

comprehensive a view as possible of the position of the earth in the universe, and the means by which it is retained in its position, feeling certain that the personal advantages, to which we have occasionally alluded, will be enjoyed by every successful inquirer.

CHAPTER III.

THE ATMOSPHERE AND ITS PHENOMENA.

THE earth is surrounded by an immense aerial ocean, which is an important agent in supporting animal and vegetable life, and in sustaining the present condition of the phenomena around us. An atmosphere is not the necessary appendage of a world; but we have evidence, both within and without us, to prove that the earth is enveloped by a gaseous medium, and that it is of no small importance in the economy of terrestrial conditions. Were we to select from the phenomena we occasionally behold a few that might prove the existence of an atmosphere round our planet, we might mention the resistance it offers to bodies in motion, the force with which at other times it propels them, and the colour it gives to the ethereal vault.

PROOFS OF THE EXISTENCE OF ATMOSPHERE.

Every body in rapid motion is retarded by the atmosphere through which it moves. A ball, or any other substance, when once put into motion, would continue in that state for ever if there were no disturbing force. Matter has no predisposition to rest, and the ancient philosophers described its habitude very incorrectly, when they compared it to an idle man capable of motion, but much attached to rest. Motion and rest are relative conditions; and when a body is in one or the other, it is because of the forces that are acting upon it. Matter is in fact perfectly passive, and therefore matter once in motion would continue in motion for ever if there were no force tending to bring it to a state of rest. The resistance of the air is one of these. The pendulum, for instance, when put into motion, vibrates in obedience to the force of gravity.