

Reevaluation of *Luncheon of the Boating Party*

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Paint Analysis by Thomas Lam, Stephanie Barnes,
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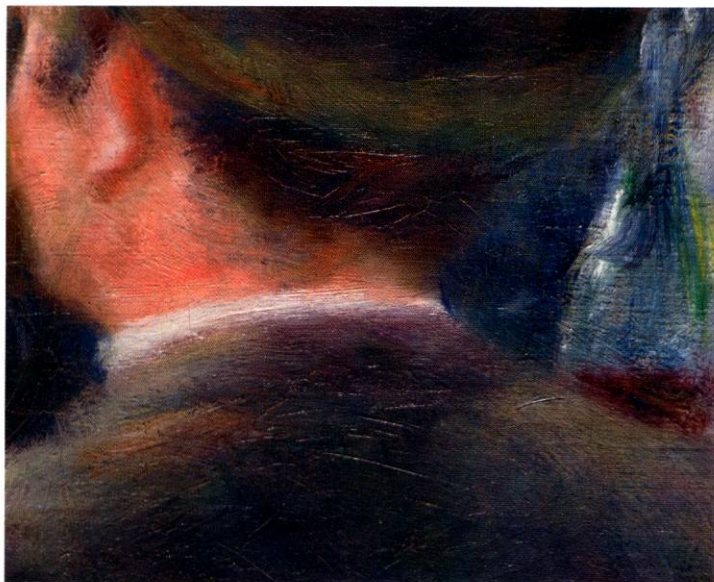
THE FIRST TECHNICAL STUDY of Renoir's *Luncheon of the Boating Party* was published in conjunction with The Phillips Collection's 1996 exhibition *Impressionists on the Seine*. Twenty years later, in preparation for *Renoir and Friends*, a fresh assessment of the picture was undertaken using improved X-radiographic and infrared images and new paint cross-sections. While many observations from the previous study remain the same, a second look provided more insight into composition changes than was previously discovered.¹ The allure of the painting lies in Renoir's ability to capture the moment of friends casually enjoying an afternoon at a restaurant on the Seine. What this in-depth examination shows is that he did so only after multiple revisions. We don't know how many people posed at any one sitting, but we assume they came in small groups or perhaps individually.² While working on the painting, Renoir wrote to Paul Berard about friends coming and going, complaining about how difficult it was to finish it, since

"Deudon, who was meant to come, has not shown up and I have not seen anyone since your trip. I do not know if Ephrussi is back; I am sacrificing this week too since I have done all I can and I will return to my portraits . . . when I will be able to leave I have no idea and I will not fix a date. I believe I will continue to be delayed and in that case you will be back before me."³

Much of the painting's success lies in the convincing interaction that Renoir creates among his models. Their arrangement in twos and threes leads the eye across the table and through the picture to the back of the balcony. It is the complexity of the scene that makes it so intriguing, and demonstrates the painter's mastery of strong compositional skills. No preparatory drawings are known to exist and little underdrawing is apparent in the infrared image; it seems as if the artist developed the work directly on the canvas, making changes as the picture evolved. In the same letter to Berard, he recounts this struggle, saying he had to remove a figure "and I no longer know where I am with it except that it is annoying me more and more."⁴ Under raking light, we can identify the passages where changes were made by the textured brushstrokes under the top layer of paint that bear no relationship to the final picture (fig. 48). Earlier states of sitters

OPPOSITE PAGE

FIG. 48. Detail of *Luncheon of the Boating Party*: close-up of table top around wine cask in raking light.



