

veying to us information not only of the forms and situations of objects, but of all that multitude of their physical properties which stand in relation to colour, both those which ordinary experience teaches and which science reveals.

(39.) Lastly, by thus reuniting into one beam rays going to form distant portions of the spectrum, and excluding the rest, we find that it is possible to produce a compound beam which shall excite directly in the eye, or illuminate a screen with any one of the innumerable varieties of tint which we observe in nature; and what is especially remarkable, the same tint, or one undistinguishable from it *to ordinary eyes*, is producible by very different combinations of the prismatic rays; while yet there exist individuals, and these not unfrequent, who are perfectly capable of discriminating (in many cases) between such compound tints, and who even declare them to be widely different. To such cases of what is called, though improperly, "colour-blindness," we shall presently have occasion to recur.

(40.) The consideration of these facts has given rise to a speculation which, if not demonstrable, has at least a high degree of plausibility, and which, at all events, has never yet been *disproved*,—viz., that there is no real connexion between COLOUR and REFRACTIBILITY, but that there exist three inherently distinct *species of light*, each competent *per se* to excite the sensation of one of three PRIMARY COLOURS, by whose mixture all compound tints are produced, white consisting of their totality, and black being the exponent of their entire