

**The Center for Alternative Photography
36 East 30th Street
New York, New York 10016**

WET PLATE COLLODION RESEARCH REPORT

April 28, 2011

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EXHIBIT LIST

- Exhibit #1:** A Comparison Between the Subject Painting and the 1883 Photograph Taken by Fernand Lochard.
- Exhibit #2:** Record of 327 Photographs Taken by Lochard in the Manet Studio, 1883.
- Exhibit #3:** Transmittal Letter Forwarding a Copy of the 1883 Lochard Photograph of *Femme allongée sur un canapé* from the Bibliotheque Nationale, Paris.
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Research Engagement: I was engaged by Daniel R. Goldenson, the owner of a painting by Edouard Manet entitled "Femme allongée sur un canapé" (dated 1873) to undertake a research project to consider why an early wet collodion photograph of this work, taken in 1883 by a French photographer, Fernand Lochard, failed to reproduce a portion of the composition, principally the divan, which is predominantly blue in color.

Eric Taubman: I am the founder of the Center for Alternative Photography at 36 East 30th Street, New York City, and an instructor in wet plate collodion photography, a nineteenth century technique that has had a rebirth in recent years in the United States. I give frequent workshops on this subject at our center, and also use the wet collodion process in my own personal photography.

Collaborator: For this project, I worked with Brenton Hamilton, an expert in albumen prints.

Expertise: Our biographical information is presented at the end of this report.

Scope of Project:

My assignment had two parts:

First, I was asked to provide an explanation for the failure of an 1883 wet plate collodion photograph to reproduce a complete image on an albumen print. **Exhibit #1** compares the 1883 photograph with the subject painting, entitled "Femme allongée sur un canapé." The early photograph, which has been published as No. 210 in Volume I of the Wildenstein and Rouart *Catalogue Raisonné of the Works of Edouard Manet* was taken by Fernand Lochard, the official photographer of the Estate paintings that remained in Manet's studio upon his death in 1883.

As can be observed, the photograph principally failed to reproduce the blue divan upon which the subject, Berthe Morisot, is reclining.

Second, since I specialize in wet plate collodion photography, I was asked to employ this same process to photograph the present-day painting and engage a second specialist, Brenton Hamilton, to develop the image on an albumen print-- to compare our results with that of Fernand Lochard and provide a further explanation of the contributions of both the wet plate collodion process and the albumen development process in causing the shortcomings which Lochard experienced in this example and in many of his other photographs.

Definitions:

Wet Plate Collodion Photography: The wet collodion process is an early photographic technique, developed in the middle of the 19th century, which was replaced in the 1890's with dry plates.

The George Eastman House, containing the International Museum of Photography and Film, 900 East Avenue, Rochester, New York, explains the process in this excerpt:

“Collodion-on-glass negatives were made by coating glass plates with collodion, a sticky substance to which light-sensitive silver salts could adhere. The sensitized plates were exposed in a camera, then developed in chemical baths. The majority of collodion-on-glass negatives were “wet-plate” negatives; the plate had to be coated and sensitized immediately prior to exposure and then developed shortly after exposure, before the plate could dry. This required view photographers to carry all of their chemicals and equipment with them in the field. Although ways to slow the drying time of the collodion were developed, thereby allowing the plates to be prepared farther in advance of their use, these so-called “dry-plate” collodion negatives produced inconsistent results and required longer exposure times than wet-plate negatives, hampering efforts to commercially produce and market such plates.”

The wet collodion process had a number of disadvantages which are discussed in John Hannavy's *Encyclopedia of Nineteenth Century Photography* (Routledge, UK, 2007) the first comprehensive encyclopedia of world photography up to the beginning of the twentieth century. It quotes an early photographic booklet published by Joseph Cundall called the *Photographic Primer for the Use of Beginners in the Collodion Process* (London, Photographic Institution, 1854) which presented “a facsimile of a photographic picture of birds, showing the difference of tone produced by various colors.” According to the *Encyclopedia*, “This was probably the first attempt to explore visually the impact of the collodion plate's blue sensitivity of tone reproduction.”

The entire wet collodion process, from coating to developing, had to be done before the plate dried. This requirement gave the photographer no more than ten minutes to complete everything, and therefore made it inconvenient for field use, as it required a portable darkroom. The plate dripped silver nitrate solution, causing stains and troublesome build-ups in the camera and plate holders.

The silver nitrate bath itself was also a source of problems. It gradually became saturated with alcohol, ether, iodide and bromide salts, dust, and various organic matter. It would lose effectiveness, causing plates to mysteriously fail to produce an image.

In Alma Davenport's The History of Photography: An Overview (Buttersworth/Focal Press, 1999) there is also considerable discussion about wet collodion shortcomings:

"The second irksome problem of the photographic technology of the 1890's was inherent in the film, not the camera. Since the inception of photography, there had been a persistent desire to represent the true range of black and white tonal values translated from our human optical experience of color. Wet-collodion plates and the early gelatin plates were overly sensitive to blue light and insensitive to the green, yellow, orange, and red rays of the spectrum."