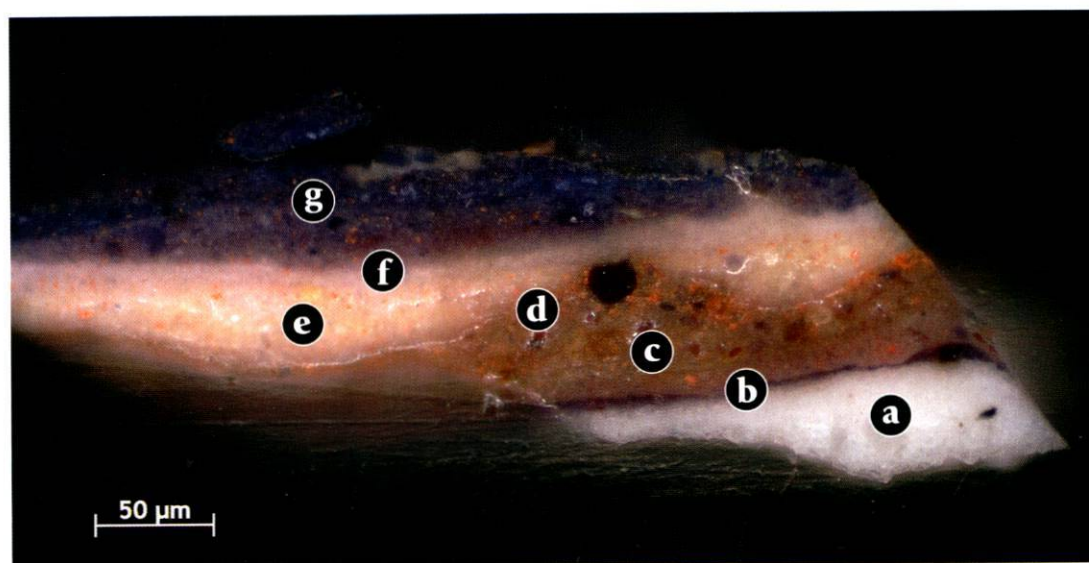
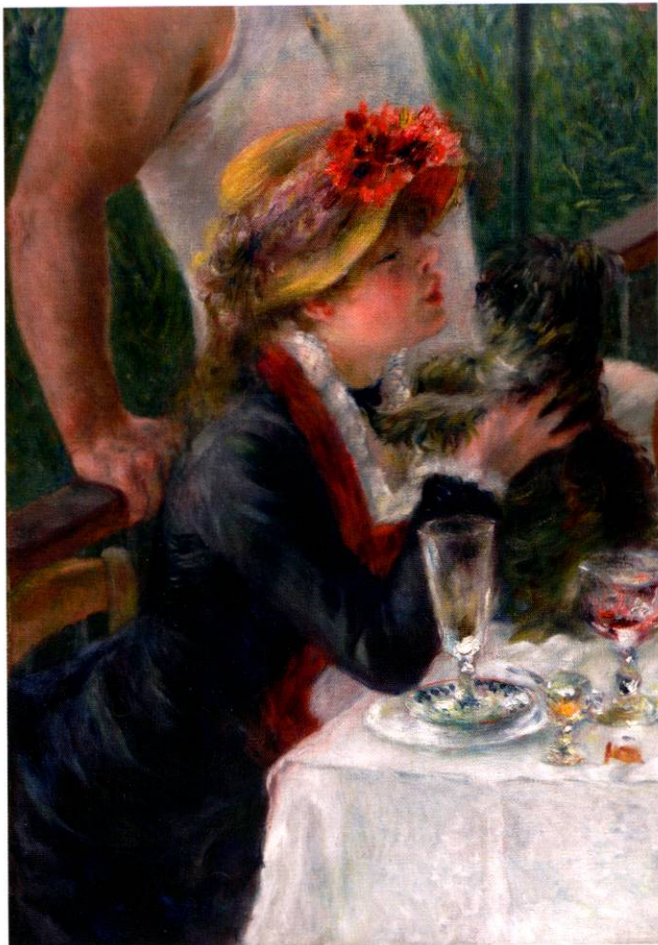
LEFT
FIG. 49. Detail of *Luncheon of the Boating Party*: drying cracks visible in figure's head and back in raking light.

ABOVE
FIG. 50. Detail of *Luncheon of the Boating Party*: red paint showing through cracks of Aline Charigot's dress in raking light.

and alterations throughout the picture are also detectable in the X-radiograph and the infrared image (figs. 62 and 63). When studied under high magnification through a microscope, distinctly different colors in the underlying layers are visible inside drying cracks. The very existence of drying cracks⁵ on the surface, formed when Renoir painted over a passage that was not yet dry, attests to his reworking process (fig. 49).

One of the most dramatic changes Renoir made is in the lower left; the woman holding the dog, Aline Charigot, was painted over another figure. In the X-radiograph, a completely different sitter is visible who turns in her chair to face the viewer.⁶ She wears a dress with three-quarter-length sleeves and folds her right arm along her torso, holding an object—perhaps a glass or a handkerchief (fig. 51). Elaborating on his annoyance, Renoir tells Berard that “I’m obliged to go on working on this wretched painting because of a high-class cocotte who had the impudence to come to Chatou wanting to pose; that put me a fortnight behind schedule and, in a word, today I’ve wiped her out.”⁷ It seems probable that the figure in the X-radiograph is the “high-class cocotte.” Red paint is visible in the cracks of Aline Charigot’s blue dress, indicating

that the model he painted over wore a red dress (fig. 50). A microscopic sample was taken from an existing loss in the lower left and made into a cross-section, which reveals the paint application in this area (fig. 52). The bottom layer (a) is the lead white ground used to prepare the canvas. Next, a very thin cobalt blue layer (b) is visible, which is most likely Renoir’s preliminary sketch applied by brush. On top of this are two to three applications of paint ranging in tone from light pink to a more orange/red color that correspond to the dress worn by the first model. Renoir used lead white and red lake for the lower layers (c) and lead white, vermillion, and red lake with traces of chrome yellow or chrome orange and possibly zinc yellow for the upper layers (d). On top of the red is a layer (e) containing lead white with a small amount of light red (probably vermillion) and yellow pigment particles dispersed throughout. This lighter-colored layer most likely represents a highlight in her dress. The next layer (f) is a thin application of lead white, which the artist presumably used to block out the bright red color. The top two layers (g) are composed mainly of cobalt blue and red lake, and correspond to the dress worn by Aline Charigot.⁸ Another clue to the existence of the



