

*institut d'art conservation & couleur*

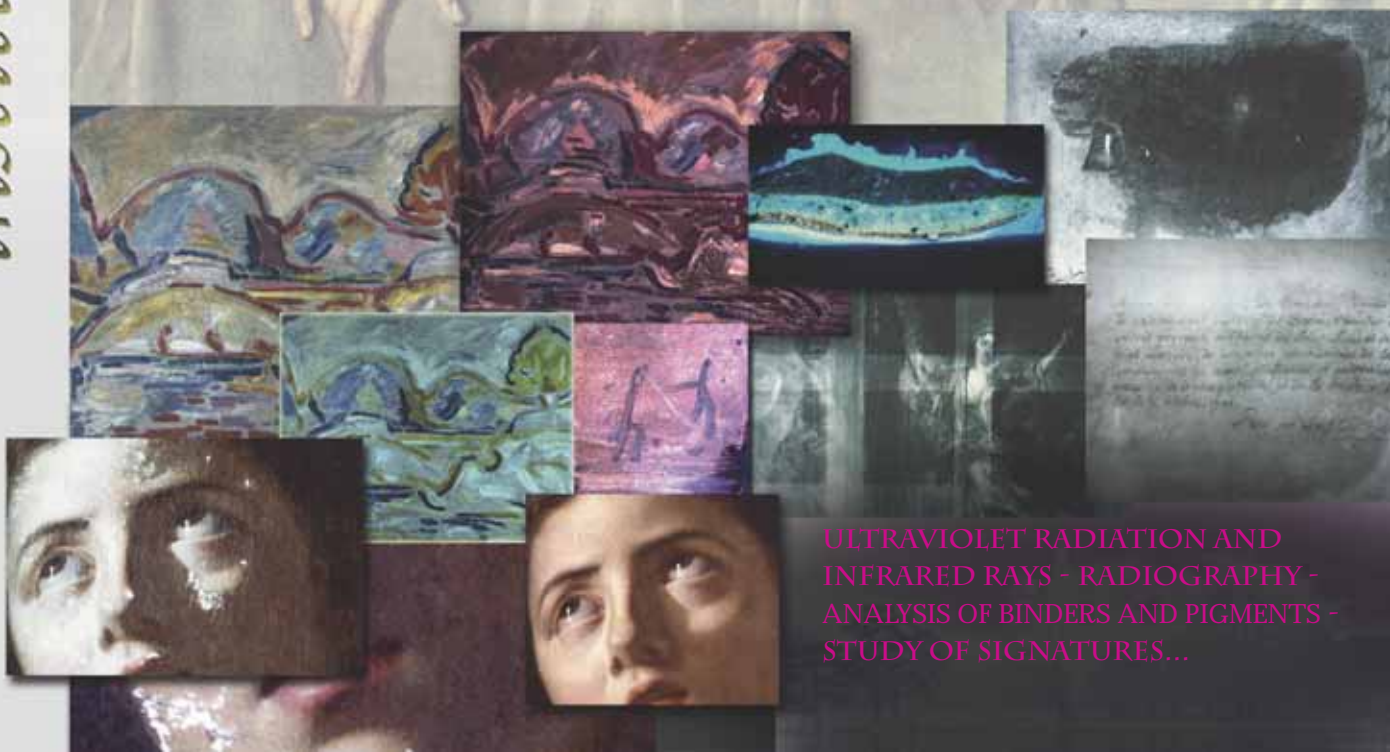
I.A.C.C.

*Institute of Art, Conservation and Colour*

SCIENTIFIC ANALYSES  
OF WORK OF ART

PAINTING  
RESTORATION

SALE  
PAINTINGS



ULTRAVIOLET RADIATION AND  
INFRARED RAYS - RADIOGRAPHY -  
ANALYSIS OF BINDERS AND PIGMENTS -  
STUDY OF SIGNATURES...

I.A.C.C.



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The institute of art, conservation and colour was the first scientific laboratory of work of art in the private field.

Crated in 1979 by Sylvaine BRANS, restorer approved by the Louvre Museum and national museum since 1964, l'IACC developed and set up, with Omer Nessir Brans different kinds of analysis adapted to the field of art, in order to determine the quality of the works and a multitude of information by an approach completely scientific.

This approach is doubled of our expertise in the work of art restoration and by our profound knowledge of painting. These experiments complementary are essential to the good interpretation of the scientific analysis. Any scientific approach without this complementary knowledge would be unthinkable in regard of the complexity of the pictorial work.

The choice of a laboratory of analysis must be made in a very judicious way. Indeed, any wrong interpretation could have serious consequences for the customers and engage their civil responsibility and penal in certain case, which would be too complex and long to explain here. A laboratory that non have a long experiment in restoring and a profound knowledge of the field of art can let the door open to wrong interpretations.

Our aim is to valorise our client's paintings when they present artistic qualities obvious or hidden. Nowadays, we succeeded has to multiply per hundred times the values of paintings which were entrusted to us : Renoir, Monet, Derain, etc... and this, thanks to our various scientific analyses and the quality of our work of restoration.



*"The Removal of the sabines" by David 1799  
Particular collection*

Painting restoration  
on a concrete case



Institute of Art

Conservation and Colour

# Painting Restoration

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Title : Study for the  
painting "*The removal of  
the sabines*"

Author : David

Technique : oil on  
remounted fabric

Dimensions : 55x46 cm







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# Preamble

The restoration is a difficult and noble trade which not does suffer the mediocrity. Problems of the restoration of paintings of art present specific characters, which prohibit the naïve tendency of the layman who believe that it's enough to skilful handle the pallet to remedy the sudden evil by work of art. It's then the disastrous embellishment.

Injure of time is inescapable, but also the scientific progress. The restorer has to make the effort to pass from a style to another as an expert in order to impregnate him. His travel in time allows him to penetrate the spirit of the artist. To make short, to express as a craftsman with knowledge to make doubled with the most pointed scientific knowledge, it's to be ready to produce remedy with the maximum of safety and effectiveness.

Restoration is, in much of case, indispensable in order to establish a dialogue enter the painting and its admirer. Currently, a good restoration is supported with a scientific documentation inevitable. The character of the painting does not have to be faded on his repairing.

We should not make too much nor interpret the essence. The rigour, the technical control and respect must be part of a responsible restoration.

Our specific technique in repainting, which calls the knowledge of laws of additives optical mixtures of coloured lights, offer reversibility, smoothness, lightness, and transparency that support a true safeguard policy.

