PHOTOGRAPHIC PHENOMENA

REFERRING TO THE VARIOUS ACTIONS OF THE RED AND YELLOW RAYS ON DAGUERREOTYPE PLATES WHEN THEY HAVE BEEN AFFECTED BY DAYLIGHT.

BY A. CLAUDET, ESQ.

To the Editor of the Phil. Mag. and Journal:

GENTLEMEN:—Having made on the 24th of October, 1847, a communication to the *Academie des Sciences* of Paris similar to that I sent on the 10th of June to the Royal Society, on different properties of solar radiation on silver plates coated with iodine, or its compounds with bromine or chlorine, a discussion ensued, in which Messrs. Ed. Becquerel and Gaudine (see *Comptes Rendus*, Oct. 31 and Nov. 2) controverted the accuracy of some of my experiments. I had stated that the red and yellow glasses had the property, as well as the pure red and yellow rays of the spectrum, of destroying the photogenic action produced by daylight on silver plates coated with iodine, or its compounds with bromine and chlorine. Messrs. Ed. Becquerel and Gaudin asserted that the red and yellow glasses had not the property of destroying, but of continuing the action commenced by daylight on the simply iodized plate.

As soon as I was apprised of the remarks made by these gentlemen, I repeated the experiments, and to my great surprise I found that the destructive action of the red and yellow glasses did not appear on this trial to extend to the simply iodized, but only to the bromo-iodized plate. I lost no time in communicating to the *Academie des Sciences* the result of these experiments; and at the meeting of the 22d November my letter stating the apparent contradiction was read.

This led me to continue the experiments, in order to examine the question more attentively, and fortunately enabled me to discover some new properties, so interesting that I made a new memoir on the subject, at the same time trying to explain the anomaly existing between Messrs. Becquerel and Gaudin's experiments and my own. As persons interested in these questions might only read my paper to the Royal Society, which you have inserted in full in the last number of the Philosophical Magazine, I consider it my duty to publish immediately what has passed before the *Academie des Sciences* in reference to my communication; and I shall be much obliged if you will allow me a place in your pages for the insertion of the following translation of my new memoir to the *Academie des Sciences*, which has been read at the meeting of the 20th December, (see Comptes Rendus.) I have the honor to be, gentlemen,

Your most obedient servant,

A. CLAUDET.

I have again examined my former experiments, and I find some specimens which show the red and yellow glasses have destroyed the effect of the photogenic light on plates simply iodized. How can this fact be reconciled with Messrs. Ed. Becquerel and Gaudin's experiments, and those I had just made in consequence of these philosopher's observations? Had I made any mistake in the classification of my former specimens, or had I erred in my mode of operating? This might be, and I feared such was the case, as I just obtained quite different results. I then questioned my assistant, and he recollected well that we had repeatedly experimented upon plates simply iodized, and that we had then found that red and yellow glasses did destroy the action of daylight, as well on iodized plates as on those which had been submitted to the compound vapors of iodine and bromine.

I then recollected a curious fact mentioned by Dr. Draper, of New York, (see Phil. Mag., Feb. 1847, pp. 89 and 90,*) which at the time of its publication I had found so inexplicable that I did not pay much atten-

* See pp. 161, 162 of this Journal. ED.