

Letter to Edmund Halley on work on ellipses and the descent of falling bodies

Author: Isaac Newton

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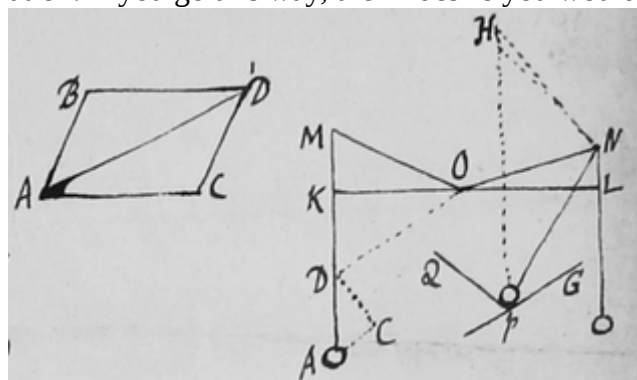
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July 14. 1686.

Sir

I have considered your proposal about wooden cuts & beleive it will be much convenienter for the Reader & may be sufficiently handsome but I leave it to your determination. If you go this way, then I desire you would divide the first figure into these two. I crouded them into one to save the trouble of altering the numbers in the schemes you have. I am very sensible of the great kindness of the Gentlemen of your Society to me, far beyond what I could ever expect or deserve & know how to distinguish between their favour & anothers humour. Now I understand he was in some respects misrepresented to me I wish I had spared the Postscript in my last. This is true, that his Letters occasioned my finding the method of determining Figures, which when I had tried in the Ellipsis, I threw the calculation by being upon other studies & so it rested for about 5 yeares till upon your request I sought for that paper, & not finding it did it



again & reduced it into the Propositions shewed you by M^r Paget: but for the duplicate proportion I can affirm that I gathered it from Keplers Theorem about 20 yeares ago. And so Sir Christopher Wren's examining the Ellipsis over against the Focus shews that he knew it many yeares ago before he left of his enquiry after the figure by an imprest motion & a descent compounded together. There was another thing in M^r Hooks letters which he will think I had from him. He told me that my proposed experiment about the descent of falling bodies was not the only way to prove the motion of the earth & so added the experiment of your Pendulum Clock at St Helle{na} as an argument of gravities being lessened at the equator by the diurnal moti{on.} The experiment was new to me but not the notion. For in that very paper which I told you was writ some time above 15 yeares ago & to the best of my memory was writ 18 or 19 yeares ago, I calculated the force of ascent at the Equator arising from the earth's diurnal motion in order to know what would be the diminution of gravity thereby. But yet to do this business right is a thing of far greater difficulty then I was aware of. A third thing there was in his letters, which was new to me & I shall acknowledge it if I make use of it. It was the deflexion of falling bodies to the south east in our Latitude. And now having sincerely told you the case between M^r Hook & me I hope I shall be free for the future from the prejudice of his Letters. I have considered how best to compose the present dispute & I think it may be done by the inclosed Scholium

to the fourth Proposition. In turning over some old papers I met with another demonstration of that Proposition, which I have added at the end of this Scholium. Which is all at present from

Your affectionate Friend & humble Servant

Is. Newton.

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< insertion from the left of f 56v >

M^r Newton

July. 14 1686

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Letters from M^r Newton

Aug. 20. July. 14. Octob. 18

< text from f 56v resumes >
