# THE GENERAL RESURRECTION AND EARLY MODERN NATURAL PHILOSOPHERS: A PRELIMINARY SURVEY

### by John Henry

Noting that the doctrine of the general resurrection attracted renewed attention after the Reformation, and after the atomist revival led to the displacement of traditional hylomorphism by alternative matter theories, this article surveys the ways in which the resurrection was discussed by leading natural philosophers in seventeenth-century England. These include discussion of how bodily resurrection might be possible, what resurrected bodies will be like; as well as the nature of living conditions after the resurrection. It is indicated that the resurrection seems to have played a much less prominent place in the writings of natural philosophers than the doctrine of the immortality of the soul, and other issues of natural theology. Reasons for this lack of prominence are tentatively offered, chiefly focusing on its unsuitability for combatting the perceived atheism of the time. It is hoped that this preliminary survey might inspire others to extend the survey, especially to cover Continental philosophers.

Keywords: afterlife; atomism; general resurrection; hylomorphism; immortality of the soul; natural theology; personal identity

#### Introduction

Among other things, the Protestant Reformation has been seen as "a revolution in eschatological thinking" (Gribben 2016, 261), and it is clear that the period saw a renewed interest, among learned and popular groups alike, in all the various aspects of apocalypticism (Barnes 2003). Among these was a revival of discussion about the general resurrection on the Day of Judgement. As Lloyd Strickland (2010) and Jon W. Thompson (2022) have recently pointed out, issues associated with the resurrection were particularly keenly felt in the early modern period, and gave rise to fierce and protracted debates.

Scholarship on these areas has, unsurprisingly, tended to focus on the thought of theologians, or, in the case of popular thought, on political and social concerns. Given the wealth of scholarship on the interrelations between science and religion throughout this period (see, for example,

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Funkenstein 1986; Brooke 2014), however, there is clearly a *prima facie* case to be made for considering the attitudes of early modern natural philosophers to the doctrine of the general resurrection. As far as I know this has not been done before, and what follows is very much a preliminary attempt at a survey. It is hoped that this might at least indicate the potential value of the attempt, and therefore stimulate others to pursue the topic further. It is the modest aim of this article to indicate that various aspects of the theological concept of a general resurrection were included in what Amos Funkenstein called the "secular theology," developed by early modern thinkers who were not professional, or trained, theologians, but who felt a pressing need to discuss theological issues at length within the context of their natural philosophies (Funkenstein 1986, 3).

One obvious reason for early modern natural philosophers to pay urgent attention to the resurrection was the doctrine's links to prevailing theories of matter. At just the time that the Reformation gave rise to renewed interest in the resurrection, the revival of ancient atomism was supplanting the hylomorphic theory of matter which had previously been used to explain the possibility of resurrection. We will consider the hylomorphic theory in more detail in the next section, but first it is worth indicating the vigor with which atomism replaced the older account.

We can see this without even having to turn to a contemporary natural philosopher. In his Easter Day sermon of 1626, John Donne, Dean of St. Paul's and renowned poet, assumed that our bodies are made of atoms:

the dead body falls by putrefaction into a dissolution, into atoms and grains of dust; and the resurrection from this fall, is by re-efformation: God shall re-compact and re-compile those atoms and grains of dust, into that body, which was before... (Donne 1640, 206)

Atomism even helps Donne to dismiss the objections to resurrection of those who say that some parts of a man may subsequently become parts of a different man, and so resurrection of both of them will not be possible:

where man's buried flesh hath brought forth grass, and that grass fed beasts, and those beasts fed men, and those men fed other men, God that knows in which box of his cabinet all this seed-pearl lies, in what corner of the world every atom, every grain of every man's dust sleeps, shall re-collect that dust, and then re-compact the body, and then re-inanimate that man, and that is the accomplishment of all. (Donne 1640, 212)

The implication seems to be that every atom of the first man will be returned to him at the resurrection and that if this deprives the later man of some of his atoms, the result will be a negligible loss to his resurrected body. This does, at least, conform to Donne's repeated pronouncement "that we believe no impossible thing, in believing the resurrection" (Donne

1640, 205, 210). This conundrum about shared flesh is a generalized version of the problem noted by Thomas Browne in *Religio Medici*: "that she [Eve] was edified out of the ribbe of *Adam* I believe, yet raise no question who shall arise with that ribbe at the Resurrection" (Browne 1642, sec. 21, see also sec. 36).

We know from Donne's earlier poem, "First Anniversary: An Anatomy of the World" (1611), that he was fully aware of recent innovations in natural philosophy, including the revival of ancient atomism (Wilson 2008): in which the world is "crumbled out again to his atomies" (Donne 1612, 2; see also Empson 1993; Makuchowska 2014). Whether Donne was the first to hit upon the idea that atomism might be used to defend the physical possibility of resurrection requires further research; but certainly atomism soon figured prominently in accounts of the resurrection (Strickland 2010). The atomist revival, then, was by no means confined to practitioners of natural philosophy and other natural sciences. In the hands of these naturalists, however, it soon led to the bourgeoning of different versions of so-called mechanical philosophies. Given that this new theory of matter was already being adapted to explain the possibility of resurrection by religious writers, it seems reasonable to suppose that devout natural philosophers would quickly follow suit. After all, as we have already noted, this was the time when the Protestant churches were placing a greater emphasis upon the general resurrection than the Roman Church had tended to do.

#### ROMAN CATHOLICISM AND THE RESURRECTION

Even before the canonization of Thomas Aquinas in 1323, the Church was increasingly adopting the Thomist interpretation of Aristotle's philosophy as a handmaiden to the Queen of the Sciences, Theology. Consequently, the Church became committed to Aristotelian hylomorphism, in which all bodies were held to be composed of a combination of matter and form. Aristotle had insisted that neither matter nor form could exist without the other; amorphous matter was an abstract notion that could only become physical (actual rather than merely potential) when endowed with a particular form; and of course it made no sense to talk of "form" unless there was something that was being formed. In scholastic Thomism this basic theory was embellished to give rise to the concept of *substantial form*. A substantial form, imposed upon matter, gave rise to an individual substance; that is to say, the form made a being precisely what it was; substantial forms imposed a specific identity on whatever they enformed.