ABOVE

FIG. 51. Detail of *Luncheon of the Boating Party*; Aline Charigot in raking light compared to same area in X-radiograph.

LEFT

FIG. 52. Paint cross-section taken from Aline Charigot's dress in *Luncheon of the Boating Party*. Darkfield Illumination at 200 x original magnification.

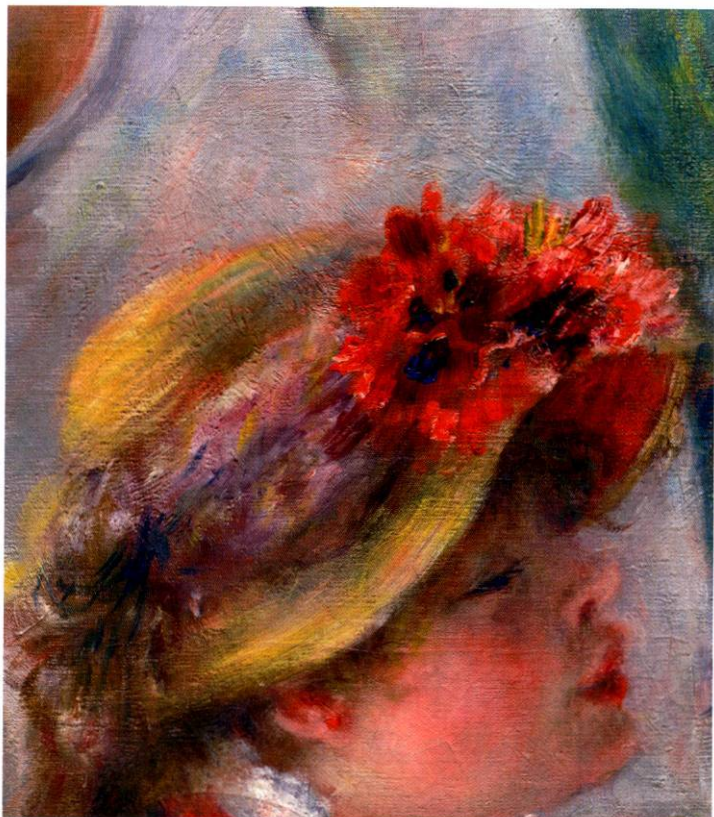


FIG. 53. Detail of *Luncheon of the Boating Party*: area above Charigot's head in raking light.

first sitter can be seen in raking light above Aline Charigot's head (fig. 53). In raking light, we see a more angular hat adorning the head of the first sitter. On close inspection of paint inside the cracks, it too seems to be red. Perhaps the "cocotte" wore a bonnet like the one worn by the woman in *Dance at Bougival* (see fig. 4), which has a similar profile.

Renoir made a surprising rearrangement to the pair of men who stand at the end of the balcony, indicated in raking light by the underlying textured brushstrokes around their heads. The pentimento of an earlier face to the left of the top-hatted figure is also discernible. The revision the artist made becomes clear in the infrared image: Charles Ephrussi, who wears the top hat, initially looked out toward the front of the balcony with his head in three-quarter view (fig. 54). By turning him to face the man to his left, Renoir strengthens their relationship, making

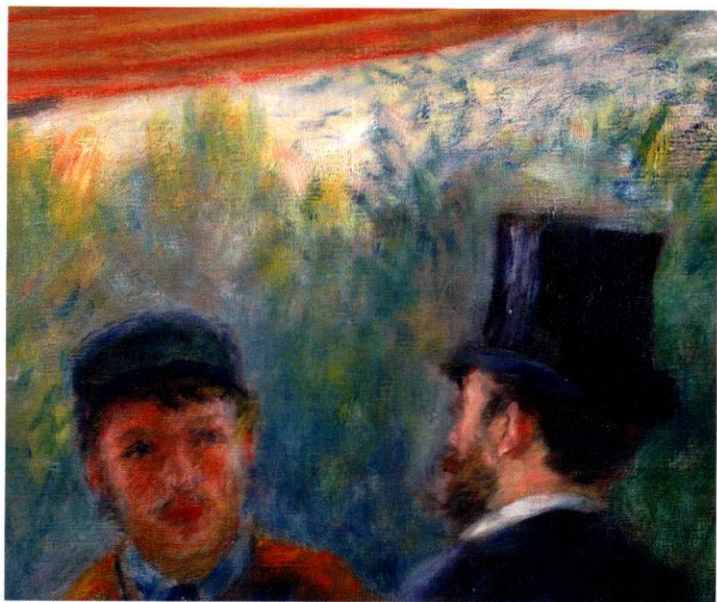


FIG. 54. Detail of *Luncheon of the Boating Party*: Two men in raking light compared to same area in infrared image.



