

advance upon Newton. For the three primary colours of the older opticians he substituted red, green, and violet; and for the remarkable fact that the simple colours of the rainbow can be compounded out of these three, he suggested a physiological reason—viz., that the eye possesses three distinct colour-sensations or three distinct senses in relation to light, dependent upon some peculiarity of nervous structure or function. Young did not elaborate his ideas, but it is clear that in the short passages in his 'Lectures on Natural Philosophy' and earlier papers, there were contained a variety of definite problems and hints which were destined to lead research for a long time after.

The next great step in advance, which has revolutionised and permanently fixed our ideas on the action of the nervous system, was taken about the year 1810 by Charles Bell, who discovered the anatomical difference between the anterior and posterior roots of the nerves of the spine, and also went a long way towards showing their different functions. The point as regards functions was established by means of experiments on living animals by Magendie, and independently by Johannes Müller.¹ Upon the combined labours of these three masters of anatomy and experimental physiology is based the distinction between sensory and motor nerves—namely, that the anterior nerves of the spine are employed to carry the nervous stimulus outward to the different organs (efferent or motor nerves), the posterior and better protected nerves serving to carry

12.
Charles Bell.

¹ On the respective merits of Charles Bell, Magendie, and Johannes Müller, see the writings of Claude Bernard and Du Bois-Reymond, referred to *supra*, p. 384 of this volume.