

“S.” (William Shew, attrib.) “Photography,” July 1854

(keywords: William Shew, Mrs. Fulhame, Elizabeth Fulhame, Louis Jacques Mandé Daguerre, James. M. Wattles, Thomas Wedgewood, Sir Humphrey Davy, Nicephore Niépce, William Henry Fox Talbot, Samuel F. B. Morse, John William Draper, Matthew D. Van Loan, James R. Chilton, Alexander S. Wolcott, John F. Mascher, stereoscope, Marcus A. Root, John A. Whipple, history of the daguerreotype, history of photography)

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PHOTOGRAPHY.

BY S.

THIS is a general term applied to all pictures produced by sunlight, whether on silvered plates, glass, paper or any other material. Precise details of all the manipulations of Photography would prove to the general reader, like most scientific subjects, prosy and uninteresting. Yet the subject has a charming and romantic interest, growing out of the many pleasing associations connected with it, which renders a general outline of its discovery and progress both instructive and entertaining. This is especially the case with those, like most Californians, far distant from the hallowed associations of early life, which are so strongly impressed upon the mind and heart as rarely to be effaced in after years, no matter how eventful the scenes of that after life may be. The son or brother as he gazes on the true, reflected likeness of a revered parent, now no more, or of a loved sister, whom he has not seen for years—the confidant of his boyish loves—the partner of his childish pleasures—blesses the art that can thus immortalize their images. See the young man, full of hope and ambition, looking with devoted fondness at the daguerreotype of his absent betrothed, to whom, after repeated heart-burnings and mustering up of courage, he once dared to breathe his “first sweet dream of love”—on whom he has bestowed all that generous wealth of devotion, a life-love, and his every look and action will reveal to you the poetry of that art, which can thus constantly bring to his view the image of one, in whom he has centered all his hopes of happiness for life. The subject, therefore, is one which, with us all, is consecrated as tributary to our holiest affections.

Photography also commends itself to our attention for the unparalleled success which has attended its progress in our country—which has been so marked as almost to stamp it with a national character, for which, as Americans, we have just cause of feeling a laudable pride—it being the only branch of the fine arts, in which we decidedly excel our European contemporaries. American daguerreotypists now advertise themselves prominently as such in the principle European cities, and their work is anxiously sought for as preferable to that of the native artists.

About twenty-five years ago, a lady called upon M. Dumas, the celebrated French chemist, and said she had a question of great moment to ask him: “Did he think it possible that the pictures, seen in the camera, could be caught and made permanent?” Her

husband had conceived an idea, that he could fix the reflected image; and so deeply was he impressed with this conviction, that it had not only become the subject of constant daily experiment with complicated apparatus and noxious chemical preparations of his laboratory, but haunted his sleep, and was the subject of his dreams at night. She feared he was mad; but if a philosopher of the great research of M. Dumas thought the thing probable, she would yet retain confidence in his sanity. M. Dumas assured her that the thing was not impossible, although there was then no known method for fixing the image. The lady was Madam Daguerre; and about ten years after, her question was solved and her peace of mind restored by the announcement to the world of the important discovery, which has since borne the name of her illustrious husband.

But M. Daguerre was not the first who instituted photographic experiments; and it is proper to notice some phenomena observed at an earlier date, which attracted some attention to the subject. It is an interesting study to notice the near approach sometimes made to the discovery of an important principle, the final perfection of which, sufficient for practical application, may be delayed for years, and in some instances even for centuries. It was thus with the application of steam to navigation. A hundred years of tedious and expensive experiment were devoted to the accomplishment of this object, by men whose talent and ability equalled, perhaps excelled, that of Fulton. Yet for him was reserved the guerdon of success and the immortality which success insures.

Years ago, in the laboratory of King's College, might be seen a magnetic apparatus, in connection with an extensive arrangement of wires, for the purpose of experimenting on electrical velocity. These experiments, unintentionally—as regards the learned professor who originated them—produced the germ of the magnetic telegraph; and there is no doubt Professor Morse was led to give his attention to the subject by their success. If, thought he, the speed of electricity is so great as demonstrated, why can it not be made of practical service for the conveyance of thought or intelligence? His mind once led to the subject, he was too practical a man to allow a principle of so much importance to escape investigation.

