STUDIES IN AMERICAN TONALIST PAINTING:
THE MATERIALS AND TECHNIQUES OF
ROBERT CRANNEL MINOR’S SOUVENIR OF ITALY

by
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A thesis submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Honors Bachelor of Arts in Art Conservation with Distinction

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ABSTRACT

This paper examines the art-historical significance, materials, and painting techniques of American landscape artist Robert Crannell Minor (1839-1904), focusing on his oil on millboard painting entitled Souvenir of Italy, a donation to the Winterthur/University of Delaware Program in Art Conservation (WUDPAC). Visual analysis of his paintings focuses on his aesthetic goals within the context of the French Barbizon School as well as within the American landscape tradition during the late nineteenth and early twentieth century. This paper explores the development of Minor’s style and iconography throughout his artistic career and the stylistic influences of Souvenir of Italy are examined within the context of the Barbizon and Tonalist Schools. Minor’s materials and painting technique are compared to those of Corot and Díaz, whose paintings influenced Minor’s works. Minor’s materials in Souvenir of Italy have been analyzed through the techniques of X-ray fluorescence (XRF), Infrared reflectography (IRR), X-radiography, Fourier Transform Infrared spectroscopy (FTIR), gas chromatography-mass spectrometry (GC-MS), Scanning Electron Microscopy-Energy Dispersive Spectroscopy (SEM-EDS), and cross-sectional analysis. Minor’s materials and painting technique contribute to the present condition and possible future degradation of his paintings. This study has informed the treatment of Souvenir of Italy and helped in an understanding of how the appearance of the painting has altered.
INTRODUCTION

Robert Crannell Minor (1839-1904) has the unfortunate fate of being a forgotten artist within the lesser known American Tonalist Movement. During his lifetime, Minor was celebrated as one of America’s finest living artists. However, his name and works have been largely neglected over the past century. This thesis aims to rediscover Minor’s contribution to the development of late 19th-century American landscape painting, and provide the first scholarship concentrated on this artist and his once highly monetarily and aesthetically valued works. I believe that Minor played an important role in the development of the American Tonalist landscape.

This thesis aims to provide a holistic evaluation of *Souvenir of Italy* (n.d.) (Figure 1), a painting that conjoins the Barbizon and Tonalist styles in America, and will compare several stylistically-variable works within Minor’s oeuvre. *Souvenir of Italy* is studied utilizing an approach termed “technical art history.” Defined in 2009 by paintings conservator David Bomford,

> technical art history concerns itself with all the processes for making art, and the technical and documentary means by which we throw light on those processes. It is principally concerned with the physical materials and structures of works of art and how they are prepared, used, combined and manipulated. But - and this is what makes technical art history so intellectually satisfying - it also interests itself in how an artist arrived at the finished, or indeed unfinished, work. It charts the stages of invention, development, realization, elaboration and revision: in short, it is a route into, and our access to, the heart of the artist’s intentions and changing ambitions.¹

Technical art history therefore combines art-historical evaluation of an artist’s style with scientific analysis of his or her materials to generate new knowledge about aesthetic goals and technique. In the context of this thesis, the technical art history approach not only helps to provide valuable information about condition issues in Minor’s works, the knowledge about which may aid in the future preservation of his paintings, but also reveals Minor’s artistic influences and aspirations.

Although Minor worked in pastel, watercolor, and etching, this thesis concentrates on his oil paintings, which constitute the primary body of his oeuvre. Chapter 1 addresses Minor’s training in Europe and his subsequent career in America. Minor’s unexplored oeuvre is broadly analyzed within the context of the Barbizon School and the American Tonalist Movement in Chapter 2. Chapter 3 discusses Minor’s working practices and his studio. Chapter 4 addresses *Souvenir of Italy* within the broader context of Minor’s life and works, with sections on provenance, condition, and formal analysis. Chapter 5 examines Minor’s painting technique and identifies his materials. It also compares his technique and materials to the Barbizon painters Jean-Baptiste-Camille Corot (1796-1875) and Narcisse Virgilio Díaz de la Peña (1807-1876). Chapter 6 discusses how art-historical and technical analysis informed the conservation treatment of *Souvenir of Italy*, while Chapter 7 summarizes research findings. Appendices include the condition report, treatment proposal, and treatment report of *Souvenir of Italy*, as well as a compilation of technical data collected. The author hopes that this research will increase the appreciation and understanding of Minor’s paintings while evaluating his works within the nineteenth-century landscape tradition.
Figure 1  Robert C. Minor, *Souvenir of Italy*, n.d., oil on millboard, 16 in x 12 in, before treatment by the author (February – May 2014)
Chapter 1
ROBERT CRANNELL MINOR: AMERICAN BARBIZON PAINTER

Previous Scholarship

Although Minor was mentioned often in newspapers and magazines during his lifetime, few sources addressed him after his death in 1904. Research into Minor’s life and artistic training revealed that the few sources after 1904 that mentioned Minor did so in a short and cursory manner. A short version of his biography is found in anthologies of American artists, such as *Who Was Who in American Art, 1564-1975*, Mantle Fielding’s *Dictionary of American Painters, Sculptors and Engravers*, and Jacobsen’s *Biographical Index of American Artists*. These sources essentially restate the same biographical information, perpetuating inaccuracies about his life and works that make little chronological sense and disagree with my primary source research.

Few scholars have evaluated the quality of his works or attempted any interpretation of his paintings beyond his relation to the Barbizon and Tonalist styles. The first source to address Minor’s works was probably Wanda Corn’s 1972 catalogue essay for the exhibition *The Color of Mood*. Often cited as one of the first and most perceptive attempts to study the American Tonalist Movement, Corn’s essay focused on the paintings of George Inness (1825-1894) and James Abbott McNeill Whistler (1834-1903), whom she describes as the foremost Tonalist painters. Minor is mentioned in a footnote, as Corn stated:

The word “tonalist” was occasionally used in the first decade of the twentieth century to describe painters such as Charles M. Dewey, Robert Minor, George Bogert, Bruce Crane, Ben Foster, J. Francis Murphy, and Henry W. Ranger . . . They are really the second
generation of tonalists, rightfully grouped as successors and followers of Inness.2

In the same footnote, Corn noted, “many of these artists departed from the Tonalism of the 1880s and 1890s by using a much more varied palette, strong color contrasts, and a more choppy brushstroke.”3

Corn determined that there were at least two definitions for the Tonalist Movement, both explained by art critic Charles Caffin. The first definition is “the prevalence of some one color in a picture to which all other hues are subordinated,” while the second is “the setting of all objects, lights, and colors in a picture in due relation to one another, within an enveloppe of atmosphere.”4 Applying these definitions to the works of George Inness and James Abbott McNeill Whistler, Corn argued that Tonalism rejected the details of the analytical landscape for the abstract meditation of the spiritual landscape.

Although the works of Minor and his contemporaries did not fit into the scope of Corn’s exhibition and their landscapes were generally more traditional than the visionary compositions of Whistler, their landscapes defined the word “tonal” from the 1890s through the early twentieth century. The group of artists listed by Corn were the foremost painters of the American landscape at the turn of the century, and although they looked to Inness for inspiration, their paintings independently defined the American Tonalist Movement at the end of the century.


William Gerdts addressed the neglect of these artists in his 1982 essay for the exhibition *Tonalism: An American Experience*. This exhibition focused on works by the Tonalists omitted by Corn and included paintings by Minor. Gerdts asserted that Minor and his contemporaries played a vital role in defining the Tonalist landscape in American Art. Although acknowledging Minor’s works, Gerdts did not mention Minor individually; he included Minor only as part of a larger group.

Jack Becker’s 2002 doctoral dissertation “A Taste for Landscape: Studies in American Tonalism” and David A. Cleveland’s 2010 *A History of American Tonalism: 1880-1920* are two of the most recent sources to mention Minor and to study the influence of the group of painters omitted from Corn’s essay. Becker referenced Minor and his paintings within the context of Lotos Club exhibitions, the collection of William T. Evans, and the broader history of the Tonalist Movement in the United States. He successfully placed Minor within the Tonalist Movement in the 1890s but did not address the stylistic qualities of his paintings. Cleveland also did not discuss Minor and his works in any depth but did note his position as one of the oldest artists of the Tonalist Movement.

Only a few exhibitions have included Minor’s paintings since his death in 1904 and this adds to Minor’s invisibility in American art-historical literature. As mentioned above, Minor’s works were included in *Tonalism: An American Experience*, but also in *American Art in the Barbizon Mood* in 1975, and *Old Lyme: The American Barbizon* in 1982. The William Benton Museum of Art organized a

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5 Founded in 1870, the Lotos Club is a gentleman’s literary club in New York City. Along with its members, the club collected and exhibited many American paintings, especially favoring the Tonalist School in the 1890s.
short exhibition of Minor’s etchings in the fall of 1987, titled *The Landscape Etchings of Robert C. Minor (1839-1904)*. Most recently, the Florence Griswold Museum included a Minor painting in their 2007 exhibition *A Circle of Friends: The Artists of the Florence Griswold House*.

This chapter will compile the scattered biographical knowledge about Minor, discovered and verified through primary sources including periodicals, birth and travel records, and the artist’s correspondence. This material will also help situate his paintings within the context of his training and subsequent career. Updated and corrected information about Minor’s life and training will provide a new perspective to his works and build a foundation for future, expanded research about this little known American artist.

**Early Life in New York City**

Robert Minor was born to a wealthy family in New York City on April 30, 1839. Both his father, Israel Minor, and his mother, Charlotte Louisa Van Hook Crannell, were from Connecticut: a state that Minor would later call home. Some biographies report that Israel Minor was a coal dealer but newspaper accounts refer to him as both a merchant and a druggist in New York City. Israel Minor learned the pharmaceutical business when working in a drugstore in Maiden Lane, NYC, eventually starting his own business, Israel Minor and Co., on 214 Fulton Street. Although initially successful, Minor’s business failed during the Panic of 1857, and he

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7 Joseph Alfred Scoville, *The Old Merchants of New York City* (New York: Carleton, 1863), 234.
subsequently entered the real-estate business.\(^8\) Israel Minor earned and lost several fortunes in this business, but he was apparently successful enough to be named “a millionaire of this city” in 1863.\(^9\) As such, he was a prominent force in his community and was involved in abolitionist causes such as the Underground Railroad and the founding of the Broadway Tabernacle Church.\(^10\)

Only a few facts are recorded about Minor’s childhood. Despite his family’s insecure economic situation, he probably grew up with some of the advantages of wealth. As a child Minor was interested in art but he worked in business during his young adulthood. The 1860 Federal Census records 22-year old Minor as a “bookkeeper” in New York City, perhaps working for one of his father’s real-estate ventures.\(^11\) He married Miss Isabelle Smith the same year. Ten years later, the census lists Robert Minor’s occupation as a “merchant,” while Israel Minor describes himself as a farmer in Connecticut.\(^12\)

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\(^8\) “Obituary” *New York Tribune*, February 2, 1895, America’s Historical Newspapers.


\(^10\) “Obituary” *New York Tribune*, February 2, 1895, America’s Historical Newspapers.


Minor did not begin his artistic education until he was in his early 30s; in later accounts of his life, he referred to a reversal of fortunes at about that time. He first trained in New York City with Alfred Cornelius Howland (1838-1909), an artist of landscapes, portraits, and genre scenes. Minor probably decided to study with the Barbizon artists while training with Howland, who may have helped to arrange his journey to the artist’s colony. Minor was likely familiar with works by Barbizon masters because of their popularity in New York City during the 1870s. Minor records that he had only a few lessons with Howland before leaving for Europe, indicating that he received the majority of his training abroad.

**Training in Europe**

Minor’s 1871 passport lists his intention as “about to go abroad in Great Britain and Continental Europe,” indicating that Minor left for Europe during the summer of 1871 when he was thirty-two years old. On June 6, 1871, the *Hartford Daily Courant* printed that Israel Minor will “make a protracted tour in Europe with his family,” suggesting that Minor’s father and other family members may have

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13 *Robert Crannell Minor Papers*. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].

14 *Robert Crannell Minor Papers*. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].

traveled abroad with him during some or all of his training. His wife and their children remained in the United States during some or all of his time abroad.

According to his papers, Minor studied paintings in London galleries before traveling to Barbizon, France. Monet, Renoir, and Sisley all painted in Barbizon ten years before Minor arrived at the colony; however, Minor rejected impressionism in favor of painting in a poetic, albeit outdated, Barbizon style. While in Barbizon, Minor became a pupil of Díaz. Minor described his meeting with his future teacher:

while sketching in the Forest of Fontainebleau I met a man with one leg who criticized and taught me color but for a time remained unknown to me – I soon learned that it was the great Díaz – and he developed in me the love for luminous color, so strongly his lasting characteristic.

In another recollection of their encounter, Minor noted that Díaz approached him while Minor was painting a highly detailed landscape outdoors and cried, “Cochon, how greedy you are: Nature comes to you with her arms wide open and you would try to grasp her altogether!”

16 “State Items, Fairfield County” Hartford Daily Courant, June 6, 1871, America’s Historical Newspapers.


18 Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].

19 Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].

20 “Pig” [translated from the French].

Minor’s brief but colorful accounts of his training with Díaz indicate that he had a close relationship with the older artist, whose words he likened to pearls. Under Díaz’s tutelage, Minor exhibited *The Silent Lake* at the Paris Salon of 1872, where it was placed “upon the line.”

The influence of Díaz can be seen throughout Minor’s oeuvre in his careful balancing of detail and impression, a trait that would be adopted by the Tonalist painters who avoided both the precision of the Hudson River School and the abstract simplification of the Impressionists. Minor painted several interior forest scenes in a manner after his teacher, such as *October* (Figure 2) and *Scene in the Forest of Fontainebleau* (Figure 3). Although undated, these paintings were probably painted early in Minor’s career. *October* displays the greatest influence of Díaz (an example of whose work can be seen in Figure 4) with its central, bright clearing in the forest, its reflecting pool deep within the shadows of the trees, and its distanced, strange, figures. Minor’s use of light to render space recalls his mentor’s; he created depth by using subtle transitions between shadowed and illuminated leaves.


23 *Robert Crannell Minor Papers*. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769]. The term “upon the line” refers to the salon style of displaying paintings, where many works were hung on the same wall. “Upon the line” refers to a prominent position on the exhibition wall, as opposed to being “skied,” or hung high on the wall.
Figure 2  Robert C. Minor, *October*, n.d., oil on millboard, 12 in x 16 in, Smithsonian American Art Museum, image courtesy of the Smithsonian American Art Museum
Figure 3  Robert C. Minor, *Scene in the Forest of Fontainebleau*, n.d., oil on millboard, 12 in x 16 in, Yale University Art Gallery, image courtesy of the Yale University Art Gallery
Throughout his lifetime, Minor’s works were compared to those of Díaz despite the fact that Minor eventually developed a stylistically different landscape. The majority of Minor’s paintings depict open landscapes, such as groups of trees on the edge of a lake or meadows scattered with trees, but Díaz’s lasting influence can be seen in Minor’s compositional arrangement of light: his continued use of a slightly off-center opening of light in his often dramatic, cloud filled skies. Minor’s works, however, developed a stronger sentimental quality than the works of his teacher. Even as *October* clearly looks to the paintings of Díaz, there is an atmospheric, romantic
quality to that landscape that is not present in Díaz’s slightly crisper depictions of the forest.

With an early interest in the poetic landscape, Minor carefully studied the works of other Barbizon painters. He later reflected that “the works of Corot and Rousseau inspired me with the idea of combining the mystery and poetry of the former with the color and force of the latter.”24 It is unlikely that Minor studied with either artist at Barbizon, despite his clear interest in their works. Rousseau died before Minor arrived in France. Minor and Corot could have met, however, because Corot was at the Hôtel Sirène in Fontainebleau from September 1 – September 7, 1772.25 Minor was likely still at Barbizon at that time.26 Minor’s signature strong coloring of his sunsets and soft modelling of forms occupying an idyllic haze suggests that he repeatedly combined the qualities of these two Barbizon painters to create his own interpretations of nature.

Many of Minor’s works were directly influenced by Corot’s later paintings, which used soft modeling of contours and a limited palette to depict a dream-like scene. Throughout his artistic career, Minor borrowed specific compositions from Corot, probably in order to associate himself with the renowned landscape painter.

