

# Laboratorio Scientifico del MUSEO D'ARTE E SCIENZA

di Gottfried Matthaes



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Nr. 2AN-7752

## **Results of scientific studies on the present painting, oil on canvas (65 x 49 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.**

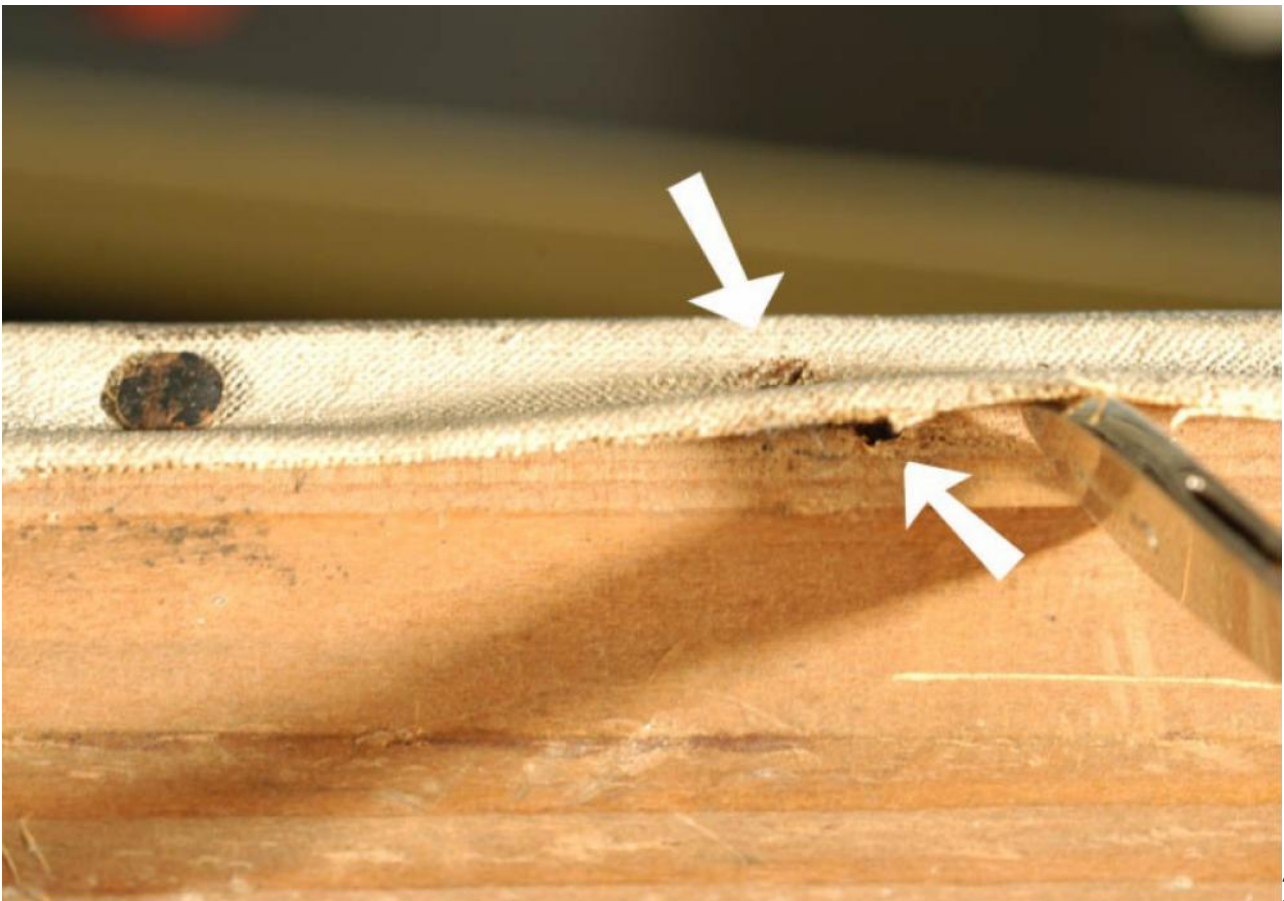
**The customer keeps the painting for a work from the time of Painter Pierre-August Renoir.**

## Preamble:

One can say that the painting is in good condition. It can be noted no major damage or restorations.

The canvas is stretched very tightly onto the clamping frame. It is very likely that it has been stretched a second time and is secured thereon, as can be seen in many places in the screen holes, which - corresponding to that of the wooden stretcher frame - shifted slightly.

(Photo No. 2)



Since it was probably because of the clamping frame that which has been created at the same time with the screen, it is important to date this. One could then draw conclusions on the age of the painting.