The first *well-authenticated* experiments made for the purpose of photographic research, have been within the present century; yet phenomena were noticed and recorded at a much earlier date, calculated to call attention to this subject. Indeed, it is even asserted that the jugglers of India were for a long time in possession of a secret by which they were enabled, almost instantaneously to copy the likeness of any individual by the action of light; and, it is added, that this was the source of considerable influence over the ignorant people of that country.

The alchemists at an early date, untiring in their attempts to discover the philosopher's stone, observed phenomena which, under more auspicious circumstances than their insane pursuits, might have resulted in the discovery of photography, as the following experiment, to be found in old books will show: "Dissolve chalk in aquafortis to the consistence of milk, and add to it a strong solution of silver; keep this liquor in a glass bottle, well stopped; then cutting out from a piece of paper the letters you would have appear, paste it on the decanter, and lay it in the sun's rays in such a manner that the rays must pass through the spaces cut out of the paper and fall on the surface of the liquor; the part of the glass through which the rays pass will be turned black, while that under the paper remains white. But particular care must be observed that the bottle be not shaken during the operation." This experiment contains the principle of photography; yet centuries elapsed before successful experiments were made in pursuit of the subject.

In the latter part of the last century, Mrs. Fulhame published an account of a process, by which a change of color was effected in the chloride of gold, by the agency of light; and expressed an opinion that words might be written in this way. It has been stated that M. Charles was in possession of a process for obtaining likenesses by sunlight; but as he left no record of any such process, or did not make the discovery known to any one, it is quite doubtful whether he was ever possessed of any such knowledge.

Mr. Wedgewood and Sir Humphrey Davy instituted experiments for fixing images by the chemical action of light, which were published in the journal of the Royal Institution of Great Britain, in June, 1802. On the strength of this, English writers have claimed the priority of the discovery of photography for England; but without sufficient cause, as their experiments were scarcely more successful than the accidental phenomena of the alchemists, and the experiments of Mrs. Fulhame, which probably drew their attention to the subject. They failed of discovering any preparation sufficiently sensitive to produce images by the subdued light of the camera; and only succeeded in obtaining faint impressions by the solar microscope, with the prepared paper or white kid leather, then used, placed quite near the lens; and they knew of no method for removing the chemical preparation from the leather and thus preventing the continued action of light, which soon entirely effaced their indistinct impressions. These difficulties caused them to abandon their experiments as hopeless.

Equally entitled to credit, and more interesting although not recorded in the journals of any distinguished scientific or Royal Institution, are some experiments of an American gentleman, Mr. Jas. M. Wattles. As early as 1828—at that time but sixteen years of age, at the “New Harmony School,” Indiana—Mr. Wattles was sometimes employed by the Professors to make landscape-sketches by means of Camera-Obscura, when the idea first occurred to him that images as seen on the paper might be fixed in all their perfection and beauty. Mr. Wattles thus describes his experiments:

“In my first efforts to effect the desired object, they were feeble indeed, and owing to my limited knowledge of chemistry—wholly acquired by questioning my teachers—I met with repeated failures; but following them up with a determined spirit, I at last produced, what I thought very fair samples;—but to proceed to my experiments. I first dipped a quarter-sheet of thin, white writing paper in a weak solution of caustic (as I then called it,) and dried it in the dark; when dry, I placed it in the camera and watched it with great patience for nearly half an hour, without producing any result; evidently from the solution being too weak. I then soaked the same piece of paper in a solution of common potash, and then again in caustic water a little stronger than the first, and when dry placed it in the camera. In about forty-five minutes I plainly perceived the effect, in the gradual darkening of various parts of the view, which was the old stone fort in the rear of the school garden, with the trees, fence, &c. I then became convinced of the practicability of producing beautiful solar pictures in this way; but alas! my picture vanished, and with it, all—no not *all*—my hopes. With renewed determination I began again by studying the nature of the preparation, and came to the conclusion, that if I could destroy the part not acted upon by the light without injuring that which was so acted upon I could save my pictures. I then made a strong solution of sal soda, I had in the house, and soaked my paper in it, and then washed it off in hot water, which perfectly fixed the view upon the paper. This paper was very poor with thick spots more absorbant than other parts, and consequently made dark shades in the picture, where they should not have been; but it was enough to convince me that I had succeeded, and that at some future time, when I had the means and a more extensive knowledge of chemistry, I could apply myself to it again. I have done so since, at various times, with perfect success; but in every instance laboring under adverse circumstances.”

