## COLOR MEASUREMENT

color value in relation to the same number of units in the other two scales, so that upon combinations of equal units of any two or of the three a color nomenclature is founded which consists of eight fundamental terms by means of which every possible color can be first measured and then described.

The instrument consists essentially of a double, parallel-sided, wooden tube, ending in an eye-piece at one end, and equal apertures for viewing the color to be measured and for the glasses used as measurers at the other end. Provision is made for the equal illumination of the color to be measured and the standard white or reflector from which the light is conveyed to the comparison tube; and also for the easy adjustment of the glasses used in the measurements. The mechanism also avoids the side lights (falling on the eyes) which often render the critical estimation of color under ordinary conditions of observation absolutely impossible. Both fields of view are evenly illuminated with indirect sunlight. When this is effected, either side can be used for the standard white without affecting the measurement.

The colored light from the object to be measured is transmitted through one tube, and the light from a standard white through the other; this standard white light is then intercepted by the graded color glasses until it corresponds in color to the object to be measured, when the numerical color value of the glasses used can be read off. I append a description of the accompanying cuts, from Lovibond's book:

"A longitudinal section of the instrument is shown in Fig. 2, which consists of a rectangular tube about ten inches long, divided



Fig. TL

in the middle by a taper partition, B, terminating in a knife-edge at the eye-piece C, the aperture of which it divides into two equal parts. This cell is represented crosswise in aperture.

"At the other end are two openings, A, A, which admit two equal but separate beams of light to the eye-piece in such a manner that, on looking through it, the eye commands a simultaneous distinct view of both openings. The knife-edge of the partition, being inside the range of vision, does not disturb this distinctness of view.

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