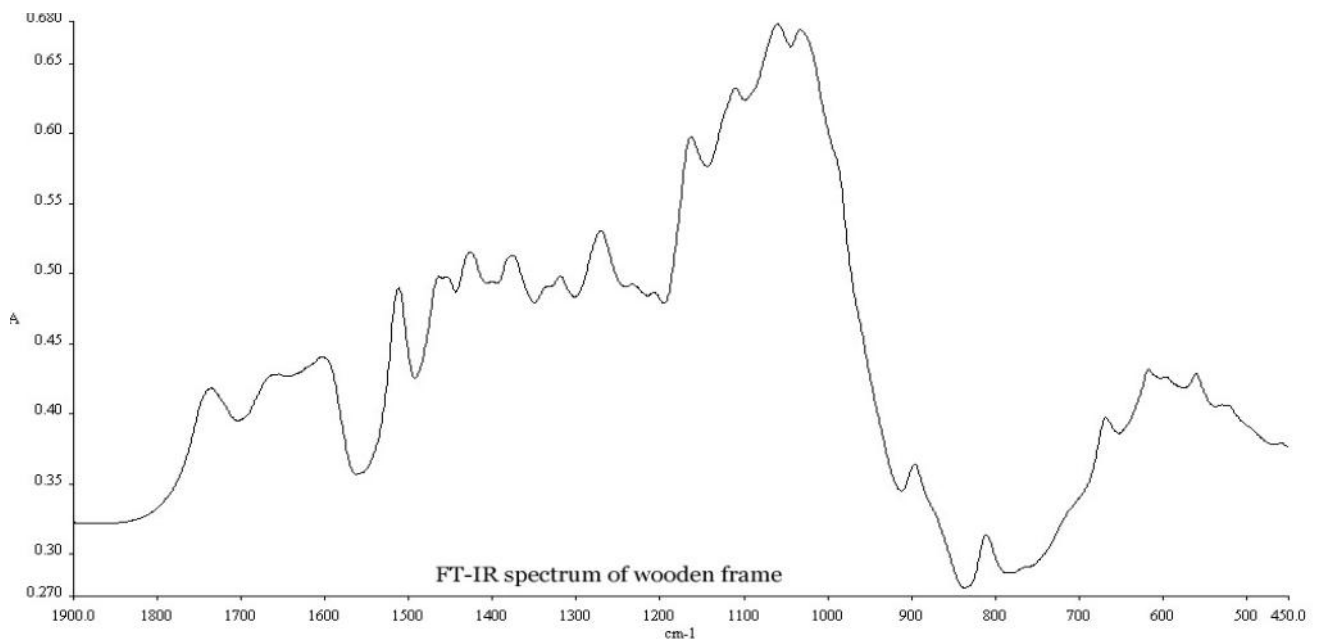
## Dating of the wood:

Based on the results, it probably is the original stretcher, have turned to the scientific dating of wood by means of analysis of samples taken from two side strips over (photo No. 3). Spectroscopic dating shows the following results:

Species = conifer

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

(Spectrum as an attachment)



