

CHAPTER 11 THE CAUSE OF MOTION

The mover and the moved must be in contact in local motion (Book 7, Lesson 3)

When we say that the mover must be in contact with the moved, we are not talking about the final cause, which can be distant, but about the efficient cause. This can be seen in the three kinds of motion:

As for local motion, we have seen (in Lesson 1) how one thing is moved by another, where the mover is in contact with the moved. There are various ways a mover imparts local motion: by pushing, pulling, spinning, and carrying. Pulling can be reduced to pushing, since that is what the hook does to the part it is hooked onto. The difference between the rest is that pushing imparts a *per se* motion to the mobile so that it changes place. Spinning imparts a motion that is *per se*, but only by reason of the body's (potential) parts, which constantly change position while the body stays in the same place. Carrying imparts a *per accidens* motion, in that the mobile rests on the carrier which is in motion *per se*.

Aristotle mentions three cases of local motion where the moved does not seem to be in contact with the mover. These are gravitational motion, the motion imparted by a magnet, and the motion of a projectile after it has been thrown. We will explain and assess Aristotle's views on these questions later.

The mover and the moved must be in contact in alteration and growth (Book 7, Lesson 4)

For alteration it is obvious in most cases that the altering agent comes in contact with what it alters. But there are cases of the agent operating through a medium, as the sun heating the earth. The contact of an altering agent and alteration is obvious in sensation, which takes place when the sense organ is altered. In this way the senses perceive heaviness and lightness, hardness and softness, dryness and wetness, density and rarity, sounds, brightness and colours, sweetness and bitterness etc. In all these cases the agent either touches the sense organ or acts on it through a medium, such as air or water.

In the case of growing, what is added to an organism by way of nourishment, must come in contact with the organism before it can be assimilated.

Opinions on the eternity of motion (Book 8, Lesson 1)

Democritus supposed that the first principles of things are bodies that are *per se* indivisible and always mobile and that the world came to be by the chance aggregation of these bodies—not only the world in which we exist, but an infinitude of other worlds in diverse parts of infinite void. Still he did not posit these worlds as fated to endure forever; rather, some came into existence as a result of atoms combining, and others passed out of existence as a result of the same atoms scattering. Therefore all the philosophers who agree with Democritus assert the eternity of motion.

On the other side, Anaxagoras held that there was a time in which nothing was in motion, when everything was mixed together and at rest for an infinite past, until Mind, which alone was unmixed, began to separate things one from another.

Empedocles also denied the eternity of continuous motion, but held that from eternity motion has alternated with rest in cycles, so that at certain periods all things are at rest (at least with respect to the general change of the world) and at others things are in motion. For him, Friendship and Discord, being respectively the principles of unity and multiplicity, are the causes of motion.

[In the ancient world, only Judaism held for creation in time, even though the letter of *Genesis* 1:1 could accommodate Anaxagoras' view.] Thomas comments:

This method of proving the existence of a first principle is most efficacious and irresistible. for if

on the supposition that both motion and the world existed forever, it is necessary to posit one first principle, then, if the eternity thereof should be rejected, it is all the more necessary, for it is clear that every new thing requires a principles bringing it into being. Now the only reason why it could seem that no first principle would be necessary, would be if things were *ab aeterno*. But if the existence of a first principle follows even on that supposition, i.e. that the world existed *ab aeterno*, it is clear that the existence of a first principle is absolutely necessary.

An argument for the eternity of motion (Book 8, Lesson 2)

As principles of his argument, Aristotle recalls that motion is always in a mobile, and that a mover is also required for motion. If, then, it is held that motion has not always existed, it is necessary to say either (1) that mobiles and movers at one time came into existence—but that presupposes another change with movers and mobiles, since nothing comes from nothing, or (2) that they are eternal—then motion could never begin without some change in the mobiles or the movers disturbing the rest of all things. Even an intellectual mover, which is free to move or not move, can be supposed to act in the same way normally and *per se* (like a doctor acting to heal), but only *per accidens* do the contrary.

Similarly, motion is destined always to be. That is because from something never comes nothing; every change is into something else, matter being indestructible.

Thomas' Critique of the Arguments of Aristotle and Ibn-Rushd (*ibid.*)

Ibn-Rushd's arguments in support of an eternal past

From this argument of Aristotle, Ibn-Rushd took occasion to speak against what is held by faith about creation. For if coming-to-be is a kind of change and every change requires a subject, as Aristotle here proves, it is necessary that whatever comes to be does so from a subject; therefore, it is not possible for something to come to be from nothing.