Warm colors appear dark, cool colors uniformly light. A sky with clouds is difficult to render, as the spectrum of white clouds contains about as much blue as the sky. Lemons and tomatoes appear a shiny black, and a blue and white tablecloth appears plain white. Victorian sitters who in collodion photographs look as if they are in mourning might have been wearing bright yellow or pink.

Albumen Print: According to the George Eastman House's International Museum of Photography and Film,

"Albumen prints, which were invented in 1850 by Louis-Desiré Blanquart-Evrard, were the most common type of photographs from the nineteenth century and were the first photographic prints in which the image was suspended on the surface of the paper instead of being embedded in the fibers of the paper. The process involves coating a sheet of paper with albumen (egg white), which gives the paper a glossy, smooth surface. The albumenized paper is sensitized with a solution of silver nitrate, then exposed in contact with a negative, generally a collodion on glass negative.

Albumen prints are "printed-out," meaning that the image is created solely by the action of light on the sensitized paper without any chemical development. The printing-out process requires long exposures and results in prints that are susceptible to fading. Despite these problems, the ability to capture fine detail and the relative ease of producing many prints from a single negative helped hasten the replacement of direct-positive processes, such as daguerreotypes and ambrotypes, by negative-positive processes."

Lochard Records:

Exhibit #2: Record of 327 photographs taken by Lochard in the Manet Studio.
(Wildenstein and Rouart, *Manet Catalogue Raisonné*, page 24)

Exhibit #3: Transmittal Letter from the Bibliotheque Nationale, Paris, providing a copy of the subject photograph, described as being in poor condition, May 12, 1978.

Exhibit #4: Formal Request by family of the prior owner of the painting for a copy of the subject Lochard photograph, May 5, 1978.

Examination of Other Lochard Photographs: The very same photographic shortcomings that appear in the subject photograph relative to the subject painting also appear in many other photographs taken by Fernand Lochard when he recorded the Manet Estate paintings:

Exhibit #5: A comparison of "*Un bar aux Folies Bergère*" with the corresponding Lochard photograph taken in 1883 in Manet's studio. (Here, one can see that the bluish elements of the painting did not reproduce and appear white.)

Exhibit #6: A comparison of "*Argenteuil*" with the corresponding Lochard photograph taken in 1883 in Manet's studio. (Again, one can see that the bluish elements of the painting, especially the water and the design of the dress, do not reproduce at all and are rendered white in the final photographic print.

What is the Underlying Condition of the Subject Painting? To be sure that the "missing" blue divan in the Lochard photograph was not added by another artist to make the subject painting into a complete composition, the owner of this painting, Daniel R. Goldenson, engaged the services of a number of prominent conservators to analyze the painting with all available scientific techniques, summarized below. The results of those examinations show that the painting had always been a finished composition, reinforcing the fact that the 1883 Lochard photograph simply produced a faulty image, especially because the wet plate collodion process, coupled with the weaknesses of the albumen print, were not able to reproduce the blue spectrum colors.

Exhibit #7: Excerpts from the Technical Report, Museum of Fine Arts, Boston, by William Young, Chief Conservator, 1978. In 1929, William Young emigrated from England, leading the Conservation Division of the Museum of Fine Arts (then called Objects Conservation and Scientific Research Laboratory) until his retirement in 1976. During his tenure, Young pioneered dramatic restoration techniques and contributed immeasurably to the understanding of the methods of manufacture and the materials used in works of art by systematic scientific analysis. He also instituted some of the earliest international symposia devoted to conservation science, including the renowned series, "Application of Science in the Examination of Works of Art."

Exhibit #8: Excerpts from the Technical Report by Conservator of Paintings Nicholas Eastaugh, London, 2005. Dr. Eastaugh specializes in the analysis of fine art and other historical objects with an international client base incorporating private collectors, national museums, auctions houses and dealers. He holds a B.Sc. in physics and is also a graduate of the Courtauld Institute of Art. He is an honorary fellow of the Research Laboratory for Archaeology and the History of Art, Oxford University and has held posts at the Courtauld Institute of Art, University of London and the Textile Conservation Centre, Hampton Court Palace.

Dr. Eastaugh is co-founder of the Pigmentum, an inter-disciplinary program aimed at developing comprehensive high-quality analytical data on historic pigments. He is also co-author of a major reference work for the identification of pigments in works of art and a lecturer in microscopy, conservation science, technical art history and forensic science.

Exhibit #9: A letter from David Bull, former Chief Conservator, National Gallery of Art, Washington, D.C., dated January 15, 2010. David Bull has expertly cleaned, conserved and restored important paintings by Titian, Vermeer, van Eyck and others for nearly half a century. Currently Senior Consultant to the Painting Conservation Department at the National Gallery of Art in Washington, D.C., Mr. Bull began his career in his native England at the City Art Gallery in Bristol and the National Gallery in London. After more than a decade in private practice, where he served a global clientele of private art collectors, dealers and museums, Mr. Bull was named Head of Painting Conservation at the J. Paul Getty Museum in Malibu, CA. He later served as Director, the Norton Simon Museum, and returned to private conservation practice in 1981 as President, Fine Art Conservation and Restoration, Inc., a business that he maintains today with Teresa Longyear. He became affiliated with the National Gallery of Art in 1984, and was named its Chairman of Painting Conservation in 1989.

