

Chapter 6

LECTIO VIII

[1] After the Philosopher explained in what way there is a beginning to motion and how there is not, here he explained the mutual ordering of those things which occur in motion: and in the first part of this chapter he sets out those things which are necessary for the purpose proposed; in the second part he explains his purpose, where he writes “This being shown, it is apparent...” (236b33).

[2] He first says that, because all that which changes, changes in time, as was shown above: but something can be said to change in time in two ways. The first way is according to itself, and the other way is according to another, i.e. as a part, as one would say that because something has changed over the course of a year, therefore it has changed over the course of a day. Thus, with this distinction as a premise, he states that which he intends to provide, that is, if anything changes first in some time, it is necessary that it changes in any part of that time. And this is proven in two ways. First, from the definition of that which was first stated: that which is said to belong to something primarily, also belongs to any of its parts, as was said in the fifth principle.

Secondly, he proves the same thing through an argument. Let there be a time, XR, in which something first moves, and then let that time be divided at K. It is therefore necessary to say that in the temporal part XK, it is either moving or not moving; and similarly of the part KR. If, therefore, it were granted that in neither of these parts there were any movement, it would follow that in the totality XR it would not be moving either, but it would rest in that time. It is impossible that something be moving over a period of time, if none of its parts move. If, on the other hand, it is granted that in one part there is movement but not in another, it follows that there is not movement over XR, because it is necessary that there be movement in both temporal parts, and not just in one or the other.

Thus it is necessary to say that it be moving in all parts of the temporal period XR. And this is we wished to prove; that that which in the first place is moving over a certain time period, is also moving over all of its parts.

[3] From where he says, “This being shown...”, Aristotle proceeds to the principal point which needs to be proven, in regards to which he does two things. First, he develops demonstrations of

[1] Postquam philosophus ostendit qualiter sit accipere primum in mutatione et qualiter non, hic ostendit ordinem eorum quae in motu inveniuntur ad invicem: et primo praemittit quoddam necessarium ad propositum ostendendum; secundo ostendit propositum, ibi: ostenso autem hoc et cetera.

[2] Dicit ergo primo, quod omne quod mutatur, mutatur in tempore, ut supra ostensum est: sed in tempore aliquo dicitur aliquid mutari dupliciter; uno modo primo et per se, alio modo secundum alterum, idest ratione partis, sicut dicitur aliquid mutari in anno, quia mutatur in die. Hac ergo distinctione praemissa, proponit quod intendit probare: scilicet, si aliquid mutatur primo in aliquo tempore, necesse est quod mutetur in qualibet parte illius temporis. Et hoc probat dupliciter. Primo quidem ex definitione eius quod dicitur primum: hoc enim dicitur primo alicui convenire, quod convenit ei secundum quamlibet suam partem, ut in principio quinti dictum est. Secundo probat idem per rationem. Sit enim tempus in quo primo aliquid movetur xr: et quia omne tempus est divisibile, dividatur secundum k. Necesse est ergo dicere quod in parte temporis quae est xk, aut moveatur aut non moveatur; et similiter de parte quae est kr. Si ergo detur quod in neutra harum partium movetur, sequitur quod neque in toto xr moveatur, sed quiescat in eo: quia impossibile est quod aliquid moveatur in tempore, in cuius nulla parte movetur. Si autem detur quod in una parte temporis moveatur et non in alia, sequetur quod non primo moveatur in xr tempore: quia oporteret quod secundum utramque partem moveretur, et non secundum alteram tantum. Necesse est ergo dicere quod moveatur in qualibet parte temporis quod est xr. Et hoc est quod demonstrare volumus; scilicet quod in quo primo tempore aliquid movetur, in qualibet parte eius movetur.

[3] Deinde cum dicit: ostenso autem hoc etc., procedit ad principale propositum ostendendum. Et circa hoc duo facit: primo inducit demonstrationes ad propositum ostendendum; secundo concludit veritatem determinatam, ibi: quare necesse est et cetera. Circa primum duo facit: primo ostendit quod ante omne moveri praecedit mutatum esse; secundo quod e converso ante quodlibet mutatum esse praecedit moveri, ibi: non solum autem quod mutatur et cetera.

the point to be proven; secondly, he concludes that the truth of the matter has been proven, where he says, “It is apparent, then, ...” (237b10). In regards to the first, he does two things: first, he proves that before anything is moved, the change must first be. Secondly, the converse: that prior to the being of any change, being moved must precede, where he says “However, it is not only necessary...” (237a17).

