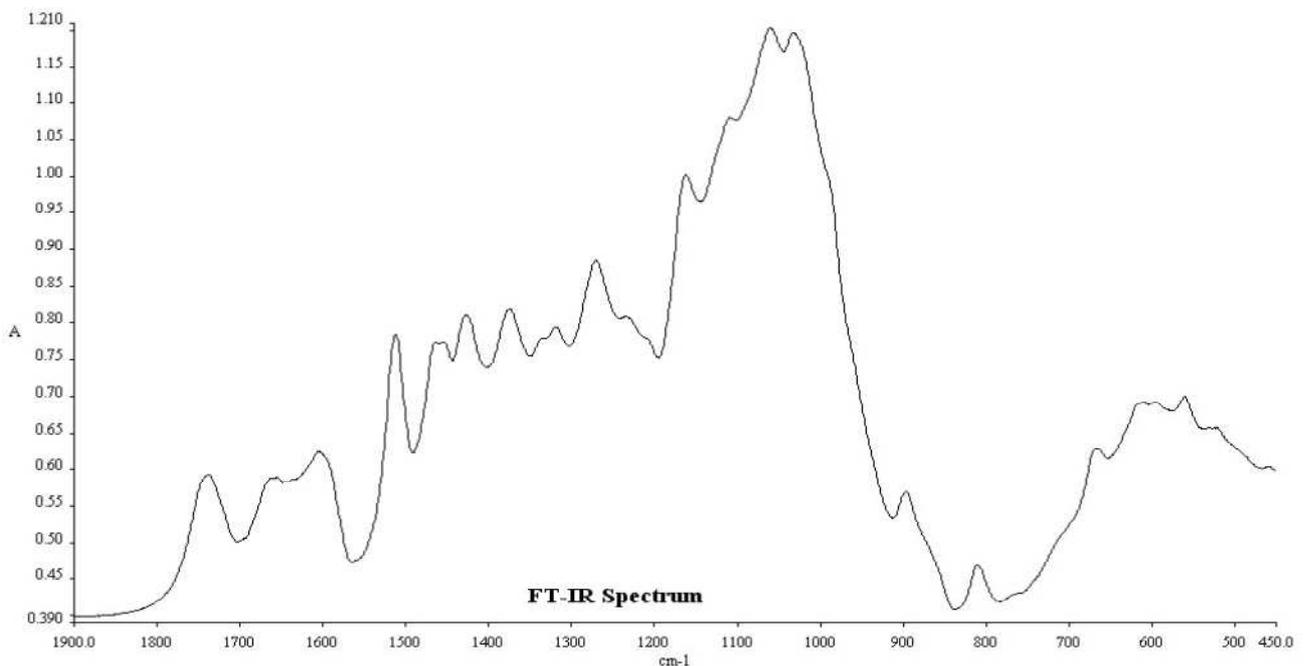
Dating of the wood:

Based on the results, that it is the original stretcher and is doing so you can close back to the dating of the screen, you went to the scientific dating of wood by analysis of samples taken from two side strips over (photo # 3). Spectroscopic dating shows the following results:

Species = conifer

age of the wood = 115 (+ / - 20 years)