FIG. 55. Detail of *Luncheon of the Boating Party*: head of Alphonse Fournaise in infrared image.



them look more involved in conversation than in the previous configuration. The infrared image also reveals a second set of hats, heads, and shoulders that indicates they were initially positioned higher on the canvas. The same thing happened with Alphonse Fournaise, who leans against the railing on the far left. The downward shift of this figure and the halo-like pentimento around his rower's hat are visible in raking light (fig. 59). The infrared image shows sketched lines across his forehead, revealing that Renoir positioned the hat on his head several times before settling on its final placement (fig. 55).

Renoir probably lowered these figures because of another critical modification to the composition: the addition of the awning. Sweeping textured brushstrokes that do not correspond to the striped fabric are readily visible in the upper left (see fig.



FIG. 56. Detail of *Luncheon of the Boating Party*: awning upper left with head of Alphonse Fournaise in raking light.

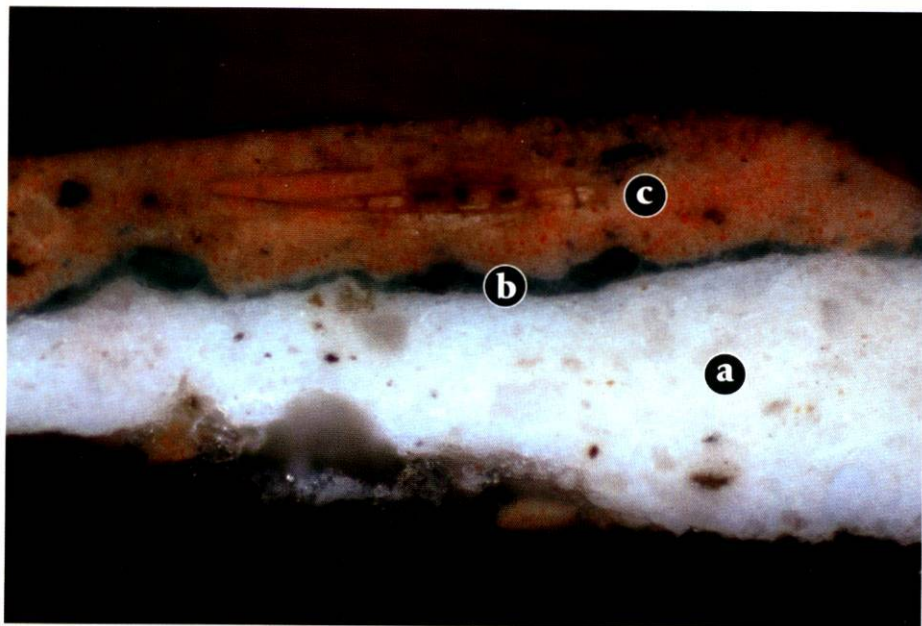


FIG. 57. Paint cross-section taken from along top edge of *Luncheon of the Boating Party*. Differential Interference Contrast Illumination at 200 × original magnification.



FIG. 58. Detail of *Luncheon of the Boating Party*: awning poles in infrared image.

56), showing that the landscape and sky initially dominated the top edge of the picture. Upon close inspection, we can see that the railroad bridge was initially visible in its entirety, as well as a dwelling on the far left; yellow, blue, orange, green, and white paint, the same colors used in the foliage below, are discernible beneath the thinly painted striped fabric. A cross-section made from a tiny loss along the upper right edge (fig. 57) reveals viridian green paint (b) under the red (c) used in the awning, which is composed of vermillion, chrome yellow and lead white and provides further proof that he painted the fabric cover on top of a developed landscape as a second thought.⁹ The lead white preparation layer (a) lies beneath the green and red layers of paint. There are several small brown specks, including a curious pod-shaped inclusion, seen in fig. 57, which is a highly unusual finding. Their appearance is suggestive of fungal spores, originating from plant material, which may have found their way onto Renoir's palette.¹⁰ The

awning poles were placed before the fabric was painted, and they also lie on top of a somewhat developed landscape; the infrared image shows that Renoir moved the center vertical pole slightly to the right (see fig. 58). Surviving nineteenth-century photographs of the Maison Fournaise show the balcony with and without an awning, although the framework seems to have been fixed so that the covering could be rolled out and in.¹¹ In the photos the restaurant sports a variety of awnings, some with borders, some without, some striped, others solid; in one image it has a striped awning with a scalloped edge like the one in the painting.¹² Adding an awning after Renoir had painted a considerable amount of the picture must have been a conscious decision to strengthen the composition rather than merely to record the details of the setting. If he had kept an open sky and a distant landscape, the three-dimensional illusion would have been more difficult to create. By enclosing the top edge, the balcony's recession into

