

more than a knowledge of motion. For all the forms of energy have now been proved to be but modes of motion; and even matter, if not in its ultimate constitution vortical motion, at all events is known to us only as changes of motion: all that we perceive in what we call matter is change in modes of motion. We do not even know what it is that moves; we only know that when some modes of motion pass into other modes, we perceive what we understand by matter. It would take me too long to justify this general statement so that it should be intelligible to every one; but I am confident that all persons who understand such subjects will, when they think about it, accept this general statement as one which is universally true. And, if so, they will agree with Hobbes that all our knowledge of the external world is a knowledge of motion.

Now, if it would have been thus a joy to Hobbes to have heard to-day how thoroughly he has been justified in his views touching the external world, with no less joy would he have heard that he has been equally justified in his views touching the internal world. For it has now been proved, beyond the possibility of dispute, that it is only in virtue of those invisible movements which he inferred that the nervous system is enabled to perform its varied functions.

To many among the different kinds of movement going on in the external world, the animal body is adapted to respond by its own movements as best