show, that Sir Isaac Newton took the lead, and pointed out every path which others have taken, if we except Daniel Bernoulli and d'Alembert; and we shall give an account of the chief sets of experiments which have been made on this important subject, in the hopes of establishing an empirical theory, which may be employed with confidence in the arts of life.

We know by experience that force must be applied to a body in order that it may move through a fluid, such as air or water; and that a body projected with any velocity is gradually retarded in its motion, and generally brought to rest. The analogy of nature makes us imagine that there is a force acting in the opposite direction, or opposing the motion, and that this force resides in, or is exerted by, the fluid. And the phenomena resemble those which accompany the known resistance of active beings, such as animals. Therefore we give to this supposed force the metaphorical name of RESISTANCE. We also know that a fluid in motion will hurry a solid body along with the stream, and that it requires force to maintain it in its place. A similar analogy makes us suppose that the fluid exerts force, in the same manner as when an active being impels the body before him; therefore we call this the *Impulsion of a Fluid*. And as our knowledge of nature informs us that the mutual actions of bodies are in every case equal and opposite, and that the observed change of motion is the only indication, characteristic, and measure, of the changing force, the forces are the same (whether we call them impulsions or resistances) when the relative motions are the same, and therefore depend entirely on these relative motions. The force, therefore, which is necessary for keeping a body immoveable in a stream of water, flowing with a certain velocity, is the same with what is required for moving this body with this velocity through stagnant water. To any one who admits the motion of the earth round the sun, it is evident that we can neither observe nor reason from a case of a body