The next recorded experiments, after those of Mr. Wedgewood and Sir Humphrey already mentioned, were commenced by M. Nieper, [Niepce—ed.] a French gentleman, about the year 1814. M. Nieper was not very successful in these first attempts; but a few years afterwards, became acquainted with M. Daguerre, already a distinguished artist and chemist, and disclosed to him what he knew on the subject. About the year 1829, they formed a partnership for the purpose of mutually investigating the subject. M. Daguerre substituted the silvered plates in his experiments for the japanned leather and paper previously used. From this time their progress was more rapid, and in 1838 they had succeeded sufficiently to establish the positive character of the discovery, which was not publicly made known however, until July 1839, after a bill was passed, in the usual liberal spirit of the French government, securing M. Daguerre a yearly pension of 6,000 francs, and M. Isadore Nieper, son of his former partner, 4,000 francs, with one-half in reversion for their widows.

In January of the same year, Mr. Fox Talbot had communicated to the Royal Society his photographic discovery for taking pictures on paper by sunlight, which he patented. From the accounts given, it is believed his investigations were carried on without any knowledge of those of Messrs. Daguerre and Nieper, although disclosed about the same time; and the processes are so radically different as to confirm this belief.

The scientific world was agreeably astonished by the announcement of a discovery so different from anything previously known in art, so beautiful in its results and capable of indefinite improvement. After the disclosure to the public, the new discovery made rapid strides in advancement, and it was soon evident that it must entirely revolutionize the practice of the fine arts. It was immediately introduced into the United States by Professor Morse, promptly followed by Professor Draper, Mr. Van Loan, Mr. Chilton, and others. Although disputes have arisen respecting the priority of the original discovery, between the English and French writers, there can be none in relation to its application to portrait taking. America is entitled to that credit; but even here it is difficult to decide who was the first person to take a daguerreotype portrait. Prof. Draper, Mr. Wolcott and Prof. Morse commenced experimenting for this purpose, about the same time; but probably the last is entitled to most credit in the advancement of the art, having given instructions to a number of persons, who have distinguished themselves as operators, and who now constitute with their pupils, that innumerable class of daguerreotypists who have brought the art to its present degree of excellence. Their first attempts were most miserable results, as it was then supposed to be necessary to place the person in a very strong light, generally with the sun shining directly on him; and for want of more sensitive preparation of the plates, long sittings were required, often giving the person the appearance of having his eyes closed. No reference was had to the artistic arrangement of light and shade, and it was then supposed to be incompatible with the manipulation of the new art to do so. This great mistake was for a time the cause of detriment to the progress of the discovery, inducing many to attempt its practice who had no natural talent for, or acquired knowledge of art, thinking that daguerreotypers only required a knowledge of the chemical process to enable them to practice it successfully. This resulted to some extent in bringing it into disrepute with those who were known as the most liberal patrons of the fine arts and from whom most encouragement was expected. Correct taste with the public, however, rapidly improved, and they soon learned to distinguish between the beautiful productions of the true artist, and the miserable caricatures of the mere mechanical daguerreotypist. It is needless to say that preference was generally given to the former, and the latter class are rapidly starving out of the

fraternity and are now unknown except as itinerants or occupants in the eastern cities of the cheap shops, which still disgrace the art. In San Francisco this class are not to be found, owing to the liberal patronage of the public, who give their preference to the different artists, in accordance with their appreciation of the productions of each, with little reference to price, the rates of the different establishments being about the same. It is true that nearly three years since, the specimens at the doors of two or three establishments on Montgomery street, were graced with signs of "Daguerreotypes for \$3;" but these were only the closing efforts of third or fourth-rate artists, none of whom now remains to discredit the art by their miserable pretensions.

The first important improvement in the art after its application to portrait-taking, was the gilding process discovered by M. Fizeau. [Fizeau—ed.] This is done by covering the picture with a solution of hyposulphite of gold and heating it carefully, sufficiently to decompose the solution and precipitate the gold, thus forming a coating of pure gold over the entire surface of the plate. The result of the process is to bring the picture out more distinctly, brightening its tone and so hardening the surface that it may be worked upon with the brush. The coloring of daguerreotypes, as at first applied, was of no advantage, but has since been much improved upon and is now often a real improvement to many pictures.