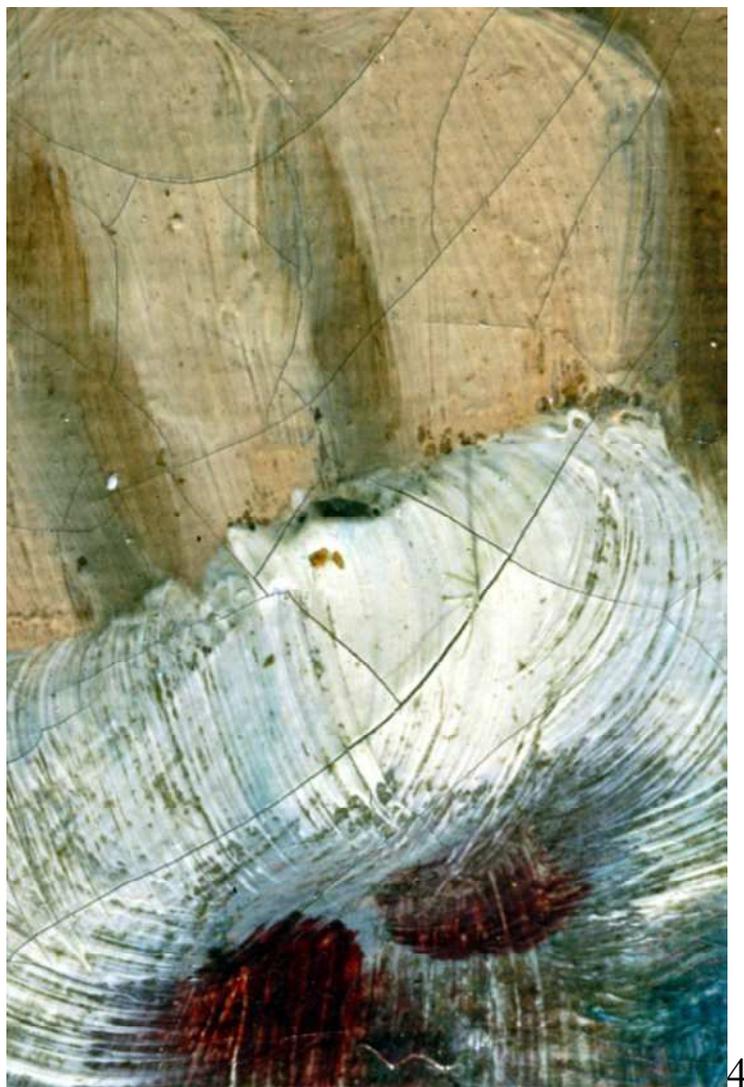
(Spectrum as an attachment)



The investigation of the paint layer (including a stereo microscope) led to the determination of the following characteristics:

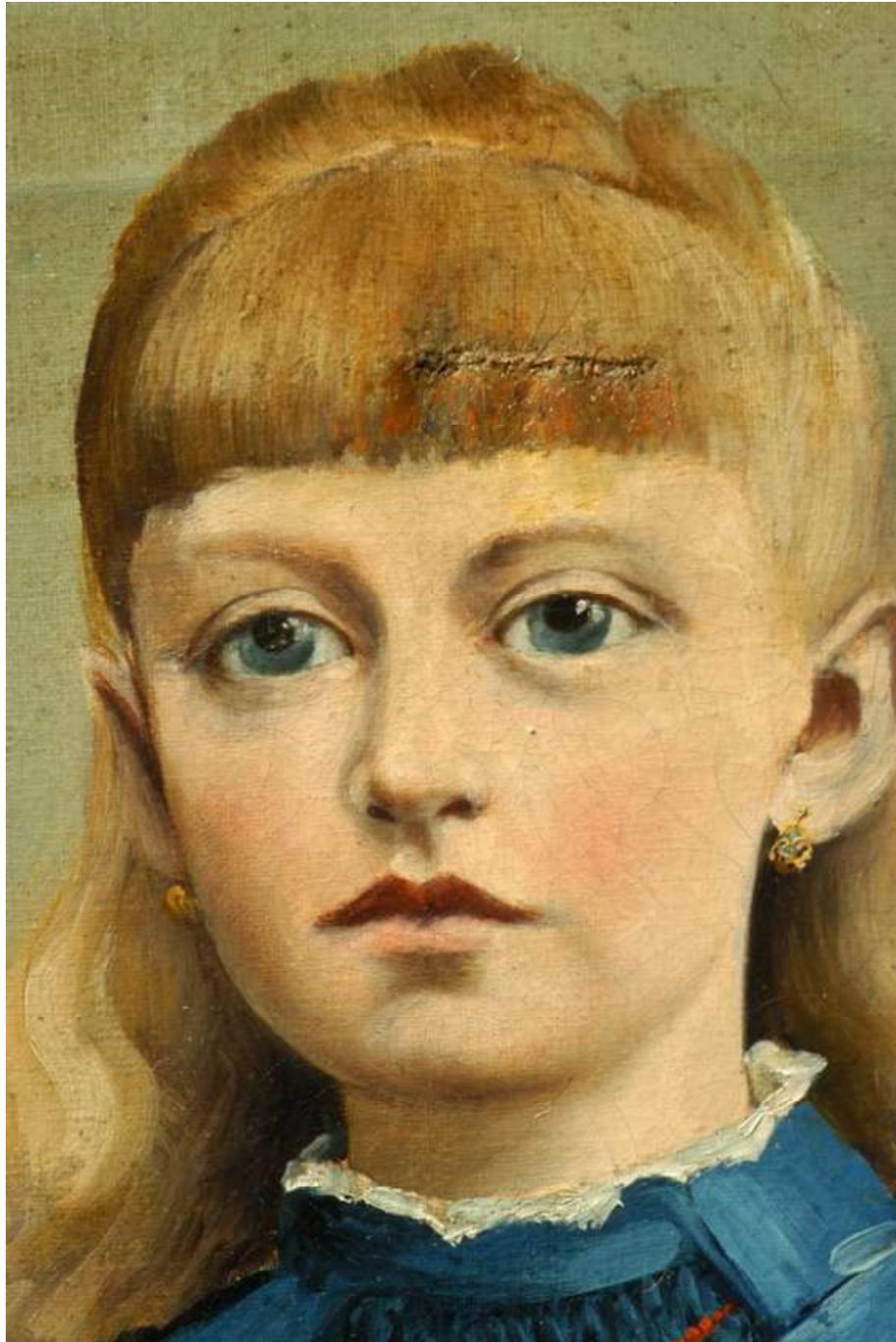
Hardening of the paint layer as a result of dehydration of the paint binder. With short piercing, with a needle tip, the color layer tends to crack rather than to deform.

A deep and branched Crackle has formed consistent in many areas of the image: It varies according to the variety of colors and will appear in the brighter areas at their highest since these by the lower concentration of binder have less elasticity and tend therefore more likely to crack to deform when. (Macro Photo No.4).



The above properties are typical of an authentic crackle, which has formed over the years.

For a closer look and a possible depression in terms of style, we add three detail shots that show characteristic elements of technique and style. (Photo No. 5, 6 and 7): the face, the right eye and hands.





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Examination with Wood's light

By the overall analysis of the painting with Wood's light recent restorations have come to light that appear as dark spots. This occurs in particular on the forehead, on the right shoulder, the upper part of the cord node and along the outer edges of the image.

(Photo No.8 was prepared with the help of special filters and digitally remastered)