We need not pursue all the complexities of this concept here, but suffice it to say that in the case of human beings the substantial form was not simply responsible for all the uniquely identifying features of an individual, but it was held to be capable of subsisting without matter, and therefore to be capable of enduring after the death of the body. The obviously inseparable link between matter and form in standard hylomorphist doctrine, meant that Thomas and his followers had to go to some philosophical trouble to make the claim that a person's substantial form could be separated from their material cadaver (Henry 2022). Briefly, humans held the intermediary, or transitional, position on the Great Chain of Being, between material beings below them, and immaterial beings above them. Just as the substantial form of an angel enformed immaterial substance, so the human substantial form could continue to exist after the death of the body by enforming the immaterial soul of that person.

Belief in the separation of the soul from the body went hand in hand, not only with Jesus' pronouncement to the good thief, crucified alongside him, "Today shalt thou be with me in paradise" (Luke, 23: 43, KJV); but also with the story that Dives, after his death, could see Lazarus being comforted in "Abraham's bosom" (Luke 16: 19–26, KJV). It also allowed for the Church's innovatory addition to eschatology (and prodigious moneyspinner), Purgatory (Le Goff 1986; Pasulka 2015). Since Purgatory implied that the dead were judged immediately after their deaths, the Church tended not to emphasize the general resurrection preceding judgment on the Last Day.

It is important to note, however, that Thomism continued to look forward to the Resurrection: it being assumed that the disembodied soul was necessarily incomplete. The soul could only be made complete by being united once again to its original body. The inherent tension between the Church's two differing attitudes to the soul was brought out in 1513 by Pope Leo X's Bull, *Apostolici regiminis*, which stated that "the soul is not only *vere per se et essentialiter* [truly by its own nature and essentially] the form of the human body, . . . but it is also immortal and separate and distinct in each body in which it is infused" (Schroeder 1937).

It is easy to see, against this background, that debates about the detailed nature of resurrection were less likely to occur in Catholic Europe before the Reformation than they were to do so afterward. All the varieties of Protestantism were led by their emphasis upon Biblical literalism to lay greater emphasis upon the foretold general resurrection rather than the supposed fortunes of a non-Scriptural concept such as the immortal soul. Accordingly, Protestant thinkers were more exercised by the question put by the Corinthians to St. Paul (I Corinthians: 15: 35), and echoed by Thomas Browne in his *Religio Medici*: "How shall the dead arise?" (Browne 1642, 88)

The Protestant Reformation and the rejection of hylomorphism in favor of new atomist, or corpuscularist, theories of matter went hand-in-hand therefore in ensuring that discussion of the general resurrection flourished in the early modern period. Ironically, however, these discussions, at least in some cases, led to reaffirmation of the traditional Thomist view. We can see this very clearly, for example, in Sir Kenelm Digby's ready dismissal

of Browne's musings on the resurrection. Digby presents a Browne who thinks along the same lines as John Donne:

But to come to the *Resurrection*, Methinkes it is but a grosse conception to thinke that every *Atome* of the present individuall matter of a body; every graine of *Ashes* of a burned *Cadaver*, scattered by the wind throughout the world, and after numerous variations changed peradventure into the body of another man; should at the sounding the last *Trumpet* be raked together againe from all the corners of the earth, and be made up anew into the same *Body* it was before of the first man. Yet... wee must believe that we shall rise againe with the same Body, that walked about, did eate, drinke, and live here on earth; and that we shall see our Saviour and *Redeemer* with the same, the very same, eyes... (Digby 1643, 77–79; cf. Browne 1642, 89–90. On Browne's views, see Thompson 2022, 78–80)

Digby, embracing Thomist hylomorphism, can dismiss this "grosse conception":

That which giveth the numerical individuation to a Body, is the substantiall forme. As long as that remaineth the same, though the matter be in a continuall fluxe and motion, yet the thinge is still the same... If then the forme remaine absolutely the same after separation from the matter, that it was in the matter, (which can happen onely to formes, that subsist by themselves; as humane Soules) it followeth then, that whensoever it is united to matter againe, (all matter comming out of the same Magazine) it maketh againe the same man, with the same eyes... (Digby 1643, 82–83)

Digby goes on to insist that matter on its own "hath no distinction" and is "in it self the same"; a resurrected man, therefore, will be composed of the same matter by virtue of the fact that it has "the same distinguisher and individuator; to wit, the same forme, or Soule" (Digby 1643, 84). The matter is essentially irrelevant to the case, and can be in continual flux, as indeed the matter of the human body is during life.

This way of considering how the same man, with the same body, can be restored at the resurrection was not available, however, to those who no longer subscribed to hylomorphism. Those who believed that human bodies were composed of atoms, or invisibly small particles of a similar kind, had to assume, as did Donne and Browne, that those material particles might be scattered far and wide after death. As we have seen, for both these thinkers, resurrection entailed God knowing where every "seed-pearl" of every person has ended up, and raking them together from every corner of the Earth. It might be supposed that this would become the standard corpuscularist account adopted by all the new philosophers, or rather, all the Protestant new philosophers. We only have to look to the leading new philosopher, Robert Boyle, however, to see that such a supposition would be mistaken.

#### ROBERT BOYLE ON THE RESURRECTION

Like Browne and Digby, Robert Boyle was a natural philosopher with more than ordinary religious devotion and a wish to present his religious views to the reading public. One of his earliest works in natural philosophy was "Of the atomical philosophy," which seems to have been written about the same time that he wrote "Physico-Theological Considerations concerning the Possibility of the Resurrection". Both seem to have been written about 1652–1654, perhaps indicating that Boyle's adoption of atomistic matter theory immediately led him to think about how the general resurrection might be accomplished by God (Boyle 2000, vols. 13 and 8; see also vol. 8, xxii; and Hunter 2009). Certainly, in his "Essay of the Holy Scriptures," also written at this same time, Boyle wrote:

The Instances I have mention'd may possibly hint an Answer to the Grand & boasted Objection against the Possibility of the Resurrection; by showing that a Humane Body devour'd by Beasts, may, by the Almighty Creators speciall Care, have its Atoms preserv'd in all their Digestions, & kept capable of being reunited. (Boyle 2000, vol. 13, 207)

Right at the outset of his "Considerations concerning the Possibility of the Resurrection" Boyle makes it clear that he wants to use the principles of the new philosophy to support the doctrine; not just to silence those who oppose the possibility of resurrection, but also to demonstrate to the devout that the new philosophies (although associated with Epicureanism) can be used to support religion:

for one of the most opposed Doctrines of Christianity, will hereby be made less forward to condemn all those for Desertors of *Reason*, that submit to *Revelation*. And I shall hope too, (on the other side,) that some more Religious, than, in this matter, well-inform'd Men, will be induc'd to think, that what they call the *New Philosophy* may furnish us with some new Weapons for the defence of our ancientest *Creed...* (Boyle 2000, vol. 8, 297)

