

# Draft of Letter from Sir Isaac Newton to the Editor of Memoirs of Literature

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Sir

In your weekly paper dated May 5 1712 I meet with two Letters, one written by M<sup>r</sup> Leibnitz to M<sup>r</sup> Hartsoeker the other by M<sup>r</sup> Hartsoeker to M<sup>r</sup> Leibnitz in answer to the former. And in the Letter of M<sup>r</sup> Leibnitz meeting with some things reflecting upon the English I hope you will do them the justice to publish this vindication as you have printed the reflexion. He writes thus. It may be said in a very good sense that every thing is a continual Miracle, that is worthy of Admiration: but it seems to me that the examples of a Planet which goes round & presents it motion in its Orb without any other help but that of God, being compared with a Planet kept in its Orb by that matter which constantly drives it towards the Sun, plainly shews what difference there is between natural & rational miracles & those that are properly so called or supernatural, or rather between a reasonable explication, & a fiction invented to support an ill grounded opinion. Such is the method of those who say, after M<sup>r</sup> de Robervals Aristarchus, that all bodies attract one another by a law of nature which God made in the beginning of things. For alledging nothing els to obtain such an effect & admitting nothing that was made by God whereby it may appear how he attains to that end, they have recourse to a miracle, that is, to a supernatural thing, which continues for ever, when the Question is to find out a natural cause. Thus far M<sup>r</sup> Leibnitz I know not what just occasion there was for this reflexion in a discourse foreign to this matter but its plain that this was intended against some in England & I hope to make it as plain that it was understood. For The true state of the case is this. It has been proved by some that all bodies upon the surface of the earth gravitate towards the earth in proportion to the quantity of matter in each of them: That the Moon tends towards the earth & all the Planets towards one another by the same law; & that by this tendency all their motions are performed. These things have been proved by mathematical demonstrations grounded upon experiments & the phaenomena of nature: & M<sup>r</sup> Leibnitz himself cannot deny that they have been proved. But he objects that because they alledge nothing else to obtaine such an effect [he means a tendency of all bodies towards one another] besides a law of nature which God made in the beginning of things & admitto nothing that was made by God (he means no vortices) whereby it may appear how God attains to that end, they have recourse to a Miracle, & that is, to a supernatural thing which continues for ever, when the question is to find out a natural cause. Because they do not explain gravity by a mechanical hypothesis, he charges them with making it a supernatural thing, a miracle & a fiction invented to support an ill grounded opinion & compares their method of philosophy to that of M<sup>r</sup> de Robervals Aristarchus, which is all one as to call it Romantic, They shew that there is an universal gravity & that all the phenomena of the heavens are the effect of it, & with the cause of gravity they meddle not but leave it to be found out by them that can explain it whether mechanically or otherwise. And doth this deserve to be scoured with the language of a supernatural thing, a miracle, a fiction invented to support an ill grounded opinion, & a method of philosophy, after M<sup>r</sup> Robervals Romance.

But M<sup>r</sup> Leibnitz goes on. The Ancients & the Moderns who own that gravity is an occult Quality, are in the right, if they mean by it, that there is a certain Mechanism unknown to them whereby all bodies tend towards the center of the earth. But if they mean that the thing is performed without any mechanism by a simple primitive quality or by a law of God whi{ch} produces that effect without using any intelligible means it is an unreasonable occult Quality, & so very occult that it is impossible that it should ever be clea{r} tho an Angel or God himself should undertake to explain it The same ought to be said of hardness. So then gravity & hardness must go for unreasonable occult qualities unless they can be explained mechanically. And why may not the same be said of the vis inertiae & the extension the duration & mobility of bodies, & yet no man ever attempted to explain these qualities mechanically, or took them for miracles or supernatural things or fictions or occult qualities. They are the natural real reasonable manifest qualities of all bodies seated in them by the will of God from the beginning of the creation & perfectly incapable of being explained mechanically, & so may be the hardness of primitive particles of bodies. And therefore if any man should say that bodies attract one another by a power whose cause is unknown to us or by a power seated in the frame of nature by the will of God, or by a power seated in a substance in which bodies move & flote without resistan{ce} & which has therefore no vis inertiae, but acts by other laws then those that are mechanical. I know not why he should be said to introduce miracles & occult qualities & fictions into the world. For M<sup>r</sup> Leibnitz himself will scarce say that thinking is mechanical as it must be if to explain it otherwise be to make it a miracle an occult quality & a fiction.

But he goes on & tells us that God could not create Planets that should move round of themselves without any cause that should prevent their removing through the tangent: For a Miracle at least must keep the Planet in. But certainly God could create Planets that should move round of themselves without any other cause then gravity that should prevent their removing through the tangent. For gravity without a miracle way keep the Planets in. And to understand this without knowing the cause of gravity, is as good a progress in philosophy as to understand the frame of a clock & the dependance of the wheels upon one another without knowing the cause of the gravity of the weight which moves the machine is in the philosophy of clockwork, or the understanding the frame of the bones & muscles & their connection in the body of an animal & how the bones are moved by the contracting or dilating of the muscles without knowing how the muscles are contracted or dilated by the power of the mind, is the philosophy of animal motion.

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