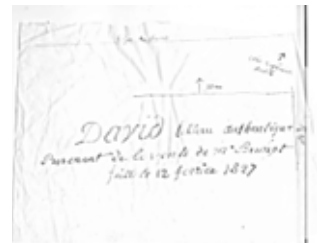
Painting  
restoration



The restoration of paintings

# History

*"The girls of the Marquis of steps, Adèle of Bellegarde, immortalized by David in 1799, in "the removal of the sabines". She had posed for l'Hersilie, her deployed black hair, her breast spouting out of her tunic, showing of her tending arms two small children who play without worrying about the tumult... The junior, big and elegant also by size but fair, delicate and tender seemed to be a picture of the meditative melancholy." There were several studies whose first draft of the paintings in the cabinet of the drawings of the Louvre, plucks and pencils.*



Back of the fabric

# Report of state

The painting, remounted was at the beginning rectangular. In the second place, it was put in oval then given in rectangular format of dimension slightly higher. The varnish is thick and yellow.

The painting has important repainting distributed everywhere. The pictorial film particularly suffered, it is worn and juicy, with large mastics. The least touched part seems to be the face. These additions had largely contributed to make lose at this painting its own character and to move away from the quality of a David's painting.





# Radiography

Belong to the owner  
and cannot be diffused,  
among them, the radio

In order to have an idea more precise of the state of the painting, to understand and decide what would be done like intervention and to explain, it was decided to make a radio.

This radio revealed in effect a work empty of its original matter although the face is in relative better state. But this radio especially highlights the quality of the pictorial touch. This is determinant in order to undertake an important restoration. Between the lacunars parte and the originals indices, there are therefore sufficient elements to be connected and allow a meticulous and respectful restoration in order to stay in the attentive limits has not to remake a painting.

## Proposition of intervention

The request of the owners was precise, and the painting such it was, none have no more interest nor pictorial values, also it was important to try, even the impossible.

There were not necessary interventions in the fabric support.

It's thanks to the radio that we could explain to the owner at the same time the state of the work, and the possibilities which offer us to give it again an aspect closer to what the original could be.

That's why we proposed a work in two times :

For the first part, it was necessary to eliminate the yellow varnish, the totality of repainting, mastics and, at this moment to realize how we can approach the must from a work of the XIX<sup>th</sup>.

The second part is the mastics of the accidents, reprises of using, and reconstruction of lacunars zone.





The restoration

of paintings

# Report of intervention

## Test of cleaning

A solvent studied for that case allows removing the first resinous varnish and the superficiality of some repainting.

Painting once stripped of these many additions and covering, presents an original beautiful matter which found a new clarity, a lusted transparency for the face, which is, in better state than the rest as we divined it with the radio.

For the bust, it is different, although conforms to the vision of the radio, we are in presence of a pictorial film very worn, with many lacunars places, but we can find originals pieces which were covered by thick and overflowing repainting and without any perspective.



Accidents in hollows are closed with mastics. They are worked in matter that is to say that we recreate the relief of the pictorial matter which is near to respect and obtain continuity between the mastic and the original film, and that, within overflowing.

That choice is led by the fact that the colour posed only is a coloured tone, and none a thick matter of replacement. This is the matter in relief of the mastic which had this role.

# Before restoration





The restoration

of paintings

# Report of intervention

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continuation

The second part is the longest and the most delicate. The choice of the repainting based on the transparency is obligatory.

The material in the pallet is composed by pure pigments related with resin.

For the painting on the mastics, a first “a plat” is posed, with a pure colour, cold and more or less diluted according to the colour we have to find, but never in thickness ; (not use of black and white on the pallet), we proceed on a superposition of a complementary colour according to the needs in order to reach the desired colour. Mixtures are done on the pallet but only with superposition of pure tons, playing with superposition of pure tons adjusted on the lacuna, which allows an excellent ageing of the repainting.

For the bust and the other derma zone and lacunars, the reconstitution is always made by juxtaposition of pure colour, the play enters the colour and it's complementary, always without using either black or white.

Weaving between the empty zones and the original parts makes it possible to reconstitute values which have disappeared.

The encountered difficulties were the precision, at the same time of the tones which can only be posed in one time, and to respect the gap or the wear in order to avoid the overflow which could give an unfortunate overload.

A light varnished resin was selected in order to balance the glossed final aspect.

# After restoration







Photographs under visible light,  
under monochromatic light of sodium and  
under ultraviolet and fluorescent light





# Scientific Analyses of work of art

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# Preamble

We are delighted to present to you below one aspect of our work in photography and radiography. We have developed the following kinds of analysis to obtain high-quality images which are necessary to improve our understanding of works of art. Each of these kinds of analysis contains unquestionable scientific facts and these different types of analysis prove to complement each other.

We have focused particularly on false colour infrared photographs to compare works of art. This method is extremely powerful and has proved time and again to uncover important points which have helped in the attribution of numerous works of art. A detailed explanation of this method is included in this document.

Amongst other things, these analyses facilitate attempts:

- To understand a work,
- To determine the different stages in its creation,
- To identify the pigments used,
- To uncover invisible components,
- To compare different works of art and to find similarities or differences by looking under the material inside the pictorial layers,
- To draw up scientific records either before undertaking restoration or for a specific study for the purpose of an appraisal, for example,
- To attribute a work of art to an author when a reference work is available for comparison,
- To draw up an identity card for the work.

For the purposes of our investigations, we have a wideband digital camera linked directly to a computer which is in turn linked up to a high definition photo quality printer.

The sources of radiation used for the scientific investigations are as follows:

- Visible radiation photography,
- Ultraviolet radiation photography,
- Infrared radiation photography,
- Radiography (X-ray).

The extent of penetration of the material depends on the wavelength used.

The various scientific photographs possible are as follows :

- Visible colour (for important reference points),
- Visible black and white (for important reference points),
- Infrared reflection (black and white) in two different wavelengths (type 1 : from 800 to 1000 nanometers, type 2 : from 1000 to 1200 nanometers),
- False colour infrared reflection in two different wavelengths (type 1 : from 800 to 1000 nanometers, type 2 : from 1000 to 1200 nanometers),
- Black and white infrared transmission at two different wavelengths (type 1 or 2 as above),
- False colour infrared transmission at two different wavelengths (type 1 or 2),
- Black and white ultraviolet reflection,
- Colour ultraviolet reflection,
- Colour ultraviolet fluorescence,
- Black and white ultraviolet fluorescence,
- Sodium monochromatic light.

These different types of analyses (photographs of the work in its entirety) can be used in conjunction with macro-photography (photograph of one specific detail in the work, a signature for example),

The waiting time, which used to be several days (using photo film) for each photograph, is now only 1 hour, and even less than that in the best of cases.



Scientific

# Photographs in visible light

Whether in black and white or in colour, this is the point of primary observation, the indispensable document for identification purposes. This photograph features in the Condition Report and can be consulted during the restoration process, because it is as valuable a point of reference for the technician as it is for the owner of the work of art. It is essential to be able to compare this photograph with the false colour infrared photographs.



