

admixture with other colour tones, the colours used were obtained by illuminating pigment papers with light which had undergone a strong selective absorption. This made it impossible to get the complementary relation of these colours in the ordinary way, *i.e.*, by making colour equations as was done in the former experiments.¹ We have to thank Mr. A. H. Abbott, first assistant in the Psychological Laboratory, for the suggestion of the following method which was adopted. The upright blackened board, to which was attached the metal diaphragm, was replaced by another in which an opening of two and a half inches was made, and with which all other space relations were preserved. Now, by looking through the observing tube the transmitted colour can be seen as before. To the back of this upright board was attached a small electric motor to operate a rotation apparatus in front of the board. This latter makes it possible to rotate, as a kind of episcotister, sectors of any colour whose angular value could be varied between the limit of 10 and 360 degrees, the measurement to be obtained from a gradation at the periphery. When rotating we see the mixture of the colour of the rotating sectors and that transmitted through the aperture. Both colours are in the same illumination as in our trials; and if two of our colours were actually complementary we should, by varying the sectors of the rotating part (ground colour) till we reach colourless light as a result, be able to establish a complete colour equation. Unfortunately it was found that there was not a single pair of complementaries among our twelve colours, and since with our method it was not possible to mix more than two colours, we could only make out that the complementary of a certain colour was between two others and nearer to one than the other.

The complementary relation of the different colours as ascertained from the judgments of two observers will be found by examining the accompanying plate (B), which is made according to Table V. The fully drawn lines represent the results of observer K. Where observer A differed noticeably his decisions are indicated by dotted lines.

¹ See University of Toronto Studies, Psych. Ser., Vol. I, p. 241 (No. IV, p. 65.)