

differs very much in degree structurally, so, consequently, must it differ in degree functionally, for all the varied functions of the various degrees of matter owe their functions to their structure, and alterations of functions must in all cases be preceded by alteration of structure. For example, the structure of the cornea, or glass of the eye, is transparent, and one of its functions is to transmit rays of light; but if this function is lost, if from disease the cornea is rendered opaque, then the function of transmitting light is lost. Motion is the function of muscular fibre, but if the motor nerve that supplies the muscle becomes paralyzed, the muscle, for the time being, loses its function.

Experiments on animals by vivisection, and the experiments that disease and accidents make on man, has proven that the grey or cortical substance of the brain is, more particularly, the structures of which mind is the function, although, in reality, there is no part of the nervous system which is not either directly or indirectly connected with the function of mind. Consequently I have given to the whole nervous system the term *materia cogitans*, or mind matter, or matter of the mind. Now mind may be an entity, or it may be in all matter, only we can't find it; we can only find it as phenomena of nervous matter, and where there is not nervous matter we cannot find mind. Therefore, when you ask me, as a physicist, what is mind, I must answer you a phenomenon of nervous matter. That is the language of physical science, and, unlike metaphysics, is at least comprehensible, or admits of being reasoned upon. The metaphysician may assume something else, but the physicist, as such, cannot admit of assumption; he treats only of the natural order, and only knows physical facts. Now, then, if you enquire of me, what is mind in the abstract? I answer you, I don't know; I only know it as a phenomenon of matter. What is force? A phenomenon of matter. What is sensation? A phenomenon of matter. What is consciousness? A phenomenon of matter. What is moticity? A phenomenon of matter. What is intellect? A phenomenon of matter. What is instinct? A phenomenon of matter. What is automatism? A phenomenon of matter. What is reflex action? A phenomenon of matter. What is con-