

**Samuel Irenaeus Prime, “Life of Samuel F. B. Morse,” (selected text) 1875**

(keywords: Samuel F. B. Morse, Samuel Irenaeus Prime, Louis Jacques Mandé Daguerre, John William Draper, Alexander S. Wolcott, François Arago, M. Niepce de Saint-Victor, Eben Norton Horsford, history of the daguerreotype, history of photography)

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CHAPTER X.

1839–1843.

RETURN TO NEW YORK—RUSSIAN CONTRACT—DISAPPOINTMENT AT INACTION OF CONGRESS—MR. SMITH’S VIEWS OF THE STATE OF THINGS—THE DAGUERRETYPE INTRODUCED—EXPERIMENTS—SUCCESS—TEACHES OTHERS—SULLY AND ALLSTON — RUSSIA FAILS—DEEP DEPRESSION—LETTER TO HIS PARTNERS MR. A. VAIL AND HON. F. O. J. SMITH—CONSULTATION WITH PROFESSOR HENRY—LETTERS OF PROFESSOR HENRY—STRUGGLES OF MORSE UNDER POVERTY—LETTERS TO MR. VAIL—AN AGENT EMPLOYED AT WASHINGTON—FAILURE—AN OLD SORROW—HON. W. W. BOARDMAN, M. C.—LETTER TO HON. F. O. J. SMITH ON PROFESSOR HENRY’S ENCOURAGEMENT—FIRST SUBMARINE CABLE LAID BY PROFESSOR MORSE—REPORT OF AMERICAN INSTITUTE—HON. C. G. FERRIS—LETTER TO HIM—PROFESSOR MORSE IN WASHINGTON—FAVORABLE REPORT IN CONGRESS—DEBATE—PASSAGE OF BILL IN THE HOUSE AND THE SENATE APPROPRIATING THIRTY THOUSAND DOLLARS FOR AN EXPERIMENTAL LINE OF TELEGRAPH—DEATH OF ALLSTON.

THE DAGUERRETYPE.

After the interview between Professor Morse and M. Daguerre, mentioned in the previous chapter the Professor wrote to his brothers under date of March 9, 1839:

“You have perhaps heard of the Daguerreotype, so called from the discoverer, M. Daguerre. It is one of the most beautiful discoveries of the age. I don’t know if you recollect some experiments of mine in New Haven, many years ago, when I had my painting-room next to Professor Silliman’s—experiments to ascertain if it were possible to fix the image of the *camera obscura*. I was able to produce different degrees of shade on paper, dipped into a solution of nitrate of silver, by means of different degrees of light; but, finding that light produced dark, and dark light, I presumed the production of a true image to be impracticable, and gave up the attempt. M. Daguerre has realized in the most exquisite manner this idea.

“A few days ago I addressed a note to Mr. D., requesting as a stranger the favor to see his results, and inviting him in turn to see my Telegraph. I was politely invited to see them under these circumstances, for he had determined not to show them until the Chambers had passed definitely on a proposition for the Government to purchase the secret of the discovery, and make it public. The day before yesterday, the 17th [7th—ed.], I called on M. Daguerre at his rooms in the Diorama, to see these admirable results. They are produced on metallic surface, the principal pieces, about seven inches by five, and they resemble aquatint engravings, for they are in simple *chiaro-oscuro* and not in colors. But the exquisite minuteness of the delineation cannot be conceived. No painting or engraving ever approached it. For example: in a view up the street a distant sign would be perceived, and the eye could just discern that there were lines of letters upon it, but so minute as not to be read with the naked eye. By the assistance of a powerful lens, which magnified fifty times, applied to the delineation, every letter was clearly and distinctly legible, and so also were the minutest breaks and lines in the walls of the buildings and the pavements of the street. The effect of the lens upon the picture was in a great degree like that of the telescope in Nature. Objects moving are not impressed. The boulevard, so constantly filled with a moving throng of pedestrians and carriages, was perfectly solitary, except an individual who was having his boots brushed. His feet were of course compelled to be stationary for some time, one being on the box of the bootblack, and the other on the ground. Consequently his boots and legs are well defined, but he is without body or head, because these were in motion.