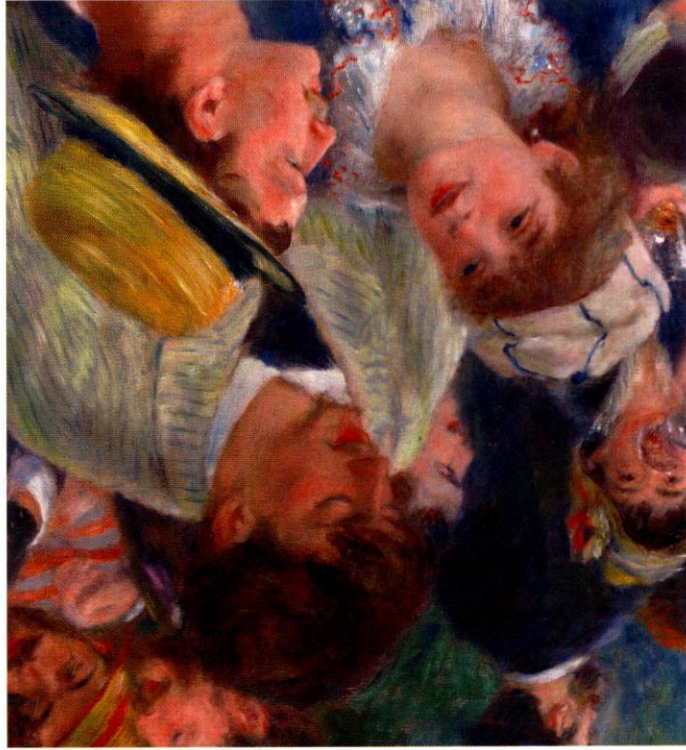


FIG. 59. Detail of *Luncheon of the Boating Party*: right-hand figures in raking light compared to same area in X-radiograph (above right) and infrared image (below right).

space is more persuasively established, and the sitters are better defined as a group. With the awning in place and the top right corner filled with dense foliage, the luncheon assumes a more intimate feeling that would have been difficult to realize in a more open-air setting.

Inspection in raking light together with the X-radiograph and infrared images shows that Renoir also altered the orientation of the face and neck of the woman seated on the right in a white hat. A second set of eyes is perceptible in both the infrared image and the X-radiograph, and her neck is elongated as she looks up (fig. 59); she originally looked at the man who rests his hand on the back of her chair. It seems probable that Renoir repositioned her gaze in order to connect her with the man straddling the back of the chair next to her, and to create a unified grouping of the three figures. If he had not made this

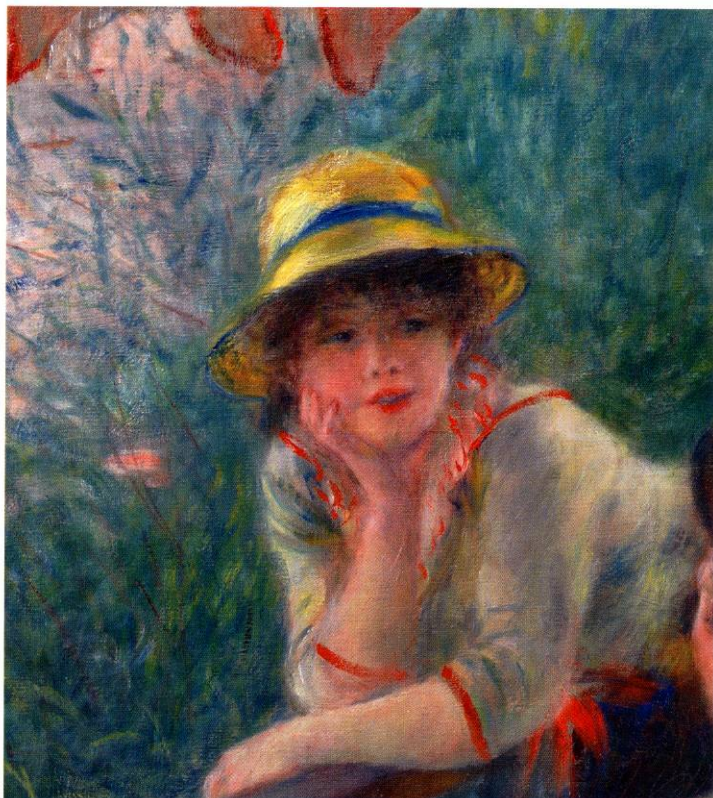


FIG. 60. Detail of *Luncheon of the Boating Party*: woman leaning on railing in raking light compared to same area in infrared image.

change, the man, thought to be modeled by Gustave Caillebotte, would be staring into the distance with little association to anyone else at the table. The X-radiograph also suggests that the man leaning over the other two once wore a hat, since the paint above his head indicates the use of dense pigments that appear too light to correspond with the brown color of his hair, which is X-ray transparent and would appear dark.

