tensity, it follows that different parts of the retina have different degrees of sensibility to light. The lines which form the network are probably thicker than the interstices between them, and consequently less susceptible to luminous impressions. In like manner the interstices nearest to the *foramen centrale* are probably thinner than those more remote, and hence it is easy to understand why they exhibit a greater sensibility and a more rapid change of colour. If these views are correct, we not only obtain a general explanation of the phenomena which we have described, but of many others which have hitherto perplexed the optical physiologist, and among these we may enumerate the phenomena of oblique vision, and the superior distinctness of objects when they are seen directly along the axis of the eye.

In a former paper I had occasion to mention a very remarkable fact, which I had long ago discovered, that the intensity of a given light may be increased physiologically by causing it to act upon the retina by successive impulses of a given duration. Those who may repeat the preceding experiments will obtain an ocular demonstration of the truth of this new property of light. The maximum physiological in-

tensity seems to take place when $\frac{T}{n}$ is nearly equal to $D + d$.

Belleville, Feb. 20, 1834.

XLII. *Account of a Rhombohedral Crystallization of Ice.*
By Sir DAVID BREWSTER, L.L.D., F.R.S., V.P.R.S. Ed.

VARIOUS crystallizations of ice have been observed and recorded; but the primitive form of its crystal has not yet been determined. I have long ago shown that ice possesses double refraction; that it has only one axis; and that this axis is perpendicular to the surface of well crystallized plates of ice formed on the surface of still water. Hence it follows that the primitive form of this kind of ice must be either a rhombohedron, a right prism with a square base, or a pyramid with a square base. Crystals of ice of all these forms have been seen, I believe, by different individuals either in hoar frost or in icy caverns; but in no case has the optical structure of these crystals been submitted to examination.

On the forenoon of the 2nd of February, after a night of very slight frost, I observed a circular basin of water, which was protected from the agitation of the air by a stone parapet, covered with a sheet of perfectly transparent ice without a single air bubble. Upon examining it more narrowly I was

delighted to observe the summits of two very flat rhombohedrons, hollow within, and raised above the general level of the ice, as shown at A and B in the annexed sketch, the axis of the rhombohedrons being nearly perpendicular to the surface

Fig. 1.

Fig. 2.

of the plate of ice. When the plate of ice was exposed to polarized light, it exhibited, in a direction perpendicular to its surface, the positive uniaxal system of rings.

It was impossible to obtain even the rudest estimate of the angles of the rhombohedron, owing to the warmth of the day, and the distance which I had to carry the ice.

The crystallization now described exactly resembled specimens which I have seen of the *Chaux carbonatée basée* of Haüy, on the flat surface of which were formed several obtuse summits of the rhombohedron of calcareous spar, having their axes perpendicular to that of the plate.

Belleville, Feb. 19, 1834.

XLIII. *Additional Observations on the Use of Chemical Symbols.* By RICHARD PHILLIPS, F.R.S. L. & Ed., Lecturer on Chemistry in St. Thomas's Hospital.

To Thomas Graham, Esq., M.A., F.R.S. Ed., &c.

Dear Sir,

YOUR letter contained in the Philosophical Magazine for February last does not, I regret to say, contain the information which I asked, nor dissipate the obscurities in which symbols have shrouded your facts. I take the liberty, therefore, of addressing you more particularly on the subject, for I am anxious to comprehend the steps by which you have arrived at the important conclusions contained in your paper on the arseniates and phosphates; and I shall avail myself of the