24 Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].


26 Even if he never met or studied with Corot, Minor was surely familiar with his paintings as he owned several prints of them, including Morning, the Dance of the Nymphs and Souvenir d’Italie, which currently reside at the Florence Griswold Museum.
Sunset Reverie (Figure 5) is one of several paintings by Minor that feature Corot’s boatmen, drifting calmly by the shore. Minor’s painting The Close of Day, (successfully sold at the Evans Sale in 1900) also features a similar boatman. The stylistic and symbolic similarities between Minor’s Souvenir of Italy and Corot’s souvenir paintings will be explored more fully in Chapter 4.

Figure 5  Robert C. Minor, *Sunset Reverie*, n.d., oil on academy board, Mead Art Museum
Minor studied at Barbizon for over a year and returned to the colony again after seeking training elsewhere in Europe. Despite his allegiance to the Barbizon school, the artist stated that he felt the need for a “stronger school of color” to guide his training. He went to Paris, and then to the Antwerp Academy in Belgium, where he studied for two years with the landscape painter Gérard Jozef Adrian van Luppen (1834-1891).

While in Antwerp, Minor mentioned in his papers befriending “Hypolite Boulanger.” Although the name is misspelled, he was probably referring to the landscape painter, Hippolyte Boulenger (1837-1874) rather than the renowned figure painter Gustave Boulanger (1824-1888). Many biographical sources noted that Minor studied with Gustave Boulanger in Paris although Minor’s lack of interest in the human figure makes this seem unlikely. In fact, besides his introductory scholarship with Howland, Minor’s oeuvre, as understood at the present, indicates that Minor did not pursue any other subjects besides landscapes. Hippolyte Boulenger, a Belgian artist influenced by the works of Barbizon painters Díaz, Dupré, and Rousseau, painted melancholy landscapes with turbulent skies. Minor’s dramatic, sometimes

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27 Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].

28 Ibid.

29 Ibid.

30 Ibid.

foreboding skies were likely influenced by the works of Boulenger, whose powerful skies are not common in Barbizon landscapes.

Minor then traveled throughout Holland, France, Germany and Italy, painting and studying nature. Italy was likely the last country he visited before returning home to the United States, and he specifically mentions painting in the cities Pompeii, Rome, Venice, and Capri. Traveling to Italy to paint was considered the triumphant completion of one’s artistic training.

Some of the oil sketches that Minor completed while abroad are in the collection of the Florence Griswold Museum in Old Lyme, Connecticut. The majority of the sketches in the Griswold collection were painted in Italy and are depictions of antique ruins, executed on board or unstretched canvas primed with a cream colored ground. The holes visible along the four edges of the canvas indicate that the sketches were pinned to a sketching board as the artist painted around them outdoors. Loosely painted, these sketches are probably the result of Minor’s effort to partake of the centuries-old, Italian tradition of sketching classical ruins and their surrounding landscape.

Minor looked especially at the Italian sketches of Corot, who often depicted classical ruins in broad, blocky forms and with deft, quick strokes. His oil sketch The Colosseum (Figure 6) demonstrates this masterful, well-practiced technique. Minor’s sketches lack command of light and form; Minor lacked Corot’s ability to depict volume through masterfully placed blocks of color. Minor’s sketch Roman Columns

32 Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].
in Pompeii (Figure 7) displays uncertainty in rendering architectural forms, and difficulty translating light and shadow onto aged marble and stone surfaces. The result is lifeless. He seemed to struggle with the placement and color of highlights, as well as the use of hue to model form. His compositions, however, are carefully arranged to achieve balance.

Figure 6  Jean-Baptiste-Camille Corot, *The Colosseum, viewed through the arcades of the Basilica of Constantine, Rome*, 1825, oil on canvas, 9 in x 13.7 in, Louvre Museum
Figure 7  Robert C. Minor, *Roman Columns, Pompeii*, 1874, oil on canvas, 7 1/8 in x 12 ¾ in, Florence Griswold Museum, photo by the author, used with permission of the Florence Griswold Museum

*Trees and Sailboats - Venice* is a small oil sketch that Minor did in Venice in May 1874 (Figure 8) and demonstrates the discrepancies between Minor’s ability to paint manmade forms and his ability to paint nature. There is a striking contrast between the delicately painted trees, with their shimmering highlights and feathery texture, and the clumsy forms of the boats in the near distance. It is possible that Minor was primarily focused on painting the landscape, and the sailboats were a quick afterthought. It is likely that he did not sufficiently develop his skills painting other types of subject matter, since his training was almost entirely in landscape painting.
Souvenir of Italy (n.d.) is a larger and more highly finished painting than Minor’s oil sketches, Roman Columns, Pompeii (1874) and Trees and Sailboats (1874) and was probably painted in the studio rather than en plein air. It is possible that Minor painted Souvenir of Italy while in Italy, although art-historical interpretation and technical analysis indicate otherwise. This will be discussed more fully in Chapter 4.

33 “In the open air,” meaning that the artist painted outdoors.
Career in the United States

After three years abroad, Minor returned to the United States in the summer of 1874 and established a studio in New York City.\textsuperscript{34} Two decades later, the city became a hub for the Tonalist Movement, with which Minor would be intimately involved. At the time of Minor’s return, Alexander H. Wyant (1836-1892) had a studio in New York City and Inness moved there in 1876.\textsuperscript{35} Minor lived and worked in close proximity to two of the founders of the Tonalist School immediately following his return to America and probably moved within the same artistic circle.

Little is known about the quality and characteristics of Minor’s artistic production. Because so few of Minor’s paintings are dated, it is difficult to evaluate his stylistic development between his return in 1874 and the rise of Tonalism in the mid-1890s, Therefore, it is unclear whether Minor began experimenting with the Tonalist landscape soon after his return to the United States or if he pursued a more muted style in the 1890s along with his contemporaries. It is also unclear whether Minor continued to paint Barbizon-style landscapes throughout his career. The analysis of his stylistic evolution is further hampered by the fact that many of his paintings seem to reside in private collections and are currently unlocated.

Minor’s age and education also place him at a unique position in the tradition of American landscape painting. He was too young to be grouped with the fathers of the Tonalist landscape Inness and Wyant, but was significantly older and more

\textsuperscript{34} Robert Crannell Minor to McIlvane, August 31, 1874, \textit{Artists’ Letters & Manuscripts}, Crystal Bridges Museum of American Art Library.

experienced than the Tonalists who emerged in the 1890s. It is likely that, through an inevitable knowledge of Inness’s works and an early friendship with Wyant, with whom he painted and sketched in the Adirondack Mountains, Minor explored and developed a Tonalist style possibly a decade before American Tonalist painters such as Henry Ward Ranger (1858-1916), Dwight Tryon (1849-1925), and John Francis Murphy (1853-1921). Minor’s works were possibly an inspiration for these younger Tonalist artists, explaining why, at the end of his life, he was revered as the “the last of the famous quartet of American Landscapists – Inness, Wyant, Homer Martin, and Minor.”

Although his landscapes are infused with poetic sentiment, the uncatalogued and undated body of Minor’s work oscillates between the styles of the Barbizon School and the Tonalist Movement. A number of Minor’s paintings, such as *Souvenir of Italy* (n.d.), show a combination of both styles. The vigorous brushwork and tendency toward abstraction in some of his paintings may reveal unconsciously Impressionist undercurrents, which will be discussed briefly later in this chapter. The range of styles and techniques in Minor’s work indicates that he was open to experimentation and that a portion of his oeuvre represents a transition between the Barbizon style and Tonalism with an awareness of Impressionism.

**The Lingering of the Barbizon Style**

A significant portion of Minor’s oeuvre is comprised of landscapes recalling the Barbizon School. *A Hillside Pasture* (Figure 9), *Country Landscape* (Figure 10),

and *Scene in Devonshire* (Figure 11) show the influence of the Barbizon school in their realism, significant but not finicky attention to detail, and clarity of atmosphere. Unlike many of Minor’s other paintings, the mood of these works, with the exception of *Scene in Devonshire*, is not sentimental. The landscapes are bathed in a midday light rather than the dramatic orange and gold of a sunset. Minor painted the landscape with reference to rural life and agricultural traditions that seems more European than American.
Figure 9  Robert C. Minor, *A Hillside Pasture*, n.d., oil on canvas, 30 ¼ in x 22 ¼ in, Smithsonian American Art Museum, image courtesy of the Smithsonian American Art Museum
Figure 10    Robert C. Minor, *Country Landscape*, n.d., oil on mahogany panel, 22 in x 30 in, Lyman Allyn Museum, photo by the author, used with permission of Lyman Allyn Art Museum, New London, CT
Figure 11    Robert C. Minor, *Scene in Devonshire*, n.d., oil on canvas, 30 in x 21 12/16 in, Yale University Art Gallery, image courtesy of the Yale University Art Gallery
Minor’s Barbizon paintings were sometimes criticized for their lack of originality; critics noted their resemblance to the paintings of Corot and Díaz. One critic censured Minor’s *Studio of Corot*, asking:

what object could Mr. Minor have had in painting a picture like this, where imitation is pushed to the verge of caricature? It is a sheer waste of his time and of ours: for why should he work so hard to produce a result that only muddles his name up with that of a famous master, puts him in the unenviable light of a caricaturist of greatness, and makes all who honor the memory of the illustrious and charming painter feel hurt at the slight put upon his name. If Mr. Minor can do good work of his own, it is to be hoped he will make haste to prove it – “The Studies of Corot” prove nothing but his skill in making faces.37

Minor received similar criticisms even late into his career. In response to a later claim of his imitation of Corot, Minor declared:

I was inclined to swear at the critic – for his ignorant remark about my imitation of Corot.

If Corot painted the morning or evening twilight better than all others – then the artist who paints it next best will of necessity, have in his work something like Corot. The ignorant critic who never saw or studied that phase of nature delights to find these resemblances between artists so that he can exploit his supposed acumen and knowledge.38

The number of Minor paintings that resemble the Barbizon school suggests that he continued to work in a Barbizon style throughout most, if not all, of his life.


The Adoption of the Tonalist Landscape

Despite Minor’s continuing allegiance to the Barbizon School, by the 1890s, his landscapes began to show similarities to the tonal landscapes of Inness and Wyant. One of Minor’s few dated works, *Great Silas at Night* (Figure 12), is a strongly developed Tonalist seascape from 1890. *Silas* depicts a nocturnal scene of the North Atlantic Ocean as foamy waves of a turbulent sea dash against a large rock in the middleground. The light from the moon, partially concealed behind clouds, shines in an arc across the sky, highlighting the waves directly underneath and allowing for a subtly dramatic handling of light and shadow. A small, piercing orange light shines on the distant horizon, reflecting slightly on the water below.

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39 The large rock depicted is probably Old Silas Rock, a bar in the North Atlantic Ocean located off the shore of Plum Island, NY at latitude-longitude coordinates of N 41.19149 and W -72.14563.
Minor’s reserved palette of green, blue, grey, yellow, and white indicates his careful tonal considerations. He utilized variations of similar tones in the sky and the sea to create an overall harmonizing, somber effect. The lively brushwork in the sky is a typical feature of Minor’s works, although his handling of the sky in *Great Silas at Night* is less vigorous than usually seen in his landscapes. Instead, Minor painted the sea with higher impasto, demonstrating a keen awareness of the balancing of texture as well as the arrangement of overall tonality. (The palette would appear more
monochromatic if there were not areas of overpaint applied by past restorer(s). Concentrated primarily in the sky and in the water splashing against the rock, areas of retouching fluoresce strongly in the ultraviolet photograph [Figure 13], perhaps due to the presence of zinc white in the overpaint.)

Figure 13  Robert C. Minor, *Great Silas at Night*, ultraviolet photograph, 1890, oil on millboard, 16 in x 20 in, Smithsonian American Art Museum

The Influence of Impressionism

It is unknown at this stage of research when Minor began to paint landscapes in a Tonalist style but he was closely associated with the Tonalist artists from the
1890s until his death. He frequently exhibited with the Tonalists and belonged to the same artistic clubs. Despite this, some of his paintings show the influence of impressionism in their more visible brushstroke, thicker impasto, and abstraction of forms. *In the Adirondacks* (ca. 1890) is a more loosely painted landscape, with the Adirondack Mountains rendered in broad, blocky applications of paint. The bare, thin trees are a delicate contrast to the imposing cliffs and add detail to a fairly abstract landscape. Painted mostly wet-into-wet, Minor did not hide his brushstrokes, which are more diverse and energetic than seen in his Tonalist works. He also incorporated the bare canvas into his composition. *In the Adirondacks* does not completely embrace the Impressionist style however; the earth-toned palette of browns, reds, and grays, blacks, and oranges reflects the Tonalist tendency toward monochromatic palettes and the ominously cloudy sky creates a definite mood.

40 Minor used a flat brush approximately a half inch in diameter, and utilized finer brushes to paint details.
A different painting of the same geographical region, *Landscape, Adirondack Study*, is a more intimate view of a meadow with hazy, purple mountains in the background. Instead of painting a carefully framed portion of a landscape, Minor’s viewpoint is low and shallow. The viewer sees the blades of grass and bright, opaque leaves of small trees as if he or she was sitting on the ground; this intimate viewpoint is very unusual in Minor’s works. There is a careful balance between the scumbled

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41 *Landscape, Adirondack Study* has a discolored natural resin varnish, which contributes to the darker and warmer tonality of the present painting.
leaves of the background trees and the carefully defined leaves in the foreground as Minor plays with the expressive qualities of Impressionism. His technique is also innovative and unique within his oeuvre as understood at the present; he allows canvas texture and visible brushstrokes to influence the final surface of the work.
Figure 15  Robert C. Minor, *Landscape, Adirondack Study*, n.d., oil on canvas, 30 in x 22 in, Lyman Allyn Museum, photo by the author, used with permission of the Lyman Allyn Art Museum, New London, CT
Chapter 2
MINOR AND THE TONALISTS OF 1890

Defining Tonalism

Although several artists had been working in a tonal style throughout the 1880s, notably Inness and Wyant, official recognition of the Tonalist School occurred in the 1890s, when painters of atmospheric, muted landscapes began to exhibit together in New York City. Becker notes the increase in the use of the word “tonal” to describe paintings in the 1890s, and its use corresponds to the increasing popularity of atmospheric, nostalgic landscapes among collectors and the formation of common aesthetic goals between certain Tonalist painters.42

Tonalism was not a school in the traditional sense with a group of painters learning similar painting methods and aesthetics; the Tonalists depicted the American landscape in a variety of ways and utilized individual techniques. Among those who have researched Tonalist painting technique, Lance Mayer and Gay Myers note that “the painters who are now identified as the tonalists or impressionists were not members of strict schools that practiced uniform style and technique.”43 David A.


Cleveland’s 11-point list of visual characteristics of the Tonalist School identifies a range of styles and painting techniques among the members of the movement.44

Despite Tonalism’s diverse characteristics, some definitions can apply to the movement as a whole. Charles Caffin defined Tonalism as “the prevalence of some one color in a picture to which all other hues are subordinated” and “the setting of all objects, lights, and colors in a picture in due relation to one another within an enveloppe of atmosphere.”45 Tonalism was also described compellingly by one of its participants; Birge Harrison stated that landscape painting was about:

    the power to see and to render the whole of a given scene, rather than to paint a still life picture of its component parts; the power to give the essential and to suppress the unessential, the power to paint the atmosphere which surrounds the objects rather than the objects themselves; the power, in one word, to give the mood of a motive rather than the scientific statement of the trees and rocks and fields and mountains that make up its elements.46

The Tonalists rejected the sweeping, glimmering, and meticulous vistas of the Hudson River School, instead favoring intimate views of nature. The artistic value of their landscapes lay in the interior genius of the artists: in their ability to render fine sentiment onto canvas and to convey a palpable mood or feeling.

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44 Cleveland, A History of American Tonalism, xxv.

45 Caffin, American Masters of Painting, 14.

**Barbizon Influences**

The Tonalist Movement looked primarily to the style and techniques of Barbizon landscape tradition, favoring informal views of nature devoid of narrative elements, while admiring the landscapes of Inness and Wyant. Instead of painting forest scenes, the Tonalists depicted flat meadows and marshes. They were also less inclined to place figures in their landscapes, although some Tonalists did so.

