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Abstract

The interpretation of Isaac Newton's texts has sparked controversy to this day. One of the most heated debates relates to the action between two bodies distant from each other (the gravitational attraction), and to what extent Newton involved God in this case. Practically, most of the papers discuss four types of gravitational attractions in the case of remote bodies: direct distance action as intrinsic property of bodies in epicurean sense; direct remote action divinely mediated by God; remote action mediated by a material ether; or remote action mediated by an immaterial ether. The purpose of this paper is to argue that Newton categorically rejected the types of direct action as the intrinsic property of bodies, and remote action mediated by a material ether. Concerning the other two types of action, direct through divine intervention and mediated through an immaterial environment, Newton has repeatedly stated that he does not know the exact cause of gravity, but in both cases, he has directly involved God, directly in the first case and as the primary cause (the environment/ether being the secondary cause) in immaterial mediated action. But since recognition of direct distance action could have given some credit to those who thought gravity could be essential to matter, and hence to atheism, Newton never openly acknowledged the possibility of such an idea. Towards the end of his life, Newton leaned more toward a remote action mediated by an immaterial ether. In the argumentation of this opinion, I turned to the works of Andrew Janiak, Eric Schliesser John Henry, Hylarie Kochiras and Steffen Ducheyne.

Keywords: Isaac Newton, law of gravity, remote action, God

Introduction

The authors I appeal to in my argument have attempted to clarify the aspects of remote action and God's involvement on the basis of textual investigations, mainly from the *Mathematical Principles of Natural Philosophy*, (Newton 1999b) Newton's correspondence with Richard Bentley (1692/93), (Bentley 1693) and Queries that Newton introduced at the end of the *Opticks* book in the first three editions (between 1704 and 1721). (Newton 1952)

Andrew Janiak, in *Newton as philosopher*, (Janiak 2008a) considered that Newton denied that gravity could be essential to matter, dismissed direct action at a distance, and also rejected the idea of a material substance. But Newton agreed, in Janiak's view, with an immaterial ether, which he considered that Newton identifies himself with God himself: "Newton obviously thinks that God might be the very "immaterial medium" underlying all gravitational interactions among material bodies." (Janiak 2008a, 39)

Steffen Ducheyne, in *Newton on Action at a Distance*, (Ducheyne 2011a) considered that Newton never accepted direct remote action, only material intervention or immaterial substance.

Hylarie Kochiras, in *Gravity and Newton's substance counting problem*, (Kochiras 2009a) argued that Newton was inclined to reject direct action, giving priority to the hypothesis of an intangible environment. But, in his speculative moments, Newton oscillated between accepting and rejecting direct remote action. Newton, according to Kochiras, claims that God is a virtual omnipresent, the force/agent must subsist in substance, and God is omnipresent substantially, resulting in a hidden premise, the principle of local action.

Eric Schliesser, in *Newton's substance monism, distant action, and the nature of Newton's Empiricism*, (Schliesser 2011a) argued that Newton does not categorically refuse the idea that matter is active, and therefore accepted the possibility of a direct action at a distance. Newton affirms the virtual omnipresence of God in addition to his substantial omnipresence.

John Henry, in *Gravity and De gravitatione: The Development of Newton's Ideas on Action at a Distance*, (Henry 2011a) also argued that direct remote action was not inconceivable for Newton, rejecting the idea that gravity can be explained by subtle matter, accepting the idea of an omnipotent God, and rejecting the Epicurean attraction.

In my opinion, which I will try to argue in the chronological order of Newton's works, he categorically refused direct action as an intrinsic property of bodies, and remote action mediated by a material ether. Concerning the other two types of action, direct by divine intervention and mediated through an immaterial environment, Newton oscillated between these two possibilities, declaring on several occasions that he did not know the exact cause of gravity, but in both cases involved God, directly in direct action, and as the primary cause (the immaterial medium/ether being the secondary cause) in action through an immaterial ether. But since recognition of direct distance action could have given some credit to those who thought gravity could be essential to matter, and hence to atheism, Newton never openly acknowledged the possibility of such an idea (but neither has never denied this possibility directly). Towards the end of life, Newton leaned forward to a remote action mediated by an immaterial ether, seeking a phenomenological explanation in this respect.