[4] He first demonstrates his point with three arguments, of which the first is as follows. Let it be given that the time period XR, some mobile α is in motion, by a magnitude of KL. It is obvious that if it is accepted that if another mobile β is moving with the same velocity, that if it begins its motion at the same time as α , at the half point in time β will have moved half of the magnitude. And if β moves at the same velocity over the whole magnitude, it follows that also α will have also moved in the stated time, i.e. half of XR, over the magnitude just stated, i.e. part of the whole magnitude KL. It thus follows that that which is moved, is first changed.

Moreover, that which is here stated is most clearly understandable, if one considers that just as a point is called the end of a line, similarly being moved is the end of motion. But whatever line or part of a line you take, it is always the case that the end of the entire line is prior, and according to which point you take, that will be how the line is divided. And similarly prior to any motion, and prior to any part of motion, it must be said that there is some ‘being moved’ [*mutatum esse*]. This is because, as long as the mobile is in motion to some term, it will have already passed by some indicator, in respect to which it is said that there is change. But just as a point in a line is in potency prior to division, but in act once the line has been divided, the division itself of the line will exist along with the point. Similarly that which I say ‘has been moved’ amidst motion, is in potency when the motion has not yet been finished: but once it has been finished, it will be in act.

Because that which is in act is more knowable than that which is in potency, therefore Aristotle demonstrates that that which moves continuously, is already something moved, through [the example of] some mobile of equal speed, whose motion has already terminated. Just as if someone were to show that in some line there a point in potency, because another line of equal measure is divided in act.

[5] His second argument he gives where he says, “Moreover, if we say a mobile...” (237a4), and is

[4] Primum ostendit tribus rationibus: quarum prima talis est. Detur quod in xr primo tempore aliquod mobile motum sit per kl magnitudinem: manifestum est quod si accipiatur aliud mobile aequae velocitatis, quod simul inceptum est moveri cum ipso, in medietate temporis motum erit per medium magnitudinis. Cum ergo sit aequae velocitatis illud mobile quod ponitur moveri per totam magnitudinem, sequitur quod etiam ipsum in eodem tempore, scilicet in medietate temporis xr, motum est iam per eandem magnitudinem, quae scilicet est pars totius magnitudinis kl. Sequitur ergo quod illud quod movetur, prius est mutatum. Ut autem illud quod hic dicitur manifestius intelligatur, considerandum est quod sicut punctus nominat terminum lineae, ita mutatum esse nominat terminum motus. Quaecumque autem lineam vel partem lineae accipias, semper est dicere quod ante consummationem lineae totius, sit accipere aliquod punctum, secundum quod linea dividatur. Et similiter ante quemlibet motum, et ante quaecumque partem motus, est accipere aliquod mutatum esse: quia dum mobile est in moveri ad aliquem terminum, iam pertransivit aliquod signum, respectu cuius iam dicitur mutatum esse. Sed sicut punctum infra lineam est in potentia ante lineae divisionem, in actu autem quando iam linea est divisa, cum punctum sit ipsa lineae divisio; similiter hoc quod dico mutatum esse infra motum, est in potentia quando motus non ibi terminatur: sed si ibi terminetur, erit in actu. Et quia quod est in actu est notius eo quod est in potentia, ideo Aristoteles probavit quod illud quod continue movetur, iam mutatum est aliquid, per aliud mobile aequae velocitatis, cuius motus iam terminatus est: sicut si quis probaret quod in aliqua linea esset punctum in potentia, per hoc quod alia linea eiusdem rationis esset divisa in actu.