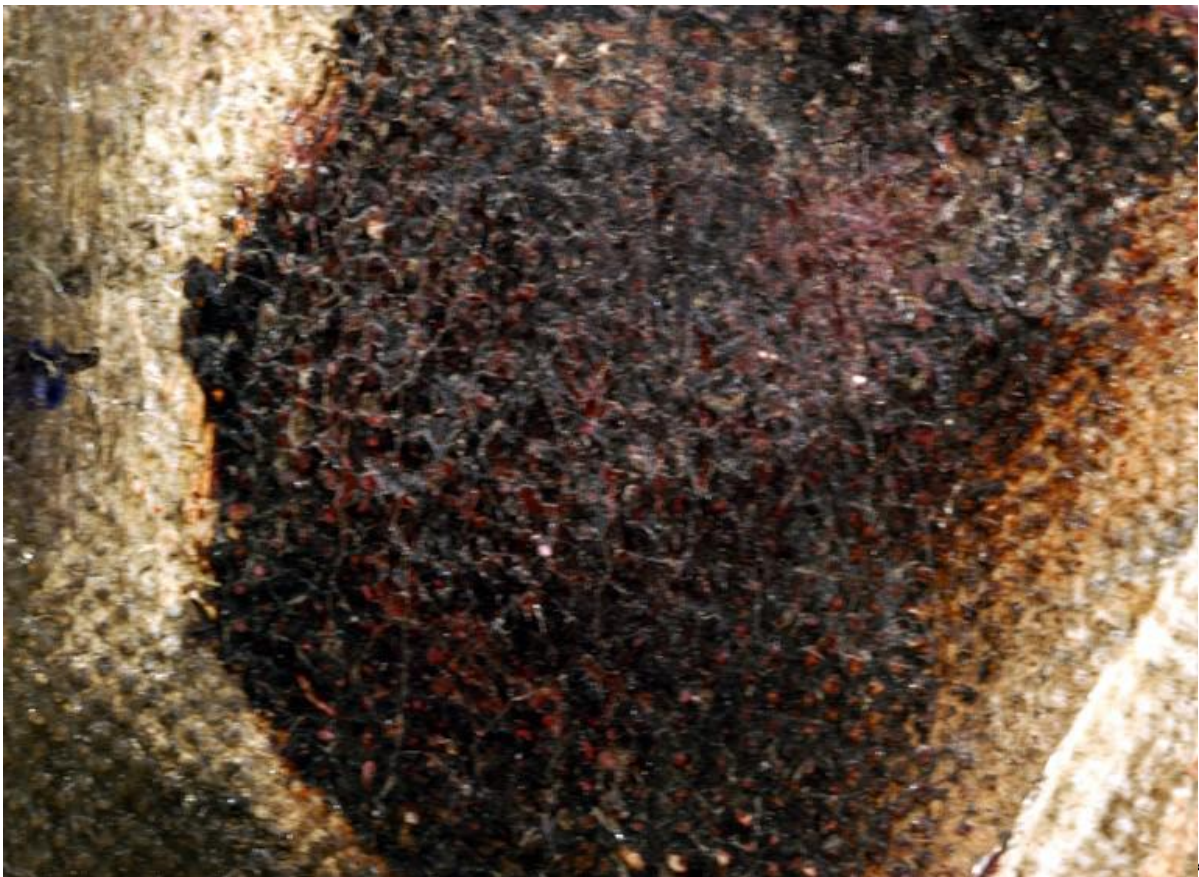


**The investigation of the paint layer (including a stereo microscope) gave the following results:**

The paint layer is hardened as a result of dehydration of the paint binder. In recently pierced with a needle, it tends to crack rather than to deform.

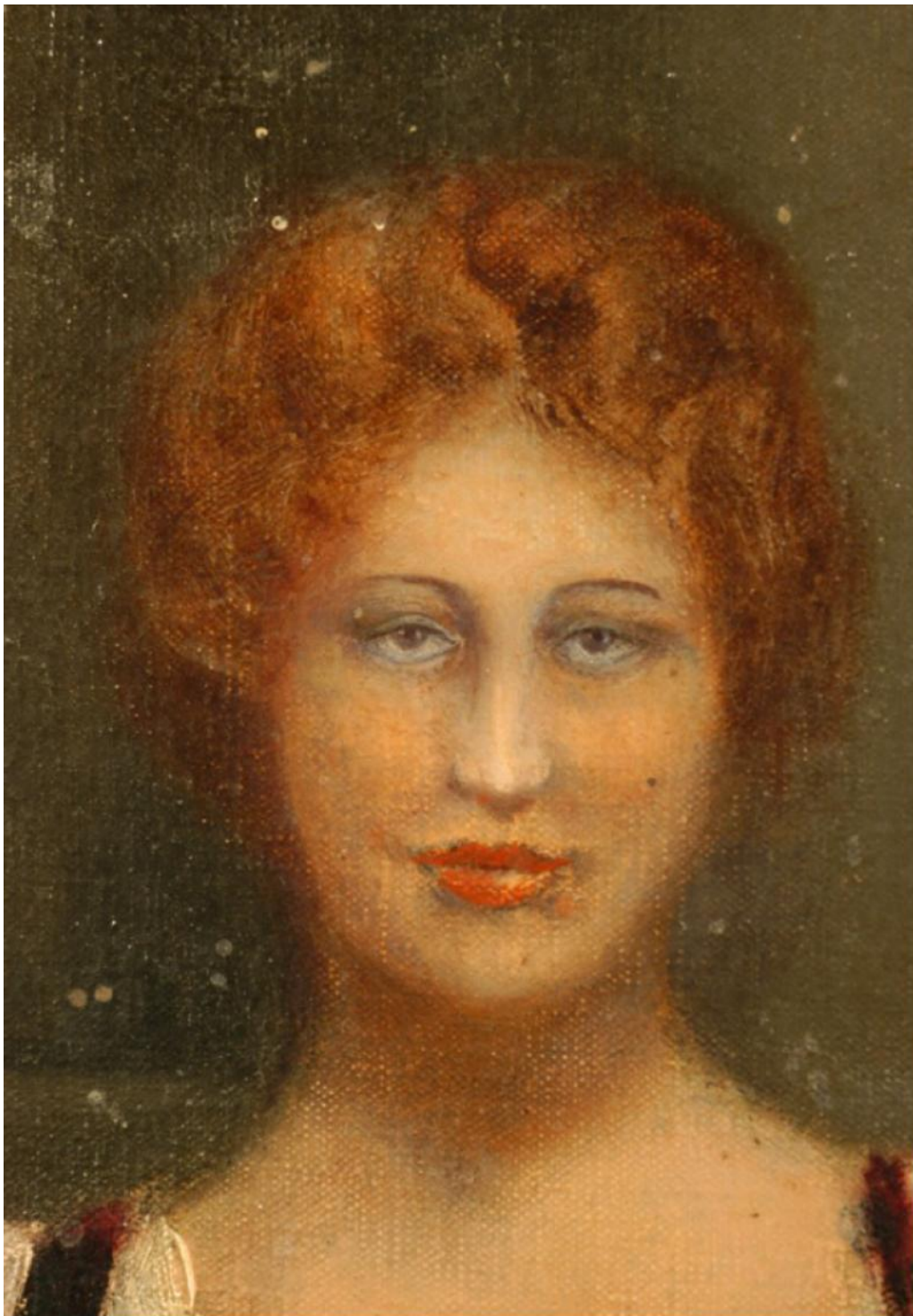
Except for a few areas such as right elbow on the guitar player but has not yet developed crackle. (Photo No.4)

