

John F. Goddard, "Application of the Daguerreotype to the Taking of Likenesses from the Life," May 1841

(keywords: John F. Goddard, Richard Beard, Alexander Wolcott, John Johnson, history of the daguerreotype, history of photography.)

THE DAGUERRETYPE: AN ARCHIVE OF SOURCE TEXTS, GRAPHICS, AND EPHEMERA
The research archive of Gary W. Ewer regarding the history of the daguerreotype
<http://www.daguerreotypearchive.org>
EWER ARCHIVE P8410001

Published in:

Chemist; or, Reporter of Chemical Discoveries and Improvements (London) 2:17 (May 1841): 142–43.

II. CHEMICAL MANUFACTURES.

APPLICATION OF THE DAGUERREOTYPE TO THE TAKING OF LIKENESSES FROM THE LIFE.*

BY J. F. GODDARD, ESQ.

MR. GODDARD, who is engaged by the patentees to work the process, delivered a lecture at the Royal Institution on the above subject, on the 26th of March; it is accomplished by Wolcott's reflecting apparatus, and is secured by patent. It is hardly two years since it was first announced in Paris that M. Daguerre had made a most wonderful discovery, by means of which he was enabled to fix the images and pictures obtained in the camera obscura, and thus, by the action of light, produce designs in which the objects preserve their forms with the strictest mathematical precision, even to the most minute details.

The extraordinary interest and curiosity which this announcement created, not only in Paris, but throughout Europe, and in England more particularly, is generally known. Nor was this curiosity and interest in the least diminished or disappointed when the secret of the process was made known. For such was the extraordinary accuracy with which every object in nature was copied—the perspective represented—the most delicate gradations of line and shadow brought out; the faithfulness of the representations as a whole; to say nothing of the singular novelty of the process by which these beautiful effects were produced, that it became the all-absorbing subject of attention at the time.

The vast importance of this discovery in the arts and sciences was evident, and the resources and facilities that it would afford in their study were incalculable, so much so, that a bill for rewarding its authors, MM. Daguerre and Niepçe, was proposed by Louis Philippe, and adopted by a special commission charged with its examination, on condition that the secret was published for the benefit of the *whole world*. But, strange as it may appear, it is a fact recorded by Daguerre himself, that whilst M. Duchâtel, the Minister of the Interior, was urging upon the Chamber of Deputies as reasons why this extraordinary and liberal measure should be adopted by them, that "unfortunately for the authors of this beautiful discovery, it was impossible for them to bring their labour into the market, and thus indemnify themselves for the sacrifices incurred, *as the invention did not admit of being secured by patent.*"

At this very time, Niepce, after obtaining Daguerre's sanction, which was done only with very considerable delay, was actually contradicting this statement of the Minister by commissioning an agent in London to take out a patent for this country. The consequences of which have probably not been very satisfactory, as it necessarily put at once a check to anything like speculation here; but not so in other countries. To America is due the honour of having first successfully applied the discovery to the taking of portraits from the life. The apparatus by which this is effected has been patented in this country by Mr. Beard, a gentleman who has spared no expense in bringing it to perfection; but the invention being a communication from a foreigner residing abroad, viz. Mr. Wolcott, of New York, and consisting in very important improvements in Daguerre's process, it is proposed to substitute a name better suited to the principles of English nomenclature, than that of Daguerreotype, which, although a favourite word on the Continent, is by no means suited to our views, and has no reference whatever to the principles of the subject; the patentees have therefore adopted the term *Photography*, which signifies that the pictures are produced by the action of light.

The various means that have hitherto been adopted, and the more recent improvements enumerated, were the principal points entered on by the lecturer in treating the subject, the details of which were the following:—

Images of objects may be obtained in two ways: by refraction through a lens, and by reflection from a mirror. Mr. Goddard then proceeded to describe the camera as originally constructed by Daguerre, and also the minutiae requisite to be attended to, in preparing the plates, on which the image is to be reflected. The plates used are made of copper, silvered on one side only, the purer the silver the better—as the effect depends to a very great extent on the perfection of the polish and the uniformity of their surfaces. To prepare the plates for the camera (after the polishing has been effected) they are gently washed over with dilute nitric acid, the proportion as suggested by Daguerre answering the purpose, viz. one part of acid to 16 parts of water; this solution is gently and uniformly applied to the polished surface by means of a piece of cotton moistened with it;—the plate is afterwards wiped quite dry by using several pieces of dry cotton; finely divided pounce (sifted from a linen hag) is distributed over the surface, and rubbed also with cotton: this process Daguerre recommends to be performed three or four times. This completed, the plate is exposed to the vapour of iodine, in a box for the purpose; in a short time the surface becomes coated with a pale yellow or golden tinge, and is then fit for the camera. The operator then removes it in the dark, and introduces it by means of an apparatus into the place previously occupied by a plate of ground glass, on which the reflection had been properly adjusted according to focus. After it has remained in the camera for a given time, depending on the power of the light, it is removed and exposed to the vapour of mercury (heated to about 690 degrees Fahr.) in the mercurial box. From this it is placed in a trough, and the surface covered or washed with a hot and weak solution of the hyposulphite of soda, which permanently fixes the object. All that which we have just described must be performed in the dark, and constitutes the process originally made use of by Daguerre and Niepce. It is not altogether applicable for taking portraits from the life.