Close Digital Study of the Lochard Photograph: I have also examined the digital comparison made by Thomas Arter, a digital photographer, involving the superimposition of the Lochard photograph over the subject painting. I note that he was able to discover that seemingly insignificant black marks in the “canapé area” of the Lochard photograph were actually precise trace elements of the “missing composition,” including the upper edge of the divan, a vertical line in the divan skirt, and—perhaps most important—three black shadow areas below the divan—all substantiating the fact that Lochard stood in front of a complete composition, using a wet plate collodion camera that could not reproduce the blue spectrum colors.

Exhibit #10: Trace Composition Found in Horizontal Area of Upper Canapy.

Exhibit #11: Canapy Ruffle and Shadows

Present-Day Wet Collodion Photograph on Albumen Paper: On April 4, 2011, Daniel Goldenson brought the subject painting to our photographic center in New York, and I was able to take several photographs using a 19th Century reproduction wet collodion plate camera. I held these glass plate negatives until the weekend of April 16 and 17 when I was joined by my colleague, Brenton Hamilton, who had arrived to teach a workshop on albumen prints. The following exhibit shows the photograph we were able to take, which shares the same photographic deficiencies as the original Lochard photograph, although it was fresh, and not 125 years old.

Exhibit #12: Present-Day Wet Collodion Image on Albumen Paper

Over a sequence of photographs taken on April 4, it was apparent that some parts of the blue spectrum produced white or nearly white images when developed from the collodion negative. When we printed the images on albumen paper, we observed a further deterioration of the image of the blue canopy, clearly suggesting that—based upon the chemicals, light, and development solution Lochard would have used—he consistently was unable to record the blue areas in several of Manet’s most famous paintings. And the experiment further confirms that the confusion between the wet collodion photograph and the subject painting itself can definitely be attributed to the failings of the photographic process, and not the absence of a major part of the composition.

Commentary and Conclusions: There is no question in my mind, having seen hundreds of wet collodion photographs, that the extant print by Lochard which has been published as No. 210 in the Wildenstein and Rouart Catalogue Raisonné of Manet’s Works, and which precisely matches the subject painting, has many shortcomings, but probably was in somewhat better condition 125 years ago when it was first taken, since weak images fade over time. The confusion that exists between Lochard’s image and the present-day painting can be, in my opinion, entirely attributed to the nature of photography in 1883 which—because of the shortcomings of wet plate collodion and albumen printing—could not provide a full and accurate image of subjects that were in the blue spectrum—and the “missing canopy” is entirely in the blue spectrum.

All of the evidence that I have seen supports this conclusion:

1. The underlying painting was a completed composition in 1883, with a blue canopy, according to three prominent international experts.
2. The failure of the blue canopy to reproduce in Lochard’s photograph, and to a similar extent in our present-day test, exemplify the standard shortcomings of the wet plate collodion process in its inability to record the blue spectrum colors.
3. Two of Manet’s most famous paintings-- “*Un bar aux Folies Bergère*” and “*Argenteuil*” – were photographed by Lochard in Manet’s studio in 1883—at the same time the subject painting was photographed, and display the very same absence of the blue composition elements as we found in the subject Lochard photo vs. the painting of “*Femme sur un canapé.*” Hence, this comparison also reinforces the fact that we are not dealing with an isolated problem, but rather a universal problem that existed with this 19th century photographic technique.
4. The Bibliotheque Nationale made specific note that the Lochard photograph was of poor quality—“*mauvaise qualite*” when it was sent to Mr. Podgoursky in 1978.

BIBLIOGRAPHY

Alter, Thomas, Photographer. *Digital Photographic Examination of Lochard Photograph: Manet's Femme allongée sur un canapé*, Damariscotta, Maine, 2010-2011.

Bull, David. *Letter Report, Edouard Manet's Berthe Morisot on a Divan*, New York, January 15, 2010.

Cundall, Joseph. *Photographic Primer for the Use of Beginners in the Collodion Process*. London, Photographic Institution, 1854.

Davenport, Alma. *The History of Photography: An Overview*. Buttersworth/Focal Press, Oxford, UK and Waltham, MA, 1999.

Eastaugh, Nicholas. *Technical Report: Manet's Femme allongée sur un canapé*. London, April 20, 2005.

George Eastman House. *International Museum of Photography and Film*. 900 East Avenue, Rochester, New York.