Through the tight tensioning the canvas is exposed to fewer movements, which could certainly be a reason for the low crackings.



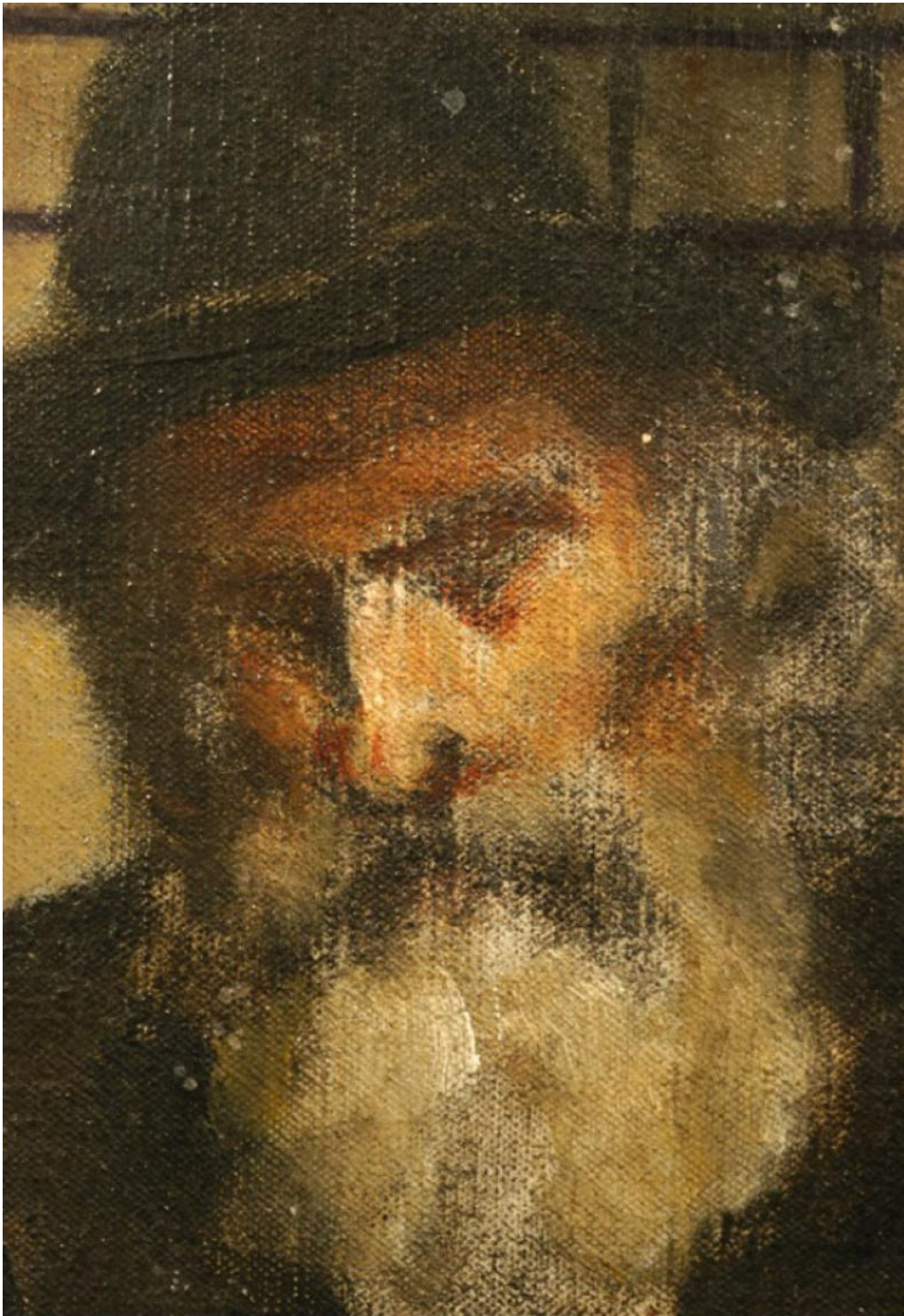
4

For a closer look and a possible depression in terms of style, we attach some pictures, have the characteristic elements of technique and style: the faces of the two people and details of the hands - both the beggar and the woman. (Photo No.5, 6, 7 and 8)



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6

When comparing the two faces stand out certain differences in the materials used and in the staining technique.