To establish the possibility of resurrection, as well as reasserting "That nothing shall prove impossible to God," Boyle also deploys more subtle arguments about the nature of personal identity (Boyle 2000, vol. 8, 300). He discusses, for example, St. Paul's "similitude of Sowing"; "Thou sowest not that body that shall be, but bare grain..." (I Corinthians 15: 37, KJV; Boyle 2000, vol. 8, 302). Similarly, he points out that since God must have added other matter to Adam's rib, in order to make Eve, nothing prevents God from re-making humans in future from "a Portion of the Matter of a Humane Body" (Boyle 2000, vol. 8, 303). From here, Boyle goes on to emphasize the continually changing nature of human bodies and concludes "that there is no determinate Bulk or Size that is necessary to make a humane Body pass for the same, and that a very small portion of Matter will some times serve the turn..." (Boyle 2000, vol. 8, 305).

A human body, as Boyle notes, "is not as a Statue of Brass or Marble, that may continue... whole ages in a permanent state" (Boyle 2000, vol. 8, 304). Boyle, like Digby, is acknowledging that the matter of human bodies is always in flux.

Boyle also gives a brief account of the many different ways gold, or mercury, might be unrecognizably changed in alchemical procedures "and yet retain their own Nature" (Boyle 2000, vol. 8, 305, see also 309). He even manages to adapt the old hylomorphic argument that all matter is the same, that is to say, undifferentiated from other matter, to allow for resurrection within the mechanical philosophy:

the differences which make the varieties of Bodies we see, must not proceed from the Nature of Matter, of which as such we have but one uniform Conception; but from certain Attributes, such as *Motion, Size, Position, &c.* that we are wont to call Mechanical Affections. To this 'twill be congruous, that a determinate portion of Matter being given, if we suppose that an intelligent and otherwise duly qualified Agent do watch this portion of Matter in its whole progress, through the various forms it is made to put on... if, I say, we suppose this, and withal, that this intelligent Agent... extricating it from any other parcels of Matter wherewith it may be mingled, make it exchange its last Mechanical Affections for those which it had when the Agent first began to watch it; in such case, I say, this portion of Matter, how many changes and disguises soever it may have undergone in the mean time, will return to be what it was... (Boyle 2000, vol. 8, 308)

The standard view at this time, implicit in what Boyle is saying here, was that atoms, or corpuscles, were all made of the same matter and it was only their size, motions, or arrangements in space, which gave rise to gold, as opposed to mercury, salt, silk, or whatever. Instead of invoking a substantial form to provide matter with a specific identity, Boyle invokes an intelligent Agent, capable of re-imposing the same "Mechanical Affections" on matter, thereby imposing the same identity. Atoms arranged to make a ring of gold may be re-arranged not just to make a square shape, but even to make a square piece of wood, or indeed a hexagonal lamina of clay. But an intelligent agent like God can simply re-arrange those particles constituting the wood or clay to remake the ring of gold.

In Boyle's typically modest way, he concludes:

What has been hitherto discours'd, supposes the Doctrine of the *Resurrection* to be taken in a more strict and literal sense, because I would shew, that even according to that, the difficulties of answering what is mentioned against the possibility of it are not insuperable... (Boyle 2000, vol. 8, 311)

It seems that Boyle's interest in the resurrection, and his attempt to establish how his new corpuscularist and mechanical philosophy could be used to show how it might be possible for an omnipotent God to accomplish it, reflected a very personal concern. Even though Boyle deposited a copy of his "Considerations concerning the Possibility of the Resurrection" in

the library of the Royal Society (Boyle 2000, vol. 8, xxii), it did not start a trend followed by even the most religiously devout Fellows of the Royal Society."

There was, however, one devoted follower of Boyle who found himself, many years later, revisiting the doctrine of the general resurrection, and that was John Locke.

#### JOHN LOCKE AND THE RESURRECTION

Locke is not remembered as a natural philosopher, but that is a result of his appropriation by modern philosophers as a leading figure in the philosophical canon. Locke could not have seen himself as an academic philosopher of the mind because there was no such thing in his day. Locke was trained as a physician and, as is well-known, he presented himself in the Essay as an under-laborer, clearing the ground a little beneath master-builders such as Boyle, Thomas Sydenham, Christiaan Huygens and "the incomparable Mr. Newton" (Locke 1694, Epistle to the Reader, sig. [b4]r). To all intents and purposes, Locke was a natural philosopher (Alexander 1985; Anstey 2011), and we can certainly consider him as such here. Furthermore, he was a profoundly religious thinker. When he was persuaded to say more about personal identity in the second edition of the Essay (1694), Locke also found himself discussing the resurrection. He added one extra chapter, "Of Identity and Diversity" (Bk II, Chapter XXVII) in which he emphasized continuity of existence through time as a major factor in establishing the identity of any given subject. Unsurprisingly, therefore, he felt it necessary to address the resurrection, which involved a temporal disruption of continuity.

What was crucial for human subjects, he argued, even in a notebook dating from 1683, was continuity of consciousness (Forstrom 2010, 14–15; Thompson 2022, 1). Although the material substance of a thinking subject may change continually, the consciousness the subject has of its present thoughts and actions, or of its "actions past or to come," ensure that it is one and the same person.

For since consciousness always accompanies thinking, and it is that that makes everyone to be what he calls self, and therefore distinguishes himself from all other thinking things: in this alone consists personal identity, that is, the sameness of a rational being (Locke 1694, II, 27, 9).

Locke goes on to make the point that the identity of any given person is continuous "as far as this consciousness can be extended backwards to any past action or thought".

After pursuing various detailed implications of this view, Locke turns to the resurrection, which he believes is easily accommodated by his account: And thus may we be able, without any difficulty, to conceive the same person at the resurrection, though in a body not exactly in make or parts the same which he had here, the same consciousness going along with the soul that inhabits it. (Locke 1694, II, 27, 15)

Locke takes the standard pre-Cartesian line, commonly held since Thomas Aquinas, that neither the soul nor the body, taken separately and on their own, constitute a complete person (both being required together), but he insists that the consciousness will serve the turn:

Yet, it is plain, consciousness, as far as ever it can be extended, should it be to ages past, unites existences and actions very remote in time into the same person... so that whatever has the consciousness of present and past actions is the same person to whom they both belong. (Locke 1694, II, 27, 16)

Consequently, "it matters not whether this present self be made up of the same or other substances," whether material or immaterial.

