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Ingres' Drawings: Retrospective Conservation Practices

Véronique Rouchon, Laëtitia Desserrières, Céline Daher, Florence Viguier-Dutheil, Natalie Coural

In the 1950s, the poor state of Ingres' drawings collection at the Museum of Montauban, France, motivated an important restoration project that was locally monitored yet supervised by the newly created French Museum Inspection, based in Paris. This project may be considered to be the starting point in France of a new way of defining conservation policies. It was largely inspired by the first ICOM meeting in Paris in 1948. It was overseen by a conservation committee that undertook an innovative approach, promoting transparency, questioning bleaching treatments, considering the quality of the materials being used and inciting open cooperation between paper restorers. The present work, realized during the 150th anniversary of the death of Ingres, recalls the historical background of the project emphasizing its originality. Drawings that were bleached at that period were re-examined to evaluate side effects or long-term impacts of the treatments that were applied.

Keywords: Drawings, Ingres, Montauban, Potassium permanganate, Bleaching, Washing, Lepeltier

Introduction

Before his death, Jean-Auguste-Dominique Ingres (1780–1867) left 4500 of his drawings to the town of Montauban, his birthplace. In 1946, shortly after the end of the Second World War, a large restoration programme was planned on this collection and supervised by the Inspection of French Museums and by the Louvre Museum, Paris. This programme was relatively well documented, including the correspondences, notes, committee reports and photographs (Coural et al., 2015). At that time, there was no institutional scientific expertise in France for paper conservation. The Fogg Art Museum at Harvard University, one of the leading institutions in conservation science at that time, was consulted and the exchanges between these two institutions were published in the newly created journal *ICOM News* (Buck & Bouchot Saupique, 1949). This work examines this documentation to try and obtain a better comprehension of French conservation policies at that moment. Some of the most damaged drawings that were obviously chemically treated during this period were re-examined and compared with archive pictures taken before the original treatment. This approach aims to question the appropriateness of the options that were chosen and understand the long-term effect of the chemical treatments.

Historical background

1926–46: from a report to a restoration programme

In his drawings, Ingres did not hesitate to investigate new techniques, using poor quality materials that were not initially intended to last with time (Viguier-Dutheil et al., 2011). His drawings were extensively handled or exhibited without taking the necessary precautions, and many of them rapidly deteriorated. Their poor condition was reported in 1926 by Félix Bouisset, curator of the Ingres Museum of Montauban, and was emphasized after the Second World War by the newly formed French Museum inspection based in Paris (Inspection Générale des Musées, IGM). This authority was created in 1945 in the context of an important reorganization of French museums under the supervision of Georges Salles, director of the Museums of France. In 1946, Jean Vergnet-Ruiz, head of the IGM, visited the Ingres Museum and decided to supervise the creation of a drawing cabinet in Montauban following the example of the drawing department of the Louvre Museum (Vergnet-Ruiz, 1951). Georges Henri Rivière, founder member of the new International Council of Museums (ICOM) and Clémence Duprat, assistant of Jean Vergnet-Ruiz, were appointed to inspect the Ingres Museum in December 1946 with regards to preservation aspects.

After their report, it was rapidly decided to initiate a conservation programme. As the Ingres Museum was unable to offer suitable facilities for an onsite restorer, the conservation treatments were performed in Paris (Achechova, 2005). A first set of 36 drawings affected by mould or rust stains were sent to the Louvre Museum in January 1947. The organization of their restoration was entrusted to Jacqueline Bouchot-Saupique (1893–1975), curator, head of the drawing cabinet. The correspondence between Paris and Montauban indicates that the treatment of the drawings did not start before the end of 1947, apparently for financial reasons [1].

1947–48: from the start to the creation of a conservation committee

The first task for Jacqueline Bouchot-Saupique was to appoint a paper restorer. Since Paul Vigna (1856–1942), the freelance Parisian paper restorer who was working before the war with the Ingres Museum had died, René Longa, a painting restorer, specialist on Ingres' masterpieces, was first approached. However, he refused to work outside his own workshop. Léon Lepeltier (1877–1960), a Parisian paper restorer, formerly a decorative painter, well known to art galleries and private collectors, was then chosen. At that time, Léon Lepeltier was working within the museum community. The Louvre allocated an area for the restoration and mounting of Ingres' drawings, but it proved to be ill-equipped and the working conditions were unsatisfactory for both the curator and the restorer. The first interventions were thus undertaken in difficult circumstances. Léon Lepeltier's first invoice dates from 13 January 1948 and deals with detachment, cleaning and lining operations performed on six drawings, but do not provide any technical information. His definition of 'cleaning' (in French, *nettoyage*) remains imprecise. As many paper restorers of this period, Léon Lepeltier was using different chemical treatments, which were not explicitly detailed in the invoices. More personal considerations can be found in his notebook written between 1947 and 1951 in which he mentioned that the restoration of drawings, in most cases, involved the bleaching of the supporting paper [2]. For this purpose, the application of a 5% solution of potassium permanganate followed by a 5% solution of citric acid rinse seemed to have given satisfactory results. Hydrogen peroxide was also mentioned as an alternative for stain removal.