Around the head of the woman leaning on the railing, there is again vigorous reworking in the brushwork. Subtle shifts in the placement of her face and the hand under her chin are revealed in the infrared image; her facial features were initially positioned somewhat left of where they are now (see fig. 60). It is plausible that the model originally looked at Renoir while he painted. Her face was later turned slightly to the right,

perhaps to engage Baron Barbier, the man in brown seated in the center with his back turned to the viewer. The drying cracks in his thinly painted jacket are evidence that he was introduced at a later stage over a paint that was still wet (see fig. 49). While the sequence of revisions is difficult to discern, it's possible the young woman's gaze was altered after Barbier was introduced to the scene in order for these two sitters to form a relationship.

The woman who holds her hands to her ears on the far right seems to have once worn a larger, more rounded hat. Red paint inside drying cracks suggests that it was also a different color from the brown and green hat she wears in the final state of the picture. The first hat's light appearance in the X-radiograph points to the use of heavy atomic weight pigments, perhaps similar to the color in the red dress worn by the figure under

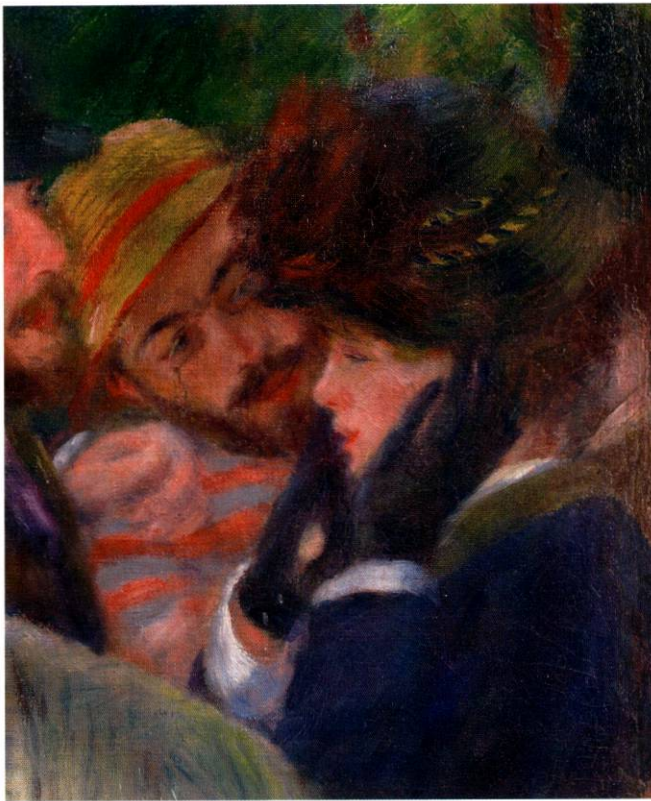


FIG. 61. Detail of *Luncheon of the Boating Party*: woman in brown hat in raking light compared to same area in X-radiograph.

Charigot (fig. 61). Given its shape and color, the hat this model initially wore may be like the one worn by the older woman in *Two Sisters (On the Terrace)*¹³ (see fig. 47), which Renoir painted using a remarkably similar palette in the same year that he completed *Luncheon of the Boating Party*. The number of hats used and modified in the composition leads us to believe the artist kept a collection of props, including hats, which he reused in this and other pictures. It is curious that Renoir eliminated red apparel on several models. Were these changes another consequence of adding the red-striped awning, to avoid overwhelming the picture with too much of the same color?

Changes to the center of the composition remain a mystery, but improved imaging techniques let us theorize, if not perfectly visualize, a more significant alteration than was perceived in the

first technical study.¹⁴ A large shape that appears light in the X-radiograph corresponds to swirling and sweeping brushstrokes in the layers of paint under the bottles and wine cask and around Baron Barbier (see fig. 64). Vastly different colors—red, blue, yellow, and flesh tones—can also be found in thinly painted passages and in the drying cracks in the center of the composition (see figs. 48 and 49). While the salient features of this alteration are not clear in the X-radiograph, contour lines drawn around it might indicate a figure seated with hands resting on the table, looking toward the viewer (see fig. 64). Given the other changes Renoir made and his accounts that friends came and went, it seems plausible that he completely revised the orientation of a sitter (as he did with Ephrussi) or that he replaced one model with another (as he did with Charigot).