He confirms this with another argument: When it is said that the black comes to be from the white, this is not to speak *per se*, in the sense that the white itself is converted into the black, but it is to speak *per accidens*, in the sense that upon the departure of the white, the black succeeds it. Now whatever is *per accidens* is reduced to what is *per se*. But that from which something comes to be *per se*, is the subject, which enters into the substance of what comes to be. Therefore, whatever is said to come to be from its opposite comes to be from it *per accidens*, but *per se* it comes to be from the subject. Accordingly, it is not possible for being to come to be from non-being absolutely.

In further support of his position Ibn-Rushd adduces the common opinion of the early philosophers that nothing comes from nothing.

He also gives two reasons from which he considers that the position arose that something should come to be from nothing. The first is that ordinary people do not consider as existing anything but what is comprehensible by sight; therefore, because they see something visible come to be which previously was not visible, they think that it is possible for something to come to be from nothing.

The second reason is that among the common people it could be thought to be a weakening of the power of the agent that it should need matter in order to act, which condition, however, does not derive from the impotency of the agent, but from the very nature of motion. Therefore, because the first agent does not have a power which is in any way deficient, they think that it should act without a subject.

But if one considers rightly, Ibn-Rushd was deceived by a cause similar to the cause by which he claimed we are deceived, namely, by considering particular things. For it is clear that a particular active power presupposes the matter which a more universal agent produces, just as an artisan uses the matter which nature makes. From the fact therefore, that every particular agent presupposes matter which it does not produce, one should not suppose that the first universal agent—which is active with respect to all

being—should presuppose something not caused by it.

Nor, moreover, is this in keeping with the intention of Aristotle who in *Metaphysics II* proves that the supremely true and the supreme being is the cause of being for all existents. Hence the being which prime matter has—i.e. a being in potency—is derived from the first principle of being which is in a supreme way a being. Therefore it is not necessary to presuppose for its action anything not produced by it.

And because every motion needs a subject—as Aristotle proves here, and is the truth of the matter—it follows that the universal production of being by God is neither motion nor change, but a certain simple coming forth. consequently, “to be made” and “to make” are used in an equivocal sense when applied to this universal production of being and to other productions.

Therefore, just as, if we should understand the production of things to be from God *ab aeterno*—as Aristotle supposed, and a number of the Platonists—it is not necessary, indeed it is impossible, that there have been a pre-existing but unproduced subject of this universal production, so also, in accord with the tenets of our faith, if we posit that He did not produce things *ab aeterno* but produced them after they had not existed, it is not necessary to posit a subject for this universal production.

It is evident, therefore, that what Aristotle proves here, namely, that every motion requires a mobile subject, is not against a tenet of our faith—for it has already been said that the universal production of things, whether *ab aeterno* or not, is neither a motion nor a change. For in order that there be motion or change, it is required that something be other now than previously, and thus there would be something previously existing, and consequently this would not be the universal production of things about which we are now speaking.

What Ibn-Rushd introduces about the early philosophers has no value, for they were unable to arrive at the first cause of all being but considered the causes of particular changes.

The first of these philosophers considered the causes solely of accidental changes, and posited all “being made” to be alteration. Those who succeeded them arrived at a knowledge of substantial changes, but those who came still later, such as Plato and Aristotle, arrived at a knowledge of the principle of all existence.

Consequently, it is clear that we are not moved to assert that something comes to be from nothing because we suppose only visible things to be beings; rather it is because we do not content ourselves with considering merely the particular productions of particular causes, but go on to consider the universal production of all being from the first principle of being. Nor do we assert that to need matter in order to act is due to a diminished power, in the sense of such a power’s lacking its natural energy; rather, what we say is that this is proper to a particular power, which does not extend to all being but makes a particular being.

Hence one can say that it is characteristic of a “diminished power” to make something from something in the sense that we would say that a particular power is less than the universal power....

Regarding Aristotle’s conclusion that motion always has been and will never cease

These, therefore, are the arguments by which Aristotle intends to prove that motion always has been and will never cease. The first part of which, i.e. that motion always existed, conflicts with our faith. For our faith admits nothing as eternally existing but God alone, who is utterly immobile—unless, of course, you wish to refer to the act of the divine intellect as a motion, but that would be an equivocal sense, and Aristotle is not here speaking of motion in that sense but of motion properly so called.