It is to Mr. Wolcott, an optician of New York, that the world is indebted for the working out of the idea of taking portraits from the life; who, having speculums on hand, was led to experiment with them on a plaster bust, and he succeeded beyond all expectation on the first trial, the plate having been exposed in the instrument only five minutes; the diameter of the speculum first used was about seven inches.

To procure the silver plates then became a matter of some little difficulty, after all those of French manufacture had been used. Mr. Johnson adopted a method by which he obtained good surfaces; and this he accomplished by plating, to some thickness, silver on copper, and polishing the surfaces of two pieces as high as it was possible. He then applied the two polished silver surfaces together, and had them passed between the rollers of the rolling mill; after the pieces had been reduced to the proper degree of thickness, the surfaces of both the plates were found to possess a polish far superior to that obtained in the usual way. Mr. Goddard considers that the plates manufactured at Birmingham, under the superintendance of Mr. Johnson, are equal to those procured from Paris.

The process now adopted to finish plates so prepared, is to use, instead of pounce, finely divided tripoli, after the dilute nitric acid; this ought to be done just before it is used, otherwise, if prepared long before, the air appears to have some peculiar effect on the surface, the rationale of which is not altogether understood. Finely divided *rouge* and *charcoal* applied on *black velvet* are the materials used to finish up the polish, which gives it a dark hue; so much of the effect of the picture depending on the depth of shade produced.

A bust was then taken by the oxy-hydrogen light in the space of three minutes. The time formerly required by the old process was about five or six minutes in the middle of the day; but with the more recent improvement of Mr. Goddard (we believe the iodide of bromine) he is enabled to take likenesses in the space of from two or three seconds, to one and a half, or two minutes.

So many effects are produced of a varied character, by the mode thus adopted in preparing the plates, and almost every result may be obtained that the artist may desire, some of them resembling even the style of Rembrandt, &c. &c.

As it is necessary that the individual to be taken should sit in as strong a light as possible, it has been found expedient to glaze the sky-light in front of which he sits, with deep blue glass; by this arrangement the light is moderated to a considerable degree, enabling those of weak sight to bear it without inconvenience; and the blue glass also performs a part of some importance in the process, by transmitting the chemical rays, and obstructing to a certain extent the luminous rays.

In conclusion he considered that the invention as now practised would prove serviceable to artists, and especially miniature painters, as it would enable them to flatter their patrons, at the same time retaining the character so as to give a correct likeness.

* As given in the *Inventors' Advocate*, No. 88. In this excellent periodical will be found reports of the meetings of all the Metropolitan scientific bodies. It is one of the most ably conducted weekly scientific journals of the day.

[End of text.]

EDITOR'S NOTES:

Goddard's 26 March 1841 lecture at the Royal Institution occurred three day after the 23 March 1841 opening of Richard Beard's studio on the top floor of the Royal Polytechnic Institute, 309 Regent Street. Goddard, along with the American partners, Alexander Wolcott and John Johnson, were instrumental in the working through the technical difficulties attendant in the endeavor.

Also worthy of note is Goddard's preference for the term "photography" rather than the term, "daguerreotype." This reflects in part the general resentment toward the daguerreotype patent restrictions in England.

EWER ARCHIVE N8550001

URL: http://www.daguerreotypearchive.org/texts/P8410001_GODDARD_CHEMIST_1841-05.pdf

Document author: Gary W. Ewer

Creation date: 2008-09-22 / Last revision: 2009-06-09

Citation information: *Chemist; or, Reporter of Chemical Discoveries and Improvements* (London) 2:17 (May 1841): 142–43.

Prepared from: imaged original text provided by Google Book Search.

(<http://books.google.com/books?id=FAk4AAAAMAAJ>)

Original spelling/punctuation/grammar generally maintained without correction. Any in-text corrections are bracketed.

The *source text* is Public Domain and may be freely quoted. As noted below, this document is copyright.

If citing directly from this document, please reference the Ewer Archive number and provide the following citation credit:

Gary W. Ewer, ed., *The Daguerreotype: an Archive of Source Texts, Graphics, and Ephemera*, <http://www.daguerreotypearchive.org>

THE NECESSARY DISCLAIMERS:

The document creator has made every effort to insure the accuracy of the transcription. However, the information provided in this document is provided without warranty, either express or implied. The document creator will not be liable for any damages caused or alleged to be caused directly, indirectly, incidentally, or consequentially by the information provided by this text.

The document creator assumes no responsibility for accuracy of fact; the text is prepared "as found." Factual inaccuracies of the original text are generally **not** noted by the document creator. If this text is used in academic papers, accuracy should be confirmed by consulting original sources.

The document creator also assumes no responsibility regarding the correctness, suitability, or safety of any chemical or photographic processes that may be described by this text. Many of the chemicals used in early photographic processes are extremely toxic and should not be handled without a *thorough* knowledge of safe use.

The opinions expressed in this text are solely those of the original author and are not necessarily those of the Archive editor. Some texts may contain derogatory words. Any such word is certainly one that would not be used today. The words remain in the transcription, however, to maintain truthfulness to the original text.

© 2008, Gary W. Ewer. <http://www.daguerreotypearchive.org>