Ultimately, the Tonalists relied less on the realism of the Barbizon school and more on the emotion with which they imbued their paintings. The Tonalists appreciated the subjective nature of Barbizon landscapes, as Charles Caffin stated:

> The Barbizon painter selected from the scene itself its salient features, eliminating the unessentials and compressing the whole into a vivid synthesis. Through communing with nature, these men acquired so strong a sympathy with their subject that the mood of their own spirit became reflected in nature; their works interpreted their own souls in terms of nature; they were nature poets.\(^47\)

This quotation explains what was valued most in both Barbizon and Tonalist works: the genuine, artistic connection to nature, translated to canvas. In other words, nature served as a vessel for the inner emotions of the artist.

**The First Tonalist Exhibitions**

The first exhibitions of Tonalist landscapes in the 1890s positioned the Tonalists as the heirs to the Barbizon tradition. Minor’s landscapes figured prominently in these first exhibitions. William T. Evans (1843-1918) and Henry Ward Ranger helped to define Tonalism through the content and organization of the first Tonalist exhibition, *Some Tonal Paintings of the Old Dutch, Old English, Barbizon,*

Modern Dutch, and American Schools in 1896. Minor was one of eight American painters chosen to be exhibited with Rembrandts and Constables.\textsuperscript{48} The exhibition of European art from as early as the seventeenth century alongside contemporary American art attempted to demonstrate that new world painting was equal to the most venerated European art.\textsuperscript{49}

Following the critical success of the first show, a second Tonalist exhibition was organized by Chapman in 1897 titled Tonal Paintings: Ancient and Modern. This exhibition again implied that American Tonalist paintings were comparable to European masterpieces. Tonalist paintings were displayed with French Barbizon paintings in the 1904 Comparative Exhibition of Native and Foreign Art (1904), encouraging American spectators to marvel at the accomplishments of their national school of landscape painting compared to the legendary paintings of Fontainebleau.\textsuperscript{50}

Many American collectors of Barbizon school landscapes eventually purchased American Tonalist paintings. From 1880-1920, Tonalist paintings were bought, loaned, and exhibited by prominent American art collectors William T. Evans (1843-1918) and Thomas B. Clarke (1848-1931). Many of these collectors had become wealthy in the aftermath of the Civil War and chose to patronize American painters to form a national school and to refine American taste. Evans especially had a strong connection to the Tonalist Movement through his involvement with the Lotos Club, which served as an important venue for the first exhibitions of Tonalist paintings

\textsuperscript{48} Becker, “A Taste for Landscape,” 32.

\textsuperscript{49} Ibid, 32-37.

\textsuperscript{50} Ibid, 205.
by Minor and his contemporaries. Originally a collector of European and American paintings, Evans eventually sold all of his European works to focus on collecting works by contemporary American artists; he purchased a total of 16 works by Minor.  

Minor’s works were popular among critics during the height of Tonalism’s popularity and his works were often favorably compared to those of Inness and Wyant. His nocturnal scenes were so highly praised that Minor stated, “I believe that my different Moonlights having been so popular that I shall paint more of them and elaborate or rather refine them to such a state that they must command the full price.”

His paintings, however, differed from those of other Tonalists in several distinct ways. Most Tonalist painters favored fall and winter landscapes, where the bleak landscapes are imbued with somber tones and soft modulations of hues. The majority of Minor’s landscapes depict spring and summer, perhaps a result of his lingering allegiance to the Barbizon School. In fact, he only painted one winter scene, Winter. Despite these differences, Minor’s place as a leading Tonalist was never questioned during his lifetime.

Reverie (n.d.) (Figure 16) demonstrates Minor’s Tonalist style. The artist painted a glass-like, sinuous river flowing through a forest of softly defined trees in a limited, earth-toned palette of browns, greens, and yellows. With the white sky reflected in the water, the curve of the river leads the eye to an unseen destination. Just

51 Ibid, 86.

offshore, a man in long robes leaves his boat and walks with arms outstretched toward the opening in the trees. The transition from a dark foreground to a light background not only aids in the illusion of depth, but also lends drama to the landscape. The bright opening in the trees, just beyond the picture plane, alludes to an other worldly, ethereal destination. The entirety of the scene was painted as if seen through a meditative haze; Minor’s concentration on form and line borders on the abstract.
Figure 16  Robert C. Minor, *Reverie*, n.d., oil on board, 22 in x 16 in, Private Collection, image courtesy of artsy.net
Minor’s Solo Exhibition

In 1897, Minor’s prominence as a Tonalist artist was solidified by his first solo exhibition at the Macbeth Gallery. Thirty-five of his oil paintings were displayed for two weeks to favorable responses from many critics. Most appreciated the overall harmony of the exhibition, as Tonalists believed that their paintings were seen to more advantage when hung with other tonal works. The Palette and Brush column marveled:

what strikes one is the way in which all of these pictures, of scenes from early morn to midnight, of serene effects and wilder skies at sunset, hang together, the colors all from one palette, the sentiment the inspiration of one temperament. And all this without monotony, for each scene is expressive of its own mood, and there is hardly a note in the scale that has not been touched.

Other critics appreciated Minor’s muted canvases as a contrast to the popular impressionist school.

At a time when painting runs to freaks, and when no extravagance is too frantic to be made to masquerade as art so long as it commands vulgar attention, it is consoling to find oneself in the presence of an artistic intelligence so wide, so sympathetic, and so just in its comprehension of the eternal beauty and poetry of nature. While such art as that of Mr. Minor exists, the cause of art in this country is not lost. While the little group, of which he is one, maintains its attitude of sincerity, devotion to its ideals, and disdain of the fantastic fashions of the day, the seeds it sews will germinate and flower even as the weeds decay.

53 Becker, A Taste for Landscape, 37.
54 From a clipping titled “Palette and Brush: Some works of art by Mr. Minor, and some other particulars of the world of art,” March 11, 1997, Robert Crannell Minor Papers.
55 From a clipping labeled The Collector, March 15, 1897, Robert Crannell Minor Papers.
This probable reference to impressionism reveals a contemporary belief that the aesthetic of Tonalism would endure and that Impressionism was but a trendy and temporary fad.

**Minor and the School of Old Lyme**

In 1899, Henry Ward Ranger and a group of like-minded artists began to paint in Old Lyme Connecticut. Ranger, who discovered at Old Lyme a landscape he likened to the views of Barbizon, is often credited as the founder of the Old Lyme School. His organization of the first exhibitions of Tonalist paintings and his endorsement of the style established Ranger as one of the leaders of the Tonalist Movement of the 1890s.

Minor began painting in Old Lyme and Waterford in 1894: a fact that is ignored by scholars. This was several years before Ranger and his fellow Tonalists founded the Old Lyme School. As a well-known and respected artist within the American landscape genre, Minor and his works possibly played a role in attracting painters to that area of Connecticut. Minor only exhibited with the Old Lyme School once, in 1903, and his poor health prevented him from participating in the activities at the Florence Griswold House, where many of the Tonalists lived. Nevertheless, he was frequently dubbed the dean of the Old Lyme Colony of artists.

**William Macbeth as Dealer**

William Macbeth served as Minor’s art dealer from 1892 until the end of the century. The Macbeth Gallery Records contain correspondence between the artist and

his dealer from 1892, when Macbeth first began his gallery at 237 Fifth Avenue, until 1900. The Macbeth Galleries represented many Tonalist artists, and its patrons included Henry T. Chapman, William T. Evans, and George A. Hearn.57

The Macbeth-Minor correspondence reveals that Minor’s financial state was variable and unsteady, even when the artist’s name was well-established within the accepted landscape school of the day. Most of the time, Minor was unwilling to lower his prices for potential buyers. The several occasions when Macbeth broached this issue with Minor, he was usually sharply chastised by the stubborn painter. One encounter went as follows:

I am glad that you have made known to me the ‘offer’ of $100 for my Moonlight as it gives me an opportunity to place myself on the record as follows. - I consider my works fully equal in merit to those of any other landscape painter in America and the prices of them - lower than Inness, Wyant, Tryon, Gifford, or Murphy. I have put prices upon then conscientiously, and feel that to ask these prices and accept such as is proposed – (a reduction of $150- on a $250 picture) would be a dishonorable act on my part . . . and my self-respect can not be sold or bought.58

Minor’s unwillingness to sell his paintings at reduced prices often conflicted with his apparent monetary anxieties. On several occasions, he revealed these anxieties to Macbeth. As late in his career as 1893, he confided, “I do hope that your expectations in regard to selling a $500 picture for me may come true, as I am at the end of my allowance.”59 Occasionally, he would reflect upon methods with which he could

57 Becker, A Taste for Landscape,46.


increase his income, stating “The truth is – I ought to paint fewer pictures and ask more money.”

The Effects of Illness

During the last ten years of Minor’s life, his health grew increasingly worse as he slowly became a bedridden invalid. Writing to Macbeth in 1893, he stated:

I have spent many days this summer and fall sitting before my easel and waiting for some lull in the pain to allow me to work a little. The outlook for the future is not bright. I cannot walk far and am unable to forget my troubles.

In 1894, he mentioned to Macbeth a procedure that he underwent that he called “frizzling of the spine.” From that year onward, Minor consistently mentions his poor health to his dealer. The hand of his letters changes frequently toward the end of his life, indicating that Minor may have been occasionally too ill to personally write to Macbeth.

Minor’s disease has not been identified, but it profoundly affected the artist both physically and emotionally; his spirits sank low during his final years as he reflected, “the disease I suffer with takes away every energy – and every ray of light from my path.” Minor’s illness affected his painting practice, and probably the


quality of his later work. He produced fewer works, telling Macbeth “the constant pain I suffer prevented me from painting for more than an hour or two at a time so I have done no watercolors and few oils.” Due to the crippling effect of his illness, it is likely that Minor was unable to work outdoors.

**Success at the End of Life**

A few years before his death, Minor achieved the height of his success at the Evans Sale, occurring on January 31, 1900. At the sale, seven works by Minor were sold; *The Hunters Moon, The Close of Day, Twilight, Nightfall, Eventide, An Autumn Sunset,* and *Midnight.* *The Close of Day,* previously awarded a third class medal at the 1889 Paris Exposition, was purchased by a private collector for $3,050. Newspapers reported Mrs. Minor’s hysterical joy at the unexpectedly large price the painting fetched, while the artist himself appeared dumbfounded by his stroke of good fortune. *The Close of Day* is currently unlocated.

The many successes and high prices of the sale were viewed by Minor and other American artists as a triumph for American art. In an interview a week after the sale, Minor stated:

> The applause which greeted the bid of $3,050 for my Close of Day was as much directed to American artists, as a body, as to myself in particular. Hitherto Americans have lacked the ability to compete with the world, and the Evans Sale gave them that opportunity . . . I am deeply interested in the success of my compatriots, who, like myself, have fought a hard fight. European artists do not take us seriously. For example, (and here a bright smile stole across his serious face) a friend of mine in London who much admired my pictures, and was very intimate with Sir John Millais and asked him to come to my studio to

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64 Ibid.
see them. “An American artist?” said Sir John. “Oh, no, no! I cannot go to his studio. He might shoot me.” Nevertheless, we are making rapid advancement and will soon run them as close in art as we are doing in literature.65

These remarks demonstrate Minor’s dedication to the cause of American art, despite his European training and any remaining Barbizon influences in his work. Minor championed the cause of American Tonalist painting along with the younger, more innovative artists of the movement. During these last years of his life, critics noted the same:

It is a number of years, however, since he returned from France, and association with the woods and hills of the Adirondacks, and the picturesque shores of the Sound near New London, Connecticut, have done much to – shall I call it? – Americanize his art. While The Close of Day and Eventide may bring to mind some of the great French painters, The Hunters Moon and Nightfall recall no painter but Minor himself and suggest no other country but our own.66

The fact that Minor painted a grisaille landscape in 1903, a year before his death, during a time when the bright colors and vibrancy of Impressionist paintings were coming into vogue, indicates that Minor considered himself a Tonalist to the end of his life. Possibly painted for exhibition in the black and white shows of the Salmagundi Club, where he previously exhibited several grisailles, Landscape with Pool (Figure 17) still displays Barbizon influences in subject matter and composition; small cottages with smoking chimneys nestled into a rural landscape with a central pool.67 Two figures, a male and a female, stroll toward the cottages. Rendered

65 “Robert C. Minor’s Successes” The New York Times, February 10, 1900, America’s Historical Newspapers.

66 From an unidentified clipping, Robert Crannell Minor Papers.

67 The Salmagundi Club is an artist’s club started in 1871. Originally active around Washington Square in New York City, members frequently organized exhibitions of
completely in black, white, and perhaps some yellow, this painting shows Minor’s sensitivity to tonal values. It also demonstrates a lasting association with Barbizon painting, despite his active involvement in the Tonalist School.

Figure 17  Robert C. Minor, *Landscape with Pool*, 1903, oil on canvas, 22 in x 30 ¼ in, Florence Griswold Museum, photo by the author, used with permission of the Florence Griswold Museum

their work. Some of these exhibitions were called “Black and White Exhibitions,” meaning that all works had to be rendered in tones of black, white, and gray.
Minor’s painting technique in *Landscape with Pool* is, however, much looser than in most of his other landscapes. Minor painted more thickly and did not hide his brushstrokes, instead using both a brush and palette knife to create a sky filled with impasto. Working wet-into-wet, he frequently alternated between the contours of the sky and the trees. Perhaps showing Impressionist influences, the work was painted with a strong sense of spontaneity and vivacity, unlike his more meticulously constructed landscapes. Minor’s work continued to show contrasts in texture, as the smooth lake in the foreground balances the high impasto of the sky.

**Minor’s Fading Legacy**

A brief increase in popularity and fame followed Minor’s success at the 1900 Evans sale. After he died at his home in Waterford in 1904, the Lotos Club held a memorial exhibition of 33 of his paintings. From January 12 - January 18, 1905, 109 of his oil paintings and some of his watercolors were auctioned at the American Art Galleries. Ultimately, the sale of his paintings after his death brought in only $35,190. Only four of his paintings sold for more than a thousand dollars, with *The End of Summer* fetching the highest price of $1300. His family gave some of his studies to art institutions at this time. The underwhelming total sales convey a decreased taste for Minor’s paintings, as well as a decreased taste for Tonalism in the shadow of Impressionism.


69 Ibid.
Chapter 3
THE STUDIO IN TONALIST WORKING PRACTICE

Minor’s Studio

For the majority of his career, Minor occupied a studio in the Old University Building of New York University. The Gothic revival building was built in 1835 to house the newly founded institution and the rooms were too numerous for sole occupation by the college. Spaces were therefore rented to scientists, writers, and artists, and, as a result, the building bore witness to several notable historical events, such as the location of the first photograph and the invention of the revolver. Among its most famous occupants were Samuel F. B. Morse, who experimented with the telegraph within its walls, American painter Winslow Homer, and Theodore Winthrop, the writer of Cecil Dreeme.\(^7\)\(^0\) The University Building was imbued with the mystery and romance of its past and present tenants, making it an appealing location for many artists.

\(^{70}\) Cecil Dreeme was a popular and partly autobiographical novel published in 1862 addressing gender and social roles in New York City.
Table 1  Locations of Minor’s Studio’s, based upon National Academy of Design Records\textsuperscript{71}

<table>
<thead>
<tr>
<th>Years</th>
<th>Studio Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1876-1877</td>
<td>YMCA Building</td>
</tr>
<tr>
<td>1878-1879</td>
<td>52 East 23\textsuperscript{rd} Street</td>
</tr>
<tr>
<td>1880-1892</td>
<td>34 NY University Building</td>
</tr>
<tr>
<td>1893-1894</td>
<td>32 NY University Building</td>
</tr>
<tr>
<td>1895</td>
<td>60 South Washington Square</td>
</tr>
<tr>
<td>1896-1900</td>
<td>The Sherwood, 58 West 57\textsuperscript{th} Street and 6\textsuperscript{th} Avenue</td>
</tr>
</tbody>
</table>

From 1893-1894, Minor inhabited room #32, at the northwest corner of the second floor. A description of Minor’s studio appears in an article discussing the literary importance of this room, providing information on decoration and working methods.

