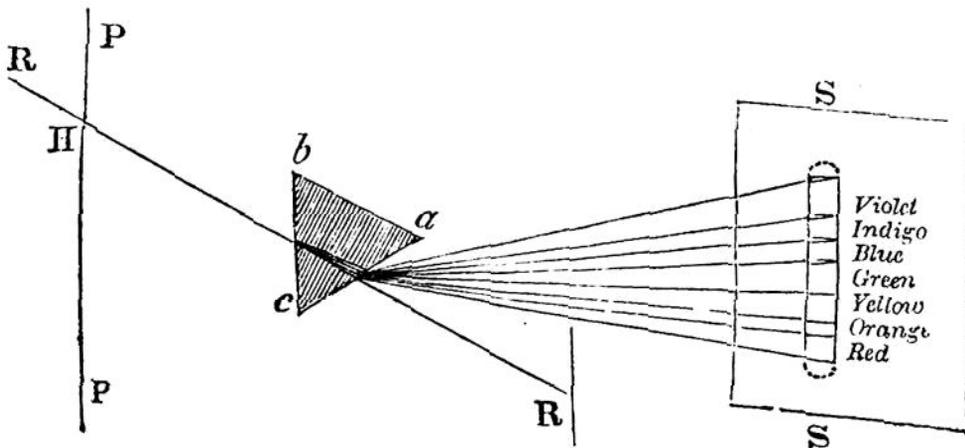


## DECOMPOSITION OF LIGHT BY REFRACTION.

Sir Isaac Newton discovered the composition of white light, and he employed the process of refraction. If a ray of solar light be admitted into a dark room, through a small hole in the window-shutter, or otherwise, it will pursue a rectilinear course, and a small round white spot will be formed at the opposite side of the room. But if a glass prism be placed between the shutter or screen and that side of the room on which the white spot is formed, in such a manner that the ray of light must pass through it, entering at one surface and emerging at the same angle from the second surface, then, judging from the laws of refraction, we might suppose that it would be bent out of its course, and that the little white spot would be shifted to another place; in fact, that an effect would be produced upon the light similar to that which is occasioned by its passage through air, water, and other transparent substances. But this is not the effect produced; for instead of a small white spot, an oblong image, called the solar spectrum, is formed, consisting of seven colours, in the following order: red, orange, yellow, green, blue indigo, and violet. These colours may be produced with great brilliancy, but they are not equally bright; and it is extremely difficult to determine the limits of the several colours, the gradations are so imperceptible from the shading off of one colour into another.

This will perhaps be better understood by an explanation of the following diagram: a ray of light R R, admitted



through a small aperture H, into a dark room, may be supposed to fall upon a screen, where it will form a white spot of nearly the same size as the aperture through which it is