

spectrum be made to traverse to and fro on the illuminating screen, the rings will appear to open and close in an exceedingly beautiful manner, undergoing at the same time a corresponding change of colour.

(73.) The composite nature of the rings, as seen in white light, is now abundantly clear. White light is a mixture of all the prismatic rays, and the set of rings seen in such light is of course a *mixture* of the several individual sets (*concentric, but differing by a regular gradation of size*), of all the several coloured elements of which white light consists. Imagine a painter who could “dip in the rainbow” and lay on, one after another, on the same paper and with the same centre, such a series of rings gradually decreasing in diameter, and each set tinted with the pure prismatic hue which corresponds to its size, from the extreme red to the extreme violet, in their proper degrees of intensity;—he would produce just such a series. If the diameters for all colours were alike, the compound rings would evidently be white and infinite in number, separated by black intervals. If they differed only a little—starting from a common origin—the first ring would be nearly white, but exhibiting a bluish border inwards and a reddish outwards, growing more and more “pronounced,” and broken into intermediate tints in those beyond; but if considerable, the rings of different orders for different colours would soon mingle with and confuse each other’s tints, creating the sensation of uniform whiteness: thus accounting for the comparative paucity of the mixed series.