Though some philosophers disagree with this formula in the idea that if the action is mediated is no longer remote, I keep the terminology used in the primary sources, where it is stated that Newton used the term "remote action" to refer to the movement that is not produced by direct contact between the distant bodies in question. In *Opticks* Query 29, Newton states: "Pellucid Substances act upon the Rays of Light at a distance in refracting, reflecting, and inflecting them, and the Rays mutually agitate the Parts of those Substances at a distance for heating them; and this Action and Re-action at a distance very much resembles an attractive Force between Bodies."

Newton also formulated draft variants of the query 17 in terms of "what is the means by which bodies act upon one another at a distance?" His way of formulating this question in the specific context suggested that, in order to "act remotely", the bodies require the mediation of an immaterial substance.

Principia

Practically, as Henry states, (Henry 2011b) Newton simply wants to reaffirm the truth of God's omnipresence without directly involving him in the physics of the world system. Newton simply *wants to distance himself from a Cartesian concept of God* and convince the atheists that *God is a real presence extended in the world*. God must exist in space for the space to exist, but God does not only act through contact. Henry believes that Janiak and Kochiras give us a wrong picture of a Newton who believes in opportunism. Newton, Henry asserts, has always assumed that God acted through *secondary causes*:

"He rules all things, not as the world soul but as the lord of all. And because of his dominion he is called Lord God Pantokrator. For “god” is a relative word and has reference to servants, and godhood is the lordship of God, not over his own body as is supposed by those for whom God is the world soul, but over servants " (Newton 1999a)

In the 1687 edition of the *Mathematical Principles of Natural Philosophy*, Newton clearly states that he *does not attribute a particular cause* to the gravitational attraction:

"I likewise call attractions and impulses, in the same sense, accelerative, and motive; and use the words attraction, impulse, or propensity of any sort towards a centre, promiscuously, and indifferently, one for another; considering those forces not physically, but mathematically: wherefore the reader is not to imagine that by those words I anywhere take upon me to define the kind, or the manner of any action, the causes or the physical reason thereof, or that I attribute forces, in a true and physical sense, to certain centres (which are only mathematical points); when at any time I happen to speak of centres as attracting, or as endued with attractive powers.." (Newton 1999a)

while affirming openly the *faith in God's involvement*:

"When I wrote my treatise about our Systeme I had an eye upon such Principles as might work with considering men for the belief of a Deity & nothing can rejoice me more then to find it useful for that purpose." (Cohen 1978)

John Henry confirms that Newton has *never denied the possibility of God-mediated remote divine action*, in accordance with my opinion. Practically, Henry points out that, excepting the comment in the third letter to Bentley, there is no real evidence that Newton rejected the concept of remote action. (Henry 2011b) In support of this idea one can also appeal to Section 11 of Book I of the *Principia*:

"I now go on to set forth the motion of bodies that attract one another, considering centripetal forces as attractions, although perhaps—if we speak in the language of physics—they might more truly be called impulses. For we are here concerned with mathematics; and therefore, putting aside any debates concerning physics, we are using familiar language so as to be more easily understood by mathematical readers." (Newton 1999a)

An additional argument in support of my idea that *Newton oscillated between remote action with divine causes and immaterial mediated distance action*, a proposition suggested by Henry, is found in the General Scholium at the second edition of the Newton's *Principia* of 1713, with the famous phrase "*Hypotheses non fingo*":

"Hitherto we have explained the phenomena of the heavens and of our sea by the power of gravity, but have not yet assigned the cause of this power … I have not been able to discover the cause of those properties of gravity from phenomena, and *I frame no hypotheses* [*hypotheses non fingo*]; for whatever is not deduced from the phenomena is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy … To us it is enough that gravity does really exist, and acts according to the laws which we have explained, and abundantly serves to account for all the motions of the celestial bodies, and of our sea." (Newton 1687)

Newton believed there must be a cause of gravity, but he was not yet able to rule on the cause. But we have no reason to suppose that Newton excluded the remote action from the range of possible explanations. Newton makes countless hypotheses, including in the *Principia*, or the hypothesis of the ether in *Opticks*. Thus, practically Newton states that a scientist proposes hypotheses, but he cannot "invent" them, in the sense of being determined by experiment,

observation, or reasoning. Newton thus states that he has established mathematical relations, but not the existence of the ether, with direct reference to the fact that Leibniz "feigned" the hypothesis of the vortices.

