sometimes to yellow or blue, but never to green. Prof. J. D. Forbes, of Edinburgh, made similar experiments in 1849, with the same result. Prof. Helmholtz, of Königsberg, to whom we owe the most complete investigation on visible colour, has given the true explanation of this phenomenon. The result of mixing two coloured powders is not by any means the same as mixing the beams of light which flow from each separately. In the latter case we receive all the light which comes either from the one powder or the other. In the former, much of the light coming from one powder falls on a particle of the other, and we receive only that portion which has escaped absorption by one or other. Thus, the light coming from a mixture of blue and yellow powder, consists partly of light coming directly from blue particles or yellow particles, and partly of light acted on by both blue and yellow particles. This latter light is green, since the blue stops the red, yellow, and orange, and the yellow stops the blue and violet. I have made experiments on the mixture of blue and yellow *light*—by rapid rotation, by combined reflection and transmission, by viewing them out of a focus, in stripes, at a great distance, by throwing the colours of the spectrum on a screen, and by receiving them into the eye directly; and I have arranged a portable apparatus by which any one may see the result of this or any other mixture of the colours of the spectrum. In all these cases blue and yellow do *not* make green. I have also made experiments on the mixture of coloured powders. Those which I used principally were "mineral blue" (from copper) "and chrome yellow." Other blue and yellow pigments gave curious results, but it was more difficult to make the mixtures, and the greens were less uniform in tint. The mixtures of these colours were made by weight, and were painted on discs of paper, which were afterwards treated in the manner described in my paper 'On Colour as perceived by the Eye, in the *Transactions of the Royal Society of Edinburgh*, Vol. xxi., Part 2. The visible effect of the colour is estimated in terms of the standard coloured papers: —vermilion (V,) ultramarine (U,) and emerald green (E.) The accuracy of the results, and their significance, can be best understood by referring to the paper before mentioned. I shall denote mineral blue by B, and chrome yellow by Y; and B_3 Y_5 means a mixture of three parts blue and five parts yellow.

Given Colour.				Standard Colours. V.	U.	E.	Co-efficient.
	B_8	100	=	2	36	7	45
B_7	Y_1	100	=	1	18	17	37
B_6	Y_2	100	=	4	11	34	49
B_5	Y_3	100	=	9	5	40	54
B_4	Y_4	100	=	15	1	40	56
B_3	Y_5	100	=	22	−2	44	64
B_2	Y_6	100	=	35	−10	51	76
B_1	Y_7	100	=	64	−19	64	109
	Y_8	100	=	180	−27	124	277

—The columns V., U., E. give the proportions of the standard colours which are equivalent to 100 of the given colour; and the sum of V., U., E. gives a co-efficient, which gives a general idea of the brightness. It will be seen that the first admixture of yellow *diminishes* the brightness of the blue. The negative values of U. indicate that a mixture of V., U., and E. cannot be made equivalent to the given colour. The experiments from which these results were taken had the negative