

**Gardner, "Early History of Photography," paper presented 6 March 1886  
(published 24 April 1886)**

(keywords: John B. Gardner, Giovanni Battista Porta, Thomas Wedgewood, Humphrey Davy, Carl Wilhelm Scheele, John Herschel, Joseph Nicéphore Niepce, William Henry Fox Talbot, Armand Hippolyte Louis Fizeau, Paul Beck Goddard, Robert Hunt, George W. Prosch, Samuel F. B. Morse, history of the daguerreotype, history of photography)

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**THE DAGUERRETYPE: AN ARCHIVE OF SOURCE TEXTS, GRAPHICS, AND EPHEMERA**  
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**PHOTOGRAPHIC SECTION OF THE AMERICAN INSTITUTE.**

MEETING March 6th. *President* NEWTON in the chair.

The *Secretary*, Mr. O. G. MASON, reported the reception of ANTHONY'S PHOTOGRAPHIC BULLETIN, the *Eye*, and a number of photographic illustrated catalogues.

The usual vote of thanks was passed for the above donations.

The Executive Committee reported that the subject selected for the evening was the "Early History of Photography," with an introductory paper by the *Vice-President* of the Section.

That at the next regular meeting, May 4th, there would be a lantern exhibition and a talk concerning the early photographers of New York City.

The following paper was then read by Mr. J. B. GARDNER:

*Mr. President and Gentlemen:* Before reading the introductory paper of the evening, allow me to repeat a short extract from the paper read at the last meeting, as this extract has some bearing on the subject we are now to consider:

"In regard to the discovery of photography, it cannot be said that any one person should have the entire credit or honor of originating it. The principles on which it is based have been slowly unfolding since the first observer noted and recorded the effects of light on the various kinds of mineral and vegetable matter. These notations have been gathered from time to time by such minds as were by their previous culture capable of their reception, and finally combined in such manner and so utilized as to bring them into public notice. When thus publicly known, they have been hailed as discoveries, and the entire credit awarded to him who first made his application of these principles the most available in forwarding the interests of society.

"Now, although Daguerre has the honor of making the first sun-pictures, there were others who worked out the same problem quite as early as he. Talbot, in England, and Professor Draper, in America, were not behind the Frenchman in their explorations, though they were not so loudly heralded to the world, or so notably rewarded for their labor by the governments they respectively served. Hence Daguerre is commonly acknowledged to be first in the ranks, though his process was entirely *inapropos* for portrait work.

“This process he made public in 1839, the same year that the electric telegraph was brought into notice by Professor Morse. These two discoveries, as they are called, have been marching on together, making giant strides every year since their introduction, until now there is scarcely a town or hamlet in the whole civilized world where is not manifested these most wonderful appliances of light and electricity. Thus the ideal of Shakespeare has been more than realized, where he would have the attendant of Prospero compass the whole world in forty minutes.”

It may be thought by some, perhaps, that the subject we have chosen for this evening’s consideration, viz., “The Early History of Photography,” can be of no practical value to the practitioners of this art at the present time. But when it is remembered that much of this history is as yet unwritten—that its most interesting portion is only known by tradition, and even this to a very limited extent—it certainly concerns us, as well as all who take any interest in the art, to gather up and record the experience, so far as possible, of that class that are now rapidly passing away, and whose testimony may aid us in giving honor to whom honor is due. But before calling up these witnesses and paying that tribute of respect that is due for their noble achievements in this field of art-science, and especially for their long and wearisome researches and labors in bringing this art to its present state of perfection, it is needful to go back to the foundation on which they built, and briefly restate the records that stimulated them to their noble work.

The camera obscura, and the effect of the sun’s rays on different substances, are the two main agencies to which photography is due. The first named (the camera obscura) was invented by a physician of Naples (Giovanni Baptista Porta) three centuries ago; and the changes in both color and quality of various kinds of mineral and vegetable matter, when exposed to the sun’s rays, have been more or less noted from the earliest records of history. But the first direct account that points to photography, was the experiments of Wedgwood and Sir Humphrey Davey [Davy—ed.], in 1802. But they, no doubt, were students of Scheele, who published the result of his philosophical labors in 1777. His researches seem to have had a powerful influence upon the scientific world, for he was followed in similar lines of study by Sir Wm. Herschel, Count Rumford, Sir Henry Englefield, and a host of others too numerous to mention here. And thus was gathered a mass of material which brought the world to the verge of the announcements of Daguerre, Niepce, Talbot, and Draper.

As an experimentalist, Sir John Herschel appears among the first in the ranks. He was the discoverer of hyposulphite of soda in 1819, and first used it in photography in 1839. He was the first to use glass in making sun pictures in 1844, and the first who called attention to the changes or effects produced in the use of various salts of iron as a printing or developing agent.

Then come the names of Niepce, Talbot, Hunt and Archer, whose progress seems to have been more pronounced after the announcement of Daguerre in 1839.