Insisting that "personal identity consists: not in the identity of substance but, as I have said, in the identity of consciousness," Locke goes on to consider cases of memory loss, and of being drunk, mad, or otherwise denied consciousness of one's actions. Although Locke is led by his position to conclude that in such cases the person "can be no more concerned in [unconscious actions] than if they had never been done," he refers such moral cases to God: "the Apostle tells us, that at the Great Day, when everyone shall receive according to his doings, the secrets of all hearts shall be laid open" (Locke 1694, II, 27, 26; see also I Corinthians 14: 25).

So far throughout his discussion, Locke has failed to properly address the obvious issue of the seat, or source, of consciousness. At one point he acknowledges that "the more probable opinion is that this consciousness is annexed to and the affection of one individual immaterial substance." Even so, he is careful not to commit himself to this view (Locke 1694, II, 27, 25). At the end of his discussion, he defends this position as simply a result of our ignorance "of the nature of that thinking thing that is in us and which we look on as our selves." Earning his reputation as an empiricist, Locke prefers to talk of our internal experience of thinking, rather than try to explain it in terms of unconfirmable theorizing. In the end, however, Locke comes to a position that is not so very dissimilar from that of Digby, in which consciousness is substituted for the earlier concept of substantial form, or soul:

Did we know what it was or how it [consciousness] was tied to a certain system of fleeting animal spirits, or whether it could or could not perform its operations of thinking and memory out of a body organized as ours is, and whether it has pleased God that no one such spirit shall ever be united to any but one such body, upon the right constitution of whose organs its memory should depend, we might see the absurdity of some of those suppositions I have made. But taking, as we ordinarily now do (in the

dark about these matters), the soul of a man for an immaterial substance, independent from matter and indifferent alike to it all,... the same soul may at different times be united to different bodies and with them make up, for that time, one man... (Locke 1694, II, 27, 27)

So, where Digby, sees the matter of the resurrected body as insignificant, as long as it has "the same distinguisher and individuator; to wit, the same forme, or Soule" (Digby 1643, 84), and Boyle sees the matter as of no consequence, because "the *Humane Soul* is the form of Man, so that whatever duly organized portion of Matter 'tis united to, it therewith constitutes the same Man" (Boyle 2000, vol. 8, 311); Locke sees matter as indifferent and all alike to the soul, which can be united to different bodies but still make the same person. Effectively, all three of these writers offer a largely similar account of how the resurrected body will be endowed with the same identity it had during its earthly life. For each of these thinkers, the soul is the individuating feature, acting upon the required amount of undistinguished and unformed matter.

Indeed, it is difficult to understand the emphasis upon the numerically same body that Lloyd Strickland (2010) has revealed to be such a concern of early modern theologians. In fact, an emphasis upon the exact same body, requiring God to know "in what corner of the world every atom, every grain of every man's dust sleeps," as Donne sermonized (Donne 1640, 212), only makes sense if the theological concern is exclusively with the bodies of those who are to be damned.

This is so because St. Paul makes it very clear "that flesh and blood cannot inherit the kingdom of God" (I Corinthians 15: 50, KJV). Following through with his analogy about sowing grain rather than the "body that shall be" (I Corinthians 15: 37, KJV), St. Paul insists that the body "is sown in dishonour; it is raised in glory... It is sown a natural body; it is raised a spiritual body" (I Corinthians 15: 43, 44, KJV). If our interest is in understanding how the blessed will be resurrected, every grain of dust of the bodies of the dead should be of no concern. Our aim should be to answer St. Paul's "with what body do they come?" (I Corinthians 15: 35, KJV)

Boyle only hints by analogy at how God might glorify bodies by drawing attention to the strange fact that a newly extinguished candle can be re-lit by applying a flame to its rising smoke:

For who will distrust, what advantageous changes such an Agent as God can work by changing the Texture of a portion of matter, if he but observe, what happens meerly upon the account of such a Mechanical change in the lighting of a Candle that is newly blown out by the applying another to the ascending smoke. For in the twinkling of an Eye, an opacous, dark, languid and stinking smoke loses all its stink, and is changed into a most active penetrant and shining Body. (Boyle 2000, vol. 8, 312–13; alluding to I Corinthians 15: 52)

Boyle was writing in the context of a work explicitly concerned with the Resurrection. Locke, writing by contrast in a primarily secular work on the nature of our minds and how they work, does not enter into theological niceties such as distinctions between glorified bodies and the bodies of the damned. But we know that Locke felt the need to make such distinctions from the discussion in his *Paraphrase and Notes on the Epistles of St. Paul* (1705-07). Commenting on I Corinthians Chapter 15, Locke pointed out in his notes:

First, What in this resurrection is raised, St. Paul assures us, ver. 43, is raised in glory; but the wicked are not raised in glory. Secondly, He says, "we," speaking in the name of all, that shall be then raised, shall bear the image of the heavenly Adam, ver. 49, which cannot belong to the wicked. (Wainwright 1987, 254n; see also Chaterjee 2021)

In spite of the care Locke took to defend, philosophically and theologically, his claims about the irrelevance of ever-changing "flesh and blood" to determining the identity of a person, Locke was repeatedly attacked for failing to support the doctrine of the resurrection of the same body (Chaterjee 2021). In his *Reply to the Bishop of Worcester's Answer to His Second Letter* (1699), part of his exchange with Edward Stillingfleet, this was the main bone of contention. The nub of Locke's reply is effectively summed up in this passage:

In the New Testament (wherein, I think, are contained all the articles of the Christian faith) I find our Saviour and the apostles to preach the resurrection of the dead, and the resurrection from the dead, in many places: but I do not remember any place, where the resurrection of the same body is so much as mentioned. Nay, which is very remarkable in the case, I do not remember in any place of the New Testament (where the general resurrection at the last day is spoken of) any such expression as the resurrection of the body, much less of the same body. (Locke 1824, 303–04)

Indeed, at one point Locke thanks Stillingfleet for drawing his attention to an error in the *Essay*: "I shall in the next edition of it change these words of my book, 'the dead bodies of men shall rise,' into these of the scripture, 'the dead shall rise." (Locke 1824, 334, citing his *Essay* IV, 18, sec. 7)

We have made a big jump from Boyle's "Considerations concerning the Possibility of the Resurrection" of 1654 to Locke's *Essay* of 1694. The fact is, I am unaware of any similar attempts by English natural philosophers (with whose works I am most familiar) to explain how the general resurrection might be possible; how does it happen and with what body? We might well have expected the "Christian virtuosos," seen by historians as comprising the Fellows of the Royal Society, to have had more to say on the matter, given that it has been recognized by scholars as of pressing concern amid the apocalyptic fervor of the times.

