

ANNOUNCEMENT OF DAGUERRE'S DISCOVERY.

A Paris correspondent to the Athenæum of 1839, writes in a letter dated Paris, Aug. 21st, 1839, giving a full account of the proceedings of the *Academie des Sciences*, on the day of the announcement of Daguerre's discovery—writes as follows.

“When M. Arago, in the presence of a crowded audience, which had besieged the door of the Institute three hours before the commencement of the sitting, divulged the secret of M. Daguerre's invention, which has now, as you are aware, become public property. These drawings having been exhibited by way of specimens. M. Arago began by recapitulating the discoveries—or rather hints towards discoveries—of former chemists. He afterwards dwelt upon the progressive experiments of M. Niepce, since carried out by M. Daguerre. M. Arago stated, according to M. Daguerre's process, copper plate with silver is washed with a solution of nitric acid, for the purpose of cleansing its surface, and especially to remove the minute traces of copper, which the layer of silver might contain. This washing must be done with the greatest care, attention, and regularity. M. Daguerre has observed, that better results are obtained from copper plates with silver than from pure silver; whence it may be surmised that electricity may be concerned in the action.

After this preliminary preparation, the metallic plate is exposed in a well-closed box, to the action of vapor of iodine, with certain precautions; a small quantity of iodine is placed in the bottom of the box, with a thin gauze between it and the plate, as it were to sift the vapor and diffuse it equally. It is also necessary to surround the plate with a small metallic frame, to prevent the vapor of iodine from condensing in larger quantities round the margin than in the centre; the whole success of the operation depending on the perfect uniformity of the larger ioduret of silver thus formed.

The exact time to withdraw the sheet plated copper from the vapor, is indicated by the plate assuming a yellow color.

M. Dumas, who has endeavored to ascertain the thickness of this deposit, states that it cannot be more than the millimetre part of a *millimetre*.

The plate thus prepared, is placed in a dark chamber of the camera obscura, preserved with great care from the faint action of light. It is, in fact, so sensitive that exposure for a tenth of a second is more than sufficient to make an impression in it. At the bottom of the dark chamber which M. Daguerre has reduced to small dimensions, is a plate of ground glass which advances or recedes until the image of the object to be represented is perfectly clear and distinct. When this is gained the prepared plate is substituted for the ground glass, and receives the impression of the object. The effect is produced in a very short time. When the metallic plate is withdrawn, the impression is hardly to be seen, the action of a second vapor is required to bring it out distinctly; the vapor employed for this purpose is mercury. It is remarkable that the metallic plate, to be properly acted upon by the mercurial vapor, must be placed at a certain angle. To the end it is enclosed in a third box, at the bottom of which is filled with mercury, so that it may be viewed in a vertical, as is usually the case with engravings, it must receive the mercury at an angle of about 45°. If, on the contrary, it is to be viewed at this angle, the plate must be arranged in the box in a horizontal position. The volatilization of the mercury must be assisted by a temperature of 60° (of Reaumur).

After these operations for the completion of the process, the plate must be plunged into a solution of hyposulphate of soda. This solution acts most strongly upon the parts which are uninfluenced by light, the reverse of the mercurial vapor, which attacks exclusively that portion which has been acted upon by the rays of light. For