Galignani's Messenger (Paris), "The Daguerreotype," 20 August 1839
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THE DAGUERREOTYPE.

It having been announced that the process employed by M. Daguerre, for fixing images of objects by the Camera Obscura, would be revealed on yesterday at the sitting of the Academy of Sciences, every part of the space reserved for visitors was filled as early as one o'clock, although it was known that the description of the process would not take place until three. Upwards of two hundred persons who could not obtain admittance remained in the court yard of the Palace of the institute. The following is an analysis of the description given on this occasion by M. Arago:—

The influence of light upon colors was known long ago; it had been observed that substances exposed to its action were affected by it, but beyond this fact nothing was known until 1566, when a peculiar ore of silver was discovered, to which was given the name of *argent corné*, and which had the property of becoming black when exposed to the light. Photographic science remained at this point, until it was discovered that this *argent corné* (chloruret of silver) did not become black under all the rays of light. It was remarked that the red ray scarcely effected any change, whilst the violet ray was that which produced the greatest influence. M. J. Baptiste Porta then invented the Camera Obscura, and numerous efforts were made to fix the pretty miniature objects which were seen upon the table of it, and the transitory appearance of which was a subject of general regret. All these efforts were fruitless up to the time of the invention of M. Niepce, which preceded that of M. Daguerre, and led to the extraordinary result that the latter gentleman has obtained. M. Niepce, after a host of attempts, employed sheets of silver which he covered with bitumen (*bitume de Judée*), dissolved in oil of lavender, the whole being covered with a varnish. On heating these sheets the oil disappeared, and there remained a whiteish powder adhering to the sheet. This sheet thus prepared was placed in the Camera Obscura; but when withdrawn the objects were hardly visible upon it. M. Niepce then resorted to new means for rendering the objects more distinct. For this purpose he put his sheets when removed from the Camera Obscura into a mixture of oil of lavender, and oil of petroleum. How M. Niepce arrived at this discovery was not explained to us; it is sufficient to state that, after this operation, the objects became as visible as those of ordinary engravings, and it only remained to wash the sheet with distilled water to make the drawings permanent. But as the *bitume de Judée* is rather ash-colored than white, M. Niepce had to discover the means of increasing the shadows by more deeply blackening the lines (*hachures*). For this purpose he employed a new mixture of sulphuret of

potassium and iodine. But he (M. Niepce) did not succeed as expected to do, for the iodine spread itself over the whole surface, and rendered the objects more confused. The great inconvenience, however, of the process, was the little sensitiveness of the coating (*enduit*), for it sometimes required three days for the light to produce sufficient effect. It will easily be conceived, therefore, that this means was not applicable to the Camera Obscura, upon which it is essential that the object should be *instantaneously* fixed, since the relative positions of the sun and the earth being changed, the objects formed by it were destroyed. M. Niepce was therefore without hope of doing more than multiplying engravings, in which the objects being stationary are not affected by the different relative positions of the sun. M. Daguerre was devoting himself to the same pursuit as M. Niepce when he associated himself with that gentleman and brought to the discovery an important improvement. The coating employed by M. Niepce had been laid on by means of a tampon or dabber similar to the process used in printing, and consequently the coating was neither of a regular thickness nor perfectly white. M. Daguerre conceived the idea of using the residuum which is obtained from lavender by distilling it; and, to render it liquid and applicable with more regularity, he dissolved it in ether. Thus a more uniform and whiter covering was obtained, but the object, notwithstanding, was not visible at once—it was necessary to place it over a vase obtaining some kind of essential oil, and then the objects stood forth. This was not all that M. Daguerre aimed at. The tints were not deep enough, and this composition was not more sensitive than that of M. Niepce. Three days were still necessary to obtain designs. We now come to the great discovery in the process, for which M. Daguerre has received a national reward. It is to the following effect:—A copper sheet, plated with silver, well cleaned with diluted nitric acid, is exposed to the vapour of iodine, which forms the first coating, which is very thin, as it does not exceed the millionth part of a metre in thickness. There are certain indispensable precautions necessary to render this coating uniform, the chief of which is the using of a rim of metal round the sheet. The sheet, thus prepared, is placed in the Camera Obscura, where it is allowed to remain from eight to ten minutes. It is then taken out, but the most experienced eye can detect no trace of the drawing. The sheet is now exposed to the vapour of mercury, and when it has been heated to a temperature of 60 degrees of Reaumur, or 167 Fahrenheit, the drawings come forth as if by enchantment. One singular and hitherto inexplicable fact in this process is, that the sheet, when exposed to the action of the vapour, must be inclined, for if it were placed in a direct position over the vapour, the results would be far less satisfactory. The angle used is 45 degrees. The last part of the process is to place the sheet in the hypo-sulphate of soda, and then to wash it in a large quantity of distilled water. The description of the process appeared to excite great interest in the auditory, amongst whom we observed many distinguished persons connected with Science and the Fine Arts.