It is possible, of course, that the musings of other natural philosophers on the way resurrection might be accomplished have remained in manuscript and are unknown to me. Perhaps this preliminary survey will lead others to make further revelations. In the meantime, however, all we can do is offer speculations as to why studies of the resurrection were not more prominent in the natural philosophical literature.

One obvious factor might have been due to the fairly unanimous adoption of atomist or corpuscularist matter theories among the new philosophers. Seeing that even a divine such as John Donne could not only deploy atomism to explain the resurrection, but could also include it in a public sermon for Easter, natural philosophers may have felt that there was nothing more that needed to be added. They might all have been reinforced in this view when Boyle published his "Considerations" in 1675. As we have seen, the only follower of Boyle to take up discussion of the resurrection was Locke, writing decades later. Locke did not repeat the corpuscularist interpretation of resurrection, however, but focused on the psychological issue, as was fitting in the context of the *Essay*, of personal identity.

This last point raises another issue. Even though Boyle and Locke were closely affiliated in their thought, and Locke can be seen as a devoted follower of Boyle and his work (Alexander 1985; Anstey 2011, 1–11), they each developed very different approaches to the notion of the general resurrection, reflecting their different concerns on the matter. Boyle, writing as a young man, and one who had just taken up chemical studies, used his ideas on the way material substances change to understand how resurrection might be possible. Locke, writing as a mature scholar, and seeking to understand how we come to believe or to know things, focused on personal identity (Forstrom 2010; Thompson 2022).

If nothing else, this suggests that we should not bring preconceived expectations to bear on our topic. We should not suppose all natural philosophers will approach the resurrection as a problem to be explained by matter theory. Taking a broader approach, we are immediately led to Thomas Hobbes, a leading mechanical philosopher who famously (or perhaps notoriously) discussed the resurrection in his *Leviathan* (1651).

#### THE RESURRECTION AND THE POLITICS OF PARADISE

Hobbes was unconcerned about answering St. Paul's question, "How are the dead raised up? and with what body do they come?" (I Corinthians 15: 35, KJV). His aim, in the fourth and final book of *Leviathan*, where he discussed the resurrection, was to dismiss what he saw as supernaturalist interpretations of Scripture (deriving chiefly from Roman Catholicism), and to replace them with interpretations that were entirely compatible with his strictly materialist ontology (Leijenhorst 2004; Okada 2022).

When it came to the general resurrection, therefore, Hobbes insisted that the eternal life promised to the blessed will be lived on Earth. If eternal life is "to be understood only of the immortality of the Soul," Hobbes wrote, these words "prove not at all that which our Saviour intended to prove, which was the Resurrection of the Body, that is to say, the Immortality of the Man" (Hobbes 2012, 706). He went on:

That the Soul of man is in its own nature Eternall, and a living Creature independent on the body; or that any meer man is Immortall, otherwise than by the Resurrection in the last day... is a doctrine not apparent in Scripture. (Hobbes 2012, 706)

Hobbes returns to the claim that the soul is immortal by its own nature in the first chapter of the final book, "The Kingdom of Darkness". If the soul were naturally immortal, Hobbes infers, "not onely the faithful and righteous, but also the wicked, and the Heathen, shall enjoy Eternall Life" (Hobbes 2012, 972). Dismissing talk of souls as unscriptural, Hobbes returns to emphasis upon the resurrection of the body:

I have shewed already, that the Kingdome of God by Christ beginneth at the day of Judgment: That in that day, the Fathfull shall rise again, with glorious, and spirituall Bodies... That they shall neither marry, nor be given in marriage, nor eate and drink, as they did in their naturall bodies, but live forever in their individual persons, without the specifical eternity of generation: And that the Reprobates also shall rise again, to receive punishments for their sins. (Hobbes 2012, 990)

The crucial difference between the Elect and the Reprobate, Hobbes suggests, is that

the wicked being left in the estate they were in after Adams sinne, may at the Resurrection live as they did, marry, and give in marriage, and have grosse and corruptible bodies, as all mankind now have; and consequently may engender perpetually, after the resurrection, as they did before. (Hobbes 2012, 992)

So, whereas the Elect enjoy personal immortality, the Reprobate can only experience it by generation:

[They] shall marry, and be given in marriage; that is, corrupt, and generate successively; which is an Immortality of the Kind, but not of the Persons of men: They are not worthy to be counted amongst them that shall obtain the next world, and an absolute Resurrection from the dead; but onely a short time, as inmates of that world; and to the end onely to receive condign punishment for their contumacy. (Hobbes 2012, 994)

The Reprobate, of course, will have to face the "Second, and Eternall Death" mentioned in Revelation (2: 11; 20: 6, 14; 21: 8, KJV), from which there will be no resurrection, hence it will be eternal death. This

interpretation has the added advantage for Hobbes, as a materialist exegete, that it does not require the Reprobate to endure eternal torments personally, but only as a kind. The time between their resurrection and their second death, "is but a time of Punishment and Torment; and to last by succession of sinners thereunto, as long as the kind of Man by propagation shall endure, which is till the end of the world" (Hobbes 2012, 994). Clearly, Hobbes sees this as a much more plausible account of eternal torment (the sins of the parents being perpetually visited upon the children) than the Roman Catholic supernaturalist account in which "hee who shall be cast into that fire [in Hell], or be tormented with those torments, shall endure, and resist them so, as to be eternally burnt, and tortured, and yet never be destroyed, nor die" (Hobbes 2012, 718).

It seems then, that the society on Earth, after the general resurrection, would be a two-tier society, of the Elect and the Reprobate. The Elect would have no wants or needs and would know they will live forever, while the Reprobate must live a second earthly life, knowing they will eventually die, finally and forever.

