

went before." This was written, however, under the influence of some degree of mistake; and in a subsequent letter, Newton says, "Now I understand he was in some respects misrepresented to me, I wish I had spared the postscript to my last," in which is the passage just quoted. We see, by the melting away of rival claims, the undivided honor which belongs to Newton, as the real discoverer of the proposition now under notice. We may add, that in the sequel of the third Section of the *Principia*, he has traced its consequences, and solved various problems flowing from it with his usual fertility and beauty of mathematical resource; and has there shown the necessary connection of Kepler's third law with his first and second.

3. *Moon's Gravity to the Earth.*—Though others had considered cosmical forces as governed by the general laws of motion, it does not appear that they had identified such forces with the force of terrestrial gravity. This step in Newton's discoveries has generally been the most spoken of by superficial thinkers; and a false kind of interest has been attached to it, from the story of its being suggested by the fall of an apple. The popular mind is caught by the character of an eventful narrative which the anecdote gives to this occurrence; and by the antithesis which makes a profound theory appear the result of a trivial accident. How inappropriate is such a view of the matter we shall soon see. The narrative of the progress of Newton's thoughts, is given by Pemberton (who had it from Newton himself) in his preface to his *View of Newton's Philosophy*, and by Voltaire, who had it from Mrs. Conduit, Newton's niece.⁵ "The first thoughts," we are told, "which gave rise to his *Principia*, he had when he retired from Cambridge, in 1666, on account of the plague (he was then twenty-four years of age). As he sat alone in a garden, he fell into a speculation on the power of gravity; that as this power is not found sensibly diminished at the remotest distance from the centre of the earth to which we can rise, neither at the tops of the loftiest buildings, nor even on the summits of the highest mountains, it appeared to him reasonable to conclude that this power must extend much further than was usually thought: Why not as high as the moon? said he to himself; and if so, her motion must be influenced by it; perhaps she is retained in her orbit thereby."

The thought of cosmical gravitation was thus distinctly brought into being; and Newton's superiority here was, that he conceived the

⁵ *Elémens de Phil. de Newton*, 3me partie, chap. iii.