“The impressions of interior views are Rembrandt perfected. One of Mr. D.’s plates is an impression of a spider. The spider was not bigger than the head of a large pin, but the image, magnified by the solar microscope to the size of the palm of the hand, having been impressed on the plate, and examined through a lens, was further magnified, and showed a minuteness of organization hitherto not seen to exist. You perceive how this discovery is, therefore, about to open a new field of research in the depths of microscopic Nature. We are soon to see if the minute has discoverable limits. The naturalist is to have a new kingdom to explore, as much beyond the microscope as the microscope is beyond the naked eye. But I am near the end of my paper, and I have unhappily to give a melancholy close to my account of this ingenious discovery. M. Daguerre appointed yesterday at noon to see my Telegraph. He came, and passed more than an hour with me, expressing himself highly gratified at its operation. But, while he was thus employed, the great building of the Diorama, with his own house, all his beautiful works, his valuable notes and papers, the labor of years of experiment, were, unknown to him, at that moment the prey of the flames. His secret indeed is still safe with him, but the steps of his progress in the discovery, and his valuable researches in science, are lost to the scientific world. I learn that his Diorama was insured, but to what extent I know not. I am sure all friends of science and improvement will unite in expressing the deepest sympathy in M. Daguerre’s loss, and the sincere hope that such a liberal sum will be awarded him by his Government as shall enable him in some degree at least to recover from his loss.”

In the same vessel which brought this letter the writer himself arrived in this country, and the letter was published in the *New York Observer*, April 20, 1839. In the month of June of the same year, within four months of the date of this letter, the French Government, Louis Philippe being the king, completed its negotiations with M. Daguerre for the purchase of his secret, that the beautiful discovery might be given to the world for its use and enjoyment. Arago was a member of the Chamber of Deputies, and chairman of the committee to whom was referred the subject. He made an elaborate report, in which the value of the discovery was set forth, and the indebtedness of the world to the

discoverer. The report concluded with a recommendation that the discoverer be rewarded by the Government on his making public the process by which the results were reached.

Many years before, a Frenchman named Niepce had discovered the art of obtaining the outline of images, but he could not succeed in permanently fixing them. Daguerre had received from him the information which he had availed himself of in making the next great step, the more important one, of permanently impressing them on the plate. Niepce and Daguerre executed an agreement binding each other to divide between them the advantages that might result from their discoveries. Before any advantages were reached, Niepce died, but Daguerre recognized the continued validity of the contract, and was ready to share with the son of Niepce the fruits of the perfected discovery. It was by mutual consent agreed that a pension of ten thousand francs should be paid to them, six thousand to M. Daguerre and four thousand to M. Niepce, and that the widows of both should receive half of the pension that their husbands had enjoyed.

This arrangement being concluded, the process was made public. M. Daguerre hastened to put Professor Morse in possession of all the knowledge necessary to the immediate manipulation of the delicate process, and the Professor without delay proceeded to put the art into practical use. His brothers, Sidney E. and Richard C. Morse, caused to be erected on the roof of their new building, the northeast corner of Nassau and Beekman Streets, New York, "a palace for the sun," as Mr. S. E. Morse was pleased to name it, a room with a glass roof, in which Professor Morse experimented with the new and beautiful art. While this building was in progress, he had pursued his experiments with great success in his rooms at the New York City University on Washington Square. He says in a letter dated February 10, 1855:

"As soon as the necessary apparatus was made, I commenced experimenting with it. The greatest obstacle I had to encounter was in the quality of the plates. I obtained the common plated copper in coils at the hardware-shops, which of course was very thinly coated with silver, and that impure. Still I was enabled to verify the truth of Daguerre's revelations. The first experiment crowned with any success was a view of the Unitarian Church, from the window on the staircase from the third story of the New York City University. This, of course, was before the building of the New York Hotel. It was in September, 1839. The time, if I recollect, in which the plate was exposed to the action of light in the camera was about fifteen minutes. The instruments, chemicals, etc., were strictly in accordance with the directions in Daguerre's first book. An English gentleman, whose name at present escapes me, obtained a copy of Daguerre's book about the same time with myself. He commenced experimenting also. But an American, of the name of Walcott [Wolcott—ed.], was very successful with a modification of Daguerre's apparatus, substituting a metallic reflector for the lens. Previous, however, to Walcott's experiments, or rather *results*, my friend and colleague, Professor John W. Draper, of the New York City University, was very successful in his investigations, and with him I was engaged, for a time, in attempting portraits.

"In my intercourse with Daguerre, I specially conversed with him in regard to the practicability of taking portraits of living persons. He expressed himself somewhat skeptical as to its practicability, only in consequence of the time necessary for the person to remain immovable. The time for taking an out-door view was from fifteen to twenty minutes, and this he considered too long a time for any one to remain sufficiently still for a successful result. No sooner, however, had I mastered the process of Daguerre, than I commenced to experiment, with a view to accomplish this desirable result. I have now the results of these experiments taken in September, or beginning of October, 1839. They are full-length portraits of my daughter, single and also in group with some of her young friends. They were taken out-of-

doors, on the roof of a building, in the full sunlight, and with the eyes closed. The time was from ten to twenty minutes. About the same time Professor Draper was successful in taking portraits, though whether he or myself took the first portrait successfully I cannot say.<sup>1</sup> Soon after we commenced together to take portraits, causing a glass building to be constructed for that purpose on the roof of the University. As our experiments had caused us considerable expense, we made a charge to those who sat for us to defray this expense. Professor Draper's other duties calling him away from the experiments, except as to their bearing on some philosophical investigations which he pursued with great ingenuity and success, I was left to pursue the artistic results of the process, as more in accordance with my profession. My expenses had been great, and for some time, five or six months, I pursued the taking of portraits by the Daguerreotype, as a means of reimbursing these expenses. After this object had been attained, I abandoned the practice to give my exclusive attention to the Telegraph, which required all my time."

Professor Morse's views of the capabilities of the art were expressed in a letter to his friend Washington Allston:

"I am afraid you will think me remiss in complying with your request by Mr. Hayward, but I have only this moment been able to obtain the album of Mr. Payne, from which I have made a careful tracing of your beautiful design of 'Danger,' and will take the earliest opportunity to transmit it to you, with the volumes of Meng's works also. I had hoped to have seen you long ere this, but my many avocations have kept me constantly employed from morning till night. When I say morning, I mean *half-past four* in the morning! I am afraid you will think me a Goth, but really the hours from that time till twelve at noon are the richest I ever enjoy.

"You have heard of the Daguerreotype. I have the instruments on the point of completion, and if it be possible I will yet bring them with me to Boston and show you the beautiful results of this brilliant discovery. Art is to be wonderfully enriched by this discovery. How narrow and foolish the idea which some express that it will be the ruin of art, or rather artists, for every one will be his own painter. One effect, I think, will undoubtedly be to banish the sketchy, slovenly daubs that pass for spirited and learned; those works which possess mere general effect without detail, because forsooth detail destroys general effect. Nature, in the results of Daguerre's process, has taken the pencil into her own hands, and she shows that the minutest detail disturbs not the general repose. Artists will learn how to paint, and amateurs, or rather connoisseurs, how to criticise, how to look at Nature, and therefore how to estimate the value of true art. Our studies will now be enriched with sketches from Nature which we can store up during the summer, as the bee gathers her sweets for winter, and we shall thus have rich materials for composition, and an exhaustless store for the imagination to feed upon."

#### DAGUERRE AND ARAGO.

Immediately upon his return to New York in the spring of 1839, Professor Morse, being President of the National Academy of Design, proposed the election, as honorary member of the Academy, of M. Daguerre. On the same day, when he wrote to him announcing the fact of his election, he sent the following letter to Arago. The letters are here inserted in their connection.