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8



## Examination with Wood's light

The in-depth observation of the image with Wood's light recent restorations have come to light that appear as dark spots. They are particularly at the right edge and the lower portion of the image visible.

On the latter two photos No.10 and 11 other restorations and interventions are identified.

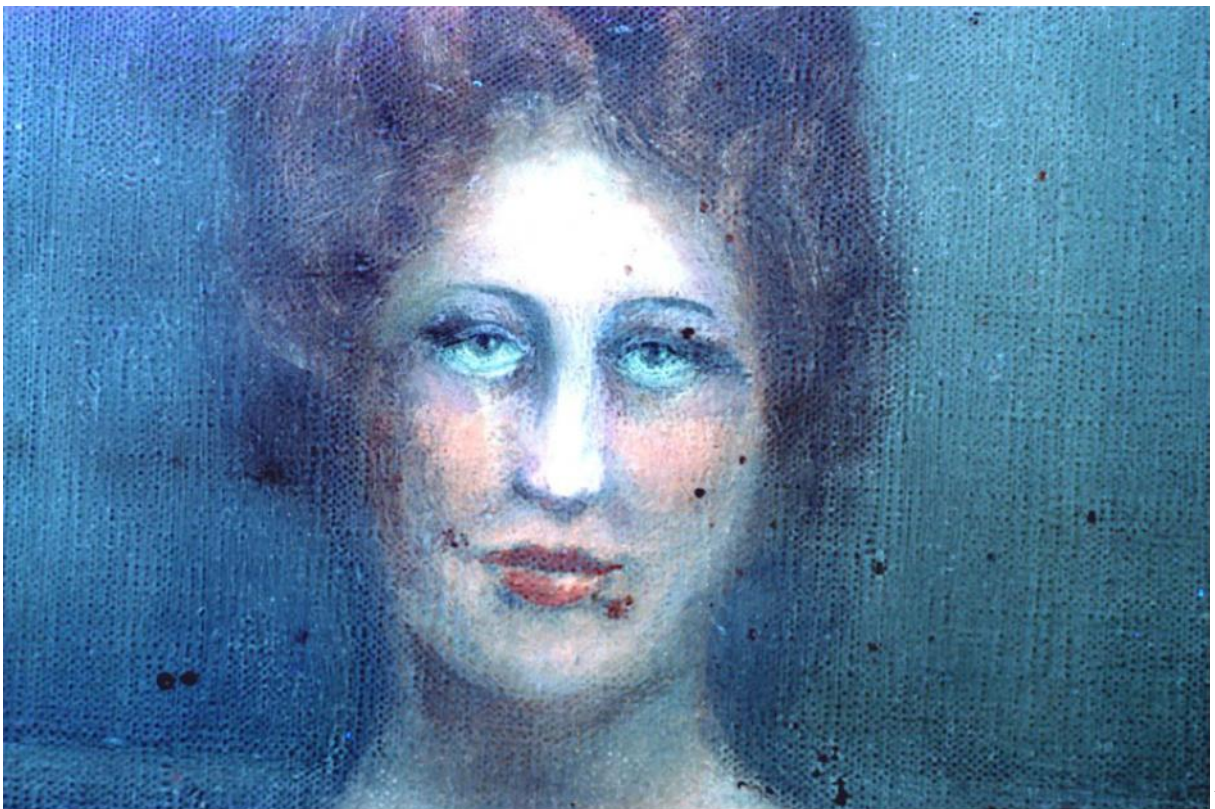
(The photographs were made with the help of special filters and digitally remastered)







