

**“Self Operating Processes of Fine Art: The Daguerotype,” March 1839**

(keywords: Louis Jacques Mandé Daguerre, François Arago, Charles Bouton, Paris diorama, 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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From the Spectator.

SELF-OPERATING PROCESSES OF FINE ART.

*The Daguerotype.*

An invention has recently been made public in Paris that seems more like some marvel of a fairy tale or delusion of necromancy than a practical reality: it amounts to nothing less than making light produce permanent pictures, and engrave them at the same time, in the course of a few minutes. The thing seems incredible, and, but for indisputable evidence, we should not at first hearing believe it; it is, however, a fact: the process and its results have been witnessed by M. Arago, who reported upon its merits to the Académie des Sciences. To think of Nature herself reflecting her own face, though but as “in a glass, darkly,” and engraving it too, that we may have copies of it! This looks like superseding Art altogether; for what painter can hope to contend with Nature in accuracy or rapidity of production? But Nature is only become the handmaid to Art, not her mistress. Painters need not despair; their labours will be as much in request as ever, but in a higher field: the finer qualities of taste and invention will be called into action more powerfully; and the mechanical process will be only abridged and rendered more perfect. What chemistry is to manufactures and the useful arts, this discovery will be to the fine art; improving and facilitating the production, and lessening the labour of the producer; not superseding his skill, but assisting and stimulating it. The following particulars of this beautiful and extraordinary invention are gleaned principally from fragments of the report of M. Arago, quoted in the communications of the foreign correspondents of the *Athenaeum* and the *Literary Gazette*, and partly from private information.

The apparatus consists of a camera obscura with the superaddition of an engraving power: in lieu of the white disc on which the moving picture of external objects is reflected by the rays of light, a metal plate is substituted, covered with a particular coating, on which the light forms the image by its action thereon. M. Daguerre, the inventor, “has found a substance,” says M. Arago, “more sensible to light than the chlorure of silver, which is altered in an inverse manner—that is to say, it leaves on the several parts of the plate, corresponding to the several parts of the object, dark tints for the shadowy, half-tints for the light parts, and no tint whatever for the tints that are luminous.” When this action of the light on the different parts of the plate has produced the desired effect, it is arrested at once by a particular process, and the plate may be exposed to the full light of day without undergoing any change. The appearance of the

monochrome picture has been compared to mezzotint engravings, deep-toned aquatint, or the etchings of Rembrandt. The length of time required for the process varies with state of the atmosphere and the quality of the light; moonlight is slower in its operation than sunlight; and on a dark day the engraving—or, to speak more correctly, the etching—requires a longer time; but twenty minutes seems to be the maximum under unfavourable circumstances: in ordinary weather eight or ten minutes is the average, “but under a pure sky like that of Egypt,” says M. Arago, “perhaps *one minute* might suffice to execute the most complex design.”

As it is the continued stream of light that acts upon the metal, fixed objects only can be delineated: “the foliage of trees,” again to quote M. Arago, “from its always being more or less agitated by the air, is often but imperfectly represented. In one of the views, a horse is faithfully portrayed, except the head, which the animal had never ceased moving: in another, a *decrotteur* (shoe-black), all but the arms which were never still.” The slight or occasional motion of objects does not, however, invalidate the process; for, says the *Athenaeum* correspondent, “in one view of the Boulevard du Temple, taken from M. Daguerre’s own residence, a coach and horses are introduced with the most literal and lineal exactness.” But it is obvious that the views produced by these means will only be pictures of still-life, inanimate objects, buildings, mountains, rocks, and tracts of country, under settled aspects of the atmosphere, whether it be the bright glare of noon, the even-down pour of rain, or the cold moonlight, will be pictured with an accuracy of form and perspective, a minuteness of detail, and a force and breadth of light and shade, that artists may imitate but cannot equal. The precision and exactness of the effect of the pictures may be judged of from these facts: the same bas-relief in plaster and in marble are differently represented, so that you can perceive which is the image of the plaster and which of the marble; you may almost tell the time of the day in the out-door scenes. Three views of the Luxor Obelisk were taken, one in the morning, one at noon, and the other in the evening, and the effect of the morning light is distinctly discernible from that of the evening, though the sun’s altitude, and consequently the length of the shadows, are the same in both. But what the lifeless, monotonous, and cold reflections of the camera, when applied to motionless objects are to the living reality, with all its magic harmonies of colour, will be the monochromes produced by the graphic camera to the glowing pictures which by the combined operation of skill and genius, arrest and fix on the canvas the evanescent beauties and ever-varying forms of animated nature as seen through the medium of the painter’s imagination. We have not seen one impression of these light-created monochromes, but we venture to predict that they will present an appearance of shadowy insubstantiality combined with the rigidity and fixedness of a model, which will, after the first blush of novelty, fall upon the eye, and render them only valuable as models for the painter’s use: as it is, they require his touch to vivify, and, in some instances, to complete them. The reflection of a head in the camera lucida looks like an exquisite miniature in wax-work; and sketches taken with the camera have a fixedness peculiarly unpleasant; because they are deprived of the ethereal medium of the atmosphere, the want of which is so sensibly felt in the pictures of some clever but mechanical-minded painters. We make these remarks not to disparage the value of a discovery the most remarkable in the history of art, nor, assuredly, to depreciate the ingenuity and perseverance of the inventor; but for the twofold purpose of calming the apprehensions of the more humble class of artists, who may fancy that their occupation’s gone, and of preparing our readers not to expect the beauties of Rembrandt’s chiaroscuro in the engravings produced by the Daguerotype. The process is simple, and readily

available to all persons; and the machine is so compact, that M. Daguerre has stood upon the bridges of Paris using it without attracting much notice from the passengers. Its utility to travellers, in delineating any curious objects of architecture, machinery, costume, and furniture, is at once apparent.

