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Isolation of the Mammalian Colour Receptors with Micro-Electrodes

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Abstract

IN 1943 I gave a summary¹ in *Nature* of my analysis of the retinal colour receptors isolated with micro-electrodes on the optic nerve reached from the inside of the opened bulbs of various light-adapted animals, anæsthetized or decerebrated. Two types of responses were found to be represented by single fibres: narrow bands of sensitivity located in three preferential regions of the spectrum, 0.600–0.580 μ (red-yellow), 0.500–0.540 μ (green) and 0.460 μ (blue). These were called *modulators*. In addition, there was a broad band, called the *dominator*, with maximum at 0.560 μ , and a distribution of sensitivity corresponding to the human photopic luminosity curve. The dominator was held to mediate the sensation of white. The modulators were located by a 'chance method' of surveying a large number of light-adapted retinae. It seemed desirable to check these results by devising a method for removing this element of chance, and at the same time to find out whether the dominator could be regarded as the sum of a number of modulators. To this end a method of selective adaptation was employed. The new results obtained will now be briefly summarized. They represent my general solution of the problem and have confirmed and extended the earlier results.

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