entered into an analysis of the processes by which vocal sounds and notes are produced, and showed their importance in musical and linguistic theories. Combined with all these deductions and applications, which started from Fourier's mathematical analysis of compound movements, Helmholtz's anatomical dissection of the organ of hearing leads him to the conclusion that there "must exist in the ear different parts which are set in vibration by notes of different pitch, and which have thus a sensation of these notes."[1] And here he takes up a different line of reasoning—that suggested by Johannes Müller's theory of the specific sense energies. In his studies in physiological optics he had already accepted Young's hypothesis that there exist in the eye three distinct kinds of nerve-fibres, to which belong distinct modes of colour-sensation. Something analogous exists in the ear.[2] The differences in notes — namely, pitch and colour [or character]—are reduced to differences of the sensitive nerve-fibres, and for each nerve-fibre there exists only the difference of the intensity of the stimulus."

16. Analogy between sound and colour.

This brings the action of the sensory nerves into line with that of motor nerves: everywhere the nerve itself is

pitch, and, to the present day, the English tongue has no equivalent for the French "timbre" or the German "Klangfarbe." Everett used the word character, and so does Lord Rayleigh. Dr Young, in his "Essay on Music" (1800, 'Miscell. Works,' vol. i. No. 5), speaks of the quality of sound, sometimes called its tone, register, colour, or timbre (p. 118). In the most recent scientific work on sound in the English language (Poynting and Thomson's 'Text-Book of Physics,' Sound, p. 69) we read, "It is convenient to use the term note for an ordinary compound sound to which a definite pitch may be assigned, and the term tone for each simple harmonic constituent which goes to form it." There is an important note on the terminology by Alex. T. Ellis, the learned translator of Helmholtz's 'Sensations of Tone' (1875, p. 36).

[1] 'Tonempfindungen,' p. 215.

[2] Ibid., pp. 220, 221.