Given Hobbes's concern for the ordering of a good Commonwealth, and his attempt to carry his political theories over to a "Christian Commonwealth," it is easy to see why his ideas about life after the general resurrection developed the way they did. Certainly, his ideas develop in conformity with his uncompromising materialism, and his strictly mechanical natural philosophy. But he was not the only natural philosopher of the time to consider the nature of individual lives after the resurrection.

We can see this, for example, in the strange visions of life after the general resurrection presented by Sir William Petty. Best known today for his pioneering work in political arithmetic, or social statistics, Petty was a leading member of the early Royal Society, with a reputation as a highly effective Baconian experimental philosopher. His religious position was by no means orthodox, and he seems to have had a tendency toward Roman Catholicism (see, for example, Petty-FitzMaurice 1967, 119–21 and 121–28). Accordingly, in 1686, the year before his death, he wrote a short manuscript entitled, "Of the Necessity of a Living infallible Judge in Spirituall matters" (British Library Ms. Add. 72888, fols 60r-63r, now in Lewis 2012, 131–35). Significantly, for our purposes, he uses imaginative visions of the nature of life after the general resurrection to support his crypto-Catholic argument for an infallible Judge.

He begins by considering where the blessed shall dwell after their death, and assumes that the "Immense space without [i.e. outside] the Starry orb" is the most probable place. Clearly, the external surface of the sphere of fixed stars (evidently envisaged, as it was traditionally, as a hard crystalline sphere) is much larger than the surface of the Earth, and this leads Petty to suppose the bodies of the Elect will be larger:

That the bodyes of the blessed at their resurrection shall bee glorify'd that is to say Magnifyd & enlarged in that proportion, that their residence on Earth beareth to that on the said convex which wee now call heaven... (Lewis 2012, 134)

This leads Petty to also suppose that the bodies of the damned, by contrast, will be smaller:

and that the bodyes of the damnd shall contrariwise bee shrunk & almost annihilated to the biggness of those animals lately discovered in Peper water and shall bee the purgatory & Instruments to punish those who are to bee purified for Eternall happinesse and then to dye for ever that is to be annihilated (Lewis 2012, 134)

The picture is not crystal clear, but what Petty seems to envisage, after the resurrection, are the Elect, whose glorified bodies are gigantic; the damned, whose bodies are microscopically small; and thirdly those undergoing purgation or purification. This last intermediary group are to be tormented (and thereby purged), it seems, by the microscopically small damned, as though by mosquitos or some similarly irritating insect. It seems clear, however, that for his model of the damned, Petty was thinking of the microbial life discovered by Anthonie van Leeuwenhoek, and reported in the *Transactions of the Royal Society* in 1673 (Ruestow 1996).

For reasons known only to himself, Petty does not refer to Scripture to justify his belief in the resurrection, but refers to the principles of statistical analysis which he has developed throughout his career. Perhaps the point was to confirm the value of his mathematical approach by showing that it led to conclusions coinciding with Scripture:

My Reasons are that about the End of 6000 yeares or 314 yeares hence all the land of the Earth will bee fully people'd, and not able to feed any more... When the world is fully peopld they must kill one another for a livelihood which to prevent, God who hath so strictly forbidden murder will put a period to the whole; and call all to a generall Judgment for what is past. (Lewis 2012, 134)

So far, so good. But the aim is to prove the need for an infallible Judge in matters of religion. Accordingly, Petty immediately changes tack. He now insists that the "Globe of this Earth" must be a hollow shell, because a solid core "of neer 8000 miles" would be of no use to man, and therefore would not have been made in vain by God or nature. The walls of such a hollow sphere, by "the rules of architecture" must be 200 miles thick, leaving a hollow inside the globe of the Earth of 7600 miles in diameter. Petty now supposes, in the middle of this hollow sphere, "a sun of about 3 miles in diameter"; and a concave surface of the hollow Earth which is "the most pleasant soile that can be imagind, for need or delight" (Lewis 2012, 134–35).

This leads to an alternative scenario for life after the resurrection:

Now if the Infallible Roman Catholiq Church shall not allow of rewards, & punishment to bee made by the enlargments and shrinkings above mention'd wee humbly offer, That those who deserved well on the surface or convex of the Earth, may bee glorified in the pleasant concave last mencioned, whilst the wicked, dwell in darke caverns within the shells supposed to be about 200 miles thick in its walls, or sides, upon which grounds we may suppose purgatory to bee Cells with windows to look into the pleasant concave from whence as Prisnors they may see the blessed, and go in themselves after the time of their purgation... (Lewis 2012, 135)

#### This in turn enables Petty to close his argument:

To conclude whosoever shall think these [alternative] suppositions to bee uncertaine & obscure must confess the necessity of an Infallible Judge & who is fitter for the same, then the successour to his onely son, who... resides in that place where the greatest Citty which ever was on the convex of this our Globe is plact... (Lewis 2012, 135)

The greatest city is, of course, Rome, and Petty is referring to the Pope.

It is a very strange way to argue: to offer two arbitrarily chosen alternative visions of the resurrection, and then to insist that since we cannot decide between them, we must rely on an infallible Judge. If Petty had chosen to show how difficult passages from the Bible might be interpreted in markedly different ways; it could be used to expose flaws in the Protestant emphasis upon Scripture as the rule of faith. Petty's insistence that an infallible judge is therefore necessary, would have made a clear and plausible argument. By imagining two completely different visions of the resurrection, however, Petty merely introduces distractions, with an unconvincing outcome.

This is especially odd, given that Petty makes no reference to Scripture and what is said there about the resurrection. Hobbes took great pains to show the compatibility of his interpretation of life after the resurrection with Scripture (Okada 2022); but Petty shows no interest whatsoever in taking a similar exegetical course. But Hobbes was a deeply committed Protestant, and Petty seems to have been a crypto-Catholic—the former committed to the Bible as the only source of truth; the latter more inclined to accept Church doctrine, and ultimately papal pronouncements (although Petty's two versions of the resurrection bear no relation whatsoever to Church tradition). Perhaps this last point explains why Petty also includes Purgatory as a feature in both of his accounts of life after the general resurrection. It seems to suggest that Petty was unaware that the doctrine of Purgatory and the doctrine of the Resurrection were essentially incompatible. Purgatory, after all, implied that the dead were judged straight away, and that those in Purgatory would all be purged, to eventually join the blessed. Furthermore, traditionally this all took place in a non-earthly place, since it was souls, not bodies that were being purged.

