

G. Q., male, 14 years, of French descent. A tall, overgrown, anæmic boy. Has just won the bronze medal in the public school. He complains that his eyes pain him when he looks at objects. Objects at first appear to be red, but then change to green. This color phenomenon occurs only when he looks closely at objects. If he looks away from and back again at the object, it is then normal in color. The change of color is most marked with black objects.

During the summer if he looked at the sun and then at the grass it was no longer green but red; if he did not look at the sun the grass appeared of its true color.

If he looked at a schoolmate who was some distance away, he appeared red and then green, but only if the light was very bright. A red shadow often came over the blackboard. The color changes were seen by either eye alone or by both together. When the snow is on the ground, although less than in the bright summer light, these color phenomena are present.

Fundus normal, pupils large, but diameter not noted. Although objects appeared colored in this way he was able to recognize their true colors.

Refraction under atropine R. +1.75 Ds. =  $\frac{1}{2}$ . L. +2.25 Ds. =  $\frac{1}{2}$ .

A week later, after accommodation had returned to some extent, but while the pupil was still 8mm. in diameter, he reported that the colored vision had not been observed for some time.

This patient was under observation during the Christmas holidays so that he was having mental rest at least.

Nettleship is one of the few authorities to make any reference to this phenomenon of colored vision. He says: "Overworked, anxious, neurotic children sometimes complain that after reading or sewing 'everything turns red,' or 'red and blue.' I have not heard green or yellow mentioned."

One is rather surprised that such should have been Nettleship's experience, for green is the complementary color of red, and yellow a mixture of red and green, and hence we would expect the patient to see objects red or pink and then green and yellow rather than red and blue.

In no case of colored vision, unless the hæmorrhagic or, perhaps, the epileptic, is there impairment of vision. The actual hue of the objects is recognized through the red shimmer, except in the case of green, which is blotted out or appears grey.

In the production of colored vision a dilated pupil is an important factor, inasmuch as it permits of an unusual amount of light reaching the retina. The light must be not only unusual in amount, but also in intensity.

If a patient whose pupil has been dilated by a mydriatic, looks at a bright light, and then into a dark room, he sees an image of the light surrounded by a border of pink, blue and other colors. In the production of these familiar "after images" we have the same two factors, a dilated pupil and a dazzling light.

Could one add the element of nerve fatigue, be it peripheral or central, one might produce at will colored vision, for in all such cases one may discover the three factors, a dilated pupil, a dazzling by strong light, fatigue or hyperæsthesia of the retina, or fatigue of the central nervous system.

13 Bloor Street West, Toronto.