FIG. 62. *Luncheon of the Boating Party*: infrared image.



FIG. 63. *Luncheon of the Boating Party*: X-radiograph.

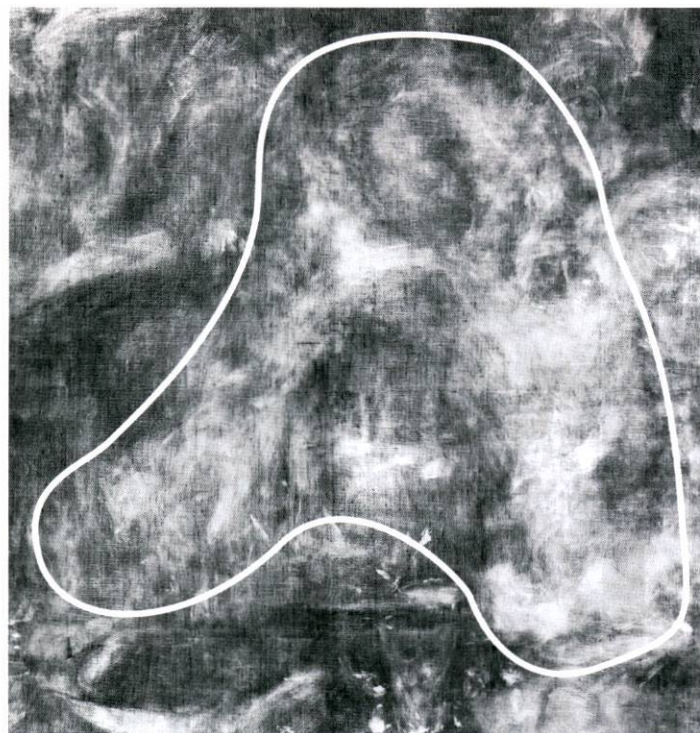


FIG. 64. *Luncheon of the Boating Party*: detail of central section in raking light compared to same area in X-radiograph (above) and infrared image (left).

After Renoir put in the man modeled by Barbier, he then painted the wine bottles, cask, glasses, and bowl of fruit. Just as he adjusted the position of his sitters, he tinkered with the placement of objects on the table. A wineglass in front of the cask was painted out (fig. 65a), an aperitif glass was replaced with a small bunch of grapes lying on the table (fig. 65b), another wineglass in front of the fruit bowl was painted out (fig. 65c), and one of the tall glasses on the right was transformed from a stemmed glass (fig. 65d). Although it is conceivable that tableware changed between painting sessions and Renoir faithfully modified his depiction accordingly, these may be deliberate aesthetic choices he made after the fact or in his studio. The revisions in this passage demonstrate how much he labored to perfect the details of his composition.

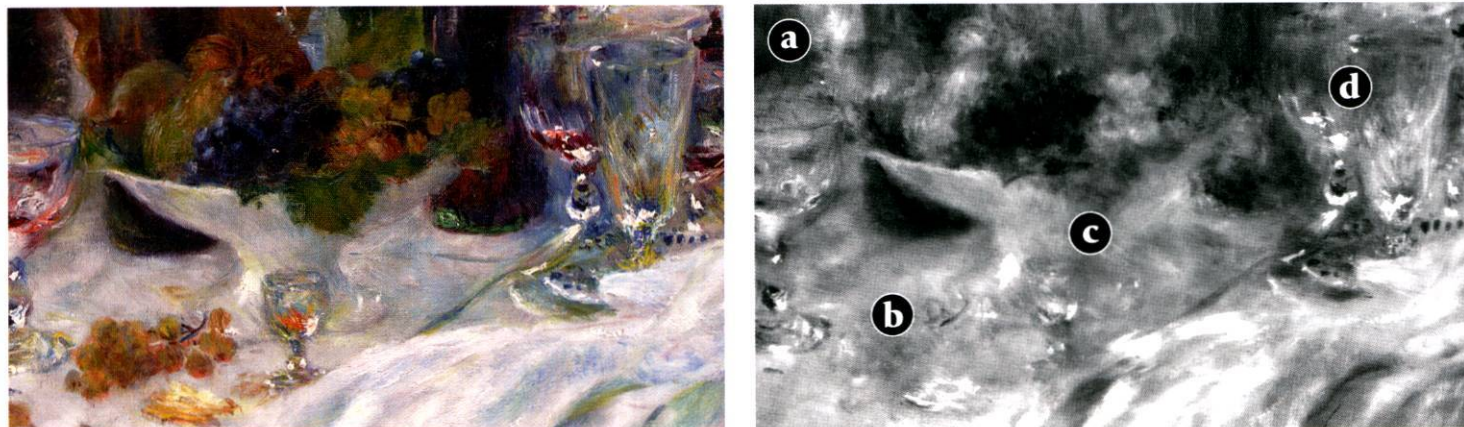


FIG. 65. *Luncheon of the Boating Party*: detail of glasses in raking light compared to same area in infrared image.