One way or another, Petty's imaginative visions of the afterlife, based entirely upon natural philosophical principles of his own choosing, were undeniably extremely idiosyncratic.

We can end our survey of natural philosophers who were interested in the general resurrection with Isaac Newton. Although Newton worked in a number of different areas, it is generally acknowledged that he kept his different interests separate, always recognizing the disciplinary boundaries between each one (Iliffe 2004). He does not discuss the resurrection in any of his mathematical or natural philosophical works, therefore, but he considered it in his religious papers, particularly those concerned with the prophetic writings. Because his focus was on the meaning of the Scriptures and other early texts where the resurrection was discussed, Newton did not consider how the dead would arise, whether as the same bodies, or as the same persons defined by something other than their material constitution. He did concern himself, however, with the nature of life after the resurrection, and these speculations enable us to conclude that Newton did not believe the bodies of the resurrected dead would be the same as they had been when they were alive.

Unlike Hobbes, Newton took the standard line that the second death, for the reprobate, mentioned in the Revelation, would follow immediately upon, or soon after, their resurrection. The blessed would live forever in the same world as before, but they would not be confined to the Earth. The blessed would be capable of flight—of self-movement through the air and beyond, to the spaces between the planets and the stars.

But this I say that as Fishes in water ascend & descend, move whether they will & rest where they will, so may Angels & Christ & the Children of the resurrection do in the air & heavens. Tis not the place but the state which makes heaven & happiness... And as the Planets remain in their orbs, so may any other bodies subsist at any distance from the earth, & much more may beings who have a sufficient power of self motion, move whether they will place themselves where they will, & continue in any regions of the heavens whatever, there to enjoy the society of one another... Thus may the whole heavens or any part thereof whatever be the habitation of the Blessed & at the same time the earth be subject to their dominion. And to have thus the liberty & dominion of the whole heavens & the choise of the happiest places for abode seems a greater happiness then to be confined to any one place whatever. But the truth & manner of these things we shall not understand before the resurrection. I only speak of the possibility. (Newton [c. 1685] 2004, fol. 140r; see also Manuel 1974; Iliffe 2017).

Newton, whose mind had roamed through the heavens as he pursued his cosmological theories, was perhaps fantasizing about being able to make the same journeys in bodily form? Or perhaps Newton, who had made the unbreakable link between bodies and gravity, was hoping, even though he believed in a bodily resurrection, that gravity might be defied after the end times.

If Newton's ideas on the resurrection were influenced by the life of his mind, they also show signs of having been influenced by his friend John Locke. Talking in 1694 to David Gregory, the Scottish mathematician who had recently been appointed as Savilian professor of mathematics at Oxford, Newton emphasized the importance of a continuation of memory to guarantee resurrection of the same person (Iliffe 2017, 207). This clearly echoes Locke's focus on consciousness to ensure continuity of personal identity.

Once again, although each of these three natural philosophers, Hobbes, Petty, and Newton, were united in speculating about the nature of every-day life after the Day of Judgment, it is clear that each developed their own original ideas for their own unique purposes.

Only Hobbes and Locke actually discussed the resurrection within the context of their major philosophical works. In both cases, there were special reasons why they felt the need to do so. Locke, as we have seen, discussed the nature of resurrection in his *Essay* within the context of a wider philosophical concern with the nature of personal identity (Forstrom 2010). Hobbes, for his part, emphasized in *Leviathan* his materialist and down-to-earth view of the resurrection within the context of a wider concern to dismiss what he saw as excessively supernatural doctrines, emphasizing untenable immaterial concepts (Okada 2022).

Even Robert Boyle, a natural philosopher who published at length on religious matters throughout his career, essentially confined his discussion of the resurrection to one short work, written very early in his career. By the time he came to write *The Excellency of Theology, Compar'd with Natural Philosophy* (1674), *Some Considerations about the Reconcileableness of Reason and Religion* (1675), *A Discourse of Things Above Reason* (1681), *Of the High Veneration Man's Intellect Owes to God* (1684-85), and *The Christian Virtuoso* (1690–1691), he evidently felt no need to discuss issues arising from the doctrine of resurrection.

Neither Petty nor Newton introduced discussion of the resurrection into their natural philosophical works. Petty's reasons for choosing to offer alternative visions of resurrected life, to illustrate his argument about the need for an infallible judge, will forever remain bafflingly idiosyncratic. Newton's discussion, by contrast, was entirely in the tradition of Scriptural exegesis. He wrote of the resurrection not as a natural philosopher but as a commentator on the apocalyptic books of Scripture (Manuel 1974; Iliffe 2017).

## Discussions of the Resurrection and Contemporary Natural Theology

The foregoing survey of discussions of the resurrection by natural philosophers covers all the cases I am aware of in early modern England. I have worked on early modern history of science and religion for a few decades,

and so I am inclined to think I have not missed anything. It is perfectly possible, of course, that the fragmented picture of individualistic and unconnected discussions of the resurrection presented here is merely a result of the preliminary nature of this survey. Further research may bring out a more coherent view of the resurrection and a more concerted use of it by natural philosophers to support their faith. It would be particularly valuable, perhaps, to learn of interest in the resurrection by Continental natural philosophers. As things stand, I am only aware of G. W. Leibniz's interest (Strickland 2009). Pending such further research, however, it seems reasonable to proceed on the assumption that the survey as presented here does reflect the true state of affairs. If we assume this, then it behooves us to offer some explanation as to why so few English natural philosophers engaged with the doctrine of the resurrection, at a time when it was a prominent topic among theologians (Strickland 2010; Forstrom 2010; Thompson 2022), and at a time when natural philosophers generally took a keen interest in religious issues (Funkenstein 1986).

Natural philosophers did not introduce religious matters into their work in a casual way. Even the most religiously devout natural philosophers tended to confine their discussion of religious issues to those aspects that they believed could be illuminated, or supported, by their natural philosophy. The general motivation was either to use knowledge of nature to defend religious doctrine, or to defend their new philosophy against all too frequent charges that it was irreligious. The focus, more often than not, was on using natural philosophy to establish the being and attributes of God, or to establish the existence of the immortal soul (Thomson 2008; Brooke 2014).