Picture of the painting as it  
appears to the naked eye



Picture of the painting as it appears to the naked eye





Scientific

# Microphotographs

This entails close-up photographs of an enlarged detail which enables us to see the brush marks by separating them out from the dirt collection. It is a more subtle reading of the style of the painting and is therefore an essential point of comparison when studying a painting that needs to be identified. It is also an indispensable stylistic study for the restorer in the course of his work, for mastic modeling processes, or for the reconstruction of a missing piece.

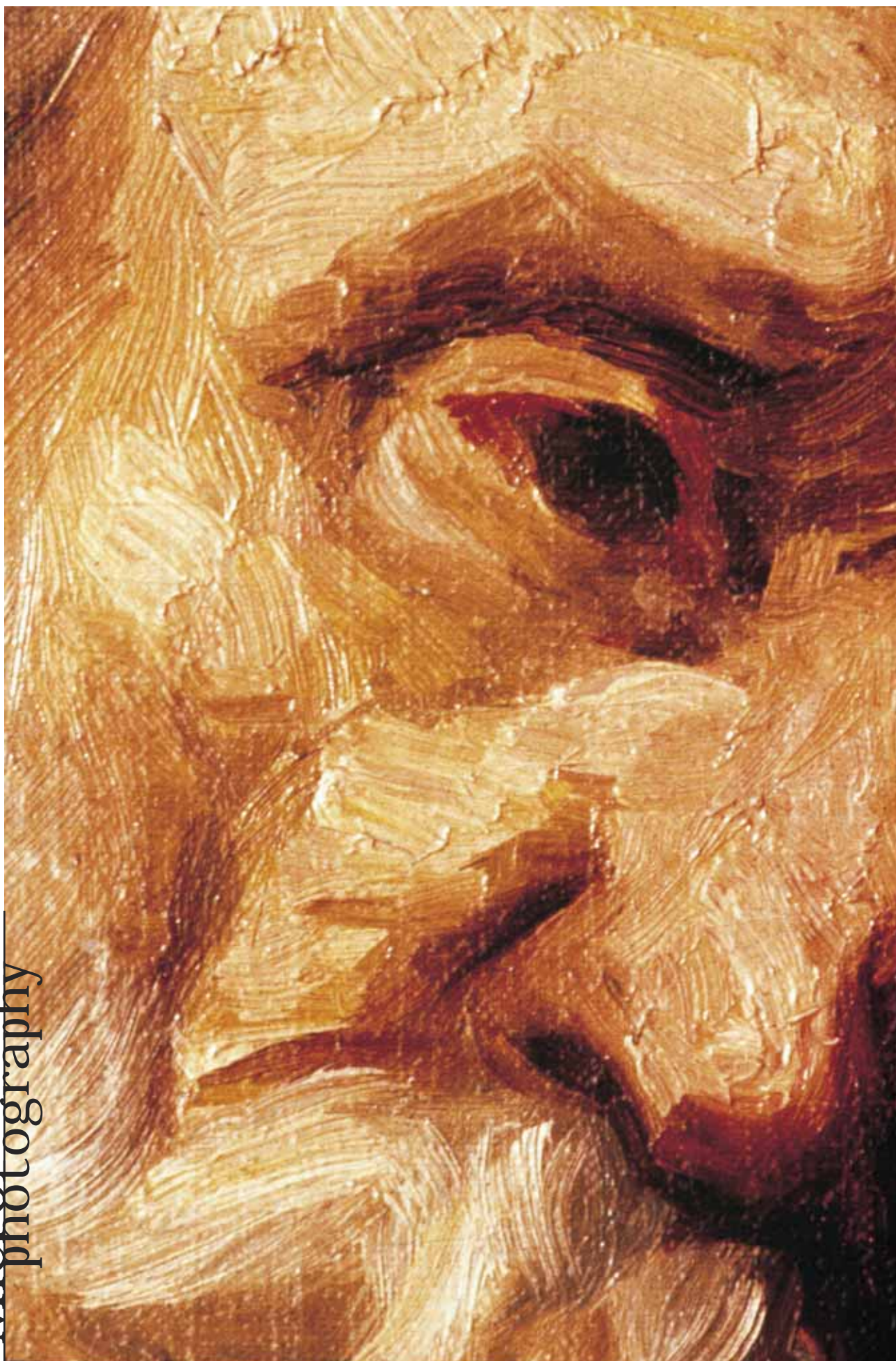
An enlargement allows a better knowledge of the artist's style