*To Monsieur Arago.*

“MY DEAR SIR: I take advantage of the visit to France of an *attaché* to our legation, to send you for your acceptance a copy of Professor Henry’s late contributions to electricity and magnetism; and I also improve the same opportunity to express to you my thanks for the kindness and courtesy which you showed me when I was in Paris with my Electro-Magnetic Telegraph.

“Ever since the misfortune that befell M. Daguerre a few days before I left Paris, and at the very hour, too, when he was with me examining my Telegraph, I have felt a deeper interest in him, and in his most splendid discovery, and a desire, so far as I can be of service to him, to render him substantial aid. His discovery has excited great attention throughout the United States, and I have thought that so soon as his remuneration shall be secured in France and before his secret should be disclosed to the world, that we in the United States might in some way contribute our portion of the reward due to M. Daguerre. An exhibition (which is the mode in this country best adapted for the purpose desired) of a few of his admirable results in several of our cities, I am persuaded, would yield a sum which may not be unimportant in the present state of M. Daguerre’s affairs. If, by any gratuitous services of mine in this country in favor of M. Daguerre, I can in any degree return the kindness and liberality I received in France, I hope M. Daguerre and his friends will not hesitate to command me.

“Believe me, etc.

“*May 20, 1839.*”

*To Monsieur Daguerre.*

“MY DEAR SIR: I have the honor to inclose you the note of the secretary of our Academy, informing you of your election, at our last annual meeting, into the body of honorary members of our National Academy of Design. When I proposed your name, it was received with wild enthusiasm, and the vote was unanimous. I hope, my dear sir, you will receive this as a testimonial, not merely of my personal esteem and deep sympathy in your late losses, but also as a proof that your genius is in some degree estimated on this side of the water. Notwithstanding the efforts made in England to give to another the credit which is your due, I think I may with confidence assure you that throughout the United States your name alone will be associated with the brilliant discovery which justly bears your name.

“The letter I wrote from Paris, the day after your sad loss, has been published throughout this whole country in hundreds of journals, and has excited great interest. Should any attempts be made here to give to any other than yourself the honor of this discovery, my pen is ever ready in your defense.

“I hope before this reaches you that the French Government, long and deservedly celebrated for its generosity to men of genius, will have amply supplied all your losses by a liberal sum. If, when the proper remuneration shall have been secured to you in France, you should think it may be to your advantage to make an arrangement with the Government to hold back the secret for six months or a year, and would consent to an exhibition of your *results* in this country for a short time, the exhibition might be managed, I think, to your pecuniary advantage. If you should think favorably of the plan, I offer you my services gratuitously. In the mean time believe me, etc.

“*May 20, 1839.*”

*Daguerre to Morse.*

“PARIS, July 26, 1839.

“MY DEAR SIR: I have received with great pleasure your kind letter, by which you announce to me my election as an honorary member of the National Academy of Design. I beg you will be so good as to express my thanks to the Academy, and to say that I am very proud of the honor which has been conferred upon me. I shall seize all opportunities of proving my gratitude for it.

“I am particularly indebted to you in this circumstance, and I feel very thankful for this and all the other marks of interest you bestowed upon me. The transaction with the French Government being nearly at an end, my discovery shall soon be made public. This cause, added to the immense distance between us, hinders me from taking the advantage of your good offer to get up at New York an exhibition of my results. Believe me, my dear sir, your very devoted servant,

“DAGUERRE.”

