

THE RIDDLE OF THE UNIVERSE

given stimulus must be varied to a definite amount before there is any perceptible change in the sensation. For the highest sensations (of sight, hearing, and pressure) the law holds good that their variations are proportionate to the changes in the strength of the stimulus. From this empirical "law of Weber" Fechner inferred, by mathematical operations, his "fundamental law of psycho-physics," according to which the intensity of a sensation increases in arithmetical progression, the strength of the stimulus in geometrical progression. However, Fechner's law and other psycho-physical laws are frequently contested, and their "exactness" is called into question. In any case modern psycho-physics has fallen far short of the great hopes with which it was greeted twenty years ago; the field of its applicability is extremely limited. One important result of its work is that it has proved the application of physical laws in one, if only a small, branch of the life of the "soul"—an application which was long ago postulated on principle by the materialist psychology for the whole province of mental life. In this, as in many other branches of physiology, the "exact" method has proved inadequate and of little service. It is the ideal to aim at everywhere, but it is unattainable in most cases. Much more profitable are the comparative and genetic methods.

The striking resemblance of man's psychic activity to that of the higher animals—especially our nearest relatives among the mammals—is a familiar fact. Most uncivilized races still make no material distinction between the two sets of mental processes, as the well-known animal fables, the old legends, and the idea of the transmigration of souls prove. Even most of the philosophers of classical antiquity shared the