[5] Secundam rationem ponit ibi: amplius autem et si in omni etc.: quae talis est. In toto tempore xr, vel in quocumque alio, dicitur aliquid mutatum esse, per hoc quod accipitur ultimum nunc ipsius temporis: non quod in nunc moveatur aliquid, sed quia in nunc terminatur motus. Unde hic non accipit mutatum esse pro eo quod est aliquando moveri, sed pro eo quod est terminari motum. Ideo autem necesse est terminari motum in ultimo nunc temporis mensurantis motum, quia ipsum nunc determinat tempus, id est est terminus ipsius, sicut punctum lineae; et oportet omne tempus esse medium inter duo nunc, sicut linea est inter duo puncta. Quia ergo moveri est in tempore, sequitur quod motum esse sit in nunc, quod est terminus temporis. Et si ita est de motu qui est in toto tempore, oportet etiam quod similiter dicatur de partibus motus, quae sunt in partibus temporis. Iam enim ostensum est quod si aliquid movetur primo in toto tempore, quod movetur in qualibet parte temporis. Quaelibet autem pars temporis accepta terminatur ad aliquod nunc. Oportet enim quod ultimum medietatis temporis sit divisio, id est ipsum nunc, quod dividit inter duas partes temporis. Quare sequitur quod illud quod movetur per totum, sit prius motum in medio, propter nunc quod determinat medium. Et eadem ratio est de qualibet alia parte temporis. Qualitercumque enim dividatur tempus, semper

as follows. In the entire time XR, or in any other time, we say that something has moved, according to that which is said to be the final ‘now’ of this time: it is not that anything moves in the now, but rather that in the now, the motion terminates. Thus it is not said that something has moved according to being in motion during some time, but according to having terminated its motion. Thus also it is necessary that it have terminated its motion in the final now of the time over which the motion was measured, because this now determines the time, and thus is its term, just as the point is of the line.

It is also necessary that every time be that which comes between two nows, just as a line is that which comes between two points. Thus, because to be moved is in time, it follows that to have been moved [*motum esse*] is in the now, which is the term of time. And if it is thus with regards to the motion which is in a completed time, the same must be said of the parts of motion, which are in parts of time. For it has already been shown that if anything first moves in a complete time, that it must move in every part of that time. But any given part of time ends in some now. For the end point of half of the time will be the division, i.e. the same now, which divides the time into two parts. From which it follows that that which moves across the whole, will first have moved halfway, by way of the now which we have called the middle.

The same explanation serves for any other part of time. However one divides time, it will always be the case that any part of time will be limited by two nows: and after the first now of the time of measuring the motion, whichever now is taken, in that now [the mobile] will have already moved; because that now, whichever one is taken, is the term of the time over which the motion is measured. Thus, because all time is divisible into times; and all time is that which comes between two nows; and in every now, which the end of the time over which the motion is measured, something will have moved, as has been shown.

It follows that everything which has moved, will have moved infinitely; because to have moved is the term of motion, as a point is for a line and a now is for time. For as in any line it is infinitely possible to designate a point before a point, according to either of which the line is divisible infinitely, similarly in case of moving, it is possible to infinitely designate ‘has been moved,’ because motion is infinitely divisible, just as lines and time, as was shown above.

[6] Aristotle gives his third reason where he says, “Moreover, if it is necessary that what is continuously changing...” (237a12), and is as follows. Everything which changes, if it is not corrupted, and does not stop at a change, i.e. it does not cease to be moved, insofar as it moves continuously, it must be the case that in some now of the time in which it moves, it is either changing or changed. But in the now it does not undergo change, as has been shown above. Therefore, it must be the case that in any now of the continuous time over which the motion is measured, that it have changed [*mutatum sit*].

But in any time there are infinite nows, because the now is the division of time, and time is infinitely divisible. Therefore, everything which is undergoing change is infinitely ‘changed’. And thus it follows that prior to every moving there is a ‘has been changed’, not as something existing

invenietur quaelibet pars temporis determinari a duobus nunc: et post primum nunc temporis mensurantis motum, quodcumque aliud nunc accipitur, in eo iam motum est; quia illud nunc, quodcumque accipitur, est terminus temporis mensurantis motum. Quia ergo omne tempus divisibile est in tempora; et omne tempus est medium inter duo nunc; et in omni nunc, quod est ultimum temporis mensurantis motum, aliquid motum est, sicut probatum est: sequitur quod omne quod mutatur sit infinities mutatum; quia mutatum esse est terminus motus, sicut punctum lineae et nunc temporis. Sicut ergo in qualibet linea est signare infinities punctum ante punctum, et in quolibet tempore infinities nunc ante nunc, propter hoc quod utrumque est divisibile in infinitum; ita in quolibet moveri est signare infinities mutatum esse, quia motus est in infinitum divisibilis, sicut linea et tempus, ut supra probatum est.