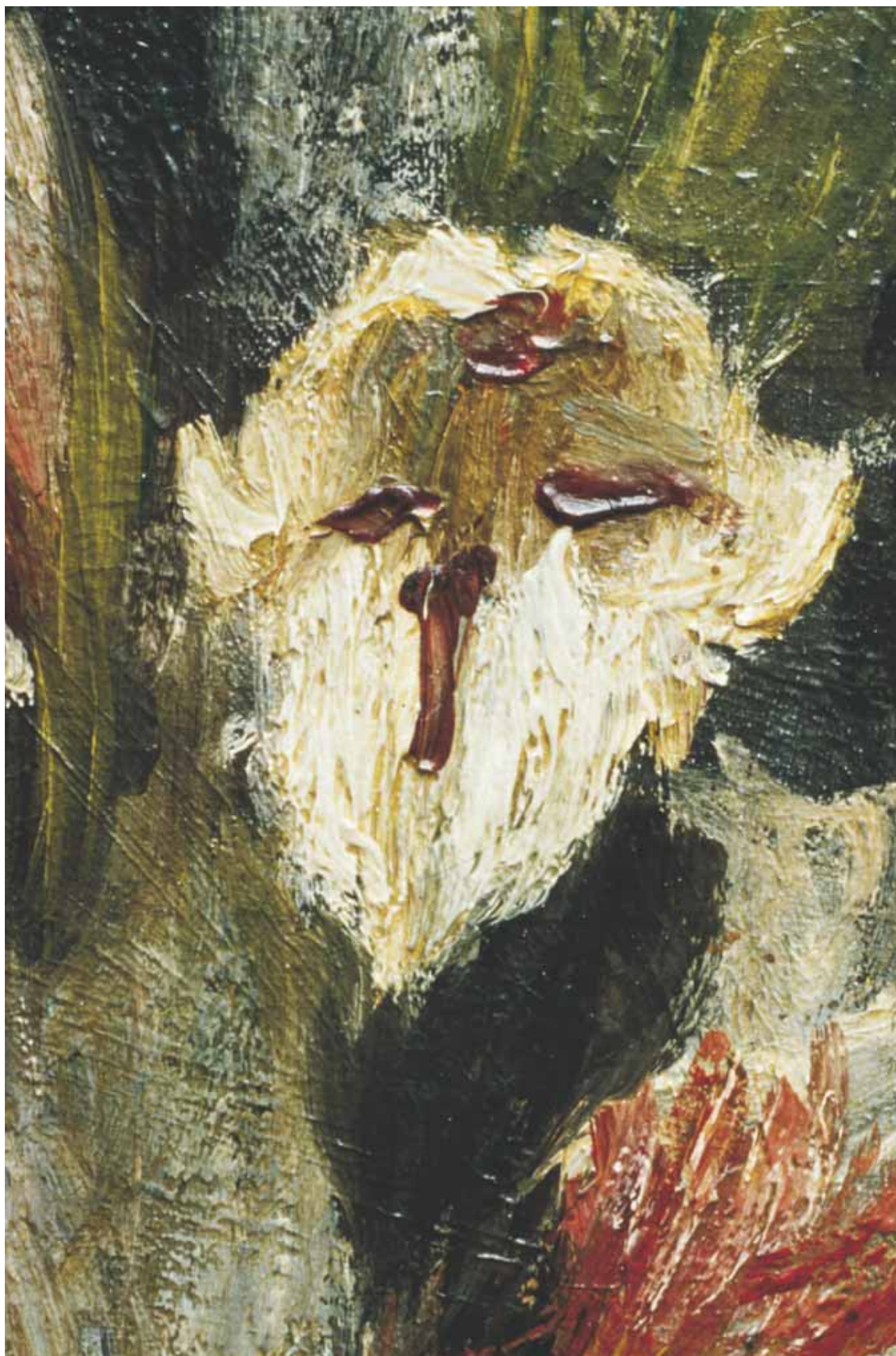
















Scientific

Analyses of work of art

# Photographs under tangential light

This gives us more information about the picture than does direct light. The grazing incidence light, from whichever side it comes, highlights the topography of the painting, thus giving another view of the picture through the study of characteristics of dirt collection or of accidents that may have occurred.

Grazing incidence  
light from above



Grazing incidence  
light from the side



# Photographs under monochromatic light of sodium

By abstracting the colour, one can see the best of the painting, the sodium photo emphasizes the contrasts which when accentuated in this way, display the technique of the painter, his brush marks, his hand.

Compared with black and white macrophotography, sodium monochromatic photography gives us a more profound insight into the painter's technique in the painting as a whole.

The top layers of varnish and glaze are penetrated thus highlighting the slightest touch-ups found underneath in a direct examination.

With this method, the tones all become monochromatic, going from bright grey to black. The yellows alone remain the same. With the abstraction of colour, the observer is in a better position to study the real structure of the picture with his naked eye. The contours and the lines of the drawing are sharper, the darkened features under the opaque varnish become visible again, signatures and other inscriptions reappear.

The details can be seen clearly, even in the darkest areas on a colour photo such as at the section on the top right-hand side. Contrasts are softened.





Scientific

# Photographs under ultraviolet light

The image obtained by UV rays reveals the surface alterations and, partly, the picture's state of repair. It shows up the accidents, the repainting, the type of varnish used and because of this it can act as a point of comparison with a normal photograph after restoration has been completed. The repainting on the varnish appears as fairly dark patches when compared with the original materials in the painting.

Testing under ultraviolet radiation allows us to discern only the faults at the surface, not in-depth. In this light, an old varnish has a milky and slightly transparent appearance on which the slightest alteration will appear in the form of a relatively dark patch.

As a general rule, these patches indicate that repainting was done, in most cases to cover up an accident. Some dark areas can also appear which show up an attempt to remove varnish. It should be noted that very old repainting can sometimes be difficult to detect under ultraviolet radiation and, in these cases, further examination will be necessary.

Ultraviolet fluorescence also enables us to see if one part of the painting was painted by someone else or before another part of the painting.

We need to make a clear differentiation in this area between ultraviolet reflection photography and ultraviolet fluorescent photography. These are two very different, but complementary, techniques.

Ultraviolet reflection photography enables us to uncover inscriptions, erased or barely visible components, but in a very different way to that of infrared photography. The way the material is penetrated and the optical reaction of the pigments under ultraviolet rays are not the same as under infrared rays.

Ultraviolet reflection penetrates the material when there is not much varnish on the surface; therefore it gives another in-depth view of the painting, different from that given by infrared rays.



Ultraviolet  
fluorescence

Repainting appears in  
the form of two circular  
arcs on the top  
right and left and on  
the lower section



Ultraviolet reflection  
photography





Scientific

# Infrared rays

By capturing their reflection in our digital camera, infrared rays make it possible to see through varnish and some types of glaze. It is therefore possible to see through the accumulation of old coloured opaque varnish and reconstruct a clear picture of the work of art, without having to remove the varnish.

Moreover, numerous signatures unintentionally hidden behind thick layers of varnish and glaze, or intentionally covered over can also be revealed. The infrared rays give us a more precise image of the drawing of the work, in which all changes can be seen. For this reason that they are a precious aid to the art historian.

A property of infrared rays is that they can go through layers of painting and show everything up to the preparation stage but not beyond. Nevertheless, the real hand behind the creation is exposed i.e. the preliminary sketch or the tracing over of initial drawings. This method mainly reveals hidden signatures and also reveals accidents which were not detected under ultraviolet rays.

First picture, painting as seen by the naked eye in black and white

Second picture, detail in the above picture on the lower left-hand side where we see a stairs and a house behind the vase



Right, back of a painting as seen to the naked eye  
 Down, back of the same painting under infrared rays



Down, paintings under infrared rays  
 Right, paintings as it appears to the naked eye







Scientific

# Infrared rays in false colour

A whole range of pigments can be identified using this method. False colour infrared photography makes it possible to identify pigments in an optical way (each colour has a corresponding pigment type), but also enables us to differentiate between the different layers of painting applied using different methods at different times.



Colour as it appears  
to the naked eye

It is sometimes necessary to photograph several palettes with colour samples in specific wavelengths, with the same lighting and the same computer and camera settings as was used when taking photographs of the paintings. These colour palettes will be used to compare and identify, in an optical way, some of the components and constituents of the different pigments used by the painter.

This technical device of false colour photography is one of the fastest and most efficient means to reaching a conclusion about the quality and authenticity of a work.

For every colour in false colour infrared type 1 or 2, there is a corresponding exact material or mixture of materials. We call the chemical constituents of a pigment : materials.

For example : three white pigments which look similar to the naked eye, that is to say they have the same visible appearance (but are of different chemical constitutions), will have three very different colours in false colour infrared. Thus, we can visually identify the material's constituents when we have points of reference (palettes of different pigments) or a reference work to make the comparison.



in false colour  
infrared type 1

We look for the similarities or the differences in colour in the photos of the palettes and the photos of the paintings in a group of corresponding wavelengths.