Léon Lepeltier obviously made use of some bleaching techniques on the first set of Ingres' drawings: some of the drawings were too white to the opinion of Jacqueline Bouchot-Saupique who formulated her reservations in a correspondence on the 24th of

March 1948 to the IGM. Some more drawings were probably treated during 1948 leading to increasing misunderstandings between the curator and the restorer. In order to clarify the situation, a conservation committee was set up at the end of 1948 to monitor the progress of the work. It involved scientists such as Mr de Saint Rat from the National Library, Paris and Mr Cognard from the Bank of France, Paris. The minutes of the first meeting (16 November 1948) show a clear willingness to work in complete transparency with the restorer, banning workshop secrets. On 1st December 1948 Léon Lepeltier was asked to describe the treatments he used to 'clean' the drawings [1]. He then mentioned 'sulphur or chlorine vapours' but the minutes do not detail the way these chemicals were applied. The description of Léon Lepeltier's method to remove rust stains with permanganate is more explicit: the paper sheet was entirely wetted with warm water, the permanganate solution was then applied locally by small touches, and the treatment was completed with a nitric acid solution, probably applied in the same manner. For the removal of other types of stains Léon Lepeltier seemed to have used organic solvents such as benzene, but he clearly stated that he was not intervening with old oil stains.

These explanations did not convince the committee that remained rather sceptical about the relevance of the bleaching treatments (Mr Cognard clearly stated that a chlorine bleached paper cannot last long). It warned curators and restorers about the risks of using chemical treatments. A point of view dealing with interventions *a minima* was adopted and all conservation aspects were questioned, including the quality of the housing materials, the adhesives, the mould risk, etc. More generally, this period marks a turning point in the monitoring of the Ingres Museum conservation project, with a new way of thinking that is clearly perceptible in the conservation committee minutes.

At that time, the Louvre Museum laboratory, created in 1930, was the only institution dedicated to conservation research in France. However, paper preservation was not a speciality. This lack of institutional scientific expertise was deplored several times by the committee, and we know today that it endured until the creation of the Centre de Recherche sur la Conservation des Documents Graphiques (CRCDG) in 1963.

From 1949 onwards: reassessment of conservation policies with the inquiry of the ICOM News

At this period, the newly created International Council of Museums (1946) was directed by Chauncey

J. Hamlin (USA) and Georges Henri Rivière. Its dynamism is attested by the organization of a first biannual conference (Paris, Louvre, 28 June–3 July 1948) gathering participants from 53 countries and the publication of a News bulletin (*ICOM News*) to favour professional exchanges.

One of the leading centres of conservation expertise was the Fogg Art Museum at Harvard University where the first laboratory dedicated to conservation issues had been created in 1928 on the initiative of Georges Stout. In the 1940s, the chemist Rutherford Gettens was working for the laboratory with Richard Buck, the painting conservator. In addition, the Fogg Art Museum was in charge of one of the largest collection of Ingres' drawings outside Europe. This explains, why at the end of 1948, Jacqueline Bouchot-Saupique requested, through the *ICOM News*, the expertise of her American colleague Agnes Mongan, curator at the Fogg Art Museum. She principally inquired about mould and rust stain removal, quality standards of mounting materials (papers, boards, and adhesives), consolidation techniques for tracing papers and the use of translucent interleaving papers. Two months later, in the second volume of the *ICOM News*, Richard Buck provided the answer to the questions of his French colleague and enclosed a short bibliography (Buck & Bouchot-Saupique, 1949). He interestingly did not specifically write about bleaching methods, although sodium hypochlorite was currently used at the Fogg Art Museum (Smith, 2012). This omission may be interpreted as a sign of caution between colleagues (only advise when you are 100% sure), which makes sense in light of the fact that the efficiency and

harmlessness of bleaching methods were then researched, a few years later, by Gettens (Smith, 2012).

The answers formulated by the Fogg Art Museum were widely discussed within the French conservation committee on the 25th of January 1949 [1]. It helped the committee in the formulation of modern conservation grounds. One illustration of this new way of thinking can be found in the Jean Vergnet-Ruiz's preface for the Ingres exhibition catalogue of 1951.

This modern approach was applied to the conservation project. Daniel Ternois, curator at the Ingres Museum between 1950 and 1970, was interviewed on 25th October 2016. He clearly remembered the importance of the collection conservation programme which outlines were defined before his arrival. The ethics of this programme was inspired by Jean Vergnet-Ruiz, who wanted to 'preserve' and not 'restore'. Retouching, bleaching and stain removal were also avoided (Ternois, 1959).

Seventy years later ...

Comparing photographs

In order to manage the collection movements between Paris and Montauban (and to document the conservation treatments), the drawings were photographed by Alexandre Séarl, photographer at the Louvre before being entrusted to Léon Lepeltier. Prints of these can be found today on the verso of the cards, accompanying each drawing with lists of exhibitions and loans (Figure 1). These cards were created by Daniel

