

removed from the head. The following morning both retinae were removed, and upon the posterior surface of each there was a sharply defined light image about one sq. *m. m.* in size, on a rosy-red ground. The image found in the second eye was the sharper and paler of the two. Both faded rapidly as the red ground became pale on exposure to light. In another experiment conducted in a similar manner, by placing the eye opposite a window the image of the latter was perfectly distinct, and was traversed by beautiful red lines corresponding to the crossbars of the sash. The red colour may be preserved for an indefinite length of time by drying the fresh retina on porcelain in the dark; it has not been discovered in the retina of birds, (pigeon, hen,) or of the snake. According to Kühne the red colouring matter of the retina is destroyed by a temperature of 100° C., alcohol, glacial acetic acid, and caustic soda; it is not altered by a 5 per cent. solution of chloride of sodium, a saturated solution of the same. Liq. Ammonia, glycerine, sulphuric ether, solution of alum, acetate of lead, nor by a 2 per cent. solution of acetic or oxalic acid. Boll suggests that the peculiar colour of the pupil, as seen by ophthalmoscopic illumination is derived from the retina, but there is not as yet sufficient evidence to warrant the acceptance of this view.

In order to ascertain the influence of coloured light upon the retina, frogs were enclosed in glass vessels of different colours and exposed to the light of the sun, and it was found that: (1) red intensified the colour of the retina; (2) yellow light makes it somewhat paler and clearer; (3) green light gives it a purple tinge, but when exposed to an intense green light the retina becomes violet; later on the violet becomes paler and paler, and at last the retina is found to be almost colourless. Blue or violet cause it to assume a muddy violet hue; if their action is prolonged the retina becomes colourless, just as when exposed to white light.

Thus it appears that the influence of light is maximal at the violet end of the spectrum and minimal at the red end, or in other words, that it is in inverse proportion to the length of the luminous undulations. With the process of bleaching a peculiar alteration takes place in the relation of