[6] Tertiam rationem ponit ibi: amplius autem si id quod continue mutatur etc.: quae talis est. Omne quod mutatur, si non corrumpitur neque pausat a mutatione, idest neque desinit moveri, quasi continue mutatum, necesse est quod in quolibet nunc temporis in quo movetur, vel mutetur vel sit mutatum. Sed in nunc non mutatur, ut supra ostensum est: ergo necesse est quod in quolibet nunc temporis mensurantis motum continuum sit mutatum. Sed in quolibet tempore sunt infinita nunc, quia nunc est divisio temporis, et tempus est in infinitum divisibile: ergo omne quod mutatur est infinities mutatum. Et ita sequitur quod ante omne moveri sit mutatum esse, non quasi extra ipsum moveri existens, sed in ipso, ut terminans aliquam partem eius.

beyond the moving itself, but within in, as that which terminates some part of it.

[7] Next, where he says, “However, not only is it necessary that what is changing...” (237a17) he demonstrates the contrary, that prior to every ‘has been changed’ there is a moving. And he first demonstrates this based on temporal parts; second, based on parts of the thing which is being moved, where he says, “Moreover, what was said is more apparent in magnitude...” (237a30). In regards to the first demonstration, he proceeds in three stages: first he indicates what is to be proved; second, he indicates what will be necessary for proving the proposition (where he says, “For everything that has changed...” [237a19]); thirdly, he begins the proof of the principles proposed (where he says, “Since, then, it has changed...” [237a26]). He first says that not only what is changing must have been changed, but also that everything which has been changed must first change: because “to be changed” is the term of moving. Thus it is must be the case that moving must “having been changed.”

[8] Beginning where he says, “For everything that has changed...” (237a19), he indicates that which is necessary to prove the proposition, i.e. that everything which changes from something to something, is changed in time. But it is necessary to note that this “has been changed” is not the same as the term of motion. For it was shown above that the time in which it was said that something “has been changed” is indivisible. But here “has been changed” is used to indicate that something was earlier moved; it is as if he had said, “All that which was moved, was moved in time.”

[Aristotle] proves this as follows. If the proposition were not true, it would be the case that [a mobile α] moved from A to B, i.e. from one term to another, in the same now. This being posited, it follows that when [α] is at A, i.e. the terminus a quo, in that very now it is not yet changing. As was shown above, that which has changed, when it is changed, is not at the terminus a quo, but rather in the terminus ad quem; thus it follows that it is simultaneously at A and at B. Thus it must be said that it is at A at one now, and at another now it be said to have changed. But between any two nows there is time intervening, because two nows cannot be immediately together, as has been proven above. It thus remains that all that changes, changes in time.

[9] It seems, however, that there is a problem with this conclusion in regards to coming to be and

[7] Deinde cum dicit: non solum autem quod mutatur etc., probat quod e converso ante omne mutatum esse, praecedat mutari. Et primo ex parte temporis; secundo ex parte rei secundum quam est motus, ibi: amplius autem in magnitudine et cetera. Circa primum tria facit: primo proponit propositum; secundo demonstrat quoddam necessarium ad probandum propositum, ibi: omne enim quod ex quodam etc.; tertio inducit probationem principalis propositi, ibi: quoniam igitur et cetera. Dicit ergo primo quod non solum omne quod mutatur necesse est mutatum esse iam, sed etiam omne quod mutatum est necesse est prius mutari: quia mutatum esse est terminus eius quod est moveri. Unde oportet quod ante mutatum esse praecedat moveri.

[8] Deinde cum dicit: omne enim etc., ponit quoddam necessarium ad propositi probationem, scilicet quod omne quod mutatur ex quodam in quiddam, sit mutatum in tempore. Sed advertendum quod hic mutatum esse non est idem quod terminari motum: supra enim ostensum est quod illud temporis, in quo primo dicitur mutatum esse, est indivisibile. Sed accipitur hic mutatum esse, secundum quod significat quod aliquid prius movebatur; quasi dicat: omne quod movebatur, movebatur in tempore. Et hoc probat sic. Si hoc non est verum, sit aliquid mutatum ex a in b, idest ex uno termino in alterum, in ipso nunc. Hoc posito, sequitur quod quando est in ipso a, idest in termino a quo, in eodem nunc nondum est mutatum: quia iam supra ostensum est, quod illud quod mutatum est, quando mutatum est, non est in termino a quo, sed magis in termino ad quem; sequeretur ergo quod simul esset in a et in b. Oportet ergo dicere quod in alio nunc sit in a, et in alio nunc sit mutatum. Sed inter quaelibet duo nunc est tempus medium, quia duo nunc non possunt esse sibi coniuncta immediate, ut supra ostensum est. Relinquitur ergo quod omne quod mutatur, mutatur in tempore.