If all visible colours have the same colour correspondence in both pictures, whether this is in FC IR 1 or in FC IR 2, then this means that the pigments used are very similar, even identical, and mixed together in similar proportions.



in false colour  
infrared type 2

Infrared photographs in black and white provide us with information on the working of the material in the deepest layers of the picture, which are not visible to the naked eye. This information in IR black and white is crucial when comparing two works.



Painting as it appears to the naked eye



Picture in false colour infrared type 2



Picture in black and white infrared type 1



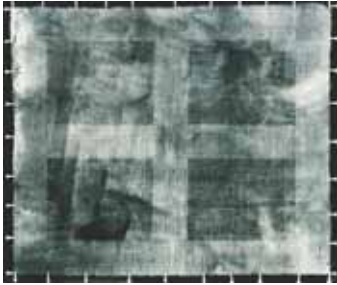
Picture in radiography





Scientific

# Radiographs



Woodworm is clearly visible on this painting on the wooden support

To go further than the preparatory layer, the additional information we need is provided in an x-ray image.

This provides the irrefutable evidence, with which no-one can tamper, of the exact state of repair of a picture, without having to resort to working on the pictorial layer. It is experiencing of the inside workings of a painting.

The exposure reveals the structure of the wood or canvas, the stamps affixed to the back but covered by a canvas lining, fixation nails or sealing. It enables us to detect indecision on the part of the painter, second thoughts and in particular, more spectacularly, the technique sometimes reveals a painting hidden behind the one that is visible to the naked eye, as is the case on the x-ray image in the picture above.

## The search for authentication

Radiography is indisputably one of the most useful tests in the search for authentication of a work of art. It recreates the invisible aspects of the painting, in uncovering the preliminary sketch or drawing our attention to the absence of such, and the mistakes that the copyist or the forger, interested in the finished product above all, often overlooks. These mistakes are multiple. There are cases of people using canvas, nails and other assemblage materials which belong to a later time period or the mechanically creating fake woodworm and cracks, accidents etc.

## Layering

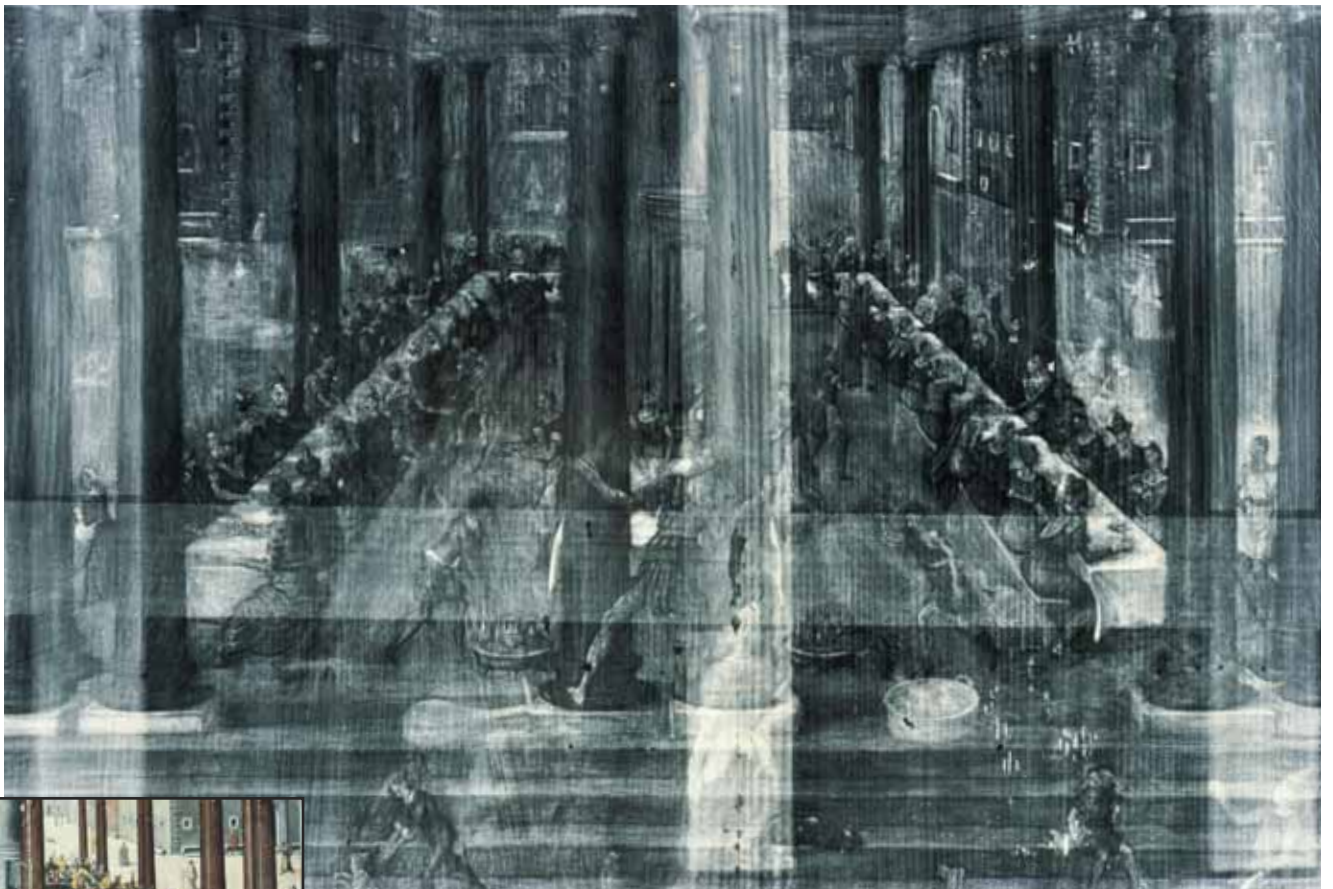
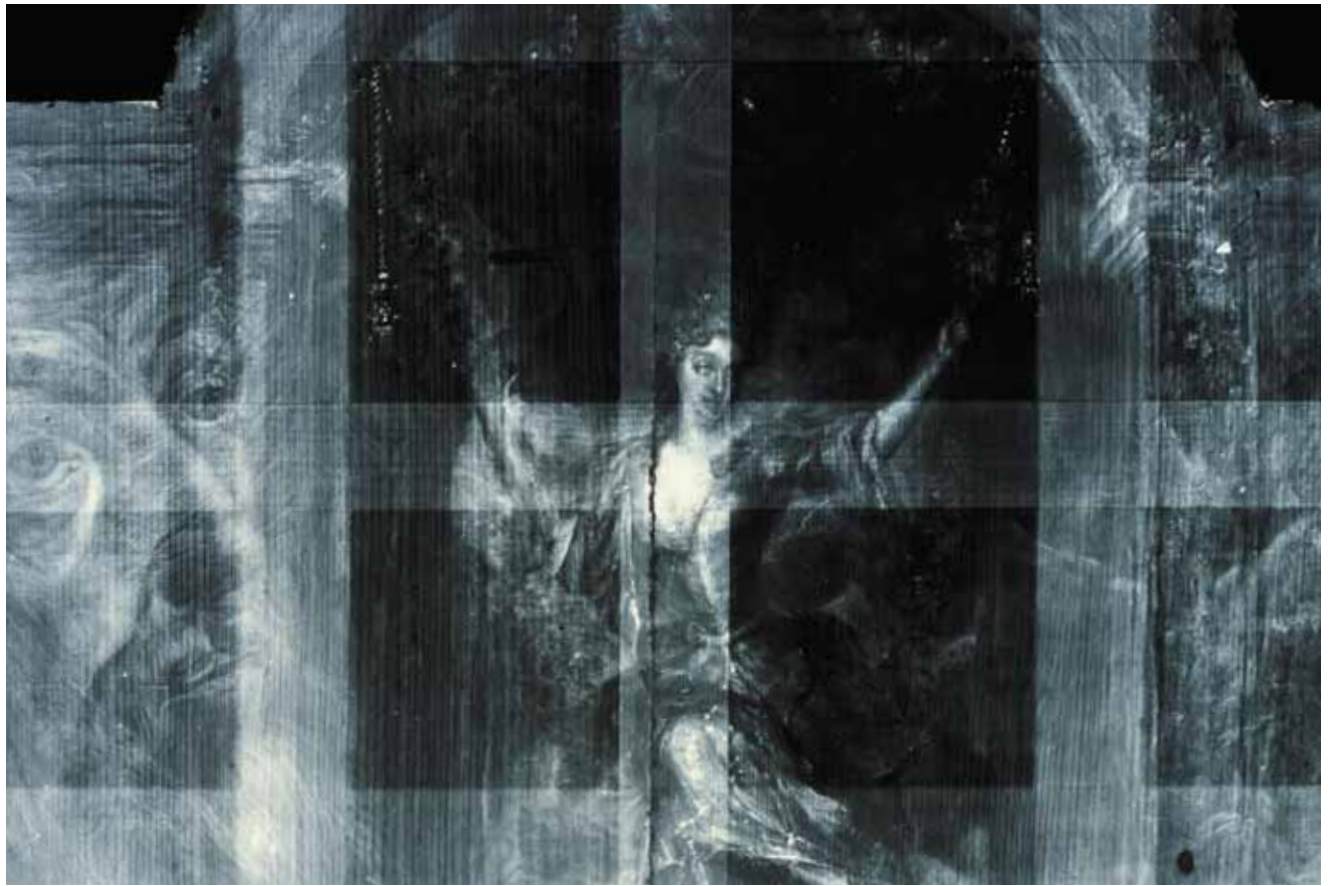
It is not uncommon for there to be several pictorial layers one on top of the other. Some painters reused their own works, whether finished or unfinished. It was in this way that the radiograph of "Portrait of a Young Man" at the Louvre, by Rembrandt, revealed another of his compositions, probably unfinished, underneath the visible painting: a woman leaning over a cradle. It is also by this means that a Picasso forgery dated circa 1903 was discovered : the canvas on which it was painted was covered with an abstract composition which could not have been done before 1915.

