"All bodies are capable of motion (sont mobiles), but matter cannot spontaneously move itself, for there is no reason why a particle should begin to move in one direction rather than another. It is in fact a matter of ordinary experience that when a body is passing from a state of rest to a state of motion, we can always attribute the change to the action of some external cause."

This 'external cause' is further explained by Poisson, as one "sans laquelle nous concevons que ce corps pourrait d'ailleurs exister."

Now the sentence above quoted really appeals to two utterly different sources for support of the main proposition. The first argument is what we should say might be called an *argumentum ad ignorantiam*. We should object to it, not only because it is using a very dangerous argument on very doubtful ground, but because it fairly brings us into collision with the metaphysician. We say that it is a very dangerous argument; and we say this because we conceive that an appeal is really made here to the reader's own mind to form an idea *a priori* of what necessarily *must* be the nature of material bodies—an appeal, which in many cases would obviously lead to a wrong result: which is in fact virtually an abandonment of the inductive method. If any one from long familiarity with the reasoning here employed should be inclined to defend it, we would refer him, as an easy *reductio ad absurdum*; to the use made of this mode of arguing by Mr. Gregory, who employs it to shew that the 'atom' of chemistry is most probably spherical, "since no reason can be assigned why one dimension should exceed another." It is indeed very difficult to set any formal limitation to the cases in which this argument may be safely used. Certainly, however, it would be a very unsafe guide in speculating upon the physical properties of matter, in which manner it is really used here. The second objection to the argument is perhaps even more formidable. At any cost we must keep clear of Metaphysics in the commencement of a physical science. If the fundamental truth of Statics is to be made to rest upon popular conceptions of time or space, any writer on Metaphysics who attacks those conceptions involves our system of Statics also in doubt. This should not be: if for example a Metaphysician insists that space and time instead of being real existences are merely modes of thought necessary to a finite mind, we should be able to answer (whatever may be our opinion of his theory) that our science is occupied exclusively with results of which these same