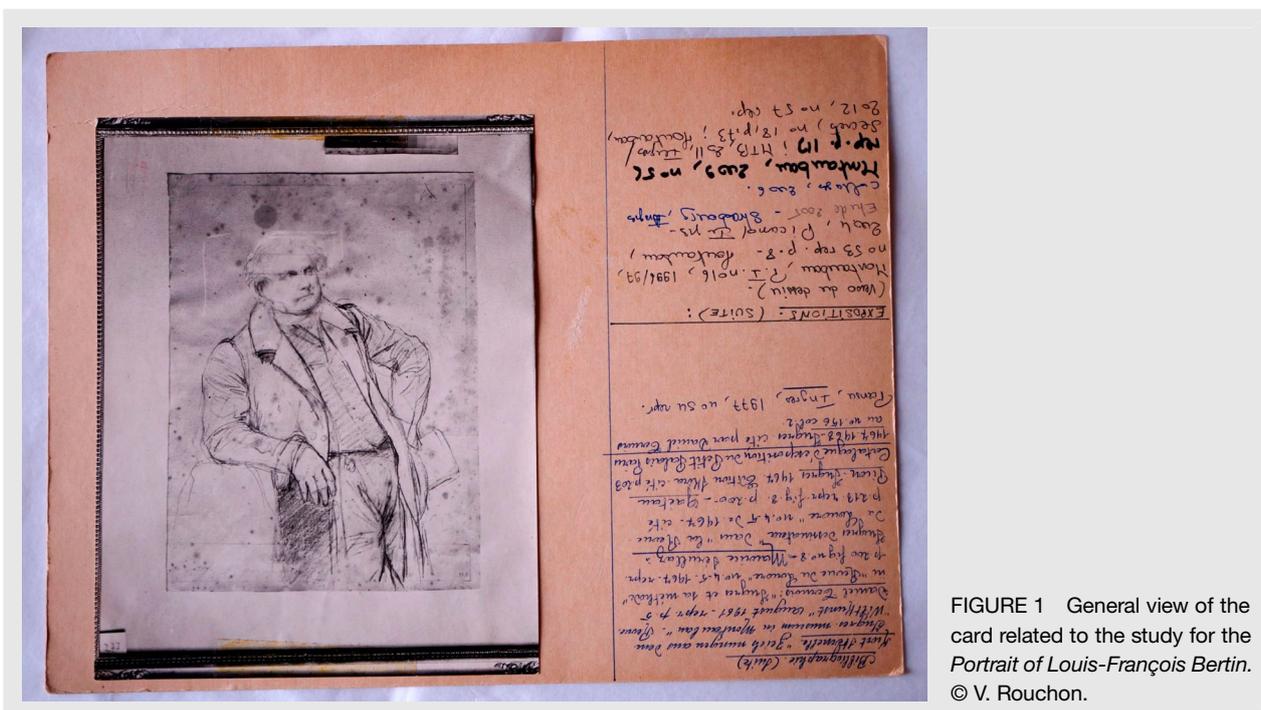


FIGURE 1 General view of the card related to the study for the Portrait of Louis-François Bertin. © V. Rouchon.

Ternois from 1950 onwards. These photographs, although in black and white, give valuable information on the condition of the drawings before intervention.

Some of the drawings treated between 1947 and 1949 were identified thanks to archival documents and Lepeltier's private notebook [3]. They were carefully observed using natural light and under UV light (365 nm, 6 W, illumination for less than 10 s). Their present aspect was then compared to Séarl's images in order to assess formerly used bleaching treatment and to observe their long-term effects. These observations outlined specific behaviours that we hereafter illustrate through five drawings.

X-ray fluorescence measurements

In order to get some insight into the chemicals used during the treatments, we undertook elemental measurements. The aim was to detect chemical residues that could have remained in the paper: the presence of chlorine could indicate chlorine bleaching while manganese and/or potassium may indicate the use of potassium permanganate bleaching.

X-ray fluorescence (XRF) seems to be an appropriate technique for this purpose: it is non-destructive and allows the detection of all elements of the periodic table above aluminium. Moreover, portable XRF instruments, developed over the past decades, make in-situ analysis possible without sampling or moving the drawing from the museum to a laboratory. Measurements were also performed with a portable spectrometer (XGLab, Elio, Rhodium source, 40 kV, 100 μ A, 200 s, spot size of approx. 1 mm) in stained and unstained areas. They were then compared to each other in order to highlight the stain characteristic elements.

This work shows qualitative preliminary results only. Data interpretation remained challenging because of several limitations. Firstly, the signals coming from different elements may sometimes superimpose, thus creating confusion, especially in trace identification. Low amounts of chlorine and potassium are for instance difficult to detect because the signal of these elements overlaps L lines of the Rhodium source and K lines of Argon that is present in the air (no helium purge was available with our apparatus, meaning that it was not possible to remove the air). Secondly, the high background noise generated by the organic substrate (paper) lowers the sensitivity of the method. Thirdly, elemental traces are looked for, but the detection thresholds of the apparatus for paper analysis were not determined. An element that is not seen may also be present at a concentration below the detection threshold. Therefore conclusions could be drawn only for positive fingerprints (presence of an element).

Study *Trois caudataires assis (en conversation)*: example of an effective bleaching

This study (inv. 867–1293, GV 1017) (Vigne, 1995) was realized in 1814 for the *Sistine Chapel* (National Gallery of Art, Washington). It is drawn on white wove paper with black chalk and graphite (14.9 \times 14.8 cm). The card accompanying this drawing indicates that it was restored by Lepeltier and mounted in April 1948 by Emile Martin (who was working on the mounting of drawings at the Louvre museum). This study (Figure 2) belongs, very probably, to the very first set of drawings that were restored by Lepeltier and on which Jacqueline Bouchot-Saupique formulated reservations [4]. She was in particular critical about one of the drawings that appeared excessively white and on which there was some modification in the pencil line [5]. No information was available in the archival documentation to precisely identify this problematic drawing but the study *Trois caudataires assis (en conversation)* presents similar characteristics. In particular, the whiteness of the paper stands out against the other drawings of the collection, giving a feeling of artificial appearance. The study had been obviously bleached: the photograph taken before intervention (Figure 2(c)) shows numerous stains (probably foxing) that are today almost invisible but still fluorescent under UV light (Figure 2(d)). XRF measurements were performed both on UV-fluorescent and non-fluorescent areas. The spectra are perfectly superimposing and no significant amount of manganese, potassium or chlorine was highlighted. As explained above, this neither supports nor disproves the use of such or such chemical.

Regarding the pencil line, a comparison of the current aspect with the photograph taken before treatment may suggest some fading that could be attributed to the loss of material during the treatment. This last point remains, however, questionable as the black and white photograph was obviously taken or developed in a manner that emphasizes the contrasts. What remains certain is that the stains did not return and no new stains appeared, contrary to previous observations made on some bleached drawings of the Fogg Art Museum (Smith, 2012). Moreover, the drawing is still today in a relatively fair condition despite the artificial aspect of the white paper.