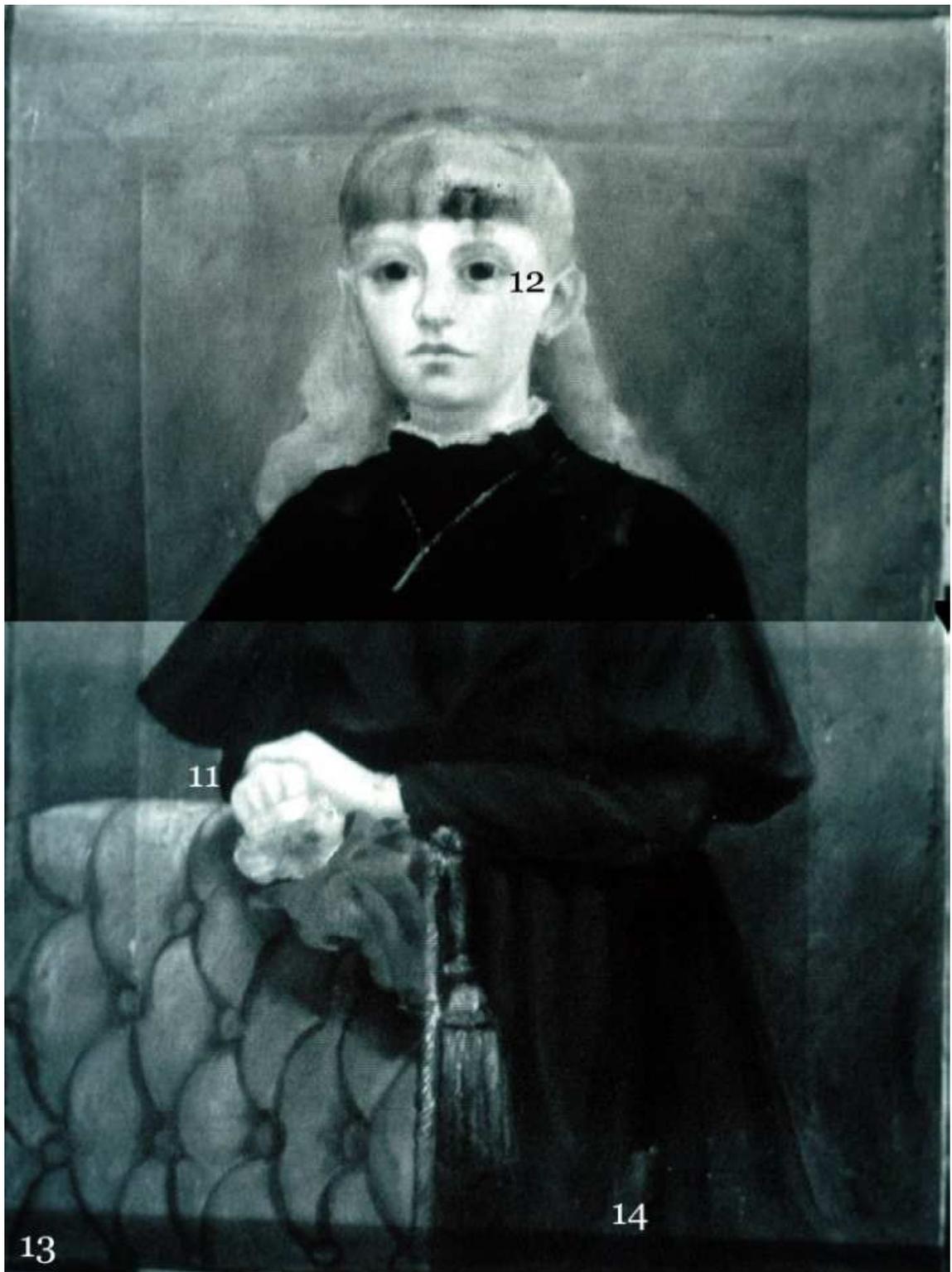
8

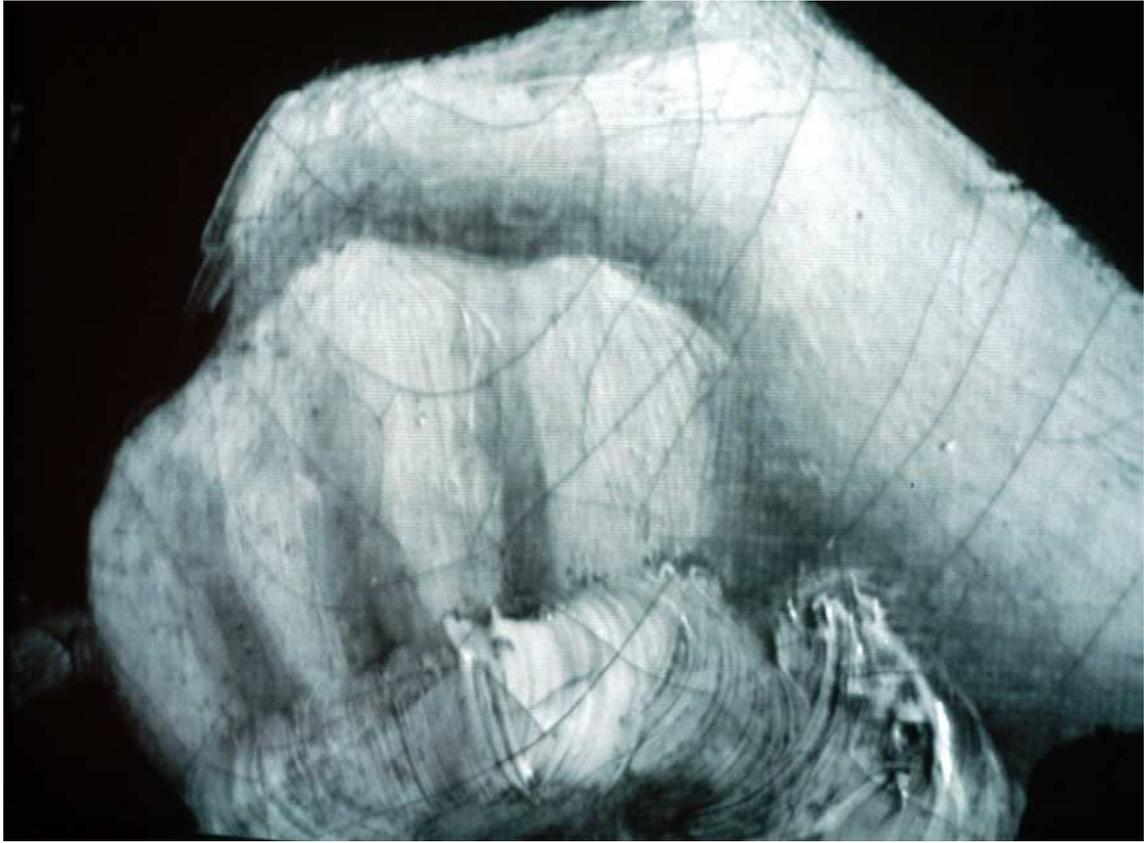
When looking at the back of the painting came to light something interesting: One can clearly see a sketch of the portrait. Presumably it is this to be a draft.

Thanks to digital lighting and revision with Wood's light the drawing was made visible. (Photo No. 9)