*Morse to Daguerre.*

“MY DEAR SIR: Your letter of July last, acknowledging the receipt of the Academy notification of your election as an honorary member of our body, has been received, and I am truly rejoiced that in any manner we have been able to gratify one who has conferred upon the world so great a boon. Allow me to congratulate you upon the result of the action of your Government, in granting the pension so ably and successfully solicited by that great and truly high-minded man, M. Arago. Your nation, sir, by acts like these, shines more brilliantly than by her achievements in arms. Let me assure you, that in this country the remark is constantly heard in connection with your most popular discovery, ‘How nobly the French Government has acted in giving this secret to the world!’ And not less a subject of remark is the moderation of your own demand for giving to the world that secret, which, but for your disclosure, would, in all probability, have remained a secret. Ever since I saw your admirable results, the day before your disastrous loss, I have felt an absorbing interest in it, and the first *brochure* which was opened in America at the booksellers’, containing your *exposé* of your process, I possess. I have been experimenting, but with indifferent success, mostly, I believe, for the want of a proper lens. I hoped to be able to send you by this opportunity a result, but I have not one which I dare send you. You shall have the first that is in any degree perfect. Will you allow me so far to trespass on your kindness as to request you to choose for me two lenses, such as you can recommend; I have requested my friend M. Levering, of the firm of Messrs. Edward & Co., No. 9 Rue de Clery, to receive them and pay for them, and transmit them to me. If, after receiving the result which I will send you, you should deem it worthy of an exchange, I need not say how gratified I should be to receive one from your own hand, either for myself personally, or for the National Academy of Design.

“Any communication at any time will reach me through the house of Messrs. Edward & Co., 9 Rue de Clery, or through the ambassador of the United States. Yours, etc.

“November 16, 1839.”

His artist friends and the National Academy of Design were on his mind and in his heart, while the Telegraph, the Photograph, and his own profession as a painter, were all

demanding his attention and anxious care. Thomas Sully and Washington Allston acknowledged his letters, in which he tendered to them the use of the Academy's gallery for the exhibition of their paintings; and Mr. Allston expressed his strong anxieties for the success of his friend in his telegraphic pursuits. As the Daguerreotype was not patented, but was free to all who would master the art, a large number of young men, with the enterprise of American youth, flocked to Professor Morse to be instructed in the mysteries of the process, that they might traverse the country and reap the first fruits of its introduction. Men of science, also, charmed with the wonderful results, pursued the subject with enthusiasm, and entered into correspondence with Professor Morse as the father of the art in the United States. Professor E. N. Horsford writes to him from Albany, November 18, 1840:

“I learn, with equal astonishment and gratification, that you have succeeded in taking likenesses in *ten* seconds with diffused light. Pray reveal to me the wondrous discovery. So capricious has our sunlight been, that we have done very little since I last saw you.”

During several years immediately succeeding, Professor Morse was often and intently engaged in the improvement of the photographic art, giving to the practical operators the benefit of his studies and experiments. Many letters addressed to him on this subject indicate the amount of time which was thus consumed. Early in 1848 he received from Baron Gerolt the following translation of an article from the *Prussian Universal Gazette* (*Allgemeine Preussische Zeitung*), December 21, 1847:

“In the last session of the Academy of Sciences at Paris, MM. Biot, Arago, and Thenard, reported a new discovery made by M. Niepce de Saint-Victor, the same chemist who was formerly rewarded by the state, together with Daguerre, for the discovery of the Daguerreotype. M. Niepce has discovered an action of the iodine-vapors upon the black and white color that hitherto had been entirely unknown. When he caused iodine-vapors to pass over a copperplate print or a lithography, or when he plunged a copperplate print or a lithography in a solution of iodine-water, the iodine united quicker and more intensive with the black than with the white. When he then laid the original, prepared in this way, with iodine, upon a paper lined with starch, and pressed it, the iodine parted from the black and united with the starch, so that now the original appeared upon the starch-paper in its most delicate shadowings, and in the violet-blue color of the iodine. When, furthermore, this paper was pressed upon a copperplate, the iodine again parted from the starch, and now the whole drawing (print) was fixed upon the copperplate with complete exactness. The commission, which had been charged by the Academy with the examination of the discovery, declared that, in looking at these exact copies, nobody could keep himself from the highest astonishment.”