Study *La Femme aux trois bras*: some alteration in the paint layer

This study (inv. 867–1220, GV 2320) (Vigne, 1995), an oil on a cream paper was realized between 1860 and 1863 for the *Turkish Bath* (Louvre Museum, Paris)

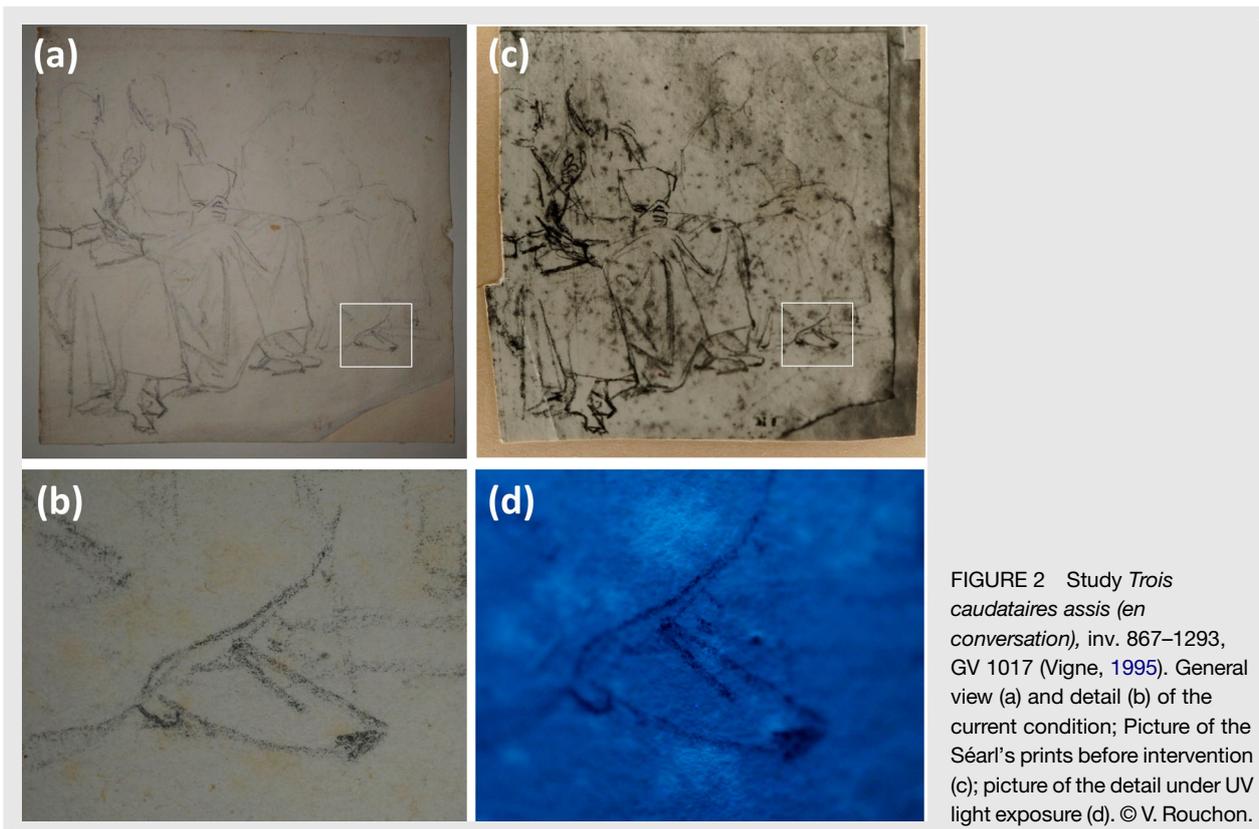


FIGURE 2 Study *Trois caudataires assis (en conversation)*, inv. 867–1293, GV 1017 (Vigne, 1995). General view (a) and detail (b) of the current condition; Picture of the Séarl's prints before intervention (c); picture of the detail under UV light exposure (d). © V. Rouchon.

(17.9 × 12.5 cm). It appears in the very first list of drawings sent to Lepeltier in January 1947, [6] thus proving that he performed the restoration. We also know that it was exhibited in Paris during 1949 under the number 14 (Weil, 1949) and in Montauban during 1951 under the number 72 (Vergnet-Ruiz and Duprat, 1951). As it is absent

from the first Lepeltier's invoice of the 13th January 1948, we believe that it was restored during 1948 and was returned between 1948 and 1949 in view of the upcoming exhibition.

Comparison of the present state of the drawing (Figure 3(a)) and the picture taken before restoration (Figure 3(c–d)) shows that the study was obviously

