points of the axis of the foci, according to the mean refrangibility of the rays, composing white lights at the moment. But a new experiment proved to me that these could not be the real causes of the variation. I generally employ two object glasses, one of shorter focus for smaller pictures, and the other of larger for larger images. In both the photogenic focus is larger than the visual focus, but when they are much separated in one they are less in the other. Sometimes when they coincide in one they are very far apart in the other, and sometimes they both coincide. This I have tried every day during the last twelve months, and I have always found the same variations. This density of the atmosphere or the color of light, seems to have nothing to do with the phenomenon, otherwise the same cause would produce the same effect in both lenses. I must observe that my daily experiments on my two object glasses were made at the same moment, and at the same distance for each, otherwise any alteration in the focal distance would disperse more or less the photogenic rays, which is the case as I have ascertained it. The lengthening or shortening the focus according to the distance of the object to be represented has for effect to modify the achromatism of the lenses.

An optician, according to M. Lerebour's calculations, can, at will, in the combination of the two glasses composing an achromatic lens, adapt such curvatures or angles in both, by which the visual focus will coincide with the photogenic focus; but he can obtain this result only for one length of focus. The moment the distance is altered the two foci separate, because the visual and photogenic rays must be refracted at different angles in coming out of the lens, in order to meet at the focus given for one distance of the object. If the distance is altered the focus becomes longer or shorter, and as the angle at which different rays are refracted remains nearly the same, they cannot meet at the new focus, and they form two images. If the visual and photogenic rays were refracted parallel to each other in coming out of the lens, they would always coincide for every focus. But this is not the case; it seems therefore impossible that lenses may be constructed in which the two foci will agree for all the various distances, until we have discovered two kinds of glasses in which the densities will be in the same ratio as their dispersive power.

There is no question so important in photography as that which refers to finding the true photogenic focus of every lens for various distances. I have described the plan I have adopted for that purpose. By means of that very simple instrument, every photographer can always obtain well defined pictures with any object glasses. But there is another method of ascertaining the difference between the two foci, which has been lately contrived by Mr. G. Knight, of Foster Lane, London. As that gentleman has been kind enough to communicate to me the very ingenious and simple apparatus by which he can find at once the exact difference existing between the visual and photogenic focus, and place the Daguerreotype plate at the point where the photogenic focus exists, I am very glad that he has intrusted me with the charge of bringing his invention before the British Association. For the scientific investigation of the question, Mr. Knight's apparatus will be most invaluable, as it will afford to the optician the means of studying the phenomena with mathematical accuracy.

Mr. Knight's apparatus consists in a frame having two grooves: one vertical, in which he places the ground glass, and the other forming an angle with the first. The planes of the two grooves intersect each other in the middle; after having set the focus upon the ground glass, this last is removed and the plate is placed in the inclined groove. Now, if a newspaper, or any other large sheet printed, is put before the camera, the image will be represented on the inclined plate, and it is obvious that in its inclina-