Newton conceives space as independent of objects and their relationships, and each entity must connect with space in some way. He *rejects the Cartesian concept of a God without a space location*. In the *Principia'*s General Scholium, which was added to the 1713 second edition, for example, he wrote about God:

> "He endures forever and is everywhere present; and by existing always and everywhere, he constitutes duration and space. Since every particle of space is always, and every indivisible moment of duration is everywhere, certainly the Maker and Lord of things cannot be never and nowhere. ... God is one and the same God, always and everywhere. He is omnipresent, not virtually only, but also substantially; for virtue cannot subsist without substance.. " (Newton 1999a)

In my opinion, Newton categorically *rejects the idea of active matter*. Schliesser argues, however, based on Newton's interpretation of "*A Treatise of the System of the World / De mundi systemate*", (Schliesser 2011b) that Newton does not exclude the existence of the (appropriately materialized) matter as an active agent or gravitational cause. According to Schliesser, a body has two dispositions: a “passive” one "to respond to impressed forces codified in the second law of motion", and an “active” one "to produce gravitational force", as a distinct interaction codified in the third law of motion. (Schliesser 2008) But Newton writes about *De mundi systematically at the beginning* in Book III of the *Principia* that this is a popular version, Newton's concern here rather being methodological, and the idea of an active matter would be inconsistent with Newton's theological reserves for such remote actions, respectively he is taking into account the passivity of the matter. (Ducheyne 2011b)

Correspondence with Richard Bentley

In Newton's correspondence with Richard Bentley, Newton rejected the possibility of remote action, even though he accepted it in the *Principia*. On February 25, 1692/93, in the third letter addressed to Bentley, Newton wrote:

"It is inconceivable that inanimate brute matter should, without the mediation of something else, which is not material, operate upon, and affect other matter without mutual contact; as it must do, if gravitation, in the sense of Epicurus, be essential and inherent in it. And this is the reason why I desired you would not ascribe innate gravity to me. That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity, that I believe no man who has in philosophical [65] matters a competent faculty of thinking, can ever fall into it. Gravity must be caused by an agent acting constantly according to certain laws; but whether this agent be material or immaterial, I have left to the consideration of my readers." (Cohen 1978)

Janiak asserts that Newton *rejected robust action* (without material or immaterial medium) at a distance because he had the familiar view that a substance cannot act where it is not and considered non-local action to be simply unthinkable. In my opinion, and in line with Henry's commentary on the letter to Bentley, Newton only **disagrees with gravity as an inherent property of matter** that would act "without anyone else's mediation" (Epicurean attraction), but God can add gravity to matter. Even though Kochiras agrees in this case with Janiak, claiming that such involvement of God does not fit with Newton's empirical spirit, Schliesser furthermore argues (in favor of God's involvement) that in the letter Newton is considering influencing his readers to accept the idea of a universe governed by divine laws.

Both Kochiras and Janiak interpret this fragment of Newton's letter as a clear affirmation of an immaterial agent. In addition, Kochiras denies Newton's intention to involve God here because he does not clearly introduce God, rather speaking of "mediating someone else who is not material". But such immaterial mediation could only be of divine origin. I also argue this point with a fragment of Newton's first letter to Bentley (December 10, 1692), in which he emphasized

that the ordinary planetary movement is " the effect of Counsel." (Cohen 1978) In the second letter (January 17, 1692/93) emphasized that "gravity may put the planets into motion but without the divine power it could never put them into such a Circulating motion as they have about the Sun, & therefore for this as well as other reasons I am compelled to ascribe the frame of this Systeme to an intelligent agent." (Cohen 1978) Newton officially accepts the idea that God is the primary cause but does not act directly, but "through His agents" (the secondary cause), thus trying to eliminate the possibility of accepting atheism by accepting direct action at a distance.

Henry's comment on this passage (Henry 1994) confirms my opinion expressed above, stating that Newton just wants to make sure that the observed reality of remote action can be used to prove God's existence even at the risk of sacrifices.

Queries in *Opticks*

Practically, Newton's natural philosophy is indissolubly linked to his conception of God. The knowledge of God seems to be essentially immutable, unlike the laws of nature that can be subjected to refining, revision and rejection procedures.

Interpreting the above passage as in *De Gravitatione*, Janiak asserts that, since God is not removed from any object at any time, and may even be the "immaterial medium," from the Newton's point of view of (Janiak 2008b, 38) God never acts at a distance from any object, a similar interpretation to Hylarie Kochiras (a substance must be present where it acts). (Kochiras 2009b, 275) A wrong idea, in my opinion, if "immaterial medium" considers the secondary cause expressed by Newton on other occasions.