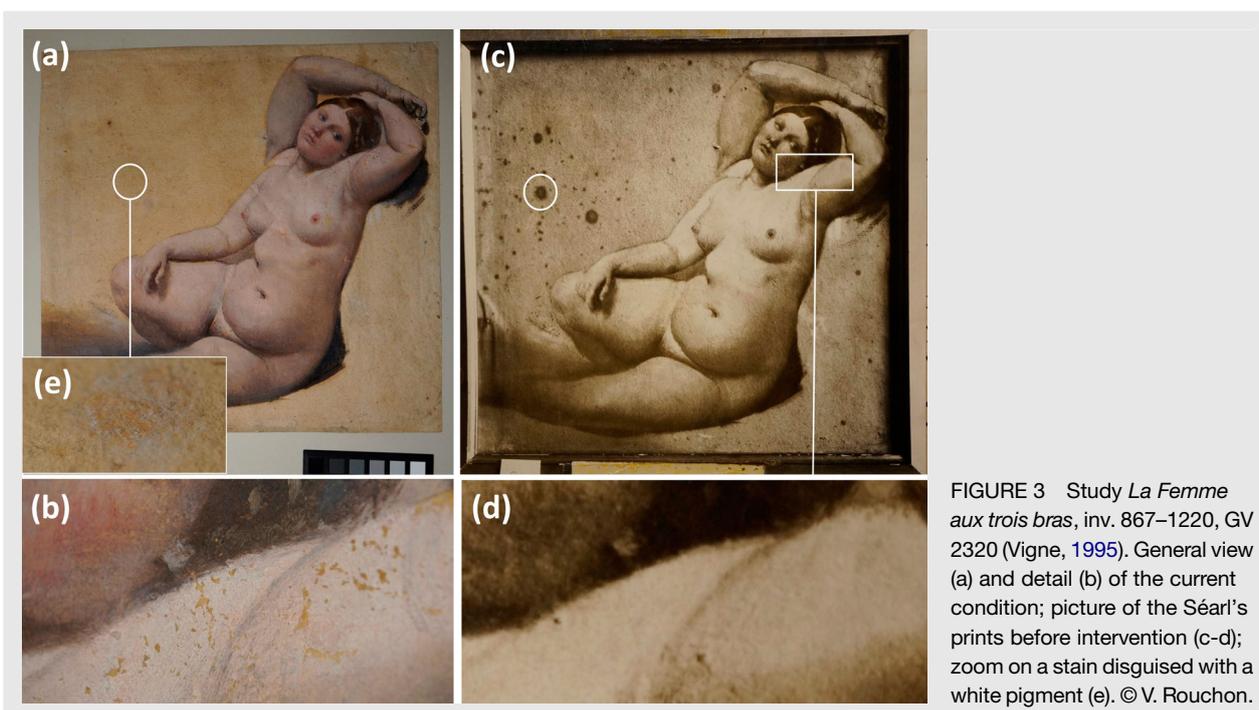


FIGURE 3 Study *La Femme aux trois bras*, inv. 867–1220, GV 2320 (Vigne, 1995). General view (a) and detail (b) of the current condition; picture of the Séarl's prints before intervention (c–d); zoom on a stain disguised with a white pigment (e). © V. Rouchon.

bleached in order to attenuate the stains, but the treatment did not significantly whiten the paper that has still today a creamy hue. Chemicals may have been applied locally by small touches on the wetted paper, a technique that was described by Lepeltier, appearing before the committee. The use of water nevertheless weakened the paint layer provoking some detachments (Figure 3(b)). Interestingly some of the stains are partially covered with whitish scribbles (Figure 3(e)) probably because they were not sufficiently attenuated after the bleaching. No obvious stain reversion is, however, noticed.

Study *Etude debout*: when two papers evolve differently

This study (inv. 867–203, GV 2610) (Vigne, 1995) was realized in 1832 for the *Portrait of Louis-François Bertin* (Louvre Museum, Paris). It is drawn with black chalk and heightened with white chalk (37.6 × 26.7 cm). This study (Figure 4) was not included in the very first set of drawings entrusted to Lepeltier, but was sent to Paris in preparation of the exhibition of 1951 [7]. It was most certainly bleached to remove undesirable stains (Figure 4(b)). These did not return and the aspect of paper under UV light is uniform without any obvious fluorescence (not shown). The head of the portrait includes an addition, probably made with a different paper. The photograph taken before the interventions suggest there was no strong colour gap between the two papers (Figure 4(b)), this is no longer the case (Figure 4(a)): today, the paper

used for the addition appears much lighter than the yellow-brown supporting paper. As there is no post-treatment photograph of the drawing available today, it remains difficult to assess with certitude the cause of this colour gap. It may be due to a different reactivity of the two papers during the bleaching treatment, but the yellow/brown aspect of the paper does not really support this hypothesis. The colour gap is more probably due to a different evolution during exposure to the light, the supporting paper evolving to yellow/brown hue while the additional paper remaining relatively white. This scenario is more convincing seeing that the supporting paper is much lighter on the verso, in the area where the addition was placed, as if it had been protected from light exposure (Figure 4(c)).

Study *Venus anadyomène*: when inappropriate aqueous treatments are performed on iron gall ink drawings

This study (inv. 867–2303), drawn with iron gall ink, was relatively well preserved as attested by the picture taken before restoration (Figure 5(b)). It was probably restored between September 1948 and June 1950 [8]. The picture taken before restoration shows that the drawing was fixed on a board by adhesive spots. It was detached by Lepeltier and remained unlined, probably because the lining was not judged necessary at that time.

Today, it shows a strong alteration of the paper that is typical of iron gall ink corrosion. As the collection

