

At the same time, it is necessary to take a view at the position of the prism, and observe how it directs the eyesight upwards to this shadow; here, we may perceive that the magnifying power of the prism does not fall immediately upon the apex or point of each particle of colour in the shadow, but somewhat on one side, so that it strikes the particle and passes through it diagonally, thereby magnifying both particle and its shadow, both in density and size, at the same time; it thereby finds the three degrees of shadow in the colours of red, orange and yellow.

With respect to the dark umbra shadow, not much need be said; the light from the prism rising upward, merely slides over the surface, and, together with the light of the universe, dips as deep into the shadow as is necessary to form the three dark colours, violet, indigo and blue; and, with respect to the green, it is a mixture or compound of yellow and blue.

Enough has been said to give an idea how colours, that reside in the atmosphere, are brought into visibility by the use of the prism. I have demonstrated, by looking through a window—and it is necessary to understand that if so much is well considered and understood, very little more can be added—that the same theory which applies to appearances produced by a prism upon a window, applies to the numberless appearances that amuse the observer when looking over the horizon by the help of the prism; every cloud, plant, house, building, or animal, produces its shadows, and the prism and the eye observe them in the same manner as they made observation upon the window.

The rainbow that has amused the multitudes by its splendid appearance, and aroused the curiosity of thousands

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