In connection with this part of the subject, arises the question of the probability of taking daguerreotypes with the natural colors. Announcements that such a discovery had been made, were published more than four years since and created considerable excitement, injuring for a time the patronage of daguerreotypists, as many concluded to wait until the new process made its appearance. French scientific writers—always quite as prolific in their literary productions relating to any new discovery, as in the real merits of their announcements,—promptly put in their claim for priority, and argued it with as laudable an appearance of sincerity as if the discovery had actually been made. In this manner public expectation was raised to an inordinate pitch of anxiety, waiting for the disclosure of the details of the new process, which was to add new lustre to the daguerrean art.

Since that time, experienced daguerreotypists have made it their study, and it is the general opinion of the best artists that it is impossible, being antagonistic to the principles of the art as at present understood; consequently any process which would accomplish this object would amount to an entirely new discovery. A thorough discussion of the subject would require a more detailed account of the manipulation of the art than it is the purpose of this article to give.

The recent application of stereoscopes to daguerreotypes is a beautiful modification of the art which has attracted much notice and is justly popular. It is an arrangement requiring accuracy, in which many otherwise good daguerreotypists are deficient; some of them being ignorant of the principle involved—an important requisite to success. There are many different arrangements of the stereoscope, of which the American, patented by Mr. Mascher, is probably the best, being the most convenient and portable form, at the same time demonstrating the principle equally well with the others. It is now a matter of surprise that some popular application of this principle was not sooner made; it being an established optical discovery, announced before daguerreotype. This fact shows the importance of daguerreotypists studying their art more thoroughly than is usual, and keeping themselves well informed on all subjects that may have even but a remote relation to photography. The establishment of periodicals expressly appropriated

to the announcement of researches, discoveries, and discussions in this art, has had an important tendency to improve the standard of excellence of those practicing it.

The crayon daguerreotype is merely a modification of the art, involving no new chemical principle, but a different artistic arrangement of light, bringing out the head and features in prominent relief with the dress in the lower part of the picture gradually shaded to the border. Mr. Root of Philadelphia and Mr. Whipple of Boston, have brought them into prominent notice; and they have recently been introduced into San Francisco, where they are quite as well taken, as by these artists. Many persons make a better likeness in crayon than in the ordinary daguerreotype. Consequently, they are rapidly growing in public favor.

With the public there is often displayed, when wishing to obtain their daguerreotypes, a want of deference to the judgment of the artist in relation to position, dress, arrangement of light, &c., which is to be regretted, as it adds much to the difficulties of the practice of the art, without increasing the probabilities of their being better pleased with the results obtained. The opinions of the artist are founded in practice and are usually correct, at least as applied to his system of operating. It is far better to examine into the relative merits of the different artists, and after selecting whom to patronize, concede to his better judgment in such matters, and ask him to produce for you his best work. It is asking too much, though often done, to enter a daguerrean gallery and say to the proprietor that you wish to be taken in his best style, standing, and full length. Now the artist's best style, perhaps, does not happen to be standing pictures, of full length; his light is not constructed properly for it, (few of them are,) and there is rarely to be found a person who can stand as still in a graceful position as he can sit. If the artist is honest with you, he will tell you this, and try and induce you to accede to his own views. If he fail in this, and is in danger of losing you for a patron, it is more than likely that he will consent to take you in your favorite position, knowing that he can do it as well as others, and that they will obtain your money unless he does.

Paper and glass photographs have attracted more attention for the last year or two in the United States than previously; and it is probable that with greater improvements, of which they are capable, they will be more patronized. Yet they are not equal in appearance and beauty of finish to daguerreotypes, and probably will never become so, as the paper surface is not capable of receiving that polish which the silvered plate receives in daguerreotypes. On the whole, the progress of the photographic arts has been astonishing, and promises much for their future usefulness and prosperity. They are yet in their infancy, and no one can predict the beautiful improvements yet to be accomplished in them.

[End of text.]

EDITOR'S NOTES:

Authorship of this text is attributed to William Shew, See Peter E. Palmquist and Thomas R. Kailbourn, *Pioneer Photographers of the Far West: a Biographical Dictionary 1840–1865* (Stanford: Stanford University Press, 2000): 497.

Much—but not all—of this text is informed by Henry Hunt Snelling. See Chapter 1 “A Brief History of the Art,” in Henry Hunt Snelling, *The History and Practice of the Art of Photography* (New York: G. P. Putnam, 1849). Much of Snelling's text is derived (without credit) from George Thomas Fisher, Jr., *Photogenic Manipulation* (1843) and other works.

See Kahan, Schaaf, and Flukinger, "Plagiarism in the 'First' American Book about Photography," *Papers of the Bibliographical Society of America* 67 (1973): 283–304.

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