Although Renoir beautifully captured the immediacy of the scene, the technical study reveals the great lengths he took to reach this objective. While *Luncheon of the Boating Party* is a masterpiece of impressionism, it was not achieved strictly *en*

plein air. While Renoir presumably painted most of the picture on the balcony at the Maison Fournaise, he clearly reevaluated his sitters and their environment several times, and probably did some reworking later in his studio.

1. Portions of the current essay have been drawn from Elizabeth Steele, "Achieving the Composition in *Luncheon of the Boating Party*," in Rathbone 1996, pp. 220–229.
2. House and Dayez-Distel 1985, p. 223.
3. Berard 1968, p. 55.
4. *Ibid.*
5. These types of cracks are caused by the application of a faster-drying paint on top of a slower-drying or still wet layer of paint. They are generally characterized by a more rounded and less angular appearance.
6. An X-radiograph is a black-and-white image created when low-voltage X-rays are passed through a painting and registered onto a sheet of X-ray-sensitive film. The density or atomic weight of the pigments affects the penetration of X-rays through the painting. Heavier atomic weight pigments absorb X-rays and read as lighter regions on the film, while less dense pigments transmit the X-rays and read as darker regions. The cobalt blue and red lake pigments used in Aline Charigot's dress are less dense than the vermilion and lead white pigments used in the outfit worn by the earlier model, thus the X-radiograph records the image of the latter more readily than the former.
7. Berard 1968, p. 55.
8. Renoir's choice of colors has been well documented in numerous publications, such as Anthea Callen, *The Art of Impressionism: Painting*

- Technique and the Making of Modernity* (New Haven: Yale University Press, 2000), and David Bomford et al., *Art in the Making: Impressionism* (London and New Haven: National Gallery, London and Yale University Press, 1990). The results of paint analysis for this essay conform to previously published studies. The sample taken in the dress came from an existing loss, located 3 $\frac{3}{8}$ in. from the bottom edge and 6 $\frac{1}{4}$ in. from the left. I am extremely grateful for the generous support of Thomas Lam, Physical Scientist; Stephanie Barnes, Paintings Conservation Fellow; and Jia-Sun Tsang, Senior Paintings Conservator, from the Smithsonian Museum Conservation Institute, in imaging the cross-sections using a Hirox digital microscope and analyzing the pigments using a Scanning Electron Microscope (SEM-EDS), from which tentative pigment identification can be inferred. I also wish to thank Inge Fiedler, Associate Research Microscopist at the Art Institute of Chicago, for reflected and ultraviolet light imaging of the cross-sections using a Zeiss AxioPlan2 research microscope and for providing her expertise on Renoir's palette to the interpretation of the paint samples.
9. Imaging and analysis provided by colleagues mentioned above at the Smithsonian Museum Conservation Institution and the Art Institute of Chicago.
 10. My many thanks to Gary Krupnick, Manuela Dal

Forno, and Merinda Nash, botanists from the Smithsonian Institution National Museum of Natural History and to Lisa Canterbury, mycologist from USDA, who offered their expertise to identify the inclusions in the cross-section.

11. Unpublished correspondence between Eliza Rathbone, Henri Claudel, and J. G. Bertauld, Association des Amis de la Maison Fournaise, February 6, 1996, confirms that the awning could be rolled out and in "following the sunlight."
12. Fig. 87, in Rathbone 1996, p. 224.
13. An excellent discussion and technical study of *Two Sisters (On the Terrace)* can be found in Gloria Groom and Jill Shaw, eds. *Renoir: Paintings and Drawings at the Art Institute of Chicago* (Art Institute of Chicago, 2014). https://publications.artic.edu/renoir/reader/paintingsanddrawings/section/135639/135639_anchor (cat. 11).
14. The X-radiograph was digitally reassembled and the stretcher bars were removed, which made the image more legible than when first published in 1996. I am extremely grateful to Annie Schrandt, Conservation Intern, for the diligence she demonstrated in this task. She also composed a new infrared image made using a Sensors Unlimited 320 M-1.7RT Indium Gallium Arsenide camera.

RENOIR AND FRIENDS

LUNCHEON OF THE BOATING PARTY

ELIZA E. RATHBONE

WITH CONTRIBUTIONS BY MARY MORTON, SYLVIE PATRY,
AILEEN RIBEIRO, ELIZABETH STEELE, AND SARA TAS

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