Deep and spacious, receding into far corners and deep recesses, and with a lofty ceiling, the autumn afternoon light falling subdued through the tall Gothic windows upon quaint old furniture, picturesque tapestry and arras hung walls decorated with ancient weapons and pieces of armor, one might have thought himself in the interior of a medieval castle. The stained oak floor was strewn with oriental rugs and skins of wild animals. Here a half-finished painting stood upon an easel, and there an antique screen shut out the vista of deepening shadowy background.\textsuperscript{72}

In addition to learning that Minor painted landscapes in his studio, this description of Minor’s studio provides several important details about Minor’s calculated presentation of himself as an artist. A small portion of Minor’s studio can


\textsuperscript{72}“Romance of a Building, the Story of University Building in New York, Soon to be Razed,” \textit{Omaha World Herald}, February 19, 1893.
be seen in an 1898 photograph (Figure 18), taken when he was president of the Salmagundi Club. Although the studio described in the *Omaha World Herald* was demolished in May 1894 when the Old University Building was torn down, his new studio at the Sherwood retains similar décor to that described. Minor furnished his studio with expensive and foreign goods, such as oriental rugs, old furniture, and tapestries. In Figure 18, a circular shield hangs on one wall, and a vase rests on a cabinet behind his paintings, carefully situated and elegantly draped with cloth.
Another photograph of Minor in his Connecticut studio, taken in 1900, (Figure 19) depicts similarly lavish décor. His paintings are arranged among fashionable, art nouveau vases and ornate, heavy furniture. A small, framed portrait photograph of
Corot is on the back wall, reminding the viewer of his admiration of the Barbizon painter. A Minor painting titled *Midnight on the Mount of Olives* is framed on the back table, reminding visitors of his European training and Italian travels. The artist, dressed in a fine suit, contemplates his work with an air of satisfaction.

Figure 19  Photograph of Minor in Connecticut Studio, 1900, image courtesy of the Archives of American Art
The luxurious interiors that Minor inhabits in these photographs were not the spaces in which he regularly painted. Rather, photographs of Minor’s studio market the artist’s global sophistication, taste, and fondness for the past. The staged array of opulent goods demonstrates his financial security and comments on his professional success. Minor’s careful presentation of himself and his works speaks to an artistic global awareness, a prestigious education, and an established position within American art.

Many nineteenth-century artists were similarly photographed in the wealthy trappings of their studios as a form of self-propaganda. Instead of wearing the old clothes in which they likely painted, many artists were photographed holding their palettes while donning their best suit. A photograph of George Inness (Figure 20) shows the artist painting while wearing a three-piece suit. The common image of the artist gentleman demonstrates the importance of refined personal conduct and appearance of economic prosperity in promoting ones art in the late nineteenth century.
Minor’s Painting Practice

Keeping a studio in a city aspiring to become a new artistic capital allowed Minor to involve himself in several artistic clubs, communicate closely with his dealer William Macbeth, become familiar with wealthy collectors, attend seasonal exhibitions, and foster relationships with like-minded artists. Minor was a prominent figure in the New York City painting scene, joining several art clubs and exhibiting regularly. One club that Minor was intimately involved with was the Salmagundi Club. Founded in 1871 as a sketching class, its members included both artists and laymen. Minor joined the club in 1878, shortly after returning from Europe and
remained an active member throughout much of his artistic career. In 1881, the club rented a portion of Minor’s studio in the University Building for club meetings. Charles Volkmar also taught etching to club members in Minor’s studio. Minor served as the Secretary of the club for over a decade and served as President from March 1898 – March 1899. His palette was collected by Harry W. Watrous, whose collection was donated to the Salmagundi Club in the early 20th century.

Although Minor kept a studio in the city until 1900 (when he moved permanently to Connecticut) he never looked to the city for artistic inspiration or made it the subject of one of his paintings. Instead, he used his studio to paint the final versions of the landscapes that he observed, drew, and sketched from nature during the warmer, summer months. A few of these oil and pencil sketches remain in the Florence Griswold Museum, with most being from early in his career. His sketches study primarily one landscape element, such as a grouping of trees, rather than an entire composition. An oil sketch from 1875 featuring a dark landscape set against a brilliant and vibrant sky is labeled “sketch from nature” by the artist into the wet paint (Figure 21). The vibrant, loose brushwork over a brown ébauche, or tonal undersketch, allowed to scratchily show through emulates Barbizon style sketches,

73 Robert Mueller, Salmagundi Club minutes, email correspondence to author, January 22, 2014.

74 William Henry Shelton, *The Salmagundi Club, Being a History of Its Beginning As a Sketch Class, Its Public Service As The Black and White Society, and Its Career As a Club from MDCCCLXXI to MCMXVIII* (Boston: Houghton Mifflin Co, 1918), 34.

75 Ibid.

76 Robert Mueller, Salmagundi Club minutes, email correspondence to the author, January 27, 2014.
especially those of Rousseau. This suggests that Minor studied the landscape closely, but then synthesized different parts into a whole that was created in his imagination and with a personal aesthetic rationale and taste.

Figure 21   Robert C. Minor, *Sky, June* 1875, oil on canvas, Florence Griswold Museum, photo by the author, used with permission of the Florence Griswold Museum

In 1900, Minor was still painting outdoors. An interview with the artist mentioned:

On an easel in his studio stands a lovely, limpid moonlight scene, delicate, subtle, and strong, reminding one in some respects of Turner.
This canvas is an actual study from nature, having been painted at night with the aid of a locomotive headlight, and afterward touched up by daylight. 77

The high degree of finish on his paintings, with subtle dabs of color in consideration of the harmony of the whole, indicates that even when Minor painted outdoors, he often finished paintings in his studio: a practice of both Barbizon and Tonalist painters.

Not only was painting in the studio the most convenient way to paint, with easy access to all materials and sketches, but it also reflected the focus on interiority in many Tonalist paintings. Painting from drawings and oil sketches was standard working practice for many Tonalists, who desired to paint the landscape naturalistically but with a poetry that came from inward reflection and sentiment. Painting a Tonalist landscape was not about scientifically rendering forms and light, but about using one’s artistic training en plein air to arrange images in the mind and imbue them with poetry and resonance. In effect, a Tonalist landscape is a reflection of the deep feelings of the artist and his or her ability to technically translate these feelings to canvas.

77 “Robert C. Minor’s Successes” The New York Times, February 10, 1900, America’s Historical Newspapers.
Chapter 4

THE CREATION, PROVENANCE, AND CONDITION OF SOUVENIR OF ITALY

The remainder of this thesis will concentrate on the analysis of Souvenir of Italy (n.d.) within the previously discussed context of Minor’s oeuvre. This chapter addresses the provenance and condition of Souvenir of Italy and how these considerations help to date this painting. A formal analysis of the style of Souvenir of Italy attempts to place it within the known body of Minor’s works.

Creation of Souvenir of Italy

The verso of Souvenir of Italy bears two paper labels, one laid on top of another. The first label is oriented horizontally and reads “Robert C. Minor/ 34 New York University/ $175./ Souvenir of Italy/ $190.00” in black ink. The “$190.00” is crossed out with several horizontal strokes. The second label is oriented vertically and is a Winsor and Newton label for Prepared Millboard. The address 34 New York University was the location of Minor’s studio from 1880-1892 (see Table 1). There are three possible scenarios regarding the creation of Souvenir of Italy. Minor could have painted it in Italy and kept it for several years before selling. He also could have painted it shortly after returning to the United States. The third possibility is that Minor painted it many years after his return from Europe and sold it soon thereafter.

A firm date has not yet been assigned to Souvenir of Italy, but it is likely that Minor painted it shortly after his return to the United States in 1874 and displayed it in his studio for a time as a way of emphasizing his European education. Physical
examination of the painting reveals that Minor retouched *Souvenir of Italy* years after its completion in order to conceal developing cracks in the paint film and to make compositional changes. Whether this was done before or after the painting was sold is not known but indicates that Minor had personal contact with *Souvenir of Italy* for at least several years, perhaps displaying it in his studio similarly to *Midnight on the Mount of Olives*. Eventually, he sold it (1878-1892) at the reduced price of $175.

**Provenance of *Souvenir of Italy***

The history behind *Souvenir of Italy* (n.d.) is unclear. With no mention of the painting in exhibition or sale-records, its provenance has been gathered from material evidence and interviews with previous owners. The painting was donated to the Winterthur/University of Delaware Program in Art Conservation in 2011. Previously, it had been inherited by Carolyn Parlatto, whose ancestor William Gaston Hamilton was friends with many New York landscape painters. Hamilton lived near Sloatsburg, NY and frequently bought landscapes from his friends. It is probable that he purchased the painting directly from Minor during his lifetime, and it was then passed down through his family. Ms. Parlatto also inherited another painting by Minor.78

Although Ms. Parlatto has no records about *Souvenir of Italy*, she recollected that the painting was stored in a Long Island house for many years, where it became moldy. In an attempt to repair the damage, it was taken to a restorer who “scrubbed the painting.” No additional details about this or other possible restoration campaigns are known. In 2009 or 2010, paintings conservator Kenneth Needleman in New York

78 Carolyn Parlatto, interview by the author, University of Delaware, Newark, DE, November 12, 2013.
City suggested she donate the painting to an art conservation program, due to its poor condition. The painting arrived at the Winterthur Paintings Conservation Studio on March 22, 2011.

**Condition of Souvenir of Italy**

*Souvenir of Italy* (n.d.) has been subjected to a disfiguring and heavy-handed restoration treatment, poor environmental conditions, and the natural aging of its materials and techniques (some of which have changed irrevocably). The aesthetic appearance of *Souvenir of Italy* is compromised, and these condition issues inhibit the interpretation and appreciation of this work. In order for the original appearance of the painting to be understood and postulated, it is necessary to discuss how its material nature has altered over time.

Perhaps the most disfiguring condition issue is the permissive restoration that the painting has undergone. Ultraviolet examination (Figure 22) of the surface reveals that *Souvenir of Italy* has undergone at least two campaigns of retouching.\(^79\) The most heavily retouched area is on the proper left side of the painting, above the tree. This area was originally retouched by Minor, who altered the height and width of the tree by repainting part of the sky over the original varnish. (Minor sometimes altered his paintings years after they were completed.) In one case, he asked Macbeth to send him *After Rain*, a painting that had been recently exhibited at the National Academy of

\(^79\) *Souvenir of Italy* was examined under long-wave Ultraviolet Radiation. Longwave (366nm) UV was observed with UVP Mineralight® Lamp Model UVGL-58. The painting was photographed with a longwave UV filter, allowing shortwave UV in the range of 300-315 nm.
Art, which he would “work on and change for the better.” Referring to The Brook, the last painting by Minor, The New York Sun noted that Minor, “while in bed for a few weeks before his death . . . attempted to scrape out a tree in it which did not please him.”


81 From a clipping labeled New York Sun, 1905, Robert Crannell Minor Papers.
Figure 22  Robert C. Minor, *Souvenir of Italy*, n.d., oil on millboard, 16 in x 12 in, ultraviolet photograph. The overall bluish-gray fluorescence suggests a coating which was identified with GC-MS analysis as a bleached shellac coating. The patchy greenish-yellow fluorescence seen in the bottom half of the painting and tree are probable remnants of an original natural resin varnish. Overpaint does not fluoresce in UV light and appears black. Areas of more recent overpaint are visible around the perimeter of the tree and in the sky directly above the tree.
Unfortunately, Minor’s modifications of the sky and tree are no longer present in this area. The restorer(s) apparently overcleaned the reworked area and then overpainted the resulting damage. This portion of the sky does not reflect Minor’s original aesthetic or intention and misleads the viewer. The overpaint does not match Minor’s original palette or texture and covers a significant portion of Minor’s original paint layer. On a painting with such subtle tonal transitions, the presence of vivid, discordant overpaint is both jarring and distracting. It impedes the appreciation of the original painted surface due to its lurid contrast with Minor’s precisely mixed, soft hues. Compared to Minor’s delicate treatment of the sky, primarily smooth with hints of impasto only in the foremost clouds, the thick and uncharacteristic brushwork of the overpainted region disturbs the tranquil effect usually achieved by the artist. The raised texture of the overpaint in the upper right sky can be seen in the raking light photograph (Figure 23).
Figure 23  Robert C. Minor, *Souvenir of Italy*, n.d., oil on millboard, 16 in x 12 in, raking light. Restoration fills are present in the foreground, middleground, and in the tree. These fills and restoration overpaint are not flush with the original paint layers and rise slightly above the plane of the painting.
The overpaint is also distracting along the horizon line. Where Minor drew the viewer’s eye with a vivid dash of orange along the horizon, the drama of this passage is lost because it is overpainted with a muddy red color. What was once the focal point of the painting, the climax of the drama of the setting sun, is now lost. This leaves the viewer perspectively confused and emotionally underwhelmed. It also makes the painting difficult to interpret.

The restorer(s) also overpainted around the edge of the tree, along the horizon line, and in areas of the grassy lawn. The X-radiograph (Figure 24) of the painting shows several restoration fills of large cracks. Unfortunately, these fills were not leveled to the paint layer and protrude distractingly above the surface. They can also be seen in the raking light photograph.

*Souvenir of Italy* has an overall craquelure; some areas are more severely cracked than others. The craquelure is most severe in areas where Minor himself thickly retouched the painting, such as above the tree and around the contours of the tree.

For a more specific discussion of the condition of *Souvenir of Italy*, please see Appendix A.

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82 *Souvenir of Italy* was X-rayed on February 8, 2013 by Brian Baade, Kelsey Wingel, and Alyssa Hull with a Pantak Seifert ERESCO MF2 X-ray generator. A Logos Digital Imaging System was used for radiographic analysis. The system includes reusable photostimulatable phosphor imaging plates, a laser diode scanner device and optical reader components, communications electronics and software. Controllable variables included distance to object, kV power, amperage (mA), and time of exposure.
Figure 24  Robert C. Minor, *Souvenir of Italy*, X-radiograph, 30 kV, 4.00 ma, 120s. The X-radiograph shows losses in the sky directly above the tree, appearing as small, dark circles. Restoration fills are visible as white, radio-opaque lines in the foreground, the middleground, and on the tree. The filling material resists penetration by 30kV and appears white.
Formal Analysis of *Souvenir of Italy*

*Souvenir of Italy* (n.d.) is an intimate and romantic view of an Italian landscape. A meditative green foreground leads the eye to a dark cluster of vegetation along the horizon. Light from a vivid orange sunset shines above the dark brush, casting a warm glow onto the pool below and throughout the sky above. Darker orange mist floats upward from the bushes. A dark willow tree was painted on the proper left of the composition while blue, pink, and gray clouds move diagonally across a turbid sky.

Minor arranged the composition to create harmony between the shadowed earth and the vibrant sky. Minor balanced the dark tree on the right with an amorphous grey cloud on the left, providing graceful proportion and balance to an asymmetrical landscape. Dark clouds along the edges of the painting frame the composition, focusing attention on the glowing orange light along the horizon, encouraging the viewer to contemplate the vivid sunset. The use of one bright orange hue as the focal point of the composition lends drama to the scene and provides a spark of life to the mellowed landscape. To harmonize this bright hue with the overall muted tonality of the painting, Minor rendered its soft reflections in the underside of the clouds above and in the dark waters of the pool below.

The majority of the surface of the painting has a smooth, even texture. The foreground was painted thinly, in broad, horizontal strokes, while the sky was painted more thickly. The highest, pinkest clouds were painted with light impasto and the outline of the tree was subtly feathered with a small brush to evoke the filtering of golden light through leaves.

Transitions between forms were softly accomplished through wet-into-wet blending with most forms surrounded by a subtle halo of light. The outline of the tree
was softly modeled into the sky with less defined leaves than seen in the artist’s other European landscapes, such as *Scene in the Forest of Fontainebleau* and *Scene in Devonshire*. The transition from earth to sky was harmonized and softened by colored mist rising from the landscape.