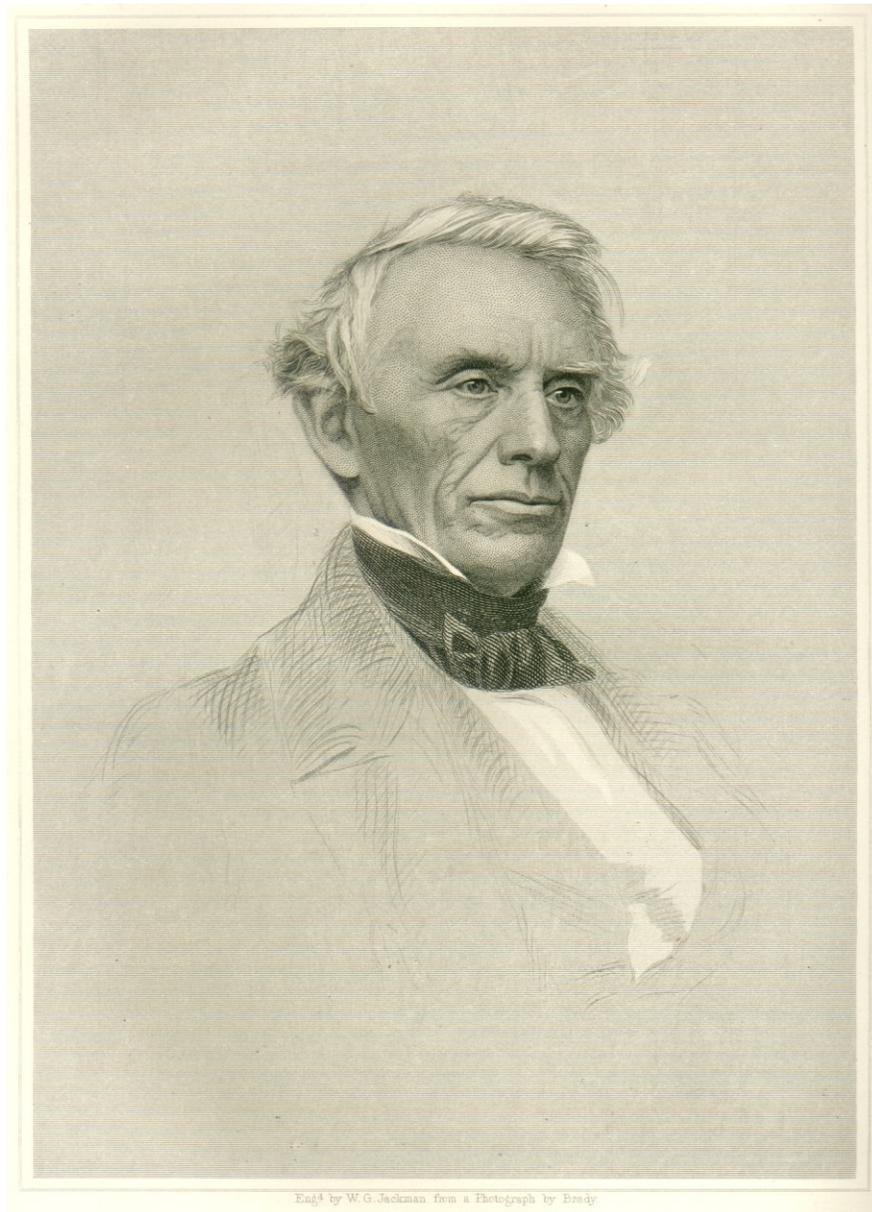
1. Prof. Draper recollects distinctly that he succeeded in taking the first portrait.

[An additional comment regarding the daguerreotype is provided on page 425–26.—ed.]

Professor Morse's letters to Mr. Vail, during this crisis in the life of the Telegraph and its inventor, are full of the same fears and hopes that were revealed in those to Mr. Smith. He says:

“September 7, 1840.—I am tied hand and foot through the day endeavoring to realize something from the Daguerreotype portrait. . . .”

[The following portrait engraving appears opposite page 251]:



[caption: Eng<sup>d</sup> by W. G. Jackman from a Photograph by Brady. / SAMUEL F. B. MORSE. / INVENTOR OF THE MAGNETIC TELEGRAPH. / New York. D. Appleton & Co. The “list of Illustrations” states regarding this illustration: “MORSE, ÆT. 45.”]

