

cause the image to appear, as soon as the plate has been exposed to the mercurial vapors. To obtain that result, it is, however, necessary that the plate should have remained exposed during a sufficient time to the light.

"The curious experiments made by Mr. Edmond Becquerel, have shown that an extremely short time was sufficient to give to the iodized pellicle, a rather strong impression, which was not rendered immediately visible, it is true, by the vapor of mercury; but that, if the plate were afterwards placed, during a certain time, in the sun, under a red glass, the thin film of iodine would continue to be impressioned, and the image would, after this new action, become visible by means of the mercurial vapor. Thence the distinction established by Mr. Becquerel, of *exciting rays*, and *continuating rays*.

"Mr. Moser has set forth the principal results obtained by Mr. Becquerel, and has observed new facts.

"He has found that it is necessary that the iodized plate should remain exposed, during a particular time, under the influence of the first rays in the camera, in order that the image might be afterwards developed under the red glass; but that, if the action under the latter were prolonged for a considerable time, a *negative image* would appear as the result—(without the use of mercury.)

"Mr. Gaudin had already found, that the yellow glasses are, in this case, much more active than the red ones, and Mr. Moser has observed the following curious fact:—An iodized plate, which had remained in the camera, nearly the proper time for giving the ordinary *positive image*, by the action of the mercurial vapor, was placed under a yellow glass; it then showed no image; but, as soon as it was exposed to the sun's rays, under the yellow glass, a *negative image* was very rapidly formed; it then disappeared at the end of a few seconds, and, after the lapse of ten or fifteen

minutes, a *positive image* appeared in place of the *negative one*.

"Mr. Moser has never been able to obtain a positive image when using the yellow glasses, whatever might be the time of exposure; but he has found that this transformation was very well performed under the green glass.

"Mr. Moser has been led to, distinguish in the following manner, the action of the various rays of the spectrum on the unimpressioned iodized coating, the violet and blue rays are the only active ones; they produce a commencement of alteration, which is not visible though it does exist; which becomes apparent by the action of the mercurial vapor, when this alteration has arrived at a certain point. But we may distinguish two periods in this progressive alteration of the iodized coating; at the end of the first period, it is modified to such a degree that the red and orange colored rays then act as well as the blue and violet ones; but the yellow rays do not as yet act; if you withdraw the plate too soon from the camera, the yellow rays will be found to have been quite inactive. At the end of the second period, the green and yellow rays act in their turn; the plate is then very near the point at which the image becomes visible under the influence of the mercurial vapors.

"An iodized plate was placed in the camera and left during the space of an hour, directed towards some objects illuminated by the sun's rays, so as to obtain a very distinct *negative image*; this image was then placed in the sunshine; at the end of a few minutes, the negative image had disappeared, and instead of it was seen a *positive image*, quite as distinct, in which the white parts had a greenish tint, and shaded a dark brown red color. Mr. Moser ascribes this last effect to the yellow and green rays.

"These experiments of Mr. Moser show that two images are formed successively and in a direct manner, upon the plate.