Niepce gave his first paper on sun pictures before the Royal Society in 1827. This was instantly noted by Talbot, and led to the process which he published in 1839. From this period he continued his experiments until 1842, when he procured a patent under the name of calotype.

When Daguerre, in 1839, published his process, there immediately appeared a host of experimentalists in England, France, and America, and all claimed to be first in some branch in the art; and it is at this point in its history that it is the most difficult to decide to whom the greatest praise rightly belongs.

The most essential improvements in Daguerre's process were to make the pictures less perishable, and shorten the time required for making the impression. The first of these was effected by Hizeau [Fizeau—ed.], in 1840, by a gilding process, composed of chloride of gold and hyposulphite of soda. The second was accomplished by Dr. Paul B. Goddard, of Philadelphia, in 1840, by the use of bromine. It is generally acknowledged that LeGrey was the first to use waxed paper, Niepce De St. Victor, albumen, and Talbot, gelatine. With these substances, in connection with the salts of silver and iron, and iodine and bromine, and mercury, we have the chief elements of both the daguerreotype and photograph.

The next important step in the art was the discovery of gun-cotton by Schonbein, in 1846. Finding it was soluble in equal parts of ether and alcohol, or spirits of camphor, the solution was named collodion, from the fact of its adhesive properties. It was first successfully used in 1850.

There are a number of claimants of this discovery, the most prominent of which are Messrs. Archer, Fry and Diamond, of London, and also Le Grey and De la Motte of Paris.

The same year of its discovery (1846), Dr. Josiah Curtis, of Boston, made a solution of it and introduced it to the medical profession, and from that time to the present it has held its place as a medicinal agent.

Frederic Langenheim, of Philadelphia, claims to have experimented with collodion for photographic purposes as early as 1848. His first efforts were not, however, altogether satisfactory, and Frederic Scot Archer, of England, is generally accredited as having first used it successfully in 1850. In 1851, the ambrotype began to take the place of the daguerreotype.

Mr. Robert Hunt, of England, was also among the first explorers in the art, and the photographic profession is greatly indebted to him for his long and arduous labors.

We now come to photography as known and practiced in this country, and among the earliest, we find the names of Draper, Morse, Walcot [Walcott—ed.], Johnson and George W. Prosch. Each of these claim to be first in portrait work, and their testimony is so evenly balanced that it is now difficult to decide to which of these gentlemen the honor is really due.

The testimony of all except Prosch has been duly recorded in the first volume of *Seeley's Journal*, "Root's History of Photography," and "Draper's Memoirs," and those therefore, who would know more definitely of this matter, are referred to these books.

The statement of Mr. Prosch is, that Mr. Morse came to his shop and ordered an apparatus as described in a pamphlet, which he said contained all the particulars of Daguerre's discovery. Mr. Prosch says, "The work was at once undertaken and in a few days completed. But just at this time Mr. Morse was called away to attend to matters he thought of more importance, and I, being quite anxious to know how the thing would work, ventured to try an experiment on my own account. At this time my shop was on the northeast corner of Nassau and Beekman streets. Nearly opposite was a church, and a partial view of the City Hall and Park, surrounded with an iron fence. Outside this fence were a number of coaches and hackmen, some of these on their seats apparently fast asleep. With this view before me I coated a plate and made the exposure from the window of my shop; I then subjected it to the vapor of mercury, and when I took it from the bath, to my great delight, I saw the ghost of a fence, the form of a carriage and its attendant driver, together with the horses in front of him. It is well, however, that this view was in reach of my natural vision, or I might have been puzzled to tell with any

degree of accuracy the minutes I fancied were recorded on my plate. Suffice it to say, I was not proud of my success, and hence resolved to keep the experiment to myself; and did so, till long after Morse, Draper, Walcot and Johnson had each pronounced themselves first who made daguerreotype portraits in America. It is probably true, that both the men and the horses I took were fast asleep, but they were none the less portraits, and the first I believe ever taken in this country. If I remember correctly, it was some time in the latter part of August, 1839."

In an extract from a letter to a friend, dated February, 1855, Mr. Morse says, "I was in Paris when Daguerre's discovery was announced, in the winter of 1838-39. Early in the spring of 1839, I was invited by Daguerre to see his results in private, for his process was then secret, awaiting the action of the government respecting the pension to be granted him in case he would publish his process. I immediately wrote to my brothers announcing the discovery, which letter they published in the *New York Observer* in April, 1839. This, I think, was the first notice of the discovery in America.

"In July or August of the same year, I think, Daguerre received his pension, and the process was published. Some copies of the work were immediately sent to this country, one of which I received the latter part of August, and immediately had made for me the apparatus from the description in the book.

"When this was completed, I was soon enabled to verify the truth of Daguerre's revelations, and my 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. It was in September, 1839.

"In October of the same year, I took a portrait of my daughter, and also in group with some of her young friends. They were taken on the roof of a building in the full sunlight, and with the eyes closed."