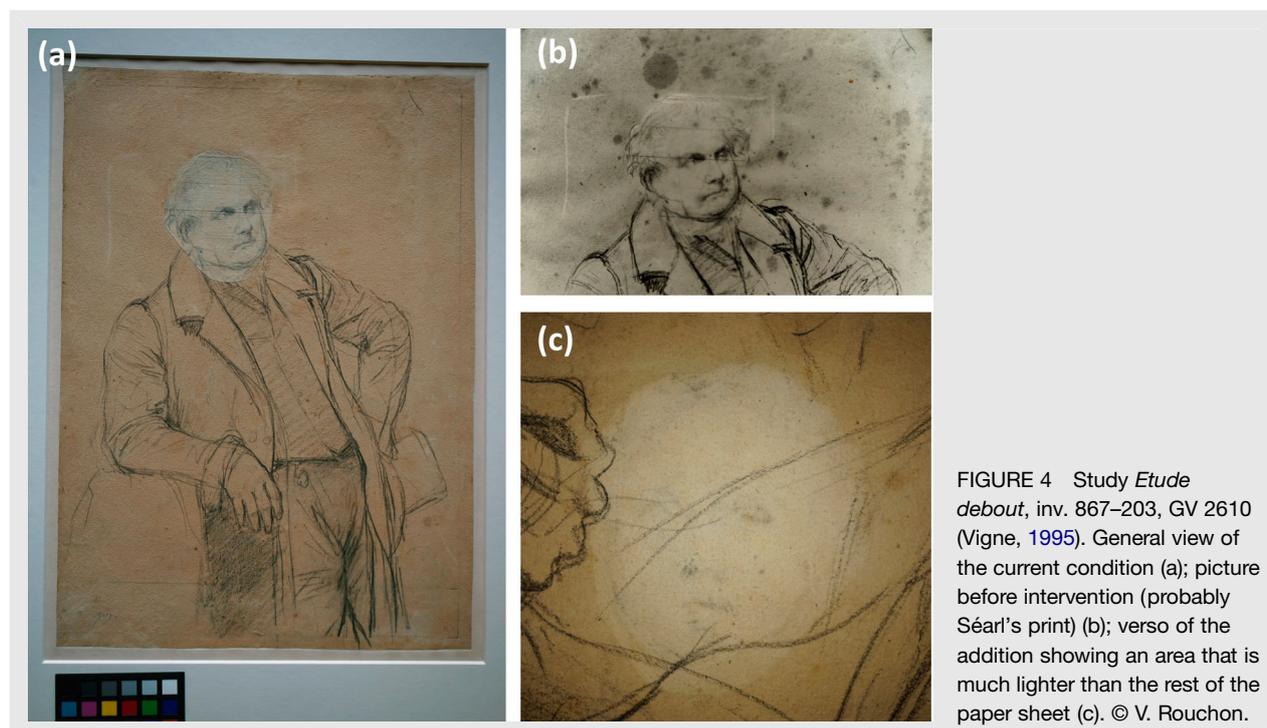




FIGURE 5 Study *Venus Anadyomène*, inv. 867–2303. General view of the current condition (a); picture before intervention (probably Séral's print) (b). © V. Rouchon.

remained in relatively fair humidity and temperature conditions, it is believed that this damage results from an inappropriate use of water during the conservation treatment. Indeed, iron gall inks are sensitive to water (Rouchon et al., 2009). The drawing was probably moistened. Lepeltier confirmed commonly using this practice when the conservation committee questioned him. Indeed, when the paper is wet, ink soluble compounds, among which is iron, migrate out of the ink line. When these compounds are not washed out, they remain in the paper, inducing after some decades a strong alteration of the support that becomes brown and locally brittle.

Study *Le vœu de Louis XIII*: when stains mysteriously appear ...

This study (inv. 867–2549) is drawn on a paper that has today a brownish aspect. No mention of a restoration by Lepeltier was found in the consulted archival records. The photograph, taken circa.1940–50, shows many stains that are still visible today on the drawing. There is no obvious evidence of a bleaching treatment by Lepeltier (Figure 6). Curiously enough, large stains in the upper and lower parts of the drawing (arrows on Figure 6(a)), seem to have been absent in the 40–50 s (Figure 6(b–d)). The shape of these stains suggests some chemical application by means of a brush that might have reacted afterwards, leading to a dark brown colour. In addition, a brown stain that was not present on the photograph can be seen today near the right thumb of the figure. It may

correspond to the same chemical spattered on the paper (Figure 6(a), white circle).

XRF measurements were performed on stained and unstained areas. Here again, the elemental signatures are very similar (Figure 7). Iron, detected in high amounts, probably corresponds to the pigment used to colour the paper. Calcium is also detected in significant amounts, which was expected as calcium carbonate is commonly used in the fabrication of paper. All the other elements are only present as traces: copper and zinc are often associated with iron and may correspond to impurities of the iron pigment. Sulphur is a common element of papers that can come from the alum used for sizing, or from an atmospheric pollution of sulphur dioxide that may react with calcium carbonate leading to calcium sulphate.

The presence of manganese is less usual. It may correspond to an iron impurity, such as copper or zinc, or to some residues of permanganate bleaching. Indeed, formation of brown manganese oxides products can happen in alkaline conditions as a side effect of permanganate bleaching [9] (Banks, 1969; Baynes-Cope, 1977; James et al., 1997). This scenario remains questionable because similar amounts of manganese were found in stained and unstained areas (Figure 7). If stains were provoked by the application of a permanganate solution, one would expect higher concentrations of manganese in stained areas. Also, the correlation between manganese traces and permanganate bleaching remains questionable.

The traces of potassium may be evidence of the application of a chemical using a brush. Although