Newton has suggested, over time, several types of ether that could mediate remote action. But consistently with his idea of not producing hypotheses that are not based on experimental evidence, he has never promoted these suggestions to scientific hypotheses. He had to reconcile

mechanics, so he went on the idea of an ether of particles so fine that the mass was negligible (basically an immaterial ether).

Based on the 1717 *Opticks* assertion that invokes repellent forces that act at a distance between etheric particles, Janiak attempts to cancel out the idea that ether can be the physical medium (the cause of gravity) that acts directly at the local level, suggesting that the particles of this medium could have their own physical medium, perhaps in another medium. (Janiak 2008b, 79) Kochiras confirms my view that Newton **oscillated between accepting and rejecting the direct action at a distance**, arguing that while Query 21 asserts a direct (immediate) action at a distance, Query 31 involves an **immaterial medium**.

The medium that Newton introduced in Query 21 consists of extremely small corpuscles that are spatially separated on the one hand and the **non-mechanical active principle** that produces and mediates the repulsive forces between these bodies on the other. In Query 28 he clearly stated that a **mechanical environment must be rejected**. (Newton 1979, 399) Ether passes through bodies, so it is immaterial. Thus, the gravitational attraction of the earth can be explained by the continuous condensation of another type of etheric spirit, not of the main body of the phlegmatic ether, but of a very thin and subtle thing diffused through it, perhaps of a gummy, tenacious and elastic nature. (Newton 1979, 181)

Janiak, Kochiras and Ducheyne consider that Newton speaks of an immaterial ether. For Janiak, "the ether could not be mechanical in Newton's sense, but would have to flow through material bodies, interacting somehow with their masses." (Janiak 2008b, 78) Kochiras states that Newton introduced a non-mechanical ether in Query 21 (Kochiras 2009b) Ducheyne believes that the environment that Newton introduced in Query 21 involves remote non-mechanical actions.

The use of Newton in queries can be explained by what we would call "non-mechanic mediated action at a distance".

Ducheyne states, unlike Henry when he speaks about queries, Kochiras about Query 21 and Schliesser about *De mundi systemati*, that Newton never accepted a direct unmediated action, arguing that although Newton identified a **non-mechanical ether** as the cause of gravity in Queries, he never explained how it works on matter. In my opinion, Ducheyne is wrong in this case. Newton explained the functioning of the ether, but the explanation was quite unconvincing, precisely because Newton also believed in the possibility of direct action at a distance, but he refrained from promoting this idea for theological reasons to exclude the possibility of atheistic interpretation of direct action at distance.

Also, in Query 28, Newton argued that a mechanical environment must be rejected: "And therefore to make way for the regular and lasting Motions of the Planets and Comets, it's necessary to empty the Heavens of all Matter, except perhaps some very thin Vapours, Steams, or Effluvia, arising from the Atmospheres of the Earth, Planets, and Comets, and from such an exceedingly rare Æthereal Medium as we described above [ie in Query 21]. A **dense Fluid** can be of no use for explaining the Phænomena of Nature, the Motions of the Planets and Comets being better explain'd without it. It serves only to disturb and retard the Motions of those great Bodies, and make the Frame of Nature languish: And in the Pores of Bodies, it serves only to stop the vibrating Motions of their Parts, wherein their Heat and Activity consists. And as it is of no use, and hinders the Operations of Nature, and makes her languish, so there is no evidence for its Existence, and therefore it **ought to be rejected**." (Newton 1952, 368) In view of the above context according to Newton, a mechanical ether is a material one, acting through direct contact, and that a non-mechanical ether is an immaterial one.