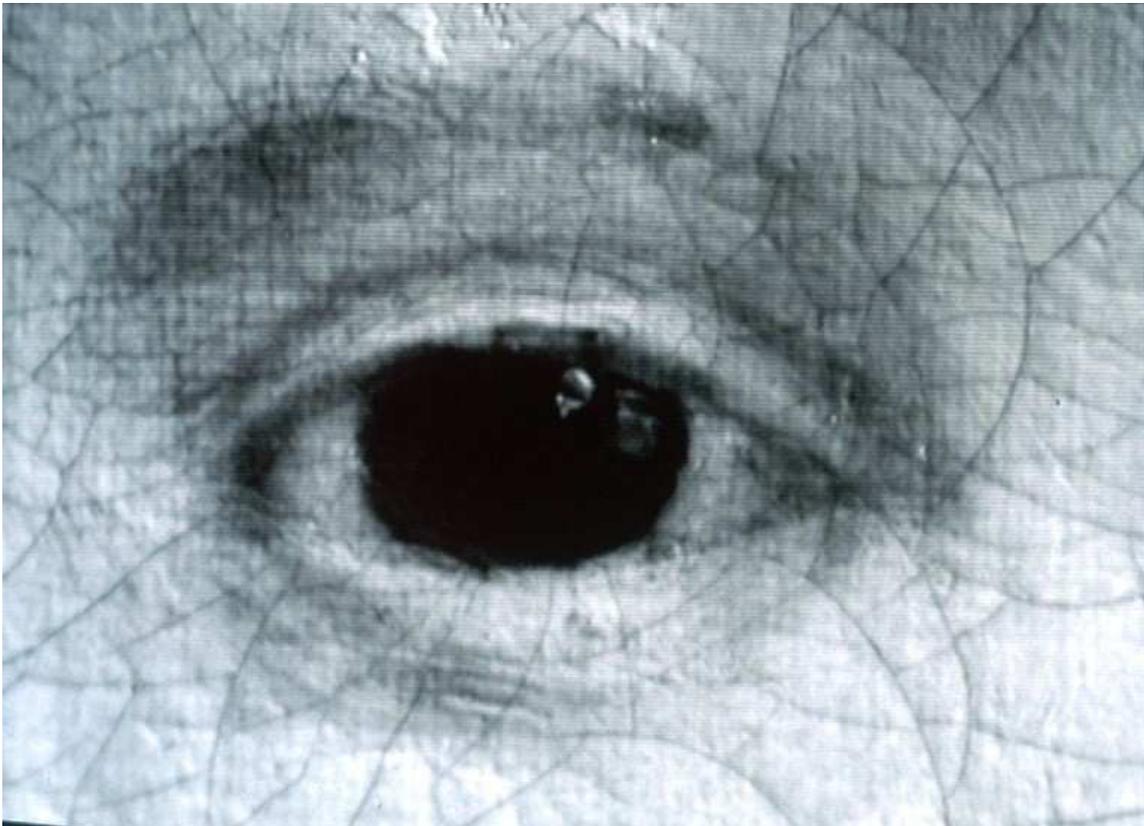


Furthermore, an IR reflectography analysis was carried out, of which we enclose some photos: Photo from No.10 overall picture, photo number 11 and 12 with details of the hands and the left eye. Photo No.13 shows the bottom right corner, No.14 lower center of the image (about 3 cm from the bottom and 11 cm from the left side).