*Souvenir of Italy* can be best understood as a harmonious synthesis of influences ranging from the Barbizon painters Corot, Díaz, and Rousseau to the early American Tonalist painter Inness. Díaz’s influence is seen in the shadowed pool and the smooth green grass. The influence of Inness is also present in the meditative green foreground that recalls his 1873 *The Monk* (Figure 25): a painting completed in Italy, where Inness painted from 1870-1874. Similarly to Inness’s choices, Minor concentrated the most saturated, intense hue of the landscape along the horizon. He did not paint the light source, however, contributing to the mystery of the scene. The contrast between the dark vegetation and the dramatic sky indicates the possible influence of Rousseau.
Figure 25  George Inness, *The Monk*, 1873, oil on canvas, 38 ½ in x 64 ½ in, Addison Gallery of American Art

The Painting as Souvenir

*Souvenir of Italy*’s title is possibly a reference to Corot’s many souvenir paintings. Although many artists titled their works “souvenirs” in the mid- to late-nineteenth century, the term was most frequently associated with the Barbizon painter who exhibited almost 30 works with that title between 1855 and 1874.83 As a title for paintings, the term “souvenir” may have originated from the painting manuals of Valenciennes, who utilized many outdoor sketches to paint one finished landscape,

83 Tinterow, *Corot*, 262.
which he titled a “ressouvenir.” Corot similarly titled studio paintings based upon en plein air sketches “souvenirs.”

The title “souvenir” has important connotations for painting technique and for the style of landscape. Yanoviak, a scholar who addresses the abrupt change in the titles of Corot’s landscapes, asserts that:

- a vue is an objective, external appearance, while a souvenir, by definition, involves a personal hence a subjective and internal impression. This change indicates that the word “souvenir” implies a deeper, more intimate relationship to the painting as an object that does more than present a view of a landscape.

Abandoning the highly realistic approach to landscape painting typical of his earlier works, Corot later painted in a more muted style that prompts the viewer to reflect upon the sentimental qualities of the landscape. Often including antique ruins and mythological figures into his compositions, his silvery paintings such as Souvenir de Mortefontaine (Figure 26) reminds the viewer of a glorious past of harmony, peace, and immortal beauty.

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84 Ibid.


Research into the history behind souvenir paintings and Minor’s painting technique indicates that Minor’s use of the word “souvenir” was probably not only a personal declaration of attachment to the Italian landscape but also a specific reference to Corot. Minor’s decision to choose *Souvenir of Italy* as the title has several technical and stylistic connotations. It is likely that Minor painted it in his studio with

87 Corot painted a work titled *Souvenir d’Italie*. Although Minor may have been aware of the painting, it is currently lost, preventing the comparison between the two souvenir paintings.
the aid of sketches when he returned to the United States. Cross sections, discussed further in the next chapter, show distinctly separated layering systems, indicating that the work was painted in different sessions.

Minor’s composition also changed throughout the painting process, suggesting that he did not paint *Souvenir of Italy* with the intention of accurately describing a specific geographical site. Instead, Minor was probably painting his personal feelings and memories of Italy and his memory of a romantic landscape. Inner emotions trumped geographical realism as Minor depicted his feelings about Italy instead of documenting an actual landscape.

The images visible in the X-radiograph support the theory that Minor did not paint directly from the landscape but rather from memories and sketches. The X-radiograph image and the infrared reflectogram (Figure 27) show that Minor made compositional changes to the painting, suggesting that he was not concerned with depicting exact geographic realism. In the X-ray image, several white bands of paint in the middleground indicate a possible pond or lake that was eliminated possibly in order to simplify the composition. The tree was also shortened. The infrared reflectogram shows a compositional change along the horizon line; there may have been a bridge painted over the body of water that Minor eliminated. These

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88 Infrared Reflectography was performed by Jim Schneck and Kelsey Wingel on August 1, 2013. IRR was performed with an ALPHA NIR Infrared Camera with an Indium Gallium Arsenide (InGaAs) detector with an array format of 320 x 256 and a spectral response of 0.9 to 1.7 microns. Images were captured with a National instruments Labview Frame Grabber, using Indigo Systems Corp. IRvista 2.51 software.

89 The ridges of paint from the possible bridge (seen in the infrared reflectogram) are visible in the raking light photograph of *Souvenir of Italy* (Figure 23).
compositional changes indicate that Minor did not paint faithfully from a particular landscape, but rather that he created a personal recollection of his travels to Italy, with sentiment attached to aesthetic form.

Figure 27  Infrared Reflectogram of *Souvenir of Italy*, showing compositional changes along the horizon line
Chapter 5
MINOR’S PAINTING TECHNIQUE AND MATERIALS

This chapter will discuss the materials and painting technique of *Souvenir of Italy* (n.d.) and *Great Silas at Night* (1890). The analytical techniques of X-ray fluorescence (XRF), X-radiography, Gas chromatography – mass spectrometry (GC-MS), Scanning Electron Microscopy - Energy Dispersive Spectroscopy (SEM-EDS), Fourier Transform Infrared Reflectography (FTIR), and cross-sectional sampling were used to analyze *Souvenir of Italy*. The analytical techniques of cross-sectional sampling and SEM-EDS were used to analyze *Great Silas at Night*. Appendix B contains all technical data gathered for *Souvenir of Italy*, including XRF spectra, GC-MS spectra, FTIR spectra, images of cross sections in visible and ultraviolet light, and BSE and EDX images from SEM-EDS analysis. Appendix C contains all technical data gathered for *Great Silas at Night*, including images of cross sections in visible and ultraviolet light, and BSE and EDX images from SEM-EDS analysis.

As mentioned in Chapter 2, Minor’s painting technique was influenced by the Barbizon school, while being stylistically grounded in the American Tonalist Movement. Many American Tonalist painters were influenced by Barbizon techniques and actively applied these materials and methods to their paintings of the American landscape. This chapter will discuss Minor’s layering structure and pigment choices in *Souvenir of Italy* and *Great Silas at Night* and will compare them to those of Corot and Díaz. Minor’s paintings were frequently compared to the works of these two artist’s during his lifetime, and Minor’s technique reveals his attempts to associate himself with Barbizon painting practices. Some conclusions can also be drawn about
the development of Minor’s style through comparing the materials and techniques of *Souvenir of Italy* to those of *Great Silas at Night*.

**Souvenir of Italy**

In order to identify pigments used in *Souvenir of Italy*, nondestructive XRF analysis was conducted on nine spots of the painting. The interpretation of the spectra was not able to provide conclusive information about specific pigment identities. This may be due to the complicated layering system of the painting and the frequent mixing of pigments by Minor (both on the painting and on the palette). XRF analysis was able to confirm high levels of Zinc in areas of overpaint. To gather further pigment information, samples were taken from the painting and SEM-EDS analysis was performed. The XRF data was then used to re-confirm the pigment identification accomplished by SEM-EDS analysis.

Seven pigment and varnish scrapings were taken from *Souvenir of Italy* to identify pigments, binders, and varnishes with FTIR analysis. Analysis of these scrapings indicated the presence of a Prussian blue pigment, a shellac restoration coating, and perhaps lead driers. Lead was detected in all areas analyzed with XRF, supporting the possibility that Minor added lead driers to his paints.

GC-MS analysis confirmed the presence of a bleached shellac restoration coating and identified the overpaint in the sky as oil paint.

Seven cross-sections were taken from *Souvenir of Italy* (n.d.) to understand Minor’s painting technique and materials. Tiny, pinpoint-size samples were taken from five areas of the painting, with locations specified in Appendix B. Two of the small samples crumbled, producing two more samples than originally intended. Six of
the samples were taken from the edge of the painting. One sample was taken from a small loss in the lower sky.

Cross-sectional analysis of samples from *Souvenir of Italy* provided valuable information about Minor’s layering structure and painting technique. Analysis of the samples revealed that Minor painted in distinct layers, allowing each layer to dry before applying a new layer of paint. The ground(s) and *ébauche* layers remain distinctly separated from the layers applied on top, suggesting that Minor allowed each to fully dry before painting the next layer. This indicates that Minor probably painted *Souvenir of Italy* in multiple sessions.

SEM-EDS was performed on two samples from *Souvenir of Italy* (Sample 1 and Sample 6) to identify pigments. These two samples were selected because they contained original paint from the sky and the middleground, allowing comparisons to the skies and landscapes of Barbizon paintings. These comparisons are discussed later in this chapter.

Support

*Souvenir of Italy* was painted on a Winsor and Newton prepared millboard. Although many nineteenth-century painters preferred the stiff quality of millboard for outdoor oil sketching, *Souvenir of Italy* displays a high level of finish and is not a sketch. Millboard was manufactured by compressing fibers and scrap paper between iron rollers to form a stiff board. These boards were different from pasteboards in that some could be made without the use of adhesive and were not constructed of plies that
could split.\textsuperscript{90} Minor’s choice of millboard support suggests his willingness to use pre-prepared, commercial materials. Millboards were relatively inexpensive compared to other hard supports, and this may have been a consideration in his choice of support.\textsuperscript{91}

**Ground Layer(s)**

The preparatory ground preparation on the millboard is white and oil-based. The presence of calcium and lead in the Energy Dispersive X-ray Image (EDX) of Sample 1 (Figures 28 & 29) probably indicates that the ground is composed of lead white mixed with chalk as an extender. This was a common formula for Winsor and Newton prepared grounds.\textsuperscript{92} The X-radiograph indicates that the ground was applied vertically with a wide brush, most likely thinned with turpentine during preparation.


Figure 28  Sample 1, (10.25 in x 5.3 in), visible light, 100x. Sample 1 shows the layering structure for the sky of *Souvenir of Italy*, beginning with the preparatory white ground layer and ending with the restoration shellac coating.

Figure 29  Sample 1, EDX image of Lead, Silicon, Calcium and Chromium. This image maps the presence of the elements in the key above. This elemental information allows the identification of pigments within each layer of the cross-sectional samples.
In Sample 1, it is evident that Minor applied a second ground composed of lead white and a chromium-based green. This second ground layer is seen only in Sample 1. This layer shows a different morphology from the pre-prepared ground in the Backscattered Electron Image (BSE) and fluoresces more strongly in ultraviolet light (Figures 30 & 31). Its presence suggests Minor’s willingness to adapt prepared materials for his personal aesthetic goals.

No underdrawing has been detected with IRR or in any of the cross sections to date.

Figure 30  Sample 1, BSE image. This image shows the morphology of each layer in Sample 1. The ground (bottom layer) has a different, less fine morphology than the second ground (the layer above the first ground).
Ébauche

Minor created a monochromatic sketch of the composition in earth colors before applying the final layers of paint, visible in Sample 6 (Figure 32). This layer of paint is known as an ébauche: an underlying sketch used to establish the tonal values (or lights and darks) of the composition. The ébauche was first used by late eighteenth-century landscape painters, who used earth pigments to conduct rough, outdoor sketches of nature. These sketches were referenced when painting formal landscapes in the studio. When landscape painting began to be taught in academies in
the early nineteenth century, the ébauche was commonly used by both landscape painters and figure painters to establish tonal harmonies.\textsuperscript{93}

In \textit{Souvenir of Italy}, Minor appears to have used an ébauche to sketch out the composition of the landscape and to establish tonal values. The ébauche is present in all cross sections except Sample 1, which was taken from the center of the sky; the most luminous area of the painting. Here, he seems to have underpainted with a yellow pigment bound in excess oil. SEM-EDS and Raman spectroscopy techniques conducted to date were unable to identify this pigment, indicating that it is likely an organic yellow lake pigment. Many nineteenth-century painters altered the luminosity of their white grounds by applying a wash of another color.\textsuperscript{94} In this case, Minor may have wished to preserve the luminosity of the white ground. Instead of introducing the dark tonality of his brown ébauche, he underpainted the brightest passage of \textit{Souvenir of Italy} with an organic yellow pigment.

\textit{Souvenir of Italy}'s ébauche layer is composed primarily of pigments containing iron, silicon, titanium, and aluminum, indicating that Minor utilized earth colors (Figure 33). This layer appears to contain few pigment particles in all samples, indicating that it contains a high concentration of oil and possibly resins.

\textsuperscript{93} Callen, \textit{The Art of Impressionism}, 6.

\textsuperscript{94} Callen, \textit{The Art of Impressionism}, 70.
Figure 32  Sample 6, (3.75 in x 12 in), visible light, 200x. Sample 6 shows the layering structure for the green middleground of *Souvenir of Italy*, beginning with the preparatory white ground layer and ending with the green paint layer.

Figure 33  Sample 6, EDX image of Lead, Silicon, Iron, and Calcium. This image maps the presence of the elements in the key above. This elemental information allows the identification of pigments within each layer of the cross-sectional samples. This EDX image shows calcium and lead in the ground layer and silicon in the *ébauche* and paint layers. There are fewer elements detected in the *ébauche* layer, perhaps indicating the presence of resinous materials.
The ébauche layer appears dark brown in visible light and fluoresces strongly in ultraviolet light, perhaps indicating the presence of resinous materials and, in certain samples, interlayered varnish and oiling-out layers. The dark appearance of the ébauche layer in visible light in Sample 4 (Figure 34) contrasts with the several layers of oil, varnish, or resin visible within this layer in ultraviolet light (Figure 35).

Figure 34  Sample 4, (15.75 in x 4.5 in) visible light, 100x. Sample 4 shows the layering structure for the blue sky of Souvenir of Italy, beginning with the preparatory white ground layer and ending with the paint layers. The dark, thick ébauche layer can be seen above the white ground.
Figure 35  Sample 4, (15.75 in x 4.5 in), ultraviolet light, 100x. This UV photograph shows the many layers of possible varnish and resin in the *ébauche* layer that fluoresce in UV light. Several pigments in this layer also fluoresce strongly.

Paint Layers

Cross sections show that Minor painted directly, mixing his colors from a broad range of natural and synthetic pigments. He glazed much of the sky, but none of these areas was sampled, and glazes therefore do not appear in the cross sections. He generally mixed many pigments together, cutting saturation to create a muted palette.

SEM-EDS analysis of Sample 1 indicates that Minor utilized newly developed chromium-based greens, such as chromium oxide green or viridian, in his sky. The

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95 Chromium based greens, such as chromium oxide green and viridian, were patented in the mid-nineteenth century by Guignet of Paris.
presence of iron and silicon indicates a large particle of green earth. Red ochre and red and yellow lake pigments are probably also present. It is probable that Minor used Prussian blue and cobalt blue pigments as well, as they were detected with XRF, but are not contained in the samples analyzed.

In Sample 6, SEM-EDS analysis confirms that Minor used different synthetic greens. The presence of arsenic and copper in the EDX image (Figure 36) identify the highly toxic pigment emerald green. There is also evidence of another copper-based green present. The vibrancy of these pigments was toned down with the addition of various iron oxide or earth pigments.

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96 Green earth, or terre verte, is a natural earth pigment used since antiquity.

97 Lake pigments are organic dyes that have been made insoluble through their interaction with a metallic compound or salt. They are typically mixed with a carrier such as chalk or kaolin to increase their opacity.

98 Prussian blue was the first synthetically manufactured pigment, invented in 1704. Cobalt blue is a synthetic blue pigment invented a century after Prussian blue.

99 Emerald Green is a synthetic green pigment first produced in the early nineteenth century. Emerald green’s arsenic component makes it lethal.
Figure 36  Sample 6, EDX image of Lead, Copper, Arsenic. This image shows the presence of an emerald green pigment, which is composed of the elements copper and arsenic. Around this pigment is a lead halo. This mechanism behind this attraction is currently unknown but may be due to the presence of lead white or lead driers in the paint.\textsuperscript{100}

\textsuperscript{100} Emerald green in a painting by Rousseau was noted to have formed arsenate-lead deposits when the arsenic (in the form of arsenic (III) oxide) was released as a result of the formation of copper carboxylates. (Annelies van Loon, Petria Noble, and Aviva Burnstock, “Ageing and deterioration of traditional oil and tempera paints,” in \textit{The Conservation of Easel Paintings}, ed. Joyce Hill Stoner et al. [Abingdon, Oxon: Routledge, 2012], 234).
Medium Analysis

Minor painted *Souvenir of Italy* in oil paint; it is likely that his paints were pre-prepared and bound in linseed oil or walnut oil. SEM-EDS analysis shows a high amount of lead in all samples, even in the green foreground. This may indicate that Minor was using leaded oil to make his paint dry faster. The FTIR data also suggests that Minor may have been adding lead drier to his paints or that his commercially prepared paints contained lead drier. With the many layers present, Minor would have needed his paint to dry quickly.