Natural theology flourished as never before in the early modern period, reflecting the fact that the new philosophies were continually decried as atheistic (Hunter 1990). Although there were countless internal disputes over matters of detail, and about the best way to win the debate, for the most part, it is possible to see a largely unified approach by the would-be natural theologians. The argument from design dominated in attempts to prove the existence of God, and to establish God's supreme wisdom and benevolence (Blair and Von Greyerz 2020). While those who preferred to combat atheism by proving the immortality of the soul, developed variations on the claim that corruption and destruction were the result of the scattering of constituent atoms, and therefore only applied to material entities. All that was then required was to show that the soul is immaterial, and therefore must be immortal (Thomson 2008; Thompson 2022; Henry 2022).

We need not revisit these efforts in detail here. The point is that each of the two enterprises—to prove the existence of God, or to prove the immortality of the soul—showed a marked similarity of approach. Furthermore, both were explicitly presented by their proposers as exercises in natural theology, that is to say, attempts to use natural philosophy to

show the truths of religion. There is nothing remotely like this, however, in the handful of naturalists writing on the resurrection that we have considered above. Another feature of this natural theology is that it was taken up also by philosophically minded theologians. Attempts to prove the immortality of the soul by demonstrating its immateriality, and by defining annihilation in terms of the dispersal of an entity's constituent material corpuscles, were developed by theologians such as Henry More, Edward Stillingfleet, Samuel Clarke, and others (Henry 2022).

We can even see that there was an element of self-consciousness in this natural theological enterprise. When Locke suggested that matter might be capable of thinking (1694, IV, 3, §6), he concomitantly undermined the links these natural theologians had forged between our ability to think and immateriality. If Locke was right, it would no longer be possible to claim that our thoughts indicate the incorporeal nature of our rational souls. Accordingly, Stillingfleet was quick to warn Locke of the danger of what he was suggesting:

I look on a mistake herein to be of dangerous Consequences to the great Ends of Religion and Morality: which, you think, may be secured although the Soul be allowed to be a Material Substance; but I am of a very different Opinion: For if God doth not change the Essential Properties of things... then either it is impossible for a Material Substance to think, or it must be asserted, that a Power of thinking is within the Essential Properties of Matter... (Stillingfleet 1710, 542, see also 612)

It is interesting in itself that attempts to prove the immortality of the soul should be more prominent in early modern England than discussions of the resurrection. After all, as we have noted, Protestant Churches tended to favor the resurrection as a way of achieving personal immortality, rather than emphasizing the immortality of the soul, which was associated more with the Catholic Church. Again, this reversal of where we might expect debate to focus strongly indicates the importance of natural theology as a way to defeat atheism, and to bolster the faith. It is as though natural philosophers and philosophical theologians chose their theological emphasis on pragmatic grounds—focusing on whatever was most suited for combatting atheism.

It is surely evident that attempts to prove the reality of a future general resurrection could not command the same anti-atheistic force as arguments to prove the incorporeal nature of the soul. Apart from anything else, proving that predicted events should be seen as perfectly possible, was unlikely to have the same impact on an atheist as showing that our thought processes prove the necessary existence of an immaterial realm.

Indeed, on the contrary, discussion of the resurrection before an audience of atheists might well prove counter-productive. Certainly, the Cambridge Platonist, Henry More seemed to think so:

That we shall have the same Numerical Bodies in which we lived here on Earth, and That those very bodies, the molds being turned aside, shall start out of the Grave. This doctrine the Atheist very dearly hugs as a pledge, in his bold conceit, of the falseness and vanity of all the other Articles of Religion. (More 1660, 221)

The implication seems to be that the doctrine of the resurrection is so implausible (as even More seems to acknowledge) that a would-be atheist will only be turned away from belief by contemplating it. We saw earlier that Boyle referred to "the Grand & boasted Objection against the Possibility of the Resurrection" which he perceived as common to his times (Boyle 2000, vol. 13, 207). The notion of a general resurrection, he said, was "one of the most opposed Doctrines of Christianity" (Boyle 2000, vol. 8, 297).

Unlike the issue of the immortality of the soul, therefore, the general resurrection did not feature in natural philosophers' attempts to support Christian belief. The sole exception to this that we have seen here seems to have been Boyle's juvenile work. Even here, Boyle could at best show that resurrection might be possible. This is not the same as proving that it must come to pass, as predicted in Scripture. Perhaps this is why Boyle only published it as an appendix to his *Reconcileableness of Reason and Religion*, and never tried subsequently to use it to show the usefulness of natural philosophy for proving the truth of theology. And neither did any other natural philosopher seeking to combat atheism and bolster religious belief.

As we have seen, neither Locke nor Hobbes discussed the resurrection as a way of showing the usefulness of natural philosophy for religion. Each of them had other fish to fry. The same is true of William Petty, whose concern seems to have been an ill-judged way of dismissing the Protestant rule of faith, *sola Scriptura*, in favor of the need for an infallible guide. Although Newton was closer to writers like Boyle and others, and used his natural philosophy to promote natural theological arguments, his discussion of the resurrection appeared only in purely religious writings, aimed at readers whose faith was taken for granted; there was no suggestion that Newton was also trying to convince unbelievers of the truth of the resurrection (Manuel 1974; Iliffe 2017).

It seems, therefore, that the comparative sparsity of discussion of the general resurrection among natural philosophers can be used to confirm what we already know about the early modern enterprise of natural theology: its links to attempts to defend the faith on the one hand, and the Christian credentials of the new natural philosophy on the other. It seems evident that the doctrine of the general resurrection was recognized as being inappropriate, perhaps even counter-productive, for these endeavors. Devout natural philosophers clearly thought that proving the immateriality and immortality of the soul, and reinforcing the design argument, were likely to be more effective.

#### Conclusion

I have presented a brief account of all the cases known to me of early modern English natural philosophers discussing the resurrection. I have also offered suggestions as to why there are so few cases at a time when we might have expected more. Given that natural philosophers were not prone to discuss any theological matters without good reason, but tended to confine themselves to discussions where their natural philosophy could be seen to significantly bolster religious teachings, it seems that the resurrection did not suit their purposes. The result was that only those natural philosophers who had their own reasons for discussing the resurrection turned their attention to it. The result, therefore, was a small number of individualistic and unconnected treatments of the topic.

As far as I am aware, my survey is complete for seventeenth-century England, but, of course, I cannot pretend to be infallible in this regard. There may be other cases of which I am unaware, especially if the relevant works remain in manuscript. My survey is also entirely Anglocentric. It would be very useful to know what the picture was like among Continental natural philosophers, especially those in Protestant countries. I hope that the restricted survey offered here is sufficiently intriguing that it may inspire others to engage in the necessary research.

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