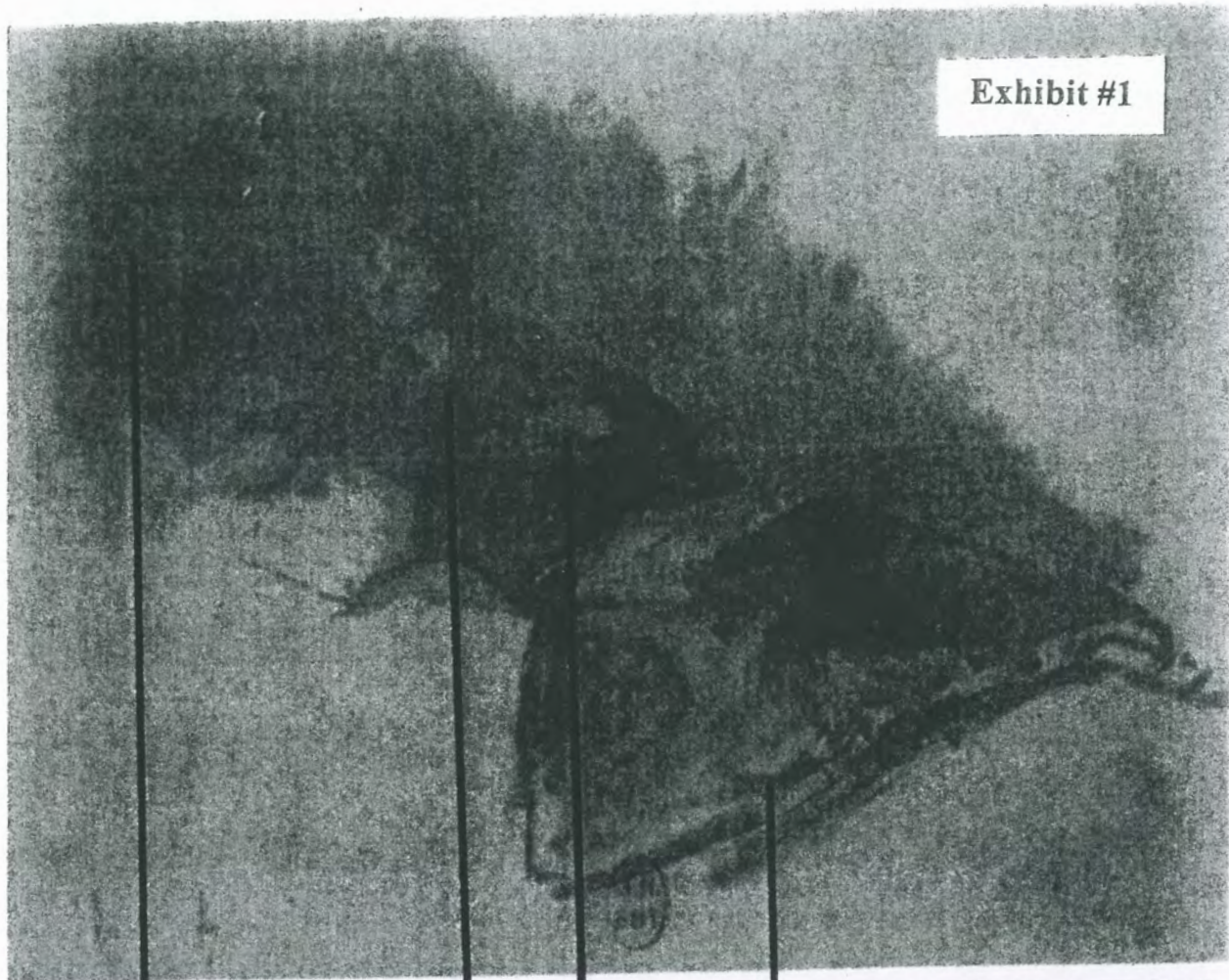
Hannavy, John. *Encyclopedia of Nineteenth Century Photography*. Routledge, United Kingdom, 2007.

Photographic Archives. *Lochard Photograph of Manet's Femme allongée sur un canapé. Lochard. Dc 300g, Volume 5, page 34*. Bibliotheque Nationale, Paris.

Rouart, Denis and Wildenstein, Daniel. *Catalogue Raisonné of the Works of Edouard Manet. Volume I: Peintures*. La Bibliotheque des Arts, Lausanne- Paris, 1975.

Young, William. *Technical Report*. Museum of Fine Arts. Boston, 1978.

Exhibit #1



1884. Janvier. — Edmond Bazire, critique d'art de l'*Intransigeant*, publie un *Manet* illustré par Henry Guérard, avec des reproductions d'œuvres de Manet.

— Ouverture de l'Exposition d'œuvres de Manet, salle Melpomène, à l'Ecole des Beaux-Arts. Elle comprend 179 numéros, dont 116 tableaux, 31 pastels, 20 cadres d'aquarelles et dessins, 12 cadres d'eaux-fortes et de lithographies. La préface du catalogue est écrite par Emile Zola.

Critiques de l'Exposition. Extraits:

Toutes les fois que la clinique des Beaux-Arts expose dans ses ambulances du quai Malaquais les œuvres d'un peintre mort, je suis pris de peur. Constatant, l'expérience rate. Delacroix même et Manet ne sont pas sortis intacts de cette bagarre zélée de toiles. Pour Corot ce fut un désastre...