## Changes

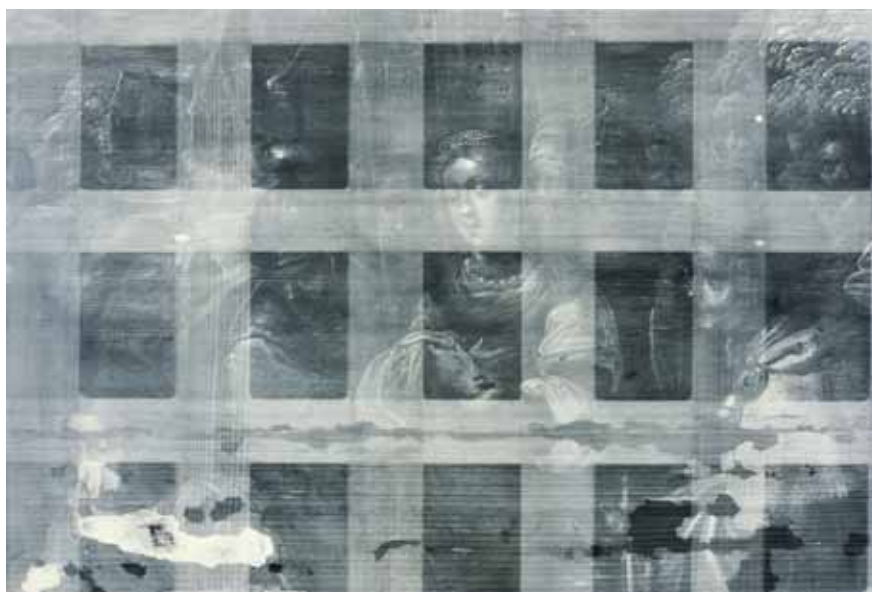
The radiographic image makes all the successive stages of creation visible. We can distinguish the painter's changes, moments of indecision or alterations, in addition to work done secretly by someone else to keep the work "up-to-date".

The x-ray test is of prime importance for good conservation work because it enables us to check the condition of the wooden or canvas support, as well as the gaps, accidents or previous restoration work completed on the pictorial material.





Radiography.  
Painting on wood,  
with an old parquet



Radiography.  
Painting on wood  
with a large lacuna



Radiography.  
Wrong primitive por-  
trait of a young man







Scientific

# The analysis of pigments and binders

From micro elements, the physic analyses and microchemist of material which allows identification of the several involved materials, pigments and binders which compose the pictorial layer. According to the case, this analyse can also be done by others means non destructive, for example fluorescence X. This analyse take part of the file of identification.

The pigment identification o binder attaches the painting to a moment of an individual creation. These operations help us to situate the painting in time, the chemical elements and binders being in general characteristic of a period. Sometimes, it's by researching of anachronism that the falsification is revealed. At the opposite, presence of pigments compatible with a time of execution of a painting can comfort the work in a time period.

Several methods are used, certain being complementary. Among the most currently used in the field of painting, here are examples :

Concerning the **pigment analyse**, micro analyse with M.E.B (microscope electronic sweeping) on elements taken away, bring 3 information. First, on the form of pictures in secondary electrons (E.S), give the topography of the sample.