Unfortunately the locality was not judged suitable for the performance of M. Daguerre's experiments, but we understand that arrangements will be made for a public exhibition of them. Three highly curious drawings obtained in this manner were exhibited: one of the Pont Marie; another of M. Daguerre's atelier; and a third of a room containing some rich carpeting, all the minutest threads of which were represented with the most mathematical accuracy, and with wonderful richness of effect.

[End of text.]

EDITOR'S NOTES:

This account is deficient in detail to easily replicate Daguerre's process. It was reprinted (with minimal variation) in the British press in, "The Daguerreotype," *Globe and Traveller* (London) No. 11528 (23 August 1839): n.p. (third page of issue). Subsequently, the *Globe and Traveller* account was widely reprinted in the U.S. press including: *New-York Evening Post for the Country* (New York) 38:3941 (23 September 1839)[1]; *Nile's National Register* (Baltimore) 57:5 [or 57:1,461] (28 September 1839): 73; *Extra Globe* (Washington, D. C.) 5:22 (2 October 1839): 344-45; *Hesperian* (Cincinnati) 3:5 (October 1839): 415-16; *United States Magazine and Democratic Review* (New York) 6:23 (November 1839): 444-45.

The historian R. Derek Wood provides further information:

> This publication was an English language newspaper produced in Paris, thus the account of Arago's lecture is in English, not French. It is the same as the one in French in *Le Constitutionnel* of the same day, but with the addition of a final paragraph of comment and two very short sentences. Thus it cannot to assumed that the English version was translated from the French. As well as the extra paragraph at the end, a few specific words about the technique were added at two points in the text with regard to need for a rim around the plate and 'The angle used is 45 degrees' that do not appear in the French version. Yet it is not inconceivable that it could have been truly translated from *Le Constitutionnel*, because *Galignani's Messenger* was an afternoon paper and it would have been possible for a translator to add extra text from other reports published that morning.[2]

Another account of Aragro's lecture also appearing at this time is "Principle of the Daguerreotype," *Athenaeum: Journal of English and Foreign Literature, Science, and the Fine Arts* (London) No. 617 (Saturday, 24 August 1839): 636–37.[2] This latter account, also reprinted in U.S. press, includes reasonably sufficient details for successful replication. The *Athenaeum* text was reprinted in *New-Yorker* 8:2 (28 September 1839): 19–20.

1. http://www.daguerreotypearchive.org/texts/N8390013_GLOBE-ACCT_NY-EVEN-POST_1839-09-23.pdf Wood references the "afternoon edition." The present editor cites the "morning edition." A comparison shows the two texts are identical.
2. R. Derek Wood, "A State Pension for L. J. M. Daguerre for the Secret of his Daguerreotype Technique," *Annals of Science* 54:5 (September 1997): 489 - 506. The text is also available on Wood's website, *Midley Essays on the History of Early Photography:* http://www.webarchive.org.uk/wayback/archive/20100311230213/http://www.midley.co.uk/
3. http://www.daguerreotypearchive.org/texts/P8390007_DISCLOSURE_ATHENAEUM_1839-08-24.pdf

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