HUYSMANS, *Certains*, p. 191 (art. sur Millet).

Sur le *Buveur d'absinthe*: C'est une figure d'atelier, une figure qui étouffe dans un milieu sans air. Nul contraste, nul ressort, nulle réalité. Chose bizarre: ce buveur est une vision purement subjective: on dirait qu'à ce moment Manet n'a pas encore ouvert une fenêtre sur la nature et sur la vie...

Sur le *Fifre*: Il est appliqué sur un fond gris monochrome; pas de terrain, pas d'air, pas de perspective; l'infortuné est collé contre un mur chimérique... Le *Fifre*, amusant spécimen d'une imagerie encore barbare, est un valet de carreau placardé contre une porte...

Sur *Argenteuil*: Cette peinture dit tout en ce sens qu'elle abroge le Manet instinctif pour le remplacer par le Manet scientifique.

Paul MANTZ, *Les œuvres de Manet*, dans *Le Temps*, 16 janvier 1884.

Un effet de soleil qui est juste, obtenu grâce à des oppositions qui sont fausses.

G. DUBUFFE fils, *Manet*, dans la *Nouvelle Revue*, 1^{er} février 1884, p. 59.

— On enregistre 13 000 entrées payantes à l'Exposition du 5 au 28 janvier.

MOREAU-NÉLATON, t. II, p. 105.

22 janvier. — Conférence de Jacques de Biez sur Manet, salle des Capucins. Elle paraît en brochure: Jacques de Biez, *Edouard Manet*, L. Baschet, édit. 1884.

→ — Le photographe Lochard prend 327 clichés dans l'atelier de Manet (M. Tabarant affirme que le nombre des clichés pris fut plus élevé).

TABARANT, *Manet. Histoire catalographique*, 1931, p. 21.

2 et 3 février. — Exposition à l'Hôtel Drouot de 169 œuvres de Manet.

4 et 5 février. — Vente à l'Hôtel Drouot (commissaire-priseur, Paul Chabrier; experts, Durand-Ruel et Georges Petit). Le total obtenu est de 116 637 francs.

DURET. — MOREAU-NÉLATON, t. II, p. 107.

21 février. — Lettre de Faure à Léon Koella-Leenhoff:

... Je demande trente mille francs du *Bon Bock*. J'en ai refusé plusieurs fois vingt mille.

Publiée par TABARANT, *Manet. Histoire catalographique*, 1931, p. 235.

— Mort de Gustave Manet, frère d'Edouard Manet.

1885. — Banquet organisé par la famille et les amis de Manet pour fêter l'anniversaire de l'Exposition dont je viens de parler. M. Leenhoff avait choisi pour cette réunion le restaurant du père Lathuille. Il y vient cent cinquante convives.

Antonin PROUST, p. 139.

1889. — Manet figure à l'Exposition universelle avec quinze tableaux: *L'Olympia*, *Le Fifre*, *Le Guitarero*, *L'Homme mort*, *Le Bon Bock*, *Le Port de Boulogne au clair de lune*, *Le Liseur*.

V
BIBLIOTHEQUE NATIONALE

Service photographique

Exhibit #3

58, rue de Richelieu
75084 PARIS CEDEX 02
CCP : Paris 9063-64
Tél : 266 62 62

Ouvert tous les jours ouvrables
de 10h. à 12h. et de 14h. à 17h.
(samedi de 10h. à 12h.)

Vos références : votre lettre/ commande
du 5.5.1978
n°

Nos références : correspondance 33794/VR
pro-forma
commande

Monsieur Vladimir PODGORSKY
31 Locust Lane
PRINCETON, NEW JERSEY 08540
U.S.A.

Paris, le 12 Mai 1978

Le Conservateur, chef du service photographique, accuse réception de votre lettre/
commande, concernant la reproduction de :

-Edouard Manet : Femme allongée sur un canapé (photographie de Lochard). Cote Est. Dc 300p in 4

et a l'honneur de vous informer que : ces recueils de photographies des oeuvres de Manet par
chard ont été donnés au Cabinet des Estampes par Monsieur Moreau-Mélanton en 1927. Cette photogr
de 94mm sur 75mm est de mauvaise qualité, nous vous en proposons donc un cliché 9cmx12cm (en d
exemplaires). Aucune indication n'accompagne cette photographie sur le recueil.

Veillez trouver ci-joint la facture pro-forma.

Pour le Conservateur en Chef
du service photographique.

VR.

31 Locust Lane
Princeton, New Jersey 08540

May 5, 1973

Bibliothèque National
58 rue de Richelieu
Paris 2e, France

Re: Edouard Manet, Photographies d'après les O'Evres, Recueil
Factice, 8 vol. (Lochard), De 300g 4°; Tome 5, p. 34

210

FEMME ALLONGÉE SUR UN CANAPÉ

T. Dimensions inconnues

Cette esquisse ne nous est connue que par la photographie
Lochard, s.n°.



