most recent special representation of light and colour sensation is provided for by giving the base of the colour cone an inclination towards the axis, so that yellow occupies the highest, blue-violet the lowest position. "The only pair of complementary colours which have their maximum saturation at equal intensities must therefore be at the ends of that diameter of the base which stands at right angles to the axis, and this condition will be satisfied somewhere near red and blue-green."[1]

It has sometimes been maintained that black can be seen better on a white background than white on a black background, and examples of printed letters are cited in proof. This is true only because we have shaped our letters in such a way that they are adapted for the use of black on white; the irradiation being different when white is the surface of the letters rather than the background. Similarly Von Zahn has said that yellow on a blue background and green on red are more easily seen than blue on yellow and red on green, and he attributes this to the qualities of the colours. But if there is such a difference, it must be due to intensity rather than to colour quality. For if we place, for example, a black surface one inch square concentrically upon a white cardboard square of twenty inches to the side, we shall have 399 square inches of white and one square inch of black. Let us assume that the intensity of black to white is as 1 to 50. Then we have the intensity of the whole surface equal to 399 x 50 plus 1: and if the whole surface had been white, we should have had an intensity of 400 x 50. So while the whole intensity would be 20,000, the existence or non-existence of the black square conditions a difference of intensity of $\frac{1}{20000}$ of the total intensity. On the other hand, if the large surface is black, it has a total intensity of 400, and the white square will now cause an increase of $\frac{1}{4}\%$ to the total intensity.

The same is the case with yellow on a blue background, owing to the great difference of intensity of the colours, yellow being like white, and blue like black, if highly saturated pigment colours are used. We may calculate by the above

[1] Kirschmann, *Colour Saturation etc.* American Journal of Psychology, Vol. VII. p. 394.)