

states, we may class experiments under two great divisions. All investigations into the quantity or intensity of sensations, go to constitute *Psycho-physics*, and all which aim at time determination go to make the science of *Psychometry*. Both of these branches of enquiry, it should be borne in mind, deal with the normal consciousness through simple excitations of the sense organs.

Psycho-physics deals with the measurement of the intensity, as it is popularly called, the quantity or mass, as the psychologist uses the words, of sensation. The conception of intensity needs no further explanation: it is simply the difference between the light of one candle and of two or more, the sound of a bell near and far. It is a property of all sensation. The problem which presents itself is to reach a formula for such intensities in terms of the amount of stimulus required at the end organ to produce a given increase or decrease in conscious intensity. To illustrate, suppose a candle illuminates my page to a certain extent; how many candles would illuminate it enough to enable me to see twice as distinctly, or as distinctly at twice the distance? Is there any general law of the ratio of intensity of external stimulus to intensity of internal sensations, which will hold good for all the senses? Or is there a different law for each of the senses? Or again, is the entire case simply a matter of subjective estimation, varying with the mental and bodily conditions of the individual.

These questions were at one time hotly discussed, but have now been practically answered by the establishment of a single law of relation between stimulus and sensation, which holds good for those of the senses found to be most easily accessible, has been partially proved for other classes of sensations, and is under judgment in default of sufficient experimentation for a remaining group of sense-experiences. Before entering more particularly into details, however, it is well to define and explain several terms of current use among physiological psychologists.

By *excitation* (or stimulus) is meant the external force which excites a sense organ, whether it be of sufficient