

the fixation of mercurial vapor. Therefore, these radiations are endowed with two contrary actions; the one destructive of the effect of the Photogenic light, and the other analogous to the effect of this light.

If the red, orange, and yellow radiations of the prism had not also the power of operating Photogenically, it might be supposed that this action of the colored glasses was due to some of the most refrangible rays transmitted by these colored media. But this cannot be; for if the Photogenic action of the red, orange, and yellow rays were the same as that of the more refrangible rays, it could never develop itself under the destructive action which the same glasses carry with them.

But there is yet more; each ray of the spectrum has its own Photogenic action, and they are in this respect independent of each other, and of a different kind; so that the one cannot continue the effect commenced by the other, whether it be for the production or for the destruction of the Photogenic effect. I would again observe, whenever I speak of a Photogenic effect, I mean that which gives to the Daguerreotype plate the property of attracting the vapors of mercury.

If we expose a plate covered by an engraving to the red light 5000 times longer than is required to produce an effect by white light, we obtain by the fixation of mercury a feeble image, the lights of which are of a gray tone. I could never go beyond this feeble image, which appeared to be the maximum of effect for the red glass. It is impossible to attribute this effect to some feeble quantity of rays, properly called Photogenic, passing through the colored glasses, for we have seen that the blue and violet rays cannot operate under the destructive action of the red rays: this fact proves then evidently, that if the red radiation has a Photogenic effect, it cannot be due to the same principle which produces the Photogenic effect of the rays situated at the other extremity of the spectrum. The

yellow glass has also a peculiar Photogenic action of its own, it is a hundred times slower than that of white light, whilst its destructive action is not more than ten times as slow. We can obtain by the Photogenic action of the yellow glass an image almost identical, as to force and color, with an image produced by daylight; with this difference, that the excess of action does not give the blue solarization which we observe upon plates strongly affected by daylight.

The different nature of the Photogenic action of red, orange, and yellow glasses, from that of the daylight, is also proved by the fact, that the Photogenic action produced by these colored glasses cannot be destroyed by their own reversing action, although the red will destroy the Photogenic action of the yellow, and both of these will destroy the action of daylight.

The double property of producing and destroying a Photogenic effect is manifested upon a specimen which offers on one-half of the plate a negative image, and upon the other half a positive image, produced at the same time by the same radiation. The length of time necessary to operate with the red glass has not allowed me to obtain a good impression, but I have succeeded perfectly with the yellow glass. The experiment is especially beautiful, and has been thus made:

I exposed one-half of the plate to daylight for one second, keeping the other half in the dark. The entire plate was then covered with an engraving, and exposed under a light yellow glass during ten seconds for the part previously affected by white light, and during a hundred seconds for that which had been kept in the dark. The yellow glass destroyed on the first half the effect of the daylight wherever the plate was not protected by the black lines of the engraving, and the parts only which under these lines had been protected from the destructive action, received the mercury, producing a negative image; while the same radiation of the yellow glass had operated