Dear Sirs:

The above small reproduction is reproduced in the Catalogue
raisonné of Edouard Manet's works by Denis Rouart and Daniel
Wildenstein, Lausanne-Paris, 1975, in Tome I, pages 178 & 179. (No.)

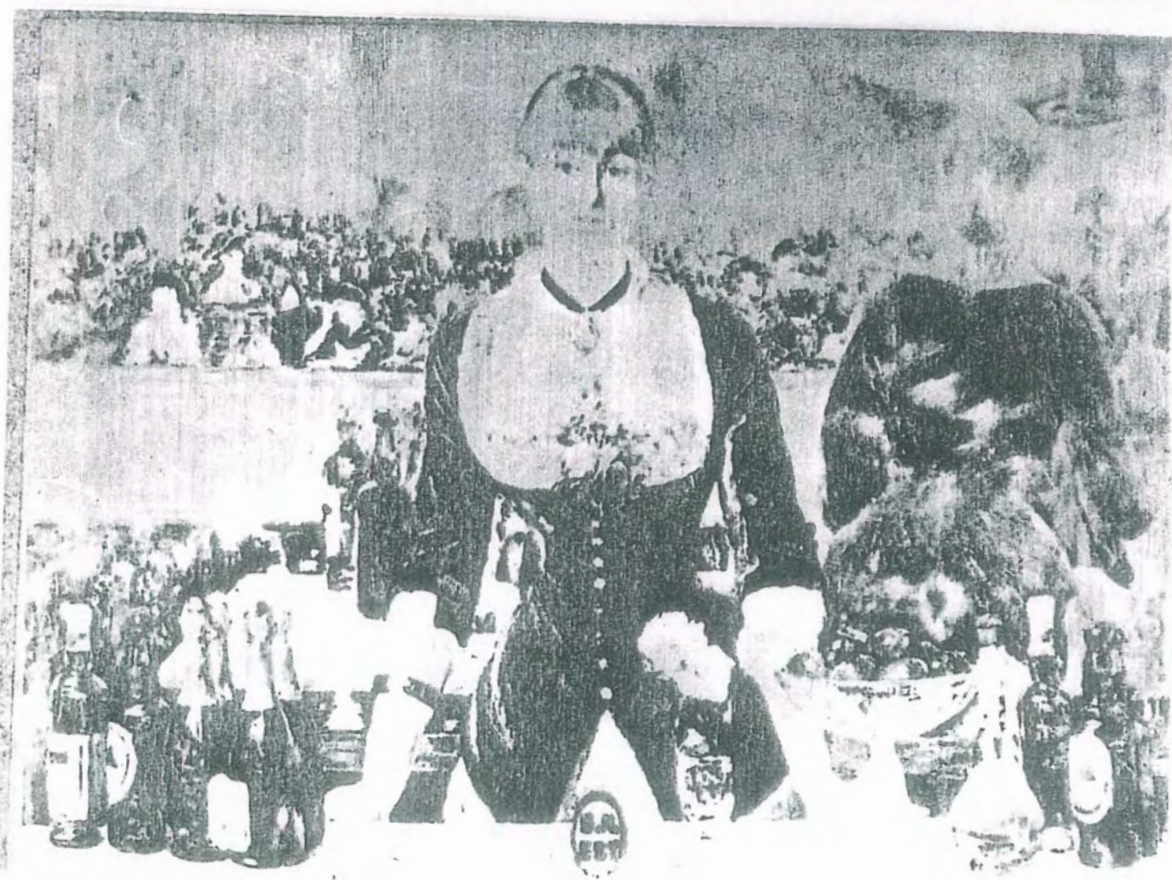
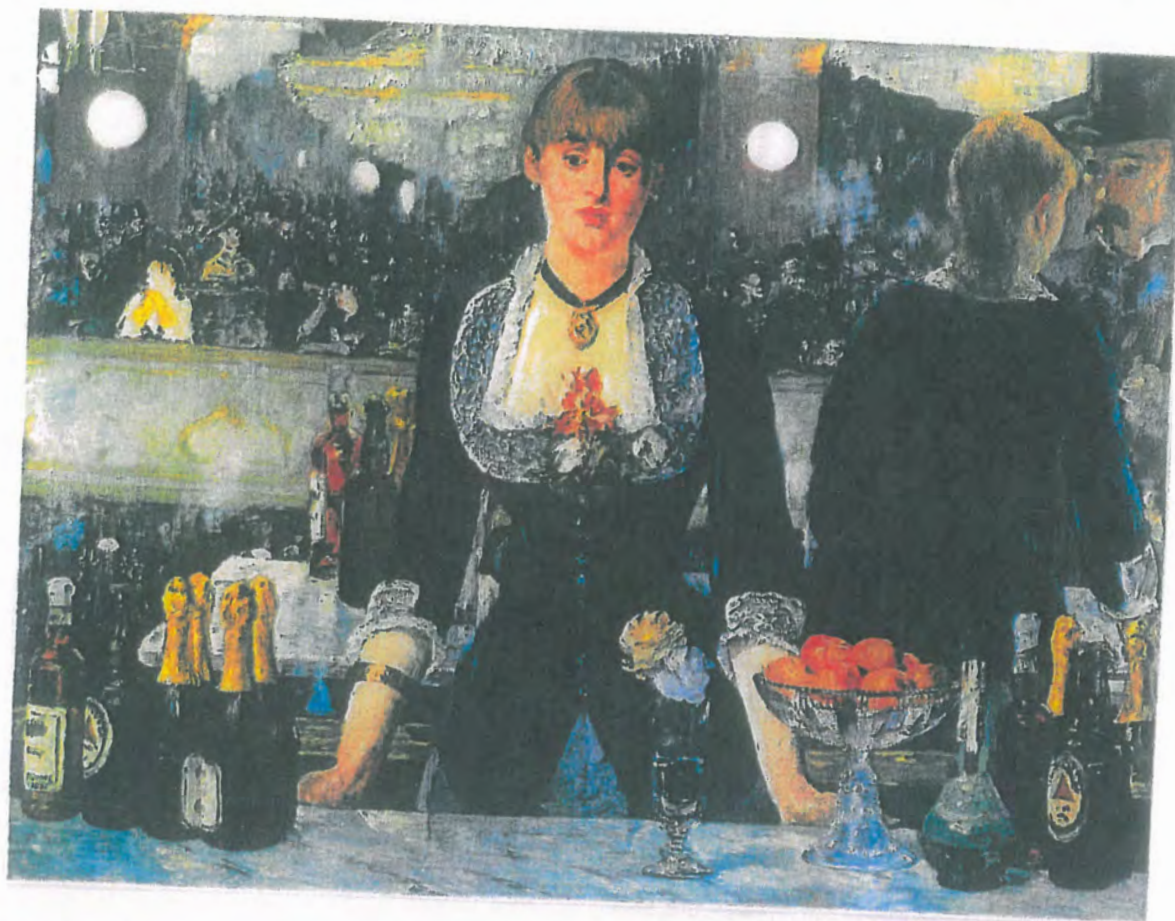
I have been informed that you have in your library the orig-
inal photograph from which the above small reproduction was made.
For study purposes I am in need of a larger photograph showing
more detail of the above reproduced subject and would be very
grateful if you could furnish me with a good-quality duplicate
photograph made from your Lochard original. I will be glad to pa-
you for your help and customary charges in this matter. If possi-
ble, I would like to have 2 duplicate photographs. Please let me
know how much it will cost to have this done and I will remit the
amount to you. (A self-addressed return envelope is enclosed).