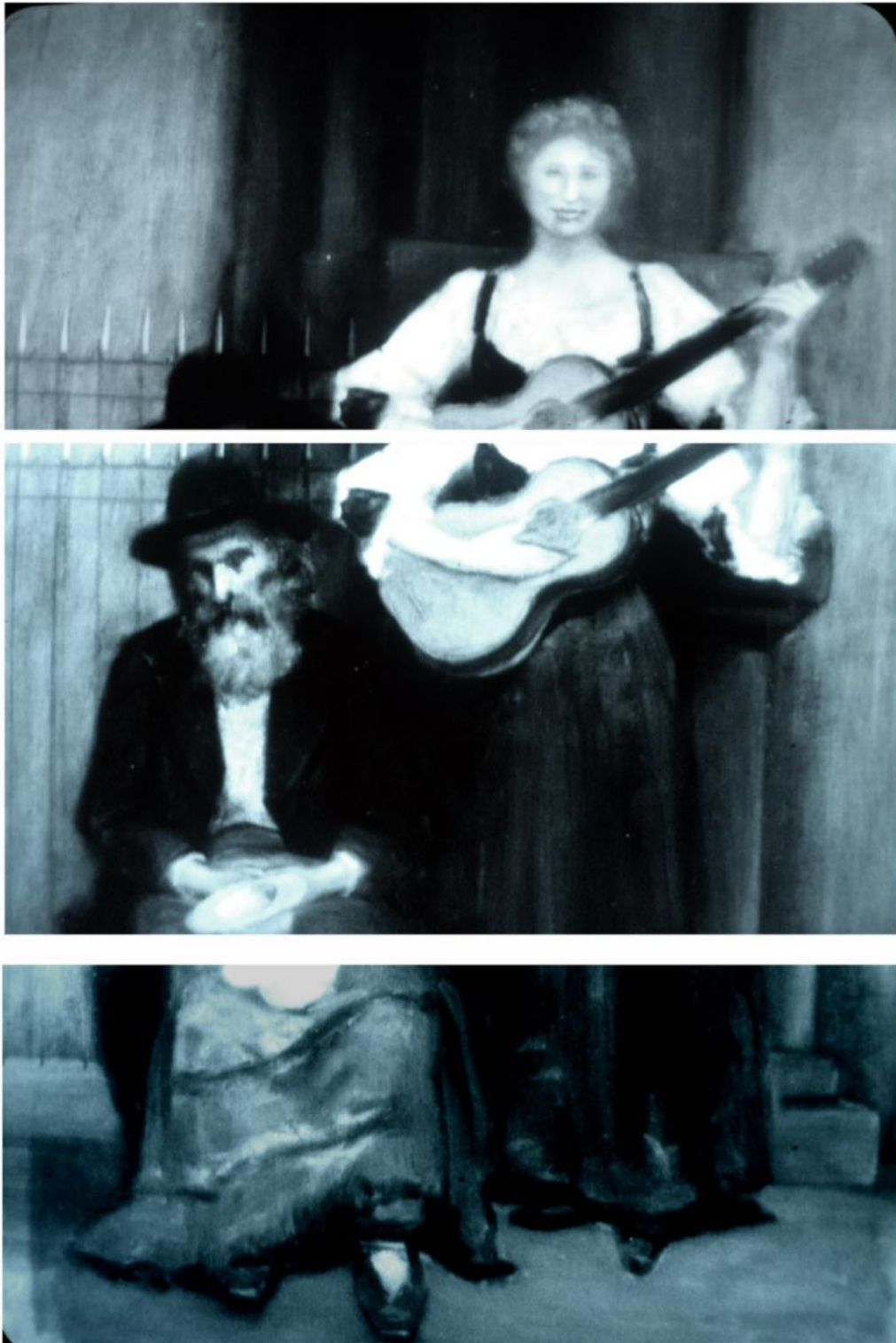
10



11

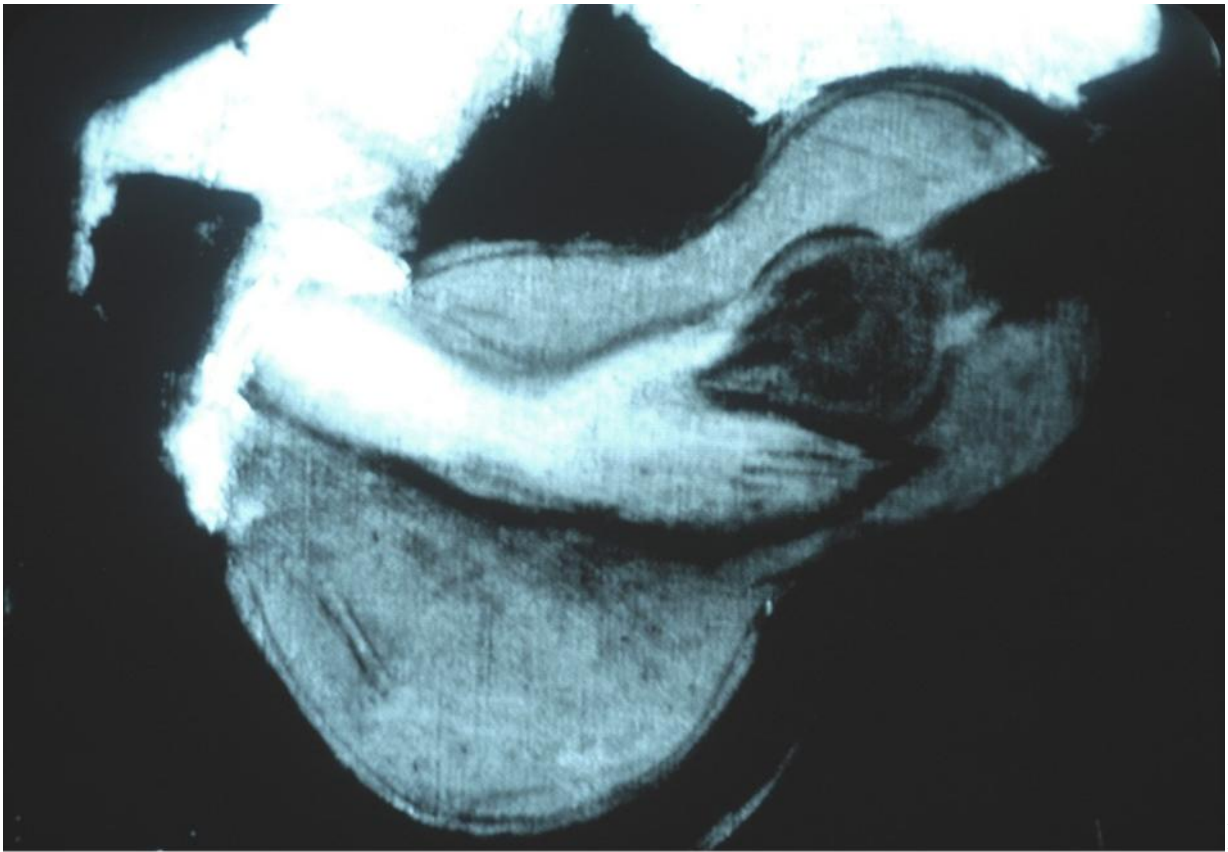


**The IR reflectography analysis** makes a few strokes of an underlying drawing clear at the guitar and the hand of the girl. (Photo No.12 whole picture, photos No.13, 14, and 15 different details).

