(42.) The three primary colours assumed in the above figure are red, green, and blue, each in its highest degree of purity and *undilution*, for it will be readily apprehended that while the admixture of any one, in however small a proportion, will produce a rich though a mixed tint, that of *both* the others tends to dilution. The only three colours which answer all the experimental conditions, are these three. This may seem contrary to the experience of the artist, who from his habitual practice in mixing the colours he uses (all of them without exception compound tints), would name yellow, in place of green, as the intermediate primary. The reason is obvious. In all the yellows which he uses there is a large admixture of red with green, and in all his blues more or less green. When mixed, then, there is sure to be a preponderance of green, while the red goes to neutralize a portion of the other two, and so to dilute the outstanding green. On the other hand, *the direct mixture of the prismatic yellow and blue, in whatever proportions, can no-how be made to produce green*, as Professor Maxwell's, M. Helmholz's, and my own experiments* have distinctly proved; while that of the prismatic green and red *does* produce yellow. This will be better understood when we come to speak of the *absorption* of coloured light.

(43.) Since at each point of a compound spectrum so constituted, all the three primary elements, in whatever proportion mixed, have one and the same degree of refrangibility, it is evident that the compound tint

* See "Notices of the Royal Society," vol. x. p. 52.