Varnish

All cross sections taken to date show the restoration varnish layer and do not appear to contain the remnants of the original natural resin varnish. GC-MS analysis identified the restoration coating as a bleached shellac. Bleached shellac often has a blue fluorescence, which can be seen in cross sections that include the varnish layer and in the UV photograph of *Souvenir of Italy*. 101

*Great Silas at Night*

Six samples were taken from Minor’s *Great Silas at Night* (1890), pictured in Figure 12 in Chapter 1, in order to understand more about Minor’s painting technique and materials. Samples were taken from three areas of the painting, with sample locations specified in Appendix C. Two of the sampled areas crumbled, producing more samples than originally intended. All samples were taken from the edge of the painting. One sample (Sample 1) was taken from the back of the millboard support.

SEM-EDS was performed on Sample 2 from *Great Silas at Night* to identify pigments used by Minor. Sample 2 was selected because of its complex layering system, which is comparable to the layering systems in samples of *Souvenir of Italy*. Cross-sectional analysis demonstrates that, although the layering system remains similar, the layers are less distinctly separated in *Great Silas at Night* (1890) than they are in *Souvenir of Italy* (n.d.). This may indicate that *Silas* was either executed outdoors or painted very quickly, and suggests that Barbizon painting technique had a lasting influence on Minor’s painting technique.

Support

Like *Souvenir of Italy*, *Great Silas at Night* is painted on a Winsor and Newton millboard, probably commercially prepared. Because Minor was known to paint nighttime scenes outdoors, it is likely that the artist selected this support for its durability in changing climates and temperatures.

Sample 1 (Figure 37) in ultraviolet light shows the fibers and pigments adhered together to form the solid support.
Figure 37  Sample 1, (15 ¾ in x 20 in), ultraviolet light, 10x. This image of the sample of the millboard shows various paper scraps, fibers, and pigments that are adhered together to form the solid millboard support.

Ground Layer

The ground of the painting is white and oil-based. In Sample 2 (Figure 38), the presence of calcium and lead in EDX image (Figure 39) indicates that the ground is composed of lead white with chalk used as an extender. There is a higher amount of chalk in this ground than in that of Souvenir of Italy.

No underdrawing was detected with IRR or in cross sections to date.
Figure 38  Sample 2, (15 ¼ in x 20 in), visible light, 20x. This cross-sectional image illustrates Minor’s layering structure. He paints on a white ground (bottom layer), creates an *ébauche* to establish tonal harmonies, and then adds his final paint layers. In this sample, it appears that Minor’s *ébauche* and paint layers have mixed with the ground layer as a result of mechanical force.
Figure 39  Sample 2, EDX image of Lead, Calcium, Iron. This image maps the elements mentioned above in Sample 2. It shows a high amount of calcium in the ground layer and many iron-containing earth pigments in the "ébauche" and paint layers. Lead is present throughout the sample.

"Ébauche"

Minor conducted a monochromatic sketch of tonal values before applying the final layers of paint. This layer appears dark brown with minimal pigments in cross sections viewed in visible light (Figure 40). Under ultraviolet light, however, this layer fluoresces brightly, with Sample 3 (Figure 41), showing several layers of oil, varnish, or resin in the "ébauche" layer.
Figure 40  Sample 3, (15 ¼ in x 20 in), visible light, 20x. This image of Sample 3 shows the white ground layer and, above, the *ébauche* and paint layers. In this cross section, these layers are not easily distinguishable from each other, suggesting that Minor painted wet-into-wet, or he left parts of the *ébauche* exposed in the final painting.

Figure 41  Sample 3, (15 ¼ in x 20 in), ultraviolet light, 20x. This image shows Sample 3 in ultraviolet light. In UV light, many different layers on top of the ground fluoresce strongly, indicating that Minor may have used resins or varnishes in his paints.
Overall, the *ébauche* layer in *Great Silas at Night* is less distinct from the overlying paint layers than in *Souvenir of Italy*; Minor apparently mixed the *ébauche* with the uppermost paint layers. Sample 3 shows this more wet-on-wet technique.

SEM analysis of Sample 2 (Figures 42 & 43) identified aluminosilicates and lead white present in the *ébauche* layer. This is a similar palette to the *ébauche* of *Souvenir of Italy*. Cobalt was detected in a spot analysis of the *ébauche*, although no blue particles were found in this layer. This may indicate the presence of a cobalt drier, possibly added by Minor to make this underlayer dry faster if painting outdoors.

![SEM image](image)

**Figure 42** Sample 2, EDX image of Lead, Calcium, Copper, Silicon. This image maps the elements mentioned above within the layers of Sample 2. The elemental mapping indicates that the ground layer contains calcium. The *ébauche* layers contain silicon-containing pigments. The paint layers have copper-containing pigments. Lead is present throughout the sample, although more finely ground lead is found in the paint layers whereas larger particles of lead are found in the ground layer.
Figure 43  Sample 2, EDX image of Lead, Calcium, Iron, and Copper. In this image mapping the elemental composition of the sample, the fragmented ground layer is visible as green bands dispersed throughout the sample.

Paint Layers

Cross sections show that Minor utilized a more limited palette when painting *Great Silas at Night*, using primarily green, blue, black, yellow, earth, and white pigments. There are copper-based pigments present, which could possibly be azurite. The presence of aluminosilicates indicates finely ground earth pigments.

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102 Azurite is a natural, blue mineral that has been used since antiquity. Beginning in the seventeenth century, it was also produced synthetically.
Iron may reveal the presence of tiny Prussian blue particles. Antimony and lead reveal Minor’s use of Naples yellow.\textsuperscript{103}

**Comparing Techniques**

The materials and techniques of both *Souvenir of Italy* (n.d.) and *Great Silas at Night* (1890) indicate that Minor was influenced by the techniques of the Barbizon School. Because Minor studied with Díaz in Barbizon, France, and because Corot’s works were stylistically influential for Minor’s paintings, this section will compare the materials and techniques of Díaz and Corot to those of Minor.

Comparing Minor’s technique to Díaz is somewhat challenging since few technical publications to date have focused on Díaz’s paintings. The identification of some of Díaz’s pigments was published in the 1996 book *Barbizon: Malerei der Natur, Natur der Malerei*, allowing some of Minor’s pigment choices to be compared to those of his Barbizon teacher. This publication identified chromium-based greens in the sky and shrubbery of the 1868 Díaz painting *Clearing in the Forest of Fontainebleau*.\textsuperscript{104} Naples yellow was also detected in this painting.\textsuperscript{105} Both of these pigments were also used by Minor, demonstrating Minor and Díaz’s acceptance of new synthetic pigments as well as their continued use of more ancient pigments.

Not much is published about the layering system of Díaz; however, much is known about Corot’s methods. Like Minor, Corot utilized a sophisticated layering

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\textsuperscript{103} Naples yellow is a synthetic pigment that has been produced since antiquity.


\textsuperscript{105} Ibid, 68.
system often consisting of a ground, an ébauche, and several paint layers. Corot employed white grounds in his later paintings, and often conducted a preliminary ébauche with earth pigments to sketch in tonal values.\(^{106}\) He also applied oiling-out layers, or layers of oil applied in between paint layers. Minor may have applied an oiling-out layer over his second ground layer in *Souvenir of Italy*; it fluoresces strongly in the ultraviolet photograph of Sample 1 (Figure 31).\(^{107}\)

Comparisons between Minor and Corot’s pigment choices reveal that both artists frequently utilized earth pigments to dull the brilliancy of synthetic pigments. Like Minor, Corot often used chromium-based greens in his landscapes, although he used earth pigments to mix a more muted, naturalistic green. According to Andreas Burmester and Claudia Denk, the Barbizon artists Díaz, Corot, Rousseau, Daubigny, Dupré, and Millet all used emerald green in their paintings, also identified in *Souvenir of Italy*.\(^{108}\) Corot used emerald green in his paintings *The Oak in the Valley* (1871) and *St. Sebastian* (1851-1873).\(^{109}\) Unlike Minor, however, he rarely used green pigments when painting his skies, favoring cobalt blue over other pigments. Corot frequently used organic yellows and reds, which Minor also used in *Souvenir of Italy*.

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\(^{106}\) Herring, “Corot,” 87.

\(^{107}\) Ibid, 97.


\(^{109}\) Burmester, Heilmann, and Zimmermann, *Barbizon*, 188.
Effect of Technique and Materials on Condition

Paint cross section samples taken from Souvenir of Italy show the complex layering system that Minor created, probably a reference to Corot’s painting technique. Minor’s version of this technique, however, contributed to the poor aging of Souvenir of Italy. The difference in drying rates of the oil-rich and possibly resiny lower layers (slower-drying) and the leaner (faster-drying) upper layers of the painting caused the paint layers to shrink and crack. In areas where Minor altered the composition after several years, such as in the sky above and around the tree, Minor painted over varnish, possibly contributing to the extensive cracking in that region of the painting.

Albert Pinkham Ryder (1847-1917), a member of the Tonalist Movement and a contemporary of Minor, is famous for the severe craquelure patterns that develop in most of his paintings. Ryder was known to layer non-drying oils between his other layers of paint and varnish.\(^{110}\) This layering caused many of his paintings to develop traction crackle.\(^{111}\) It is unknown if there are resiny materials or non-drying oils in Minor’s Souvenir of Italy, but a similar phenomenon seems to be occurring. Potential additives included in commercially prepared paints, such as wax and metallic salts, could also accelerate the aging and degradation of Souvenir of Italy.


\(^{111}\) Craquelure is caused by the differences in drying between two or more layers of paint.
The foreground has probably darkened significantly over time, possibly due to the instability of Emerald green. Although normally a brilliant green, emerald green oil paint is known to darken if it has decomposed into copper salts and arsenic trioxide.\textsuperscript{112} This information is crucial in the preservation and treatment of \textit{Souvenir of Italy}. Without knowing that emerald green has undergone a possible chemical change, a restorer may attempt to clean the painting, thinking that the discoloration was due to dirt and discolored varnish instead of degraded pigments. This could lead to potentially disastrous results, such as abrading or removing layers of original paint, which has apparently happened in the case of \textit{Souvenir of Italy}. This knowledge is important to keep in mind both when studying nineteenth-century paintings and when treating them.

\textsuperscript{112} Van Loon, Noble, and Burnstock, “Ageing and deterioration of traditional oil and tempera paints,” 219.
Chapter 6
TREATMENT OF SOUVENIR OF ITALY

The goal of the treatment of *Souvenir of Italy* was to minimize the aesthetically distracting effects of past restorations and to restore aesthetic harmony to the greatest extent possible. Treatment was conducted in compliance with the American Institute for Conservation’s Code of Ethics and Guidelines for Practice. Appendix D contains the treatment proposal for *Souvenir of Italy*, and Appendix E contains the treatment report.

The proposed treatment for *Souvenir of Italy* suggested that the painting should be cleaned of its shellac coating, if possible. Over the course of treatment, I decided not to remove the shellac coating for several reasons. Most practically, the coating was deemed insoluble in all solvent and gel solutions tested to date that would be safe when in contact with the original paint film (Tables 2 & 3). Cleaning only some safer areas would have created disproportionate passages of brightness and darkness between the sky and landscape, disrupting the tonal harmony of the whole. Due to possible degradation of the emerald green pigment, the green foreground was unlikely to become brighter with cleaning. The sky, however, would have brightened significantly with cleaning, making the already darkened foreground appear even more disturbingly dark in contrast.
To remove or reduce the bleached shellac restoration coating, solvent testing was performed by Kelsey Wingel and Kristin deGhetaldi on October 18, 2013. The shellac coating was insoluble in most solvents.

To remove or reduce the shellac restoration coating, gel testing was conducted by Dr. Joyce Hill Stoner, Kristin deGhetaldi, and Kelsey Wingel on October 18, 2013. The shellac coating was insoluble in most gels.
<table>
<thead>
<tr>
<th>Treatment Options</th>
<th>Degree of Cleaning</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbolpol, 15mL ethanol, 5.5mL water)</td>
<td>Minimal</td>
<td>Slight degree of cleaning visible</td>
</tr>
<tr>
<td>30% benzyl alcohol gel in Pemulen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2% benzyl alcohol in Pemulen with TEA, pH 8.5</td>
<td>None</td>
<td>No visible result</td>
</tr>
</tbody>
</table>

Treatment considerations included the overall tonality of the work once finished. The examination and scholarship of Minor’s paintings revealed a preoccupation with the overall harmony of each work. It is not known whether Minor wanted his paintings to “ripen” over time as did his contemporary Henry Ward Ranger, but *Souvenir of Italy* has undoubtedly acquired a tone over time due to the slight discoloration of the bleached shellac restoration varnish and possible degradation of the Emerald green pigment, discussed in Chapter 5.\(^{115}\)

Treatment therefore aimed to reduce the overpaint in the sky as much as possible. Some overpaint was left in areas of loss or craquelure because the gel was not able to remove certain campaigns of retouching and some surrounding areas of paint were sensitive to the gel. Several gels and solvents were tested to remove the overpaint (Table 4). The overpaint was removed with a 15% benzyl alcohol aqueous-based Pemulen gel at a pH of 9.5 (adjusted using triethanolamine) and with EDTA as chelating agent. The gel was applied with a small brush on the areas of overpaint and was cleared with tiny cotton swabs moistened with a mild enzyme solution. Overpaint removal was performed under the microscope to closely watch the response of the original paint layers.

Table 4   Gels tested for removal of overpaint in the sky$^{116}$

<table>
<thead>
<tr>
<th>Tested</th>
<th>Residue on Swab</th>
<th>Result on Painting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene, benzyl alcohol gel in carbopol 934 + Ethomeen C-12</td>
<td>None</td>
<td>No visible result</td>
</tr>
<tr>
<td>1:2 Ethanol/Xylene solution, then xylene, benzyl alcohol gel in carbopol 934 + Ethomeen C-12</td>
<td>None</td>
<td>No visible result</td>
</tr>
<tr>
<td>1% Pemulen TR-2 + 30% Benzyl Alcohol</td>
<td>Significant</td>
<td>Overpaint slowly removed</td>
</tr>
<tr>
<td>15% benzyl alcohol aqueous-based Pemulen gel at a pH of 9.55 (adjusted using triethanolamine), (EDTA as chelator)</td>
<td>Significant</td>
<td>Overpaint slowly removed</td>
</tr>
</tbody>
</table>

The gel worked slowly and required massaging for 30 to 60 seconds, depending on the thickness of the overpaint and the degree of removal desired. Generally, one application of the gel reduced the overpaint. Two applications removed the majority of the overpaint.

The original paint layer around the edge of the tree and inside the tree were too sensitive to approach with the Pemulen gel. Areas of overpaint that were not removed were left to be retouched; this decision adheres to the ethical mandates of reversibility, as cited in the American Institute for Conservation Code of Ethics and Guidelines for Practice.$^{117}$

$^{116}$ To test the solubility of the overpaint in the sky, gels were tested by Dr. Joyce Hill Stoner and Kelsey Wingel on January 11, 2014.

As anticipated from and indicated by the X-radiograph, the reduction of overpaint in the sky exposed areas of extreme craquelure, paint loss, and abrasion from past cleaning attempts. The X-radiograph also documents a compositional change in the height of the tree.

After overpaint removal was completed, the painting was re-saturated and protected with an MS2A varnish layer.\(^\text{118}\) This varnish re-saturated the painting while also providing a glossy, academy finish that Minor would have probably preferred on his paintings.

Areas of loss, remaining overpaint, and craquelure were retouched reversibly with Gamblin Conservation Colors, applied with, and reversible in, a diluent of 80:20 isopropanol:Stoddard solvent.\(^\text{119}\)

\(^{118}\) MS2A, a varnish often used by painting conservators, is a polycyclohexanol resin made from MS2 polycyclohexanone resin.

\(^{119}\) Gamblin paints are supplied by Gamblin Artists Colors Co. and are composed of pigments ground in a urea-aldehyde resin (Laropal A81). The low molecular weight resin of Gamblin paints enables more mild solvents to be used, increasing the safety for the conservator and the painting.
CONCLUSION.

Today, Minor’s reputation has fallen into obscurity, despite the fact that many of his paintings were once praised and are in collections across the United States. Few collections that own works by Minor exhibit them; and his paintings are often relegated to museum storage. In fact, several of his works have been deaccessioned, indicating that they are no longer valued. Minor’s Eventide, hailed as one of his masterpieces and sold for $1700 at the 1900 Evans Sale, was deaccessioned from the Corcoran Gallery of Art in 1957.120 This thesis aims to bring greater understanding of Minor’s place in American art through the study of his paintings, as well as to re-tell the story of a prominent but forgotten landscape painter who helped to launch the American Tonalist Movement.