The influence of this invention on painting will be very great, and (we think) beneficial also: the increased exactitude of delineation of living forms and moving objects: pictures will become more true and more animated, for every artist will be eager to escape the reproach of a mere copyist of the Daguerotype. We hail this important discovery, therefore, as one equally valuable to art as the power-loom and steam-engine to manufactures, and the drill and steam-plough to agriculture.

M. Daguerre is well known as the collaborateur of M. Bouton in the production of the beautiful illusory pictures of the Diorama; and it was in the course of his experiments in producing their effects of light and shade, that he made the wonderful discovery he has matured with such complete success. It has occupied his attention during fifteen years, and its progress to perfection has been very gradual; owing principally, we understand, to the difficulty of procuring such an amalgam of metal as would be operated on by the rays to remain for a few seconds, then he was enabled to retain them for half a minute, next for a minute, and so on until a few years ago he fixed them for ten minutes. "The earlier sketches, or reflections rather," says the Athenaeum, "which he made some four years since, have a slight degree of haziness: this defect he has now entirely overcome."

M. Daguerre's pursuit of this discovery has been the talk of the ateliers in Paris for several years; but no artist having seen any results, it was regarded as a delusion, like the search for the philosopher's stone, or perpetual motion; and the indefatigable inventor, who neglected his painting and looked more like a blacksmith than an artist, was compared to the alchemists of old: he may now turn the laugh against the incredulous. It is said that he has offered his invention to the French Government for 300,000 francs; and, pending the result of the negotiation, he does not of course make his secret known. He has, however, an agent in London who is receiving subscriptions for the machine.

Contemporaneous with this chemical process of picturing and engraving, other self-acting machines of mechanical operation have been invented, and by Frenchmen also, that may be opportunely mentioned here. The process of M. Collas for medallion engraving, by which the relief of coins, medals, chasing, and basso-relievo of sculpture, is imitated to illusion by a machine, has already been described, and its productions frequently spoken of in our columns; and the Pentagraph, an instrument in common use for reducing the points of linear forms on a flat surface—such as outlines of drawing, plans, maps, &c. is well known; but we have heard of the invention of a machinery for reproducing on a diminished scale highly-finished line engravings; and of another, in which the reductive power is applied to the curved surfaces of solid forms, and being armed with a sharp tool, cuts out a miniature model in soap or wax of a bust or statue: the machine does not require the guidance of an artist, and it is capable of adjustment to any given scale. The little plaster models of the statue of Joan of Arc, in the shop-windows, are reduced by this machine (we are told) from the life-sized marble in the Gallery at Versailles, that was sculptured by the fair hands of the late Dutchess of Wurtemberg. The premature death of this amiable and accomplished princess gives a melancholy interest to the most beautiful work of art; of which we will only say, that it struck us more than any other statue in the gallery, though at the time we were not aware of its being the work of a daughter of Louis Philippe. A miniature bust of Rossini, that has been sent to us by the

publishers, Messrs. Goulding and D’Almaine, may probably be reduced by the same machine from a life-sized original.

Another invention, more simple and beautiful and striking in its effects, has been produced by the same ingenious person: it is a mechanical contrivance for taking casts of the human form, the face, body, or limbs; with the minutest delicacy. By the common mode of taking a cast, the weight and constriction of the wet plaster not only renders the process disagreeable, but imperfect, especially in representing the features; for the muscles of the face become rigid and the physiognomical expression of a plaster mask is sullen and painful in consequence. These defects are entirely obviated by the new machine; which consists of a vertical disc whose surface is composed of an almost innumerable quantity of very fine steel wires or needles, as close together as the hairs of a brush, moving in tow plates perforated with corresponding number of holes, with so much ease that the points yield to the slightest pressure; into this surface the face is gently pushed, and by a most simple and ingenious contrivance the whole of the needles are in an instant fixed securely, their surface presenting a concave mould of the face; plaster is then poured in—the wires being so close that the liquid cannot escape between them; and when set and hard, a working mould is taken from it, in which other casts are made. So instantaneous is the operation, and so delicate the construction of the mechanism, that the face of a crying child is taken will all its muscular contortions; and were any person to keep open his eyes, the eyeball would not be injured, and stiff beard of two days’ growth would be marked in the cast.

The ingenious inventor, we have heard, is at present in this country, and in the want of the means to enable him to bring forward his invention: we shall be glad if this notice have the effect of calling the attention of some enterprising person disposed to embark a few hundreds in the speculation. We have not seen either of the machines; but our information is derived from a trustworthy source.

**[End of text. All text under the article header is included in this transcription.  
Variant spelling of “Daguerotype” (daguerreotype) is per original text.]**

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**EDITOR’S NOTES:**

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