Also, I would appreciate you letting me know what is the
actual size of the original Lochard photograph you have and if
there is any other information of any kind (numbers, names, etc.)
that is written on the back of the photograph.

Thanking you, I am

Very truly yours,

Vladimir Podgoursky





CONCLUSIONS

Exhibit #7

From the above examinations, I can make the following conclusions about the subject painting:

- 1) This painting is the same painting which Lochard photographed and which appears as illustration #210 in the Rouart and Wildenstein Catalogue Raisonnee cited above (see Fig. 9).
- 2) The chemical analyses of the pigments throughout the painting indicate pigments that were used at the time of Manet. No modern pigments are in evidence.
- 3) Analyses of the canopy by microscopic observation and through energy dispersive X-ray fluorescence do not provide any evidence to indicate that the canopy and foreground are of a later date.

Two 8 x 10 raking light photographs were made of the painting (Fig. 10). Study of the raking light photographs substantiated the microscopic interpretation of the impasto of the painting indicating that the canopy was part of the original composition of the painting. One can observe in the raking light, as observed in the microscopic examination, many black areas that were found to be painted over the blue-green areas of the canopy.

- 4) As a consequence of my study, it is my opinion that the subject painting is executed by the hand of Edouard Manet.

Respectfully submitted,



W. S. Young
Director Emeritus

May 22, 1979

Excerpts from the Technical Report by Nicholas Eastaugh

A summary of conclusions:

Pigments: "Analysis has also shown a range of pigments to be present in the painting consistent with published examples of Manet's practice, in terms of both specific choices and complexity of mixtures."

Positional Correspondence of the Painting and the Lochard Image: "It is perhaps sufficient to report here that the probability is very high that the Lochard image is of the same painting. It was found that overlay images of the Lochard photograph scaled remarkably well to match the painting."

X-radiography: "By study under magnification it is possible to see that there is no evidence (especially where there are denser layers present such as the white/lighter blue noted above) of either in-filled or overlain cracks. Consequently there is no evidence for later additions of paint from this."

Paint Media: "By comparing similar types of paint one might expect to find different levels of components within the binding media if they had been applied at widely differing dates. In essence, no significant differences were found among the four samples analyzed."