Segundo, on the form of pictures of electrons retro diffused (E.R.D), give us a chemic "picture" of the sample. Finally we obtain too an elementary analyse in energy dispersion of x rays (E.D.X), on the form of a spectre. This has finally only one object, which is to identify the nature of the pigment and loads constitutive of a sample painting taken on a work.

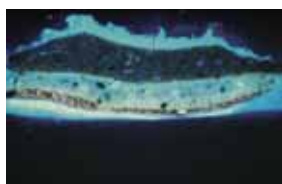
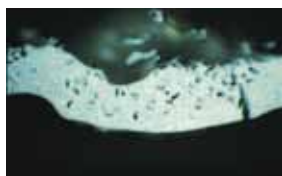
Then, **X fluorescence** is an elementary method of analyse, which, without touching the painting nor taking matter, thanks to x rays, identify the chemical elements of the surface pigments.

**Analyse by spectroscopy Raman** on elements taken from paintings is a method of analyse structural that can identify materials of works. We use this analyse especially to differentiate the titan white "Anatase" of the titan white "Rutile", able to imply a variation of dating of approximately thirty years.

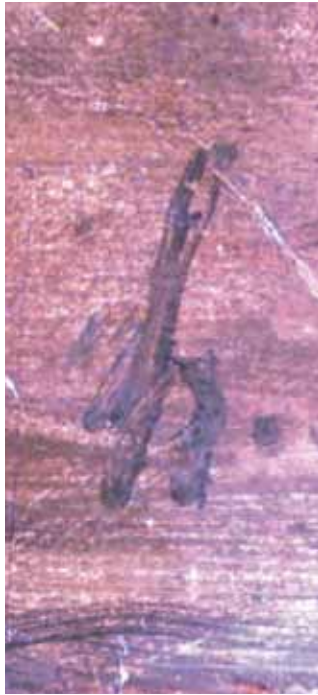
Finally, for material as the **binders, varnish, adhesives**, we identified it with spectrometry infrared a "transformed of Fourier", which, from the measurement of infrared intensity of light absorbed by material, it give its characteristics and its identification by comparison with materials of reference.



Microcard under visible radiation



Microcard under ultraviolet fluorescence



*Painting of Honoré Daumier  
Oil on paper strengthened on cardboard  
Particular collection*

We present an extract of an analyses  
of signature on a painting  
in order to expose concretely all the  
interests of this type of analyse.





# Study of signatures

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Institute of Art

Conservation and Colour

# Preamble

In the interest of a comparison of signature of a work of art, it is clear that since a long time, arte and science are not paradoxical. If one calls the instinct, the feelings, the impressions, imagination, the felt, the other, although it move away the bases its conclusions on rational and reasoned bases.

The signature comparison will intervene when there could be a doubt on the authenticity of a painting. This is inevitable in a process which takes in consideration different parameters.

The expert in signature analyse the signature of the entrusted painting, according to data precise using a method that have proved in writing, different from the graphology with which we can confuses it sometimes. This method is used in writing with succeed since many years on the base of deepened observation. It's support by photos taken with various objectives. The expert study similarities and difference between works already known from the painter. This comparison is essential for the authentification of signature because it's based on characteristic elements of the painter and concerning paintings appearing in catalogue reasoned or in museum.

Study  
of signatures



Signatures

# Technical and photographic methodology used

## Technical

The photos represent the signature we have to study in macro photography, and subjected in infrareds rays, in UV, fluorescence and to different filter.

The photography by reflexion of ultra violets allows the discernment of inscriptions o elements erased o not very visible, in a very different way but complementary of the photography by infrared. The penetration in the matter and the optic reaction of pigments under ultra violets is not the same as those by infrared.



U.V. Fluo

The infrared penetrate more or less the matter in function of their length of wave. More the length of wave is high, more the penetration is profound.

In type 1: IR1, the wavelength of wave are of 700 to 950 nm and penetrate in surface.

In type 2: IR2, the wavelength of wave are of 950 to 1150 nm and penetrate in profounder.



I.R.2

## Methodology

The methodology of comparison of writings used to identify the signature is the methodology "SHOE", more based on differences than similitude and highlighting unconscious and significant elements able to escape an eventual forger.



# Critical study of piece of comparison

The comparative study was made on two sorts of support :

First, on photographic reproductions appearing on a book of art devoted to the author in which we can find numerous signatures on painting :

*"Daumier"* 1808-1879, National Museum editions, Seuil editions.

And on original works, visible at the Orsay museum, where, after obtaining an authorization, photos of paintings and photos of signatures could be taken by the same photograph in macro infrared photography (IR1; IR2), low angled light and wrong colours, thanks to the same camera with large spectral band of 400nm to 1.200 nm which had been used for the painting in question.



Photo without filter



Signatures

# Complete exam of painting signature

The signature appears here on the form of a monogram composed by 2 initials : "h" and "d" separated by a point.

The h is minuscule and the "d" majuscule followed by a final point.



Photo I.R 1 of the "h"

1-Brown and red line

2-Large darker line

## GRAPHIC SCHEMA

This schema is composed by:

- 2 lines for the "h" with a break at the level of the last leg of the "h", it seems there are two lines on the last leg: we can see a light line of brown and red colour covered by a thick and darkest round line.
- And an only one line for the "D", although the loop is transparent on a part but we can see in a coherent way the brush movement.

## INSTRUMENT AND DENSITY OF PAINTING

The density of painting is irregular and we can find little matter on the verticals centre with many "white" on the centre of the letters lines and discharges marked on the round, (except in the loop of the "D") and in the points. It's probably with brush that the signature was done.



Photo I.R.2 of the "D"

Move of the brush

## PACE AND MOVE

The initials like they present show a real speed of movement, and a real spontaneity of gesture.

The spontaneous movement draws aside the notion of hesitation and can make doubt on the presence of forgery.

## CONTINUITY

The final line of the "h" is situate in the ultimate inferior third of the letter, the line begging by going up to form an oblong higher loop; it passes again and going down in a very vertical way, crossing the first line, then goes back to the base of the letter by the left in a regressive gesture, and interrupt itself after having re crossed the vertical toward



Density of painting



Photo F.C.I.R. 1



Photo optic fibre



UV Photo fluorescent.  
Antagonism between  
the firmnesses of the  
“h” and the trembled  
aspect of “D”

the right hand side, a second thick line form the last part of the letter which is more visible and larger than the rest of the letter and seems to recover a brown and red line lighter, undoubtedly due to the difference of the pigment in the painting, because we find it again in the vertical of the letter. The “D” is traced in once: it starts in top, descends on the evanescent loop on a weak round part and passes again on the line in order to go to the base toward the line in a descendant movement, and goes up in direction of the vertical line it crosses at almost 90 degrees toward the left and finished in a rather long line.

## FORM

The “h” contour is round; they are more angular as regards to the “D”. We note an antagonism between firmness of “h” and the trembled aspect, covered and dented of the “D”.

## PROPORTION AND DIMENSION

The space contents on the “h” downstroke are twice higher than broad. His downstroke represents one the third of the letter.

The space contents in the belly of the “D” is slightly higher than one contained in the downstroke of “h”.

The point of separation between “h” and “D” is equidistant of the two letters. The final point is more distant of the “D” letter.

## BASIC LINES

The basic line is rising: the “D” base is higher than the “h” one significantly.

## THE AXES

The parallelism between axes of letters is present, however, the “D” is more oriented on the right and slightly concave in its downward part. The “h” seems to rise whereas the “D” seems to lean to the right bottom.

## FINALE OF THE SIGNATURE

The finale of the “D” is rectilinear and oriented on the left in right angle.

Particular points :

The separation point between “h” and “D” is in the curve prolongation of the “D”. The final point is under the same ascendant line.



Signatures

Study if signatures

# Exam of pieces of comparison compare with studied painting

Paintings underneath were studied afterward the collection referred above.

*Don Quichotte and Sancho Pança* 1865-1870

*Don Quichotte and Sancho Pança resting under a tree* 1855

*The painter in front of his work* 1870-1875

*The reader* 1866-1868

*In the laws court* 1862-1865

*The parade* 1865-1866

They don't have rules concerning the position of the signature in Daumier's paintings: in the bottom left of the work, or on the right.

## THE GRAPHIC SCHEMA

There is constancy in the graphic schemas of the "h" which is divided at the same level than on the signature of the painting in question.

The graphic schema of the "D" of the piece in question could be found in many signatures attributed to Daumier, but it can be formed by two lines as in the "*laws court*".

## INSTRUMENT AND DENSITY OF PAINTING

According to the photos taken in the Orsay museum of the following paintings :

*The laundress* towards 1863, *The robber and the donkey* toward 1858

Resort that :

The initials of "*the laundress*" has homogeneity higher than the painting in question. But the signature of "*The Robber and the donkey*" has less matter than the initials in question. We have the same "white" with some discharges like in the painting studied.



Photo F.C.I.R. 2

## PACE AND MOVEMENT

Pace of the initials in question is completely to the pace and rhythm of initials of works considered. We have the same spontaneous movement as well as the lake of support in the "*The Robber and the donkey*" for example.





The firm line of the "h" is in numerous paintings

## CONTINUITY

Formation of minuscule "h" in considered works seems to be a constant in different comparison and we note too in the formation of the "h" of the piece in question.

However, we can't find in the considered paintings the equivalent of the brown and red line appearing under the thick line of the last downstroke of the "h". We find in the *"Laundress"* the "h" increase at the level of the left downstroke that we cannot see on the others signatures and which seems to be outlined on the signature of the *"The Robber and the donkey"*. The "D" itself is very different according the paintings, with or without interruption.



The trembling aspect which is in numerous paintings of the artist

## FORM

The second downstroke of the "h" is sometimes returning in many signatures but it arrive that it couldn't be, like in the 3 layers, and it is not here in the work in question.

The trembled aspect of the "D" can be seen many times on the signatures authenticated, as *"The Robber and the donkey"*, *"The parade and the sleeping man"*.

## PROPORTION AND DIMENSION

The space contained in the downstroke of the "h" is generally higher than larger in similar proportions than those of the painting in question. The overrunning and extension of the "D" are not usual with Daumier and obey at the same movement than the one of the signature in question. Space proportions included in the "h" downstroke compared to the spaces included on the "D" belly are irregulars; sometimes, the space situated in the "h" is higher from that existing in the "D", and sometimes, it's the opposite.

Without doing a generality, we can note that frequently the final point is absent in the complete signatures and present in the initials.



Base line going up

## BASE LINE

In some paintings as *"The Robber and the donkey"* the initials are rectilinear, but there is the ascendant base line in the signature in numerous paintings and drawings, and that, in the same orientation degree. As well as the increase of the "D" in the prolongation of the point which is preceding.



Signatures

# Exam of piece of comparison compare with studied painting

continuation

## THE AXES

Verticals are parallels, whatever the time period, and even if the inclination is modified, the parallelism is always respected.

We can note the curve in the vertical of the “D” of the signature in question which we can also find for example in the vertical of the “h” of *“The Parade”*. We can find in *“The Parade”* and *“In the painter in front of his work”* what we have noted in the work in question, here in less ostensible way.

The “h”, seems raising whereas the “D” seems to lean downward to the right.

## FINAL OF THE SIGNATURE



Orientation of the final of the “D” toward the left as in all paintings

If we consider the “D” which had been traced in one line, we can see that the final are all directed toward the left with different orientations. The final here will not be significant.

### Particulars point :

The separation point between the “h” and the “D” is indifferently placed toward the “h” or equidistant of the two letters and its site is not determining. However, the points of support are on the base line of the “D” loop, and that, in a constant manner, site that we find in the signature in question.



The support point is systematically lined on the base of the “D” loop

The whites in the inking of the verticals present in all the painting of question are characteristic of the signatures studied (in particular *“The Robber and the donkey”*).

## CONCLUSION OF THE COMPARATIVE STUDY

The method used support the study of significant differences between elements of comparison taken in count.

He noted differences between the signature of question and the Daumier's signatures are related to:

- The proportions which we can take in consider here, many scenarios having been used by the painter.
- The different formation of the "D" according the paintings (traced in one line o two times, with or without loop)
- The finals of different forms of "D" which stayed despite everything regressive (the "D" always end on the left)
- The presence of a brown and red line underlying on the last downstroke of the "h".

The painter, during the years and paintings used many signature and initials modifying their site and he kept certain constant :

In this case, override the form, elements as the orientation of the base line, the continuity, axes parallelism, the pace, density of the line make think of an author unit for the signature.

# Conclusion

After have personally proceed to the analyses operations, in the state ok knowing, considering the limits of expertise in writing, and in view of the pieces that we have, which rapport is the result,we think that :

There are no incompatibilities between the signature of the painting in question and those of Honoré Daumier taken in consideration ;

The studied signature doesn't' show counterfeit signs.



de tableaux

Ventes & copies

# Sale & copy of painting

## SALES OF PAINTINGS

We have at our disposal many paintings entrusted by our clients. These work for profit, the most of time of our scientific expertise and some customers want to resale them. We invite you to contact us regularly in order to inform us of our research.

## COPY OF PAINTINGS

We realise copies of quality without limitation of format.

We associate different technique of reproduction and paintings as numerical pictures and oil painting, gouache, pastel...

Apart the odour of fresh painting the inscription "copy" must figure at the backside. We also can bring a personal touch or make a painting in the style of...

This, in function of the customers wishes, of the painter chosen and the current regulation concerning the copy of painting.





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