

"terra cotta" of one paint-manufacturer is not necessarily the same color mixture sold by his rivals in the same city. A comparison of the sample color-cards issued by such representative firms as Winsor & Newton in England, the Johns Manufacturing Company in this country, Paillard in France, and Schmincke in Germany, at once shows this. Hardly a color named on the card of one firm is an exact reproduction of a color sample of any other. Thus the French firm's "*Terre de Sienne brûlée*," the German "*Gebrannte Terre di Sienna*," and the English and American "burnt Sienna," all contain varying proportions of red. In the same way Schmincke's "*Elfenbeinschwarz*" is blacker than Paillard's "*noir d'ivoire*," while Winsor & Newton's "ivory black" is pale when compared with either of these.

This is what Ludwig Fischer* says about the chemical constitution of that well known color, "Van Dyck brown:" "This pigment consists for the most part of oxide of iron and aluminum silicate, and is often obtained by burning yellow ochre. *The color shade depends upon the amount of heat applied*, and these variations in tint have gained for it in commerce many names, such as Prussian red, English red, Nuremberg red, Roman ochre, Italian earth, red ochre, and *ocre rouge*. The genuine Van Dyck brown, which the artist whose name it bears loved to use, is said by him to have been prepared from deposits found in the neighborhood of Cassel."

The so-called "Schweinfurth green" has as many different names as variations in its yellow-green color. Fischer (p. 32) says it is known in the German paint-shops under at least twenty-one different designations.

At least two investigators—Captain Abney and Mr. J. W. Lovibond, of Salisbury, England—have suggested a rational color measurement as part of an attempt to resolve all colors, shades and tints into terms of certain primary colors accepted as a standard. In the case of Mr. Lovibond† many years of experiment have resulted in the perfection of an instrument called by him the "tintometer," by means of which any color combination can be read off in terms of *blue*, *yellow*, and *red*. The chief difficulties encountered by one who attempts to establish a standard of color are that of finding a pure white for purposes of comparison, of deciding upon an illumination which shall be fairly constant, and, lastly, of choosing the colors which are to act as standards.

Captain Abney‡ obtains his standard white by isolating a beam

* Die Technik der Arquarell-Malerei, p. 28.

† Measurement of Light and Colour Sensations, p. 132.

‡ See his Colour Vision, and an earlier work on Colour Measurement and Mixture, pp.

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