[End of selected text.]

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**EDITOR'S NOTES:**

Morse references a 9 March 1839 letter written to his brothers. The letter appears as the article, "The Daguerrotipe," *New-York Observer* 17:16 (20 April 1839): 62.<sup>1</sup> The article is one of the most notable in the annals of photographic history and was widely reprinted and cited in other contemporary publications.

Morse's role in photography is also discussed in the chapter "History of the Heliographic Art in the United States," in Marcus A. Root, *The Camera and the Pencil* (Philadelphia: J. B. Lippincott, 1864): 357–92.<sup>2</sup> The chapter also includes correspondence by Morse and a wood engraving of a daguerreotype portrait of Morse's daughter and friend, made late September to early October 1839. Of note is the variant transcription of the 10 February 1855 letter from Morse to Marcus A. Root. The letter—also in variant form—is also provided in M. A. Root, "The Heliographic Art," *Dollar Newspaper* (Philadelphia) (25 July 1855). See a reproduction of the text in Donald Weber, A Daguerreian Reprint: Correspondence Discovered Between Samuel Morse and Marcus Root," *Daguerreian Society Newsletter* 12:3 (May–June 200): 14.

See also an extract from a speech of Morse at the National Academy of Design, 24 April 1840, transcribed in M. A. Root, *The Camera and The Pencil: or the Heliographic Art* (Philadelphia: J. B. Lippincott & Co., 1864): 390–92.<sup>3</sup>

Two daguerreotypes of Morse are viewable on the Library of Congress web site, *Prints & Photographs Online Catalog*.<sup>4</sup>

Daguerreotype equipment used by Morse is viewable on the Smithsonian's web site, *History Wired: a Few of our Favorite Things*.<sup>5</sup>

See also "The Phrenology, Physiology, and Mentality of Professor Samuel F. B. Morse," *American Phrenological Journal* (New York) 10: 1 (January 1848): 18–22; A. D. Jones, "S. F. B. Morse," in *The American Portrait Gallery* (New York: J. M. Emerson and Company, 1855): 653–54; "Samuel F. B. Morse," *Harper's New Monthly Magazine* (New York) 24:140 (January 1862): 224–32; "Professor Morse, and the Telegraph," *Scribner's Monthly, an Illustrated Magazine for the People* (New York) 5:5 (March 1873): 579–589.<sup>6</sup> The latter article provides a wood engraving of an early daguerreotype by Morse;

See also Carleton Mabee, *The American Leonardo; the Life of Samuel F. B. Morse* (New York, A. A. Knopf, 1943); William Kloss, *Samuel F. B. Morse* (Harry N. Abrams, Inc., 1988).

Also of interest regarding Morse is Howard R. McManus's web site, *Into the Light: Current Versions of Illustrated Essays on Daguerreotypes and Early Photography*.<sup>7</sup>

1. [http://www.daguerreotypearchive.org/texts/N8390002\\_MORSE\\_NY\\_OBSERVER\\_1839-04-20.pdf](http://www.daguerreotypearchive.org/texts/N8390002_MORSE_NY_OBSERVER_1839-04-20.pdf)
2. <http://books.google.com/books?id=go8VAAAAYAAJ>
3. [http://www.daguerreotypearchive.org/texts/B8640001\\_ROOT-CAMERA-MORSE\\_1864.pdf](http://www.daguerreotypearchive.org/texts/B8640001_ROOT-CAMERA-MORSE_1864.pdf)
4. <http://hdl.loc.gov/loc.pnp/cph.3c10084>  
<http://hdl.loc.gov/loc.pnp/cph.3g12153>
5. <http://historywired.si.edu/detail.cfm?ID=459>  
<http://historywired.si.edu/object.cfm?ID=459>
6. [http://www.daguerre.org/resource/texts/s\\_morse.html](http://www.daguerre.org/resource/texts/s_morse.html)
7. <http://www.historybroker.com/essay.htm>

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