How much earlier than the above dates Professor Draper made his first portrait I have been unable to ascertain, though he frequently refers to his being first in several papers published between the years 1840 and 1855.

Having now given in this introductory paper quite sufficient matter. I think, to provoke discussion for the rest of the evening, I shall leave it to my fellow members of the section to decide who are the rightful claimants to the various noteworthy discoveries in the art.

At the conclusion of the reading, Mr. Mason read a short article concerning the discovery of Daguerre, published in the *Franklin Magazine* for April, 1839.

President Newton also read the following from "Prof. Draper's Memoirs" (page 215):

"That it was possible by photogenic processes, such as the daguerreotype, to obtain likenesses from the life was first announced by the author of this volume in a note to the Editors of the *Philosophical Magazine*, dated March 31, 1846, as may be seen in that journal for June 1840, page 535. The first portraits to which allusion is made in the following Memoir, were produced in 1839, almost immediately after Daguerre's discovery was known in America."

Mr. Newton, in subsequently speaking of the different claimants to making the first photogenic portrait in America, expressed the belief that it would probably never be known who was really first. That no doubt a number of persons honestly believed themselves to be first, when others unknown to them had solved the same problem perhaps at an earlier date. That it was quite reasonable to believe that men who had pursued similar lines of study should work out the same problems quite independent of each other, and each regard themselves first in their exploits.

Mr. Mason then exhibited a daguerreotype made by himself in 1850; Fox Talbot's illustrated "Pencil of Nature," published in 1844; two volumes of *Snelling's Photographic Art Journal*, one published in 1850, and one in 1856; also prints on albumen paper made in 1856; together with a large number of other pictures made in the early years of the art. These books and pictures were examined with more than usual interest, and led to a multitude of questions, all of which were affably and expertly answered by the lucky owner of the above named antiquities. Mr. Mason also stated that he had been lately printing on albumen paper that was made a number of years ago, and had been carefully kept, but on finishing the prints they assumed the same yellow color so often noticeable in old photographs. He therefore concluded that the faded appearance so often seen might sometimes be due to the paper or albumen, rather than imperfect cleansing from the hypo bath—the usual cause attributed for the fading of prints.

Mr. Newton then stated that he had lately made a very successful experiment with a negative that was greatly under-timed in the shadows, on account of the extreme contrasts, in a view from nature he had taken in Central Park. The portions of the picture that were fully out, he said, I covered with -machine oil, and then subjected the plate to the following compound:

Bichloride of mercury . .	60 grains.
Water . . . . .	10 ounces.
Iodide of potassium . . .	120 grains.
Water . . . . .	6 ounces.

By this treatment I succeeded in bringing out the darker portions without disturbing the lighter. I then removed the oil with alcohol, and thus saved a negative that would otherwise have been useless.

There may be others, said Mr. Newton facetiously, who have used the same mode of treatment, but so far I have not heard of them, hence, shall claim originality in this until some other brings positive proof of his priority.

There is one thing more I wish to say, and that is concerning a statement I saw a short time since in one of our photographic journals respecting the use of nitrate of lead. The inquirer asks the editor if he will oblige him by sending my formula for freeing prints from hyposulphite. The editor answers, "I do not know the formula, but you can use ten grains of lead to each ounce of water." This advice, in my judgment, if followed, would ruin the prints. In my practice I have found 2 1/2 grains of lead to each ounce of water quite sufficient. And even this amount would be quite likely to injure the pictures if not a trifle under-toned, and a sufficient amount of acetic acid added: to the lead solution to prevent any incrustation on the surface of the albumen.

Mr. Moss then exhibited a number of prints illustrating a new method of process work. By this method, he said, wash drawings could be accurately reproduced, and a variety of art work that had been up to the present time quite beyond the range of photo-mechanical printing.

After the examination of these pictures, and several inquiries respecting their cost and the rapidity with which they could be produced, a vote of thanks was passed to all who had contributed in making the evening one of unusual interest, and the section then on motion adjourned.

**[End of selected text.]**

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**EDITOR'S NOTES:**

This article is followed by another paper by Gardner (and extemporaneous comments by Abraham Bogardus and Alexander Becker) in 17:10 (22 May 1886): 310-14.<sup>1</sup>

Prosch's recollection of an "August 1839" date for his first view/portrait is problematic. Daguerre's manual wasn't available in Paris until about 5 September 1839. Did Morse receive from Daguerre an advance copy of instructions? Given Daguerre's agreement with the French government, it is unlikely. Even if Daguerre had prepared such for Morse, it is difficult to think that Daguerre would have sent it prior to the 19 August 1839 disclosure of the process, and any such copy would not have arrived in the US before the end of August.

1. [http://www.daguerreotypearchive.org/texts/P8860001\\_GARDN-2\\_ANTHONYS\\_1886-05-22.pdf](http://www.daguerreotypearchive.org/texts/P8860001_GARDN-2_ANTHONYS_1886-05-22.pdf)

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