

Written Assignment 3

Either (a) In 1814 Laplace famously wrote in reference to Newtonian mechanics

An intelligence knowing all the forces in nature acting at a given instant, as well as the momentary positions of all things in the universe, would be able to comprehend in one single formula the motions of the largest bodies as well as the lightest atoms in the world, provided that its intellect were sufficiently powerful to subject all data to analysis; to it, nothing would be uncertain, the future as well as the past would be present to its eyes.

Does this idea present a problem for the notion of free will? Why (not)? (Incidentally, is Laplace technically correct (within the framework of Newtonian mechanics)? If not, what correction is needed?)

or (b) Explain in your own words, but as clearly as possible, why it is difficult to reconcile the Galilean invariance of Newtonian mechanics with the classical electromagnetic theory of Maxwell.

The assignment is due by midnight on Fri. Oct. 5