

duced as belong to the qualitative—or order—region of one definite sense, and that every stimulus which can at all affect this nerve fibre produces only sensations belonging to this definite order.”¹ This means that, for instance, any effective stimulus of the optic nerve apparatus produces only and always the sensation of light, whereas the same stimulus would in the auditory nerve apparatus, if effective, produce the sensation of sound. “The same vibrations of the ether which the eye perceives as light, the nerves of the skin perceive as heat. The same vibrations of air which the latter perceive as a tremor, the ear perceives as a musical sound.”² The quality of our sensations does not depend on the stimulus but on the nervous apparatus.

Helmholtz has said³ that the law of the specific energies forms the most important advance which the physiology of the senses has made in recent times, and has even compared it with the discovery of the law of gravitation.⁴ As we shall see immediately, he has him-

¹ See Helmholtz, ‘Handbuch der Physiologischen Optik,’ 2te Aufl., 1896, p. 233.

² Helmholtz, ‘Vorträge und Reden,’ vol. ii. p. 224; also ‘Physiologische Optik,’ p. 249: “Müller’s law of the specific energies marks an advance of the greatest importance, for the entire doctrine of the sense-perceptions has since become the scientific foundation of this doctrine, and is, in a certain sense, the empirical exposition of the theoretical discussion of Kant on the nature of the intellectual process of the human mind.” Cf. also p. 584.

³ ‘Vorträge und Reden,’ vol. i. p. 378; vol. ii. p. 181.

⁴ This excessive appreciation of Müller’s theory is, however, very

much limited to Germany, and there also almost entirely to what may be called Müller’s school, in which Helmholtz is the central figure. In England the doctrine was subjected to a full criticism by George Henry Lewes, an important thinker, whose writings contain many original views, which have in some instances since been independently put forward by other authorities. See his ‘Physiology of Common Life’ (1860, chap. 8); ‘Problems of Life and Mind’ (vol. i. p. 135, 1874); ‘Revue Philosophique’ (Paris, 1876, No. 2); ‘The Physical Basis of Mind’ (1877, p. 184). Without knowing of Lewes’s criticisms, Prof. Wundt was led to a criticism of the doctrine from the physiological side in the first