Through the stylistic analysis of several of his paintings, I have concluded that Minor worked in a variety of styles and was easily influenced by other artists. While some of his paintings show the influence of the Barbizon School, others display a strong Tonalist aesthetic and still others exhibit the vivacity of Impressionism. Souvenir of Italy could possibly demonstrate Minor’s early experimentation with the Tonalist style in the mid to late 1870s.

120 Alexandra Mosher, email to author, January 22, 2014.
Analyzing Minor’s painting technique and materials in *Souvenir of Italy* and *Great Silas at Night*, has provided a better understanding of his aesthetic goals and has made information available to conservators who may treat paintings by Minor. Both paintings demonstrate that Minor was influenced by Barbizon painting materials and techniques. This knowledge helps to place him in the American Tonalist School, whose founders also looked to the techniques of Barbizon painters.

In addition, my technical examination has allowed my treatment of *Souvenir of Italy* to be more safely and informatively conducted. I hope that my treatment restored a greater degree of authenticity to the painting, allowing the artist’s intention to play a greater role in the viewer’s interpretation.
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Robert Crannell Minor Papers. Owned by Isabel T. Davis and Gladys T. Pritchard; microfilmed by the Archives of American Art, Smithsonian Institution. [Microfilm roll 2769].


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Appendix A

CONDITION REPORT: SOUVENIR OF ITALY

General Information

Accession Number: GACP 1408

Artist: Robert Crannell Minor (1839 - 1904)

Painting Date: unknown

Title: Souvenir of Italy

Material: oil paint on prepared millboard

Owner: Winterthur/University of Delaware Program in Art Conservation

Measurements: Height: 16 in Width: 12 in

Thickness: 1/8 in

Distinguishing Marks: There are two paper labels on the verso, one laid on top of another. The first label is oriented horizontally and reads “Robert C. Minor/ 34 New York University/ $175./ Souvenir of Italy/ $190.00” in black ink. The “$190.00” is crossed out with several horizontal strokes. The second label is oriented vertically. Although illegible in visible light, with Infrared Reflectography (IRR) several letters were distinguishable, confirming that the support was a Winsor and Newton Prepared Millboard.

Frame: Yes

Initial Examination Dates: June 2013 – November 2013

Consulted: Dr. Joyce Hill Stoner, Kristin deGhetaldi, Brian Baade

Examined By: Kelsey Wingel
Support

Description

The support for this painting is a Winsor and Newton prepared millboard. It measures 16” high by 12” wide, standard dimensions for manufactured supports during the nineteenth century.\textsuperscript{121}

Millboard is usually composed of wood, paper pulp, and rope compressed together to form a stiff board for painting.\textsuperscript{122} Winsor and Newton began offering millboards in 1841, and millboards prepared with lead white, oil-based grounds in 1850.\textsuperscript{123} These stiff supports were often used by plein air painters, who preferred the durability of millboards when painting outdoors.

The verso of the millboard is prepared with gesso or chalk glue layer underneath a protective grey priming layer. The grey priming extends onto the four edges of the board, indicating that the board has not been cut down during its history.

There are two paper labels on the verso, one laid on top of another. The first label is oriented horizontally and reads “Robert C. Minor/ 34 New York University/ $175./ Souvenir of Italy/ $190.00” in black ink. The “$190.00” is crossed out with several horizontal strokes, indicating that the price was lowered. This label appears to have been written in Minor’s own hand.

\textsuperscript{121}Similar dimensions are seen in several of Minor’s other works, such as \textit{Scene in the Forest of Fontainebleau} and \textit{River at Sunset}, both at Yale University Art Gallery.


\textsuperscript{123} Callen, \textit{The Art of Impressionism}, 28.
The second label is oriented vertically. Although illegible in visible light, with Infrared Reflectography (IRR) several letters were distinguishable, confirming that the support was a Prepared Millboard manufactured by Winsor and Newton. Other distinguishing marks on the verso of the support include “No. 36” and “75786/27” written in red chalk.

Figure 45  Left, example of a Winsor and Newton label for Prepared Millboard, Right, IR reflectogram of label on the verso of support, revealing a few letters of the label underneath.
Condition

The millboard is structurally stable. As noted above, its dimensions appear to be unaltered as all four edges of the board retain the grey priming. It has a slight forward warp. Paperboard is lost at the two proper right corners. The most damaged corner is the upper, proper right corner where the paperboard is fully exposed and splitting. To the upper right of the label is a loss in the millboard, where a sharp object appears to have caused a deep indentation.

There are losses and abrasions of the priming layers and gesso or chalk glue layer in several areas of the verso, with damage concentrated along the edges of the painting. The most prominent area of loss is the upper proper right corner, where the paperboard itself is exposed. Along the outer edges of the verso, the chalk glue/gesso layer is exposed and abraded. The grey priming of the verso is lost and abraded in several areas, revealing the white gesso or chalk glue layer underneath. Areas of priming loss on the verso of the board appear stable with minimal risk for future loss. Since areas of loss and abrasion are concentrated along the edges, the damages appear to be mechanical and possibly caused by handling. There are several dark stains on the verso of the millboard, as well as several accretions.

Ground and Paint Layers

Description

The support for this painting has been primed with a thick white ground, visible in areas of loss and in cross-sectional samples. The ground was commercially prepared and evenly applied by Winsor and Newton in a vertical orientation, visible in the X-radiograph. Winsor and Newton manufacturing recipes indicate that the ground is lead white and oil based, with chalk sometimes added.
The paint layers are oil-based. Minor began his painting by adjusting the white ground with a blue/grey imprimatura layer. He then executed a brown monochromatic sketch of the landscape. Cross-sections show that this layer is rich in oil and is considerably fatter than the uppermost paint layers. No underdrawing was detectable with Infrared reflectography.

After the underlying sketch, Minor painted the landscape, utilizing broad, smoothly horizontal strokes to render the grassy foreground and middleground. Minor applied paint more thickly at the horizon line and utilized wet-into-wet techniques to render the clouds. Minor allowed some of his preparatory sketch to show through along the horizon line, the sky was painted thickly. The preparatory sketch is covered by thick application of paint in the sky. Cross-sections show that Minor, like many nineteenth-century painters, mixed many pigments to create the desired hue.

There is evidence that Minor retouched this painting with oils later in his career. The large, gray cloud directly above the horizon line on the proper right side of the painting appears to have been re-painted. Under magnification, many small cracks have been painted over in a fatter oil paint that appears to have been applied by the artist. Minor may have witnessed the cracking of his paint layers and decided to repaint sections in order to disguise the developing craquelure.

Condition

There is a loss of ground and paint along the proper right side of the painting, extending from 0” to 5½”. Another loss along the proper right side begins at 12½”. There is a loss at the upper proper right corner of the painting, as well as toward the upper middle of the painting, at 16” x 5 ¼” and 16” x 5 ½”.
The paint layer is unstable and extremely brittle, with evidence of wide cracking, previous cleanings, significant overpaint, and possible moisture-induced deterioration of pigments. In addition to the areas of loss in the ground mentioned above, there are additional areas of paint loss. There is an oval loss exposing the white ground along the upper edge of the painting at 16” x ¾”. Since the majority of losses in the ground and paint layers are concentrated along the edges of the painting, many were likely caused by pressure and abrasion from the rabbet of the frame. Losses and damage on the corners of the painting were probably caused by mishandling when the painting was unframed.

In certain places, the paint layers appear to have been damaged or abraded due to overcleaning by a past restorer(s). Although the sky appears to have been cleaned fairly evenly and with minimal damage to the paint layers, the green middleground and foreground appear to have been unevenly cleaned and damaged. In the center foreground is an amorphous area of exposed brown preliminary sketch. This area was possibly overcleaned by past restorer(s) who removed the original green paint.

The paint layer is extensively cracked, with an overall finer network of craquelure as well as several areas of wide traction cracks. Most losses and cracks in the paint layer have been disguised with applications of overpaint. The overpaint is thick and does not match Minor’s original palette. Areas with the most overpaint include a large portion of the sky directly above the tree and around the silhouette of the tree itself. Dark black or grey overpaint can also be seen covering losses in the ground and paint layers around the edges of the painting. Under ultraviolet radiation, there appears to have been at least two campaigns of overpaint, judging by the differences in fluorescence. The overpaint in the sky is oil-based.
Restoration fills are present in the foreground, middleground, and in the tree of this painting, readily seen in raking light. These fills are not flush with the original paint layers and rise slightly above the plane of the painting. They are easily detectable in the X-radiograph of the painting as they appear more radio-opaque compared to the rest of the painting.
Surface Coatings and Accretions

Description

In the foreground and middleground of the painting, there are remnants of what may be the original natural resin varnish. This original varnish fluoresces greenish-yellow and remains intact along the bottom edge of the painting, where the rabbet of the frame covered the paint layer. The paint layer is covered by an overall coating that was applied during a restoration campaign and gives the surface a glossy finish. This coating is identified as bleached shellac. Under ultraviolet radiation, this layer fluoresces a bluish grey. Beached shellac often has a blue fluorescence, unlike unbleached shellac which fluoresces orange.124

Condition

The shellac coating appears to be stable with minimal alteration in color, whereas the natural resin varnish displays signs of discoloration.

There are several accretions on the surface of the painting. Gold paint from the frame is visible along the upper horizontal border of the painting, indicating that the frame was repainted with the painting inside. There are white powdery accretions along the top and bottom edges, along with several fly specks in the sky. There is a layer of dirt and grime that has accumulated on the surface of the painting.

124 Sutherland, "Bleached Shellac Picture Varnishes,” 137.
Appendix B

TECHNICAL ANALYSIS OF SOUVENIR OF ITALY

X-ray Fluorescence

Non-destructive ED-XRF (energy-dispersive x-ray fluorescence) spectroscopy was performed on nine areas Souvenir of Italy to determine the elements present in the painting and to therefore characterize the pigments used by the artist. The spots analyzed can be seen in Figure 48 and the spectra for each spot is included below. Table 5 includes a summary of the main elements present in each spot and the possible pigments present.

125 XRF analysis was performed on the painting by Brian Baade, Kristin deGhetaldi, and Kelsey Wingel on February 4, 2013 with the ARTAX μXRF spectrometer using a rhodium tube (600μA current, 50kV voltage, 100 seconds live time irradiation, approximately 70 micron spot size) with an elemental detection range of sodium (Na) to uranium (U) and a CCD. Spectra were interpreted using the Spectra version 7.2.5.0 software.
Figure 48  Nine spots of *Souvenir of Italy* analyzed with XRF
Spot 1: Blue Sky, located in upper left quadrant

Figure 49  Spectra of Spot 1, blue sky
Spot 2: Yellow Overpaint in Sky, located in upper right quadrant

Figure 50  Spectra of Spot 2, yellow overpaint in sky
Spot 3: Green Tree, located in upper right quadrant

Figure 51  Spectra of Spot 3, green tree
Spot 4: Green Tree, located in upper right quadrant

Figure 52  Spectra of Spot 4, green tree
Spot 5: Red Overpaint, located in lower right quadrant

Figure 53  Spectra of Spot 5, red overpaint
Spot 6: White Overpaint, located in lower left quadrant

Figure 54  Spectra of Spot 6, white overpaint
Spot 7: White Patch, located in lower left quadrant

Figure 55  Spectra of Spot 7, white patch
Spot 8: Green Middleground, located in lower right quadrant

Figure 56  Spectra of Spot 8, green middleground
Spot 9: Blue- Grey Cloud, located in lower left quadrant

Figure 57  Spectra of Spot 9, blue- grey cloud

Pigments Possibly Used by Robert C. Minor in *Souvenir of Italy*

Table 5  Pigments Possibly Used by Minor based on Elemental Characterization by XRF\textsuperscript{126}

<table>
<thead>
<tr>
<th>Spot Analyzed</th>
<th>Elements Characterized</th>
<th>Possible Pigments Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (blue sky)</td>
<td>Pb, Co, Fe, Cr, Ni, Ca, Zn</td>
<td>Lead White, Cobalt Blue, Cobalt Violet, Chrome Yellow, Viridian/Chromium Oxide</td>
</tr>
</tbody>
</table>

\textsuperscript{126} The possible pigments included in Table 5 are not a comprehensive list of all possible pigments for each spot analyzed. Rather, Table 5 lists the most probable pigments used in *Souvenir of Italy.*
| 2 (yellow overpaint) | Zn, Pb, Fe, Ba, Cr, Rh | Zinc White  
Lead White  
Chrome Yellow  
Mars Yellow  
Barium Chromate Yellow  
Zinc Yellow  
Lead Yellow |
|----------------------|------------------------|--------------------------------------------------|
| 3 (green tree)       | Cr, Co, Pb, As, Fe, Cu, Zn, Ca, Ni, Sn, Hg, Ba | Emerald Green  
Viridian/Chromium Oxide Green  
Lead White  
Brown Ochre/Umber/Sienna  
Prussian Blue  
Cobalt Blue |
| 4 (green tree)       | Pb, Zn, Hg, Ni, Co, Fe, Cr, Ba, Ti, Ca, Sn | Viridian/Chromium Oxide Green  
Lead White  
Brown Ochre/Umber/Sienna  
Prussian Blue  
Cobalt Blue |
| 5 (red overpaint)    | Fe, Zn, Pb, Ni, Ca, Co, Mn, Cr, Ba, | Ochre/Umber/Sienna  
Zinc White  
Red Lead  
Chrome Red |
| 6 (white overpaint)  | Zn, Pb, Fe, Cr, Ca, Hg, Cu, Co, Mn, Ba | Zinc White  
Zinc Yellow  
Lead White  
Ochre/Umber/Sienna |
| 7 (white patch)      | Pb, Fe, Ni, Zn, Co, Ni, Cd | Lead White  
Cadmium Yellow  
Cobalt Blue  
Ochre/Umber/Sienna |
| 8 (green middleground) | Pb, Fe, Zn, Cr, Ca, Mn, Ba, Cd, Cu, Co, Ni, Cl | Lead White  
Ochre/Umber/Sienna  
Prussian Blue  
Viridian/Chromium Oxide Green  
Cobalt Blue |
| 9 (blue-grey cloud)  | Pb, Zn, Ni, Co, Cr, Fe, Ca | Lead White  
Cobalt Blue  
Viridian/Chromium Oxide |
Fourier Transform Infrared Spectroscopy

Seven pigment and varnish scrapings were taken with a scalpel under the microscope for FTIR analysis to determine pigments, binding mediums, and varnishes present on the painting. Figure 58 illustrates the areas sampled.

Not all pigment scrapings provided informative spectra. This appendix only includes the spectra that yielded information about Minor’s materials (Figures 59 - 63).

Pigment scrapings were taken for FTIR analysis by Kelsey Wingel on June 10, 2013 and analyzed by Kristin deGhetaldi and Kelsey Wingel on June 11, 2013. Each sample was mounted and then crushed onto a diamond cell. A Nicolet Nexus 670 Optical Bench was used, equipped with a Continuum Microscope. One hundred twenty eight scans are generally collected at 4 cm−1 resolution. The samples are then compressed onto the center of a Diamond Cell (Spectra Tech). The final format has been set to Absorbance.

In some areas sampled, scrapings by Kelsey Wingel were too gentle to provide a large enough sample for pigment analysis. Therefore, scrapings mostly consisted of varnish.
Figure 58  *Souvenir of Italy*, seven locations of pigment scrapings for FTIR analysis
Figure 59  *Souvenir of Italy*, Sample 1, FTIR spectra of green landscape and lead drier. This spectra may indicate that Minor used driers in his paints.

Figure 60  *Souvenir of Italy*, Sample 1, FTIR spectra of green landscape, Calcutta seed, and Prussian blue. This spectra may indicate that Minor used Prussian blue to paint the green foreground and middleground.
Figure 61 *Souvenir of Italy*, Sample 4, FTIR spectra of Minor’s blue sky, linseed oil, and lead drier. This spectra may indicate that Minor used driers in his paints.

Figure 62 *Souvenir of Italy*, Sample 5, FTIR spectra of Minor’s brown sketch and old shellac. This spectra indicates that the painting has a shellac coating.
Figure 63  *Souvenir of Italy*, Sample 7, FTIR spectra of yellow restoration overpaint and linseed oil. This indicates that the restorer(s) overpainted with oil paint.

**Gas Chromatography-Mass Spectrometry**

To identify the restoration coating and the medium of the overpaint, GC-MS analysis was conducted.\(^{129}\) GC-MS analysis identified the restoration coating as

\(^{129}\) Samples of the restoration coating and the overpaint were taken by Kelsey Wingel on June 13, 2013 and analyzed by Dr. Chris Petersen on June 14, 2013. Samples were placed in a tightly-capped, heavy walled vial (100-300μL) and approximately 100mL of 1:2 TMAH (Tetramethylammonium hydroxide) in benzene was added. The vials were warmed at 60°C for one hour in the heating block, removed from heat, and allowed to stand to cool. Analysis was carried out using the RTLMPREP method on the GC-MS. Samples were analyzed using the Hewlett-Packard 6890 gas chromatograph equipped with 5973 mass selective detector (MSD) and 7683 automatic liquid injector. The Winterthur RTLMPREP method was used with conditions as follows: inlet temperature was 300°C and transfer line temperature to the MSD (SCAN mode) was 300°C. A sample volume (splitless) of 1μL was injected onto a 30m×250μm×0.25μm film thickness HP-5MS column (5% phenyl methyl siloxane at a flow rate of 2.3mL/minute). The oven temperature was held at 55°C for
bleached shellac (Figure 64). The presence of azelaic acid, palmitic acid, and stearic acid indicated that the overpaint was oil paint (Figure 65).

![Figure 64 GC-MS analysis of the restoration coating identified the coating as bleached shellac.](image)

two minutes, then programmed to increase at 10°C/minute to 325°C where it was held for 10.5 minutes for a total run time of 40 minutes. Software for drawing programs used were Symyx Draw Version 3.3.
Figure 65  GC-MS analysis of the yellow overpaint identified azelaic acid, palmitic acid, and stearic acid. These acids are common markers for drying oils.

Cross-Sectional Analysis

Seven cross sections were taken from Souvenir of Italy in order to understand Minor’s painting technique and materials. Samples were taken from five areas of

130 Samples were taken by Kelsey Wingel on June 10, 2013 and July 15, 2013 with a scalpel under the microscope. Samples were cast in an Extec polyester resin cube. The cubes were hand-polished using Micro-Mesh sanding papers of increasing grit from 450 - 12,000. Samples were analyzed under high magnification using a Nikon Eclipse 80i Binocular Microscope (4x, 10x, and 20x objectives) with a Nikon X-cite® 120 Mercury Lamp for reflected ultraviolet light. Under ultraviolet light, the samples were viewed using a BV-2A cube (excitation wavelengths between 400-420 nm/470 nm barrier filter). Digital images were obtained using the Digital Eclipse DXM 1200f Nikon Camera in conjunction with the Automatic Camera Tamer (ACT-1) control software for PC systems.
the painting, with sample locations marked in Figure 66. Two of the sampled areas crumbled, producing two more samples than originally intended. Six of the samples were taken from the edge of the painting. One sample was taken from a small loss in the lower sky.

Figure 66 Seven cross-sectional samples were taken from *Souvenir of Italy*
Sample 2

Figure 67  Sample 2: Cross section taken from area of overpaint in sky (14.5 in x 11.5 in), visible light, 100x.

Figure 68  Sample 2: Cross section taken from area of overpaint in sky (14.5 in x 11.5 in), ultraviolet light, 100x.
Sample 3

Figure 69  Sample 3: Cross section taken from original paint in sky (15.75 in x 4.5 in), visible light, 100x.

Figure 70  Sample 3: Cross section taken from original paint in sky (15.75 in x 4.5 in), ultraviolet light, 100x.
Sample 5

Figure 71  Sample 5: Cross section taken from green middleground (3.75 in x 12 in), visible light, 100x.

Figure 72  Sample 5: Cross section taken from green middleground (3.75 in x 12 in), ultraviolet light, 100x.
Sample 6

Figure 73  Sample 6: Cross section taken from green middleground (3.75 in x 12 in), ultraviolet light, 200x.
Sample 7

Figure 74  Sample 7: Cross section taken from area of overpaint in sky (13.125 in x 12 in), visible light, 100x.

Figure 75  Sample 7: Cross section taken from area of overpaint in sky (13.125 in x 12 in), ultraviolet light, 100x.
Scanning Electron Microscopy – Energy Dispersive Spectroscopy

Two of the seven samples, Sample 1 and Sample 6, taken from Souvenir of Italy were analyzed with SEM-EDS. The backscattered electron images (BSE) and elemental maps (EDX) are included below.

SEM-EDS analysis was conducted by Catherine Matsen, Kristin deGhetaldi, and Kelsey Wingel on January 17, 2014 and January 31, 2014. Excess casting medium was cut off the back of the cross-section sample with a jeweler’s saw. The cross-section was mounted to an aluminum stub with double-sided carbon tape adhesive. Carbon paint was applied on the side and top surfaces of casting medium, without covering the cross-section itself, to prevent charging. The sample was examined using a Zeiss EVO MA15 scanning electron microscope with LaB6 source at an accelerating voltage of 20kV for the electron beam, stage height of approximately 11mm, and sample tilt of 0°. The EDS data was collected with the Bruker Nano X-flash® detector 630 and analyzed with Quantax 200/Esprit 1.9 software.
Sample 1

564X Map

Figure 76   Sample 1, BSE image.
Figure 77  Sample 1, EDX image of Aluminum

Figure 78  Sample 1, EDX image of Arsenic
Figure 79  Sample 1, EDX image of Calcium

Figure 80  Sample 1, EDX image of Chromium
Figure 81  Sample 1, EDX image of Iron

Figure 82  Sample 1, EDX image of Potassium
Figure 83  Sample 1, EDX image of Nitrogen

Figure 84  Sample 1, EDX image of Oxygen
Figure 85  Sample 1, EDX image of Lead

Figure 86  Sample 1, EDX image of Silicon
Figure 87  Sample 1, EDX image of Lead, Calcium, Chromium, Iron
755X Map

Figure 88  Sample 1, BSE image

Figure 89  Sample 1, EDX image of Aluminum
Figure 90  Sample 1, EDX image of Calcium

Figure 91  Sample 1, EDX image of Chromium
Figure 92  Sample 1, EDX image of Iron

Figure 93  Sample 1, EDX image of Potassium
Figure 94   Sample 1, EDX image of Nitrogen

Figure 95   Sample 1, EDX image of Oxygen
Figure 96  Sample 1, EDX image of Lead

Figure 97  Sample 1, EDX image of Silicon
Figure 98  Sample 1, EDX image of Lead, Calcium, and Chromium
Sample 6

**960X Map**

![Image of 960X Map](image)

Figure 99  Sample 6, BSE image

![Image of EDX image](image)

Figure 100  Sample 6, EDX image of Aluminum
Figure 101  Sample 6, EDX image of Calcium

Figure 102  Sample 6, EDX image of Copper
Figure 103  Sample 6, EDX image of Iron

Figure 104  Sample 6, EDX image of Potassium
Figure 105  Sample 6, EDX image of Nitrogen

Figure 106  Sample 6, EDX image of Oxygen
Figure 107  Sample 6, EDX image of Silicon

Figure 108  Sample 6, EDX image of Titanium
Figure 109  Sample 6, EDX image of Lead

Figure 110  Sample 6, EDX image of Lead, Iron, Calcium, Copper
2134X Map

Figure 111  Sample 6, BSE image

Figure 112  Sample 6, EDX image of Aluminum
Figure 113  Sample 6, EDX image of Arsenic

Figure 114  Sample 6, EDX image of Calcium
Figure 115  Sample 6, EDX image of Copper

Figure 116  Sample 6, EDX image of Iron
Figure 117  Sample 6, EDX image of Potassium

Figure 118  Sample 6, EDX image of Nitrogen
Figure 119  Sample 6, EDX image of Sodium

Figure 120  Sample 6, EDX image of Oxygen
Figure 121  Sample 6, EDX image of Lead

Figure 122  Sample 6, EDX image of Silicon
Figure 123  Sample 6, EDX image of Titanium

Figure 124  Sample 6, EDX image of Lead, Aluminum, Calcium
Appendix C

TECHNICAL ANALYSIS OF GREAT SILAS AT NIGHT

Cross-Sectional Analysis

Six cross sections were taken from Great Silas at Night in order to understand Minor’s painting technique and materials.\textsuperscript{132} Samples were taken from three areas of the painting, with sample locations marked in Figure 125. Two of the sampled areas crumbled, producing more samples than originally intended. All samples were taken from the edge of the painting. One sample (Sample 1) was taken from the back of the millboard support.

\textsuperscript{132} Samples were taken by Amber Kerr at the Smithsonian American Art Museum in the fall of 2013. Samples were cast by Kristin deGhetaldi in an Extec polyester resin cube. The cubes were hand-polished using Micro-Mesh sanding papers of increasing grit from 450-12,000. Samples were analyzed under high magnification using a Nikon Eclipse 80i Binocular Microscope (4x, 10x, and 20x objectives) with a Nikon X-cite® 120 Mercury Lamp for reflected ultraviolet light. Under ultraviolet light, the samples were viewed using a BV-2A cube (excitation wavelengths between 400-420 nm/470 nm barrier filter). Digital images were obtained using the Digital Eclipse DXM 1200f Nikon Camera in conjunction with the Automatic Camera Tamer (ACT-1) control software for PC systems.
Figure 125  Six cross-sectional samples were taken from *Great Silas at Night*
Sample 1

Figure 126  Sample 1: Cross section taken from back of millboard support (15 ¾ in x 20 in), visible light, 10x.
Figure 127  Sample 2: Cross section taken from blue-green sky (15 ¼ in x 20 in), ultraviolet light, 10x.
Sample 4

Figure 128  Sample 4: Cross section taken from blue-green sky (15 ¼ in x 20 in), visible light, 10x.

Figure 129  Sample 4: Cross section taken from blue-green sky (15 in x 20 in), ultraviolet light, 10x
Figure 130  Sample 5: Cross section taken from sea (5 ¾ in x 20 in), visible light, 210x.

Figure 131  Sample 5: Cross section taken from sea (5 ¾ in x 20 in), ultraviolet light, 210x.
Sample 6

Figure 132  Sample 6: Cross section taken from sea (5 ¾ in x 20 in), visible light, 20x.

Figure 133  Sample 6: Cross section taken from sea (5 ¾ in x 20 in), ultraviolet light, 20x.
Scanning Electron Microscopy – Energy Dispersive Spectroscopy

Sample 2 from *Great Silas at Night* was analyzed with SEM-EDS. The backscattered electron images (BSE) and elemental maps (EDX) are included below.

Sample 2

374X Map

![Sample 2, BSE image](image)

**Figure 134** Sample 2, BSE image

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133 SEM-EDS analysis was conducted by Catherine Matsen, Kristin deGhetaldi, and Kelsey Wingel on January 17, 2014 and January 31, 2014. Excess casting medium was cut off the back of the cross-section sample with a jeweler’s saw. The cross-section was mounted to an aluminum stub with double-sided carbon tape adhesive. Carbon paint was applied on the side and top surfaces of casting medium, without covering the cross-section itself, to prevent charging. The sample was examined using a Zeiss EVO MA15 scanning electron microscope with LaB6 source at an accelerating voltage of 20kV for the electron beam, stage height of approximately 11mm, and sample tilt of 0°. The EDS data was collected with the Bruker Nano X-flash® detector 630 and analyzed with Quantax 200/Esprit 1.9 software.
Figure 135  Sample 2, EDX image of Aluminum

Figure 136  Sample 2, EDX image of Carbon
Figure 137  Sample 2, EDX image of Calcium

Figure 138  Sample 2, EDX image of Copper
Figure 139  Sample 2, EDX image of Iron

Figure 140  Sample 2, EDX image of Oxygen
Figure 141  Sample 2, EDX image of Lead

Figure 142  Sample 2, EDX image of Silicon
613X Map

Figure 143   Sample 2, BSE image

Figure 144   Sample 2, BSE image with overlapping EDX image of Calcium
Figure 145  Sample 2, BSE image with overlapping EDX image of Copper

Figure 146  Sample 2, EDX image of Aluminum
Figure 147  Sample 2, EDX image of Carbon

Figure 148  Sample 2, EDX image of Calcium
Figure 149  Sample 2, EDX image of Copper

Figure 150  Sample 2, EDX image of Iron
Figure 151  Sample 2, EDX image of Potassium

Figure 152  Sample 2, EDX image of Oxygen
Figure 153  Sample 2, EDX image of Lead

Figure 154  Sample 2, EDX image of Silicon
Figure 155  Sample 2, EDX image of Lead, Calcium, and Copper

Figure 156  Sample 2, BSE image with spot analysis (marked in green)
Figure 157  Sample 2, spectra of spot analysis with Cobalt peak
Appendix D

TREATMENT PROPOSAL: SOUVENIR OF ITALY

The goal of this treatment is to minimize the aesthetically distracting effects of past restoration and to restore aesthetic harmony to the greatest extent possible. This will probably be done primarily through the removal of disfiguring grime and dirt, the reduction or removal of thick overpaint, and the removal or correction of old fills. The proposed methods should not deter future treatment of this painting. Written and photographic documentation will be carried out before, during, and after treatment.

1. Test solvent and gel cleaning systems to safely remove or reduce restoration coating, overpaint, and surface grime. 1:1 ethanol/xylene saturates the surface of the painting, but appeared to have minimal effect on coating removal when seen under UV light. A 15% benzyl alcohol aqueous-based Pemulen gel at a pH of 9.5 (adjusted using triethanolamine) and with EDTA as chelating agent removed the overpaint in the sky slowly but effectively.

2. Remove or reduce the restoration coating using the selected cleaning system, using small cotton swabs. The harmony of the revealed paint must be considered carefully, as the entire painting may not be able to be safely cleaned.

3. Remove or reduce the overpaint using the selected gel, applied with a small, short brush. Clear residue first with a dry cotton swab, and then with a clearing agent.

4. As safely possible, remove or reduce distracting fills.

5. Consolidate any areas of flaking or lifting paint. Past treatment records of other paintings by Minor record that the paint layers were unusually sensitive to heat. The possibility of similar sensitivity should be noted when selecting a consolidant.

6. Apply a protective and saturating varnish layer to the painting, such as MS2A.
7. Fill any losses in the paint layer with a filler putty such as Modostuc®, which is readily reversible in water.

8. Inpaint losses, cracks, and any remaining overpaint with reversible conservation paints such as Gamblin Conservation Colors (diluent 80:20 isopropyl alcohol/Stoddard solvent), Golden PVA Conservation Colors (diluent 80:20 ethanol/diacetone alcohol), and Golden MSA Conservation Paints (diluent 80:20 petroleum benzine/xylene) to restore aesthetic harmony to the painting.
Appendix E

TREATMENT REPORT: SOUVENIR OF ITALY

1. Dust was brushed off of the surface of the painting with a soft bristled brush and the painting was cleaned of surface grime with a mild enzyme solution.

2. Overpaint in the upper right portion of the sky was reduced with a 15% benzyl alcohol aqueous-based Pemulen gel at a pH of 9.5 (adjusted using triethanolamine) and with EDTA as chelating agent. Overpaint was not removed from any other area of the painting.
Figure 158  Robert C. Minor, *Souvenir of Italy*, before treatment
Figure 159  Robert C. Minor, *Souvenir of Italy*, after overpaint removal in upper right sky and after varnishing.
3. Accretions were removed under the microscope with a scalpel.

4. A brush varnish film of MS2A with wax and thinned with Stoddard solvent and petroleum benzine was applied.

5. Losses in the paint layer were filled with Modostuc®.\textsuperscript{134}

6. Areas of loss, abrasion, severe craquelure, and overpaint were inpainted with Gamblin Conservation Colors with a diluent of 80:20 isopropanol: Stoddard solvent.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{souvenir-of-italy-craquelure-before-inpainting}
\caption{Souvenir of Italy, detail of sky, craquelure before inpainting}
\end{figure}

\textsuperscript{134} Modostuc® is a white putty composed of calcium carbonate in a polyvinyl acetate copolymer binder.
Figure 161  *Souvenir of Italy*, detail of sky, craquelure after inpainting
Figure 162  Robert C. Minor, *Souvenir of Italy*, after treatment