[9] Videtur autem quod hic concluditur habere instantiam in generatione et corruptione, inter quorum terminos non est aliquod medium. Si enim inter nunc in quo est in termino a quo, et inter nunc in quo est in termino ad quem, sit tempus medium, sequetur quod aliquid sit medium inter esse et non esse; quia in illo medio tempore, id quod mutatur neque esset ens, neque non ens. Sed quia ratio quae hic ponitur demonstrativa est, oportet quod hic dicitur aliquo modo etiam in generatione et corruptione salvari: ita tamen quod aliquo modo etiam huiusmodi mutationes sint momentaneae, cum non possit esse aliquod medium inter extrema earum. Est igitur dicendum quod illud quod mutatur de non esse in esse, vel e converso, non est simul in non esse et esse: sed sicut in octavo dicitur, non est dare ultimum instans, in quo id quod generatur sit non ens; sed est dare primum instans in quo est ens, ita quod in toto tempore praecedenti illud instans, est non ens. Inter tempus autem et instans quod terminat motum, non est

passing away, between whose terms there is no middle term. For if between the now which is the terminus a quo, and the now which is the terminus ad quem, there were time intervening, it would follow that there would be something between being and non-being, because in that middle time, that which is changing must be a being, not a non-being. But because the reasoning that Aristotle gives here is a valid demonstration, it has to be the case that it can be in some way preserved as valid in the case of coming to be and passing away.

It must also, therefore, be the case that in some way changes of this type be instantaneous, so that there cannot be any middle term [*medium*] between their extremes. Therefore it is necessary to say that that which changes from non-being to being, or vice versa, is not simultaneously in being and non-being. But rather, as was said in [8], it does not happen [*non est dare*] in the ultimate instant, in which that which is coming to be is not a being, but rather happens [*est dare*] in the first instant in which it is a being, just as in every time preceding that instant, it is not a being. But between the time and the instant which terminates the motion, there is no middle term, and thus it is not necessary that there be any middle term between being and non-being. But because the time which precedes the instant in which it was first generated, is the measure of some motion, it follows that that instant in which it first comes to be, is the term of the preceding time over which the motion was measured, such that the beginning-to-be is the term of the preceding motion.

If, therefore, coming to be is said to be the beginning of being, it is so as the term of motion, and is so in an instant. This is because the ending of motion, which is the “having been changed,” is in an indivisible time, as was shown above. But if coming to be is taken as the beginning of being, with all of the preceding motion of which it is the term, in this way it is not in an instant, but in time, with the result that in all the preceding time it is not yet being that which is coming to be, but in the final instant it is [that] being. And the same must be said of passing away.

[10] Beginning where he says “Since, however, in time...” (237a26), he proves the principal proposition with the following reasoning. All that which has been changed, was changed in time, as has been demonstrated. But all time is divisible; moreover, that which is changing in some time, is changing in any part of that time. Thus it must be said that that which has changed over the entire time period, was previously being changed at the midpoint of the time, and likewise at the midpoint of the midpoint, and so on forever, so that the time period is infinitely divisible. Thus it follows that that which has been changed, was first being changed, and thus prior to every ‘having been changed,’ there precedes ‘being changed.’

[11] Next, where he says, “But further, in magnitude...” (237a29), he proves the same thing, basing

aliquod medium: et sic non oportet quod sit medium inter esse et non esse. Sed quia tempus quod praecedit instans in quo primo est quod generatur, mensurat aliquem motum, sequitur quod sicut illud instans in quo primo est quod generatur, est terminus praecedentis temporis mensurantis motum, ita incipere esse est terminus praecedentis motus. Si ergo generatio dicatur ipsa inceptio essendi, sic est terminus motus, et sic est in instanti: quia terminari motum, quod est