

A COLOR ILLUSION,

BY

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Some time ago my attention was called by Dr. GEORGE T. STEVENS, of New York City, to a color illusion which, in spite of its suggestiveness, has not, so far as I am aware, been hitherto discussed or even noticed.

In FICK's *Lehrbuch der Augenheilkunde*, p. 50, Leipzig, 1897, there is a colored diagram called an "example of STILLING's charts" for the purpose of testing color blindness. It consists of a pale-green background, in size 36^{mm} by 44^{mm} , which is divided into squares of 1.8^{mm} by lines of white 0.4^{mm} in width; on this background a red letter **E** 21^{mm} by 34^{mm} is constructed out of similar red squares.

It was noticed that, when this figure was observed for a few seconds with a fixed gaze, some or all of the red squares disappeared and were replaced by green squares like those of the background. Practice had the usual result of facilitating the speed and completeness of this illusion; it soon enabled most of those on whom the experiment was tried to get the result in a more or less startling way. I will only add that with me the illusion is invariably connected with a conscious change in fixation of attention, and—if I may be allowed the expression—the internal motor adjustment; and the red squares always turn dark and become a blackish-green for an instant before they disappear and are replaced by the green of the color of the background.

The first suggestion for an explanation of this interesting illusion would connect it with the relations of the retinal images of the two eyes. But such an explanation is at once negatived by the fact that the illusion is obtained equally well, or even better, with one eye. It is thus not an affair peculiar to binocular vision. Neither is it a phenomenon of blurring due to minute rapid movements of the eyes, or to relaxation of the muscle of accommodation. For, although in certain experiments to be described subsequently, the color of the background does frequently seem to throw a film of its own color over the letter, square or strip, which it surrounds, in the original figure as taken from FICK there is no blurring of the red squares, and in all the other experiments the white