The other part of the conclusion is not entirely contrary to the faith, because, as was said above, Aristotle is not treating of the motion of the heavens in particular but of motion universally. Now we believe

according to our faith that the substance of the world indeed began, yet so as never to cease. For we posit that some motions will always exist, especially in men who will always remain, living an unceasing life either in happiness or misery...

If one rightly considers the arguments here given, the truth of the faith is not assailed by them. For they prove that motion did not begin through the way of nature, as some taught it did, but these arguments cannot prove that it did not begin by things being created by a first principle of things, as our faith holds. And that will be evident to anyone who considers each of the inferences here drawn by Aristotle.

For when he asks whether, if motion did not always exist, the movers and mobiles always existed or not, the reply must be that the first mover always existed; other things—movers or mobiles—did not always exist, but began to exist from the universal cause of all existence. But it has been pointed out above that the production of all being by the first cause of being is not a motion, whether this coming-forth be taken to be *ab aeterno* or not. Accordingly, it does not follow that before the first change there was a previous change. But this would follow if the movers and mobiles were newly brought into existence by some particular agent acting upon some presupposed subject that would be changed from non-being to being, or from privation to form—and Aristotle's argument concerns this way of coming into existence.

But because we posit that at least a first mover always existed, we need to give an answer to his subsequent deduction that, if movers and mobiles pre-exist, and motion begins newly to be in them, then the movers or mobiles could not have been previously in that disposition in which they are while there is motion, and therefore, some change must have preceded the first change.

Now, if we are speaking of the motion itself, the answer is easy: the mobiles were not previously in that disposition in which they now are, because previously they did not exist; hence they could not be moved. But, as it has been said, they received their existence not through a change or motion but through coming forth from the first principle of things; accordingly, it does not follow that before the first change there was a change.

But there still remains the question about the first production of things. For if the first principle, which is God, is no different now than before, then neither does he produce things now any more than before; but if he is different, at least the change affecting him will be prior to the change which is supposed to be the first. And indeed, if he were a cause that acts only through nature and not through intellect and will, this reason would conclude necessarily. But because he acts through will, he can through an eternal will produce an effect which is non-eternal, just as by his eternal intellect he can understand a thing that is non-eternal—the thing understood being in a certain way the principle of action in causes that act by intellect, as a natural form is in causes that act by nature.

But a further point must be pursued. For we do not say that a will postpones doing what it wants, unless something is expected in the future that does not yet exist in the present, as for example, when I will to make a fire not now but later, because in the future it is expected to be cold, on account of which I make the fire; or at least a presence of time is awaited. But that time succeeds time does not occur without motion. Therefore, it cannot be that a will, even if it be immutable, postpones doing what it wills, without some motion being involved. Accordingly, the new production of things cannot come forth from the eternal will except by means of motions succeeding one another *ad infinitum*.

Now those who raise this objection fail to see that it assumes a thing acting in time, i.e. something that acts on the assumption that time exists; for in this kind of action which occurs in time, one must consider some determinate relationship to this time or to things that exist in this time to explain why it be performed in this time rather than in some other time. But this reasoning has no place in the universal agent, which produces time itself at the same time that it produces other things.

For when we say that things have not always been produced by God, we do not understand that an infinite time preceded, in which God refrained from acting and that later, at a definite time, he began to

act; rather, we understand that God produced at once both time and things after they did not exist. Accordingly, we must not consider in the divine will that it willed to make things not then but later, as though time were already existing; rather, we must solely consider the fact that he willed that things and the time of their duration should begin to be after they had not existed at all.

If it be asked why he willed this, it must be said without a doubt that it was for his own sake. For just as he made things because of himself, in order that in them the likeness of his goodness be manifested, so he willed that they not always be, in order to show his self-sufficiency, from the fact that, although nothing else existed, he in himself had all sufficiency of happiness and of power to produce things.

And this can indeed be said as far as human reason can grasp divine things, saving, of course, the secret of divine wisdom which cannot be comprehended by us.

.. Aristotle assumed time to be eternal.. Yet, just as when we say that “outside” the universe there is nothing but God, we are not positing some dimension outside the world, so too, when we say that “before” the universe nothing existed, we are not positing any sort of successive duration before the universe.