Newton **denies the movement inherent of matter**, this **requiring divinely governed secondary causes**. In Query 31,

"It seems to me farther, that these Particles have not only a Vis inertiæ, accompanied with such passive Laws of Motion as naturally result from that Force, but also that they are moved by certain active Principles, such as is that of Gravity, and that which causes Fermentation, and the Cohesion of Bodies." (Newton 1979)

In fact, as Henry confirms and recognizes both Ducheyne and Kochiras, Newton was prepared to accept a direct action at a distance to take account of various optical processes in the context of the **non-mechanical ether**. In Question 31, Newton asks, " Have not the small Particles of Bodies certain Powers, Virtues, or Forces, by which they act at a distance... For it's well known, that Bodies act one upon another by the Attractions of Gravity, Magnetism, and Electricity; and these Instances shew the Tenor and Course of Nature, and make it not improbable but that there may be more attractive Powers than these," and in the Scholium, in Section XI of Book I of the *Principia*, he underlined the following:

"How these Attractions may be perform'd, I do not here consider. What I call Attraction may be perform'd by impulse, or by some other means unknown to me. I use that Word here to signify only in general any Force by which Bodies tend towards one another, whatsoever be the Cause. For we must learn from the Phaenomena of Nature what Bodies attract one another, and what are the Laws and Properties of the attraction, before we enquire the Cause by which the Attraction is perform'd." (Newton 1999a)

Newton did not introduce a cause of gravity into queries, he admitted that he **does not know what this ether is**, (Newton 1979) but he has speculated that **gravity is produced by non-mechanical and divinely-mediated active principles**. Thus, he broke the methodological neutrality that he supported in a demonstrative context, but did not present his ethereal speculations as demonstrations, but as queries.

As Newton later states in Query 31 of *Opticks*, the cause of gravity is an **active principle** in matter,

"It seems to me farther, that these Particles have not only a *Vis inertiæ*, accompanied with such passive Laws of Motion as naturally result from that Force, but also that they are moved by certain active Principles, such as is that of Gravity... But to derive two or three general Principles of Motion from Phænomena, and afterwards to tell us how the Properties and Actions of all corporeal Things follow from those manifest Principles, would be a very great step in Philosophy, though the Causes of those Principles were not yet discover'd: And therefore I scruple not to propose the Principles of Motion above-mention'd, they being of very general Extent, and leave their Causes to be found out." (Newton 1979, 400–401)

but this active principle is not an essential aspect of matter, but something that must have been **added to matter by God**, arguing in the same Query even the need for divine intervention.

Conclusions

In my opinion, Newton never adopted a global metaphysical position, such as dualism or monism, and never presented a general theory of knowledge or of response to global skepticism. Newton explained his conception more clearly in a presentation of his report to the Royal Society about the dispute with Leibniz. If God existed outside the space-time boundaries, any causal influence that God would exert on the bodies would involve "a miracle."

"The one [Newton] teaches that God (the God in whom we live and move and have our Being) is Omnipresent; but not as a Soul of the World: the other [Leibniz] that he is not the Soul of the World, but INTELLIGENTIA SUPRAMUNDANA, an Intelligence above the Bounds of the World; whence it seems to follow that he cannot do any thing within the Bounds of the World, unless by an incredible Miracle." (Sir Isaac Newston, "An Account of the Book Entitled Commercium Epistolicum Collinii Aliorum, De Analysipromota; Published by order of the Royal-Society, in relation to the Dispute between Mr. Leibnitz and Dr. Keill, about the Right of Invention of the Method of Fluxions, by some call'd the Differential Method," The Royal Society of London, Philosophical Transactions (1683-1775) 29, no. 342 (1714): 224 (Royal Society 1775))

By *miracle*, Newton understands here an interaction with elements of the natural world that violate the usual course of nature expressed by physical laws. Such a miracle is excluded from the point of view of Newton. Newton invoked God in remote action for a specific reason, to support gravity in the universe, warning against a vision of the universe as a mere machine:

> "This most beautiful system of the sun, planets, and comets, could only proceed from the counsel and dominion of an intelligent and powerful Being. And if the fixed stars are the centres of other like systems, these, being formed by the like wise counsel, must be all subject to the dominion of One; especially since the light of the fixed stars is of the same nature with the light of the sun, and from every system light passes into all the other systems: and lest the systems of the fixed stars should, by their gravity, fall on each other mutually, he hath placed those systems at immense distances one from another.
>
> "This Being governs all things, not as the soul of the world, but as Lord over all; and on account of his dominion he is wont to be called Lord God παντοκράτωρ, or Universal Ruler; for God is a relative word, and has a respect to servants; and Deity is the dominion of God not over his own body, as those imagine who fancy God to be the soul of the world, but over servants. The Supreme God is a Being eternal, infinite, absolutely perfect; but a being, however perfect, without dominion, cannot be said to be Lord God." (Newton 1999a, 504)

Newton has thus tried to develop a concept of God that provides a stable, organized and predictable model of the natural world, a God who designs on rational and universal principles, accessible to all people. For Newton, as bodies are present in a certain spatial location, God, an infinite being, is present throughout the space over time.