Stratigraphy: "In none of the samples taken was there evidence of dirt layers or other such clear indications of discontinuity... This confirms the findings from the paint cross-sections, which seemingly imply that the preliminary paint layers are essentially continuous with the upper layers. The conclusion should be that the painting was to all intents and purposes produced continuously, without significantly later alteration."



Image 1 Closeup of the area above the ruffle

Trace Composition Found in Horizontal Area of Upper Canapy

Image 1 shows an area of the canopy between the two horizontal lines near the figure of Berthe Morisot that corresponds precisely with trace elements found in the Lochard photograph (image 2). These image remnants show that the canopy composition was photographed by Lochard, but did not fully show up in the development process.

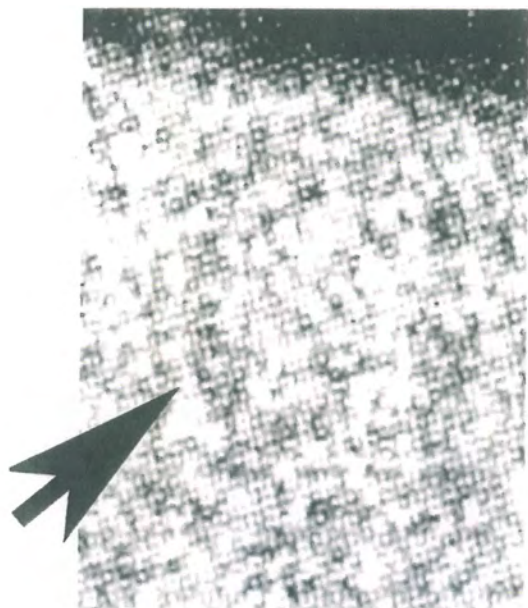


Image 2 Lochard Alone



Overlay of the Painting and the Lochard

Trace Composition Found In Lower Part of Lochard Photograph

By superimposing the Lochard photo precisely over the image of the painting, we found that several of ruffles of the canopy (image 1) aligned precisely with darker trace areas in the Lochard photograph (image 2). We also found that (3) dark shadow below the canopy (image 3) aligned precisely with trace areas in the Lochard photograph (image 4).

The corresponding evidence that was found in the Lochard photograph clearly shows image remnants that did not reproduce fully in the development process, but were definitely part of the original photograph taken by Fernand Lochard.



Image 1 *Ruffle Detail*

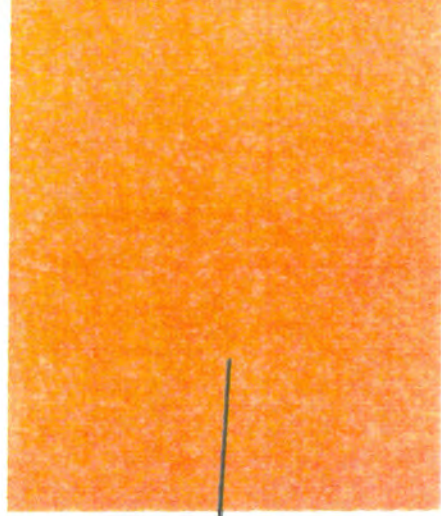
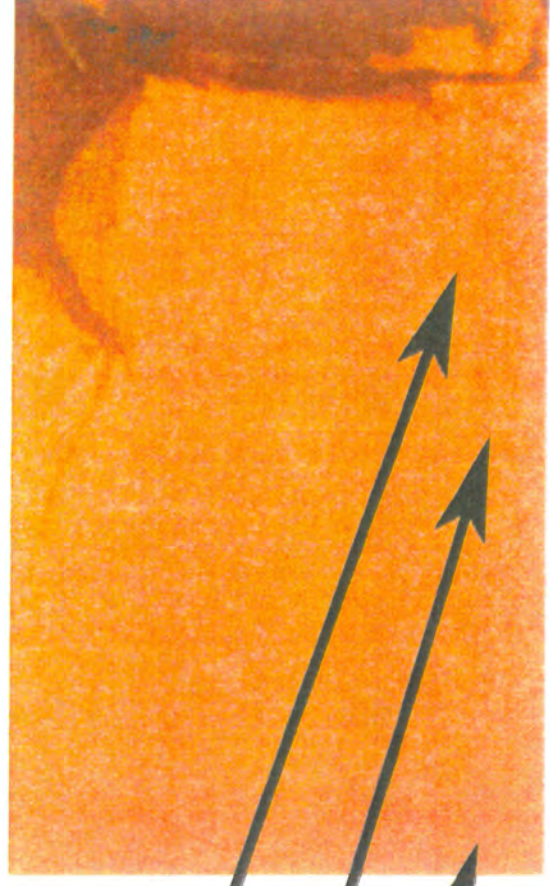


Image 2 *Lochard Detail*



Image 3 *Manet Ruffle*

Image 4 *Traces of Shadows Below Canopy*





**Wet Plate Collodion Photograph With Albumen Print
Using 19th Century Camera Produced April 4, 2011**

**Photography by Eric Taubman
Albumen Print by Brenton Hamilton**