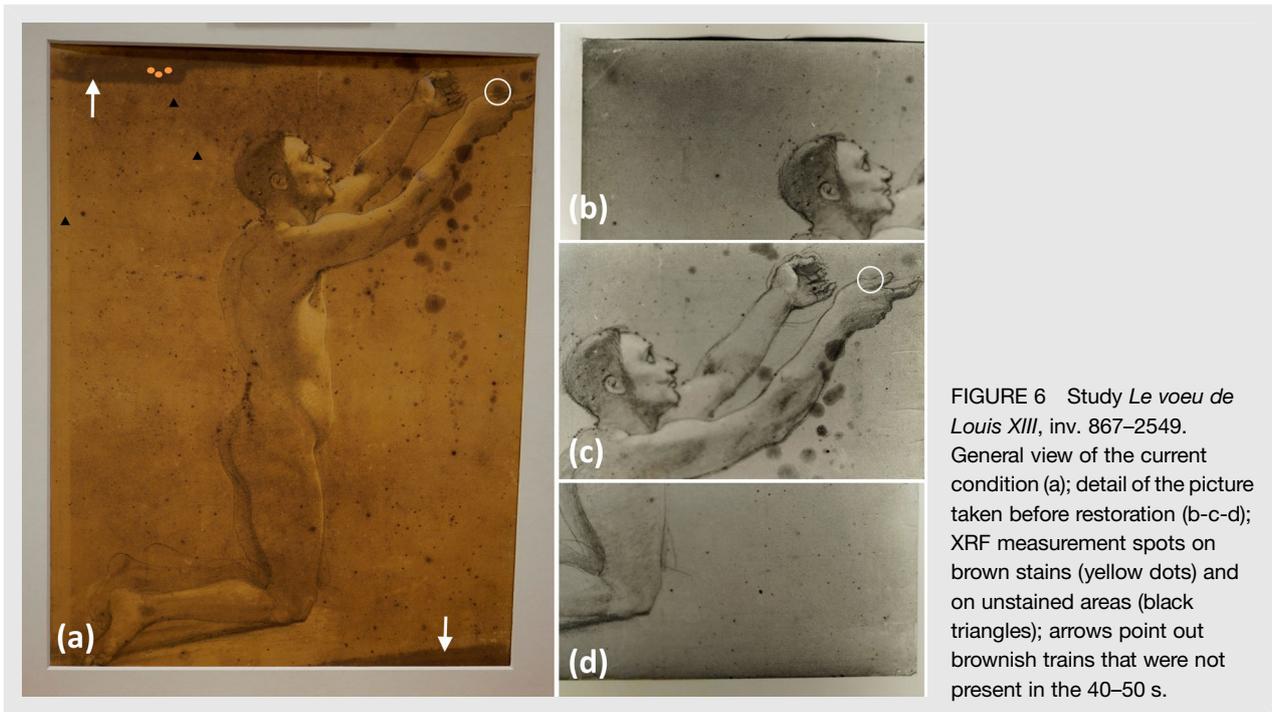


FIGURE 6 Study *Le voeu de Louis XIII*, inv. 867–2549. General view of the current condition (a); detail of the picture taken before restoration (b-c-d); XRF measurement spots on brown stains (yellow dots) and on unstained areas (black triangles); arrows point out brownish trains that were not present in the 40–50 s.

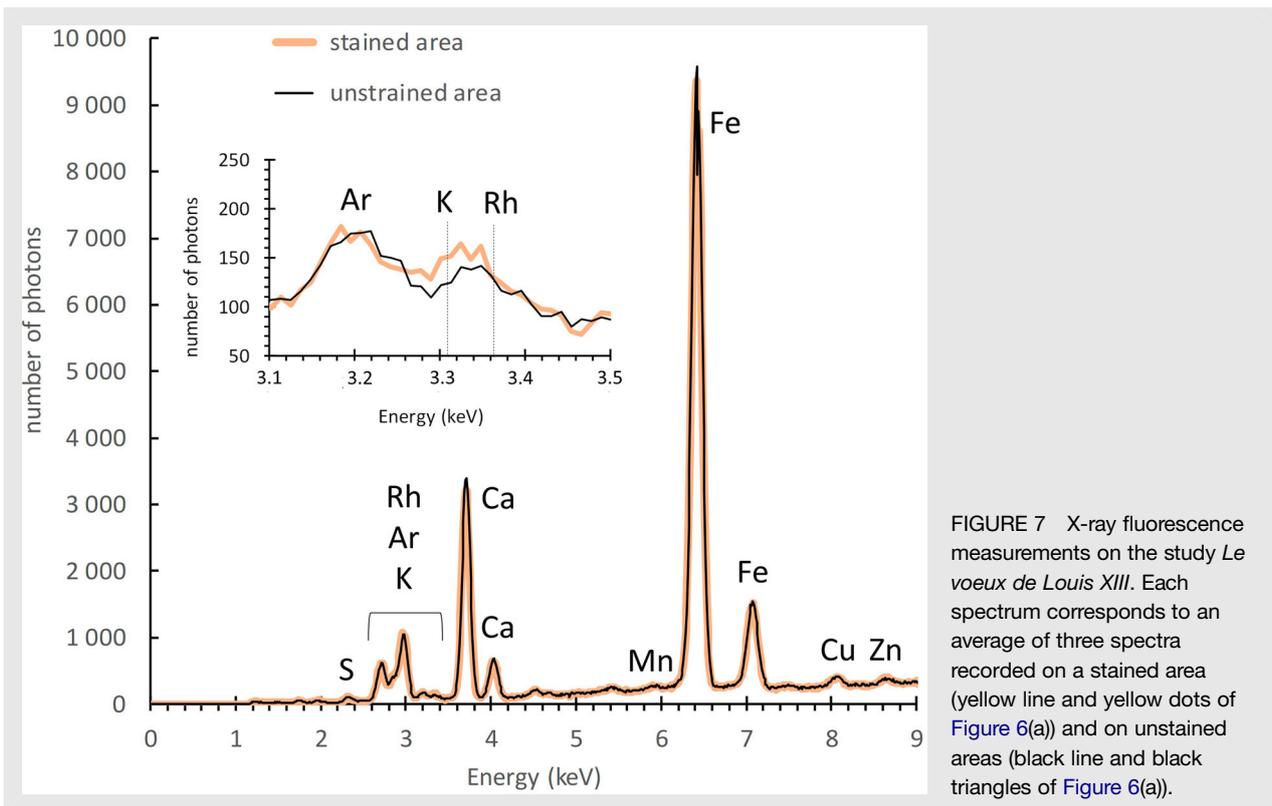


FIGURE 7 X-ray fluorescence measurements on the study *Le voeux de Louis XIII*. Each spectrum corresponds to an average of three spectra recorded on a stained area (yellow line and yellow dots of Figure 6(a)) and on unstrained areas (black line and black triangles of Figure 6(a)).