Newton **preferred to approach gravity strictly from a mathematical and observational point of view, recognizing that he cannot physically explain it**. The phenomenology of gravity is confusing, unlike its perfect mathematics. But he uses God to explain the mechanisms he cannot explain otherwise, including remote action. He cannot directly recognize the possibility of remote action for two main reasons: it would be against the mainstream thinking of his contemporaries, a situation that Newton has always avoided, and would encourage atheism contrary to his views of God. This is also the reason for his allegations in the **letters to Bentley where, through a "material or immaterial agent", he indirectly promotes the idea of the immaterial medium (agent)**. I say this because, as Kochiras says, if Newton wanted to refer to God as an agent then, an easier and clearer way would have been to preserve Bentley's fairly precise expression, "divine impression." Instead, he replaces this expression with the "mediation of something else which is not material". (Kochiras 2011)

Bentley also interpreted Newton's words in this way. In the course of Boyle, which Bentley wrote after receiving this letter from Newton, he said:

"Now, mutual gravitation or attraction, in our present acceptation of the words, is the same thing with this, 'tis an operation, or virtue, or influence of distant bodies upon each other through an empty interval, without any effluvia, or exhalations, or other corporeal medium to convey and transmit it. This power, therefore, cannot be innate and essential to matter: and if it be not essential, it is consequently most manifest, since it doth not depend upon motion or rest, or figure or position of parts, which are all the ways that matter can diversify itself, that it could never supervene to it, unless impressed and infused into it by an immaterial and divine power." (Bentley 1963, 29) (Newton 1979, 341)

In his fourth letter to Bentley, Newton wrote:

"The last clause of the second position I like very well. It is inconceivable that inanimate brute matter should, without the mediation of something else which is not material, operate upon and affect other matter without mutual contact, as it must be, if gravitation in the sense of Epicurus, be essential and inherent in it. And this is one reason why I desired you would not ascribe innate gravity to me. That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it. Gravity must be caused by an agent acting constantly according to certain laws; but whether this agent be material or immaterial, I have left open to the consideration of my readers" (Newton 2004)

Ducheyne states, about this letter to Bentley, that although the first appearance of the "meditation" refers to his conviction that a primary immaterial cause, i.e. God, regulates the secondary cause of gravity, the "agent" refers to the secondary cause which is the vehicle of gravitational interaction.

The etheric hypotheses are an attempt to explain the remote action. But **Newton's ether already prefigured, from that time, the future theory of the gravitational field**. Erden McMullin, in *The Origins of the Field Concept in Physics*, notes this analogy:

"Do we now have fields proper, then, even though the use of "field" as a technical term still lies far in the future? Howard Stein argues that we do, that Newton's theory of gravitation can be properly described as a field theory, that the modern notion of field is implicit in Newton's thinking: "In Newton's investigation of gravitation, the notion of a field plays a logically ineliminable role in the inductive evaluation of the evidence."" (McMullin 2002, 8) (Stein 1970, 264–87, 272, 276)

This results in an environment involving remote non-mechanic actions, perfectly matched by Newton's effort to show that non-mechanical active principles prove God's providential plan. At the time of his hypothesis about ether, Newton became convinced that, "even in proving a Deity all aguments \not/ taken from Phænomena are little better then dreams":

> "[A] Even arguments for a Being if not taken from Phænomena are slippery & serve only for ostentation. [B] An Atheist will allow that there is a Being absolutely perfect, necessarily existing & the author of mankind & call it Nature: & [B*] if you talk of infinite wisdom or of any perfection more then he allows to {say} in {natur} heel reccon at a chemæra & tell you that you have the notion of finite or limited wisdom from what you find in your self & are able of your self to {prefin} the word no{t} or more then to any verb or adjective & without the existence of wisdome not limited or [C] wisdome more then finite to understand the meaning of the phrase as easily as Mathematicians understand what is meant by an infinite line or an infinite area. [D] And heel may tell you further that the Author of mankind was destitute of wisdome & designe because there are no final causes & [E] and that matter <is space & therefore necessarily existing & having always the same quantity of motion, would> in infinite time would run through all variety of forms..." (Newton 2008)

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