the latter, on the other hand, we cross-examine our witness, and, by comparing one part of his evidence with the other, while he is yet before us, and reasoning upon it in his presence, are enabled to put pointed and searching questions, the answer to which may at once enable us to make up our minds. Accordingly it has been found invariably, that in those departments of physics where the phenomena are beyond our control, or into which experimental inquiry, from other causes, has not been carried, the progress of knowledge has been slow, uncertain, and irregular; while in such as admit of experiment, and in which mankind have agreed to its adoption, it has been rapid, sure, and steady. For example, in our knowledge of the nature and causes of volcanoes, earthquakes, the fall of stones from the sky, the appearance of new stars and disappearance of old ones, and other of those great phenomena of nature which are altogether beyond our command, and at the same time are of too rare occurrence to permit any one to repeat and rectify his impressions respecting them, we know little more now than in the earliest times. Here our tale is told us slowly, and in broken sentences. In astronomy, again, we have at least an uninterrupted narrative; the opportunity of observation is constantly present, and makes up in some measure for the impossibility of varying our point of view, and calling for information at the precise moment it is wanted. Accordingly, astronomy, regarded as a science of mere observation, arrived, though by very slow degrees, to a state of considerable maturity. But the moment that it became a branch of mechanics, a science essentially experimental (that is to say, one in which any principle laid down can be subjected to immediate and decisive *trial*, and where experience does not require to be waited for), its progress suddenly acquired a tenfold acceleration; nay, to such a degree, that it has been asserted, and we believe with truth, that were the records of all observations from the earliest ages annihilated, leaving only those made in a single observatory,*

* Greenwich.