subjects should not have a repulsive and scholastic aspect, and appear like disputes about words rather than things. For mechanical writers have exercised all their ingenuity so to circumscribe their notions and so to define their terms that these fundamental truths should be expressed in the simplest manner: the consequence of which has been, that they have been made to assume the appearance rather of identical assertions than of general facts of experience. But in order to avoid this inconvenience, as far as may be, let us take the *first law of motion* as exemplified in a particular case, the rotation of the earth. Of all the motions with which we are acquainted this is alone invariable. Each day, measured by the passages of the stars, is so precisely of the same length that, according to Laplace's calculations, it is impossible that a difference of hundredth of a second of time should have obtained between the length of the day in the earliest ages and at the present time. Now why is this? How is this very remarkable uniformity preserved in this particular phenomenon, while all the other motions of the system are subject to inequalities? How is it that in the celestial machine no retardation takes place by the lapse of time, as would be the case in any machine which it would be possible for human powers to construct? The answer is, that in the earth's revolution on her axis no cause operates to retard the speed, like the imperfection of materials, the friction of supports, the resistance of the ambient medium; impediments which cannot, in any human mechanism, however perfect, be completely annihilated. But here we are led to ask again, why should the speed continue the same when not affected by an extraneous cause? Why should it not languish and decay of itself by the mere lapse of time? That it might do so, involves no contradiction, for it was the common, though erroneous, belief of all mechanical speculators, to the time of Galileo. We can conceive velocity to diminish in proceeding from a certain point of time, as easily as