close to the detection limit, the potassium signal of strained areas is higher than the signal of unstrained areas (Figure 7). This difference appears to us to be meaningful as it was observed on the three individual spectra of each area, but should be completed by quantitative measurements. Another scenario may

then account for the presence of higher amounts of potassium in stained areas: chlorine bleaching is not advised on a paper that was previously bleached with potassium permanganate as chlorine solutions are generally alkaline and may induce some precipitation of the residues of manganese into brown

manganese dioxide products (Baynes-Cope, 1977). Looking at the photograph, we may reasonably assume that the drawing was not bleached by Lepeltier, but it may have been bleached before with sodium permanganate. If this were the case, the presence of potassium in brown areas may be related to a brush application of a potash (potassium hydroxide) solution. Why Lepeltier would have used a potash solution remains a question, considering that he did not mention this product. Yet potash solutions are reported in the paper restoration literature since the eighteenth century (Bonnardot, 1858) and were probably still in use at the time of Lepeltier. These solutions are highly alkaline, which may induce, on permanganate bleached papers, similar effects as chlorine bleaching, i.e. a manganese oxide precipitation. Of course, this scenario is to be confirmed by further testing.

Conclusion

The Ingres' drawing collection raises several conservation issues that motivated one of the first substantial restoration programmes undertaken in France after the Second World War. At that period, the *ICOM News* helped to promote reflection and experience sharing on an international level. It proved to be useful for French curators in charge of Ingres' drawing restoration programme. The way this programme was managed attests to a clear willingness to ban workshop secrets. The newly created conservation committee showed an increasing awareness of the necessity to exchange knowledge, to report on best practices, to document interventions and to support research in conservation. Of course, the technical aspects of interventions have been largely improved today, but the general considerations on conservation that were formulated at this period remain highly topical. This work also provides some feedback on bleaching methods, on their efficiency and on their undesirable side effects.

Notes

- [1] Paris, Archives nationales de France, AnF 20150044/311-312.
- [2] In French : *la restauration des dessins anciens se borne dans la généralité des cas au blanchiment du papier servant de support* (Paris, private collection of Lepeltier's family).
- [3] This notebook is referred to as 'Devis 1947–1951', private collection of Lepeltier's family.
- [4] This study probably corresponds to the reference 26 referred to as *Etude pour trois prélats assis, 'chapelle*

Sixtine', papier blanc, Mine de plomb in the first expedition list drawn up by Félix Bouisset in his letter of the 25 January 1947 to Georges Salles, director of the museum of France. It is also probably one of the two studies for the *Sistine Chapel* mentioned in the first Lepeltier's invoice of the 13 January 1947 (AnF 20150044/312).

- [5] In a letter sent to the IGM on the 24 March 1948, Jacqueline Bouchot-Saupique wrote : ' je faisais quelques réserves [...] sur l'état d'un dessin après une restauration aussi importante (papier blanchi donnant une certaine dureté au trait, crayon légèrement écrasé par la presse, etc.) ' (AnF 20150044/312).
- [6] This study probably corresponds to the reference 2 referred to as, *Etude de nu pour 'le Bain Turc', peinture sur papier*, in the first expedition list drawn up by Félix Bouisset in his letter of the 25 January 1947 to Georges Salles, director of the museums of France.
- [7] This study corresponds to the reference 5 referred to as *Bertin debout (46 × 38) sur bristol vert foncé*, in a list of 26 drawings that were to be mounted for the exhibition of the 15th June 1951.
- [8] Paris, Archives des Musées nationaux, Z 66 : Fonds de l'Inspection des musées de provinces dans la Direction des Musées nationaux. The folder *Archives du Musée Ingres à Montauban* contains a list of drawings sent back to the Ingres Museum on the 29 June 1950. It includes four drawings initially sent to Lepeltier on the 14 September 1948. Two are mentioned to be drawn with ink (*4 dessins dont 2 à la plume*) and a special comment for one of them fits well with the study. In French : *debout, nue de face. Assez jauni. Pièce collée en haut à gauche et en haut à droite. Papier plissé.*
- [9] Therefore acidic and reducing solutions, containing, for instance, hydroxylamine hydrochloride, hydrochloric acid, citric acid, oxalic acid, sulphurous acid, potassium metabisulfite, or sodium sulphite, are often used after a permanganate bleaching. They lower the pH and prevent the occurrence of undesirable deposits of manganese dioxides (Banks, 1969; Baynes-Cope, 1977).

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Ingres Zeichnungen: Restaurierungspraktiken im Rückblick

In den 1950er Jahren hat der schlechte Zustand der Ingres-Zeichnungen im Museum von Montauban, Frankreich, ein wichtiges Restaurierungsprojekt angestoßen, das vor Ort durchgeführt, jedoch von einer neu geschaffenen Kontrollinstitution für französische Museen mit Sitz in Paris überwacht wurde. Dieses Projekt kann als Ausgangspunkt in Frankreich angesehen werden für einen neuen Weg, Konservierungsstrategien zu definieren. Es war weitgehend inspiriert von der ersten ICOM-Sitzung in Paris im Jahr 1948. Es wurde von einer Kommission von Konservatoren geleitet, die einen innovativen Ansatz verfolgte, Transparenz förderte, Bleichbehandlungen in Frage stellte, die Qualität der verwendeten Materialien berücksichtigte und eine offene Zusammenarbeit zwischen Papierrestauratoren anstieß. Das vorliegende Werk, das anlässlich des 150. Todestages von Ingres entstanden ist, erinnert an den historischen Hintergrund des Projekts und betont dessen Originalität. Zu diesem Zeitpunkt gebleichte Zeichnungen wurden erneut untersucht, um die Nebenwirkungen oder Langzeiteffekte der angewendeten Behandlungen zu bewerten.

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