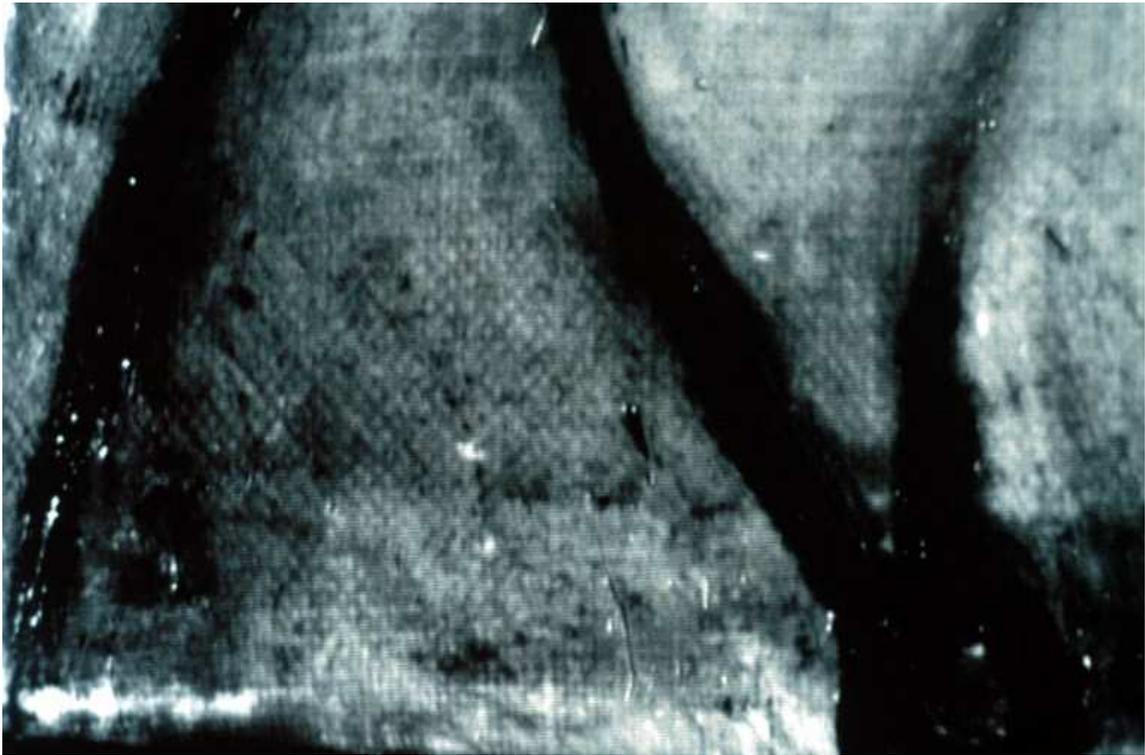




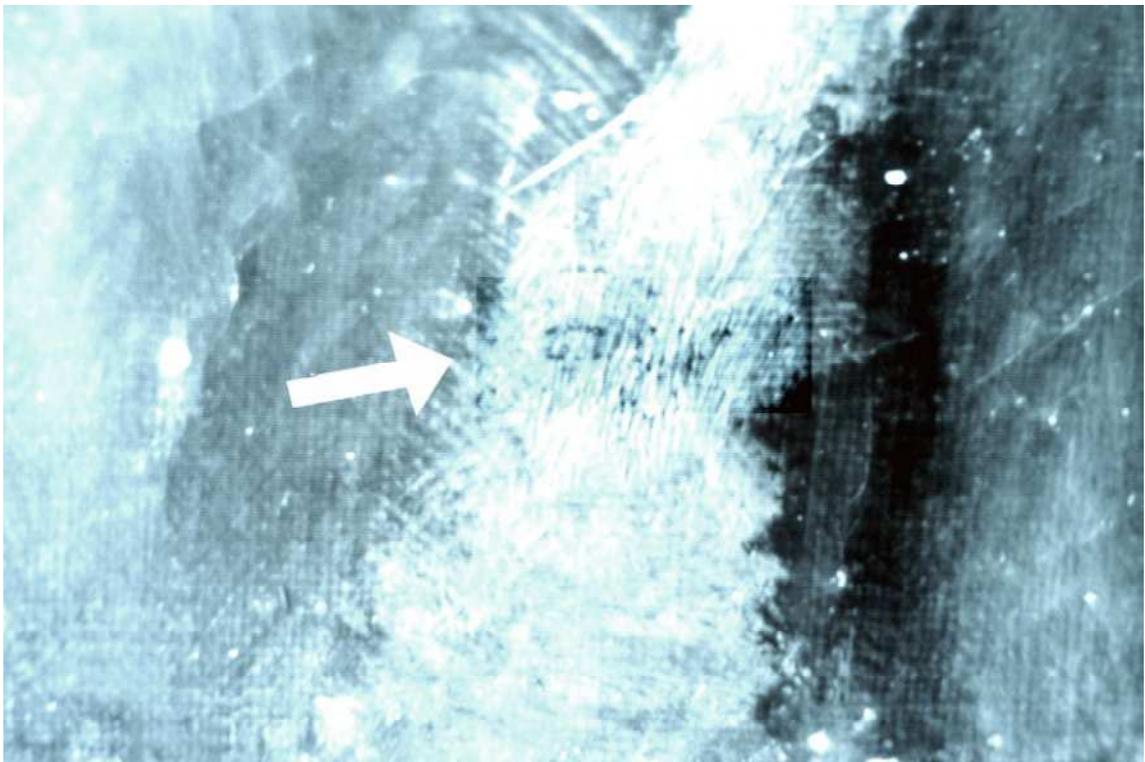
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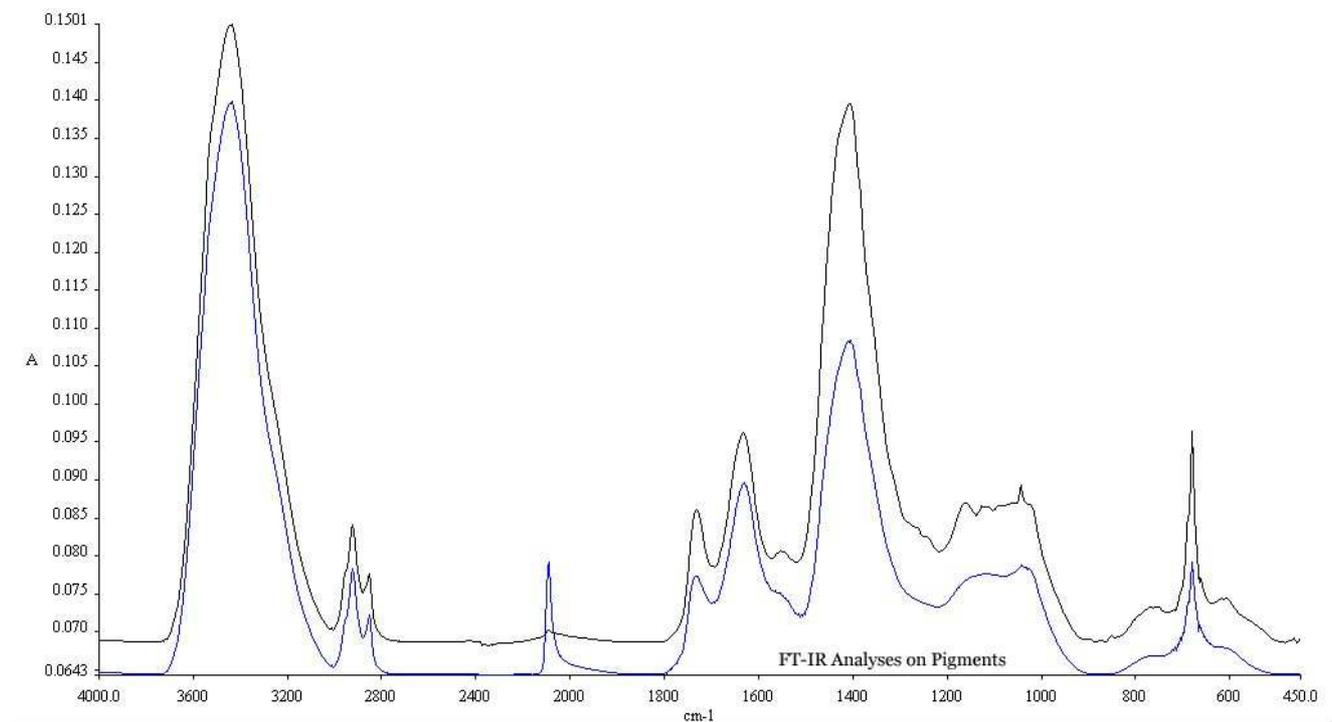
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For determining the pigment composition FT-IR spectroscopic analysis of the different colors have been carried out at several points.

In particular, the white spot on the top of the chair and the blue was examined on the left sleeve, (places where no restoration work had been carried out).

The investigation revealed that the white of white lead, and zinc white called, exists (it does **not Titanium White** was found that indeed only from 1920 found in the painting use), while the blue, Prussian blue contains' (see attached spectrum).

Furthermore, you could a small amount of paint binder (peak at 1735 cm⁻¹) to determine what is confirmed by an advanced dehydration of the oil.



final results

The above considerations and the results of scientific analyzes suggest a natural aging process of the painting: drying and hardening of the paint, evident crackings, reprint of the original stretcher frame along the edges of the images, single color touch-up.

The most pigment performed FT-IR spectroscopy shows a locally advanced drying the ink binder.

Listed considerations suggest that the age of the image corresponding to the wooden frame, which is obtained by the spectroscopic wood dating to 115 years (+ / - 20) is estimated.

The execution of the image that is the period between the end of the 19th Century and the early 20th Century associate.