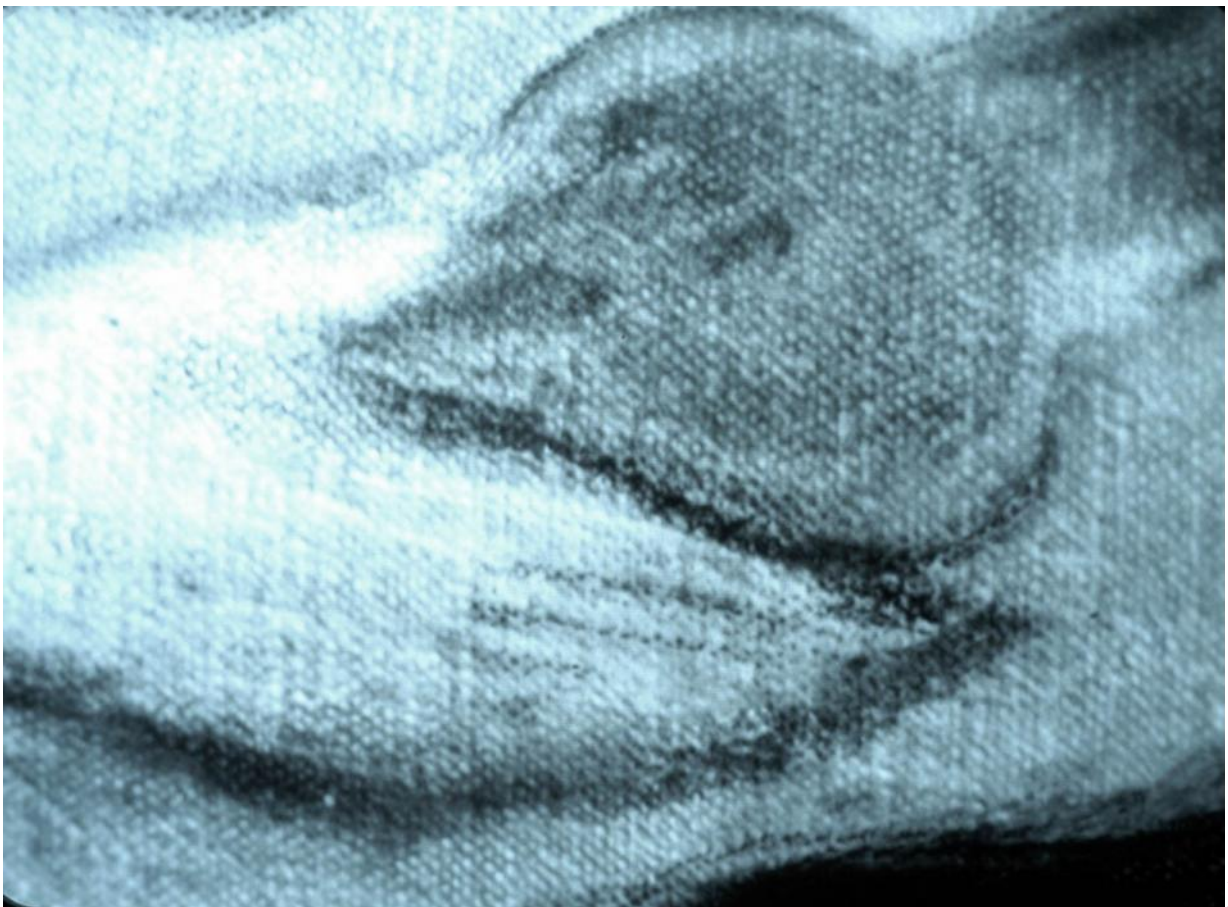


12





13



14



15



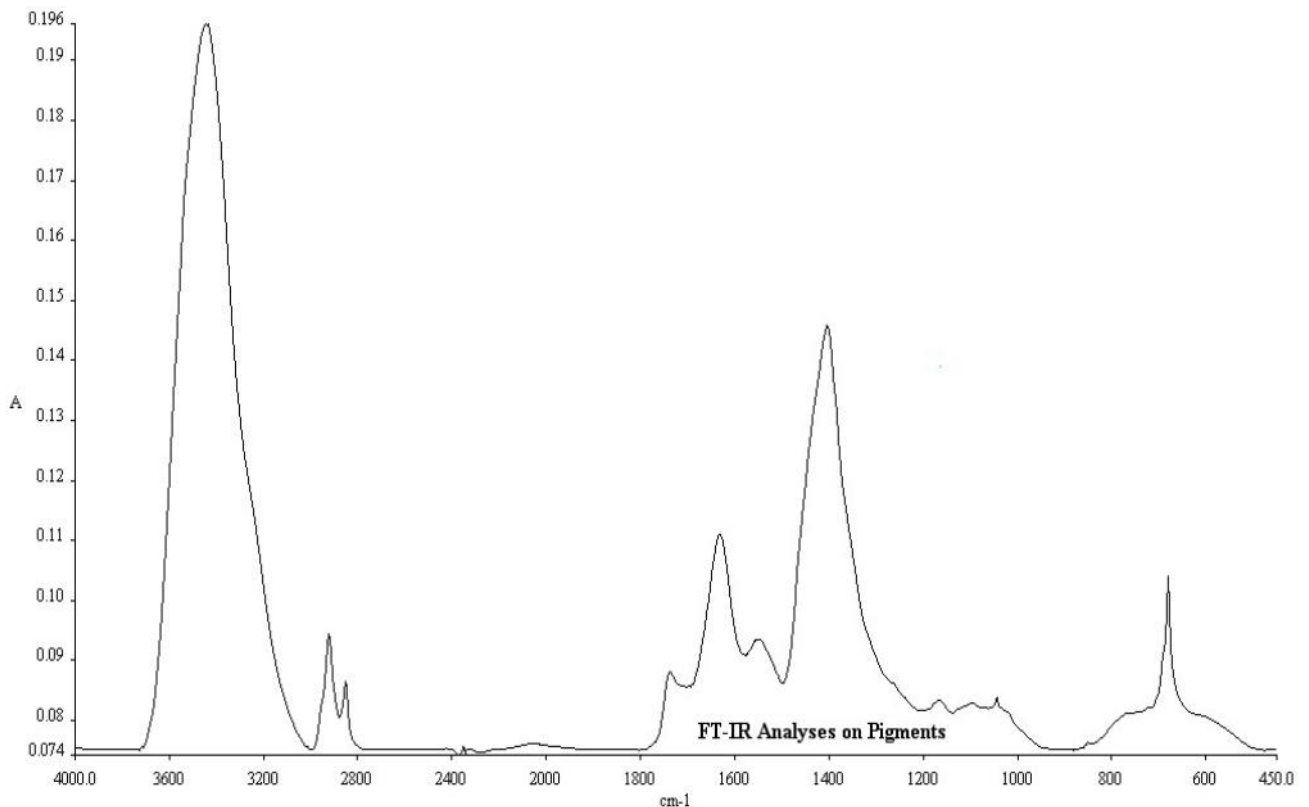
**For determining the pigment composition in several places FT-IR spectroscopic analysis of the different colors have been performed.**

In particular, the white was investigated by the left sleeve of the girl - a place where no restoration was carried out.

The investigation revealed that the White consists of white lead - also known as zinc white. (See: attached spectrum)

No Titanium White was found that only in 1920 will use in painting.

When the same analysis could be a small percentage of color binder (peak at 1735 cm<sup>-1</sup>) 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.

In particular a discrete drying the ink binder, with the result of the color and the presence of some color hardening revisions was detected.

The most tightly stretched canvas is obviously the main reason for the low crackings.

The several places for pigment analysis performed FT-IR spectroscopy shows the drying up of the advanced color binder.

The listed considerations suggest that the age of the image corresponds to the wooden frame, which by the spectroscopic dating of wood at 150 years (+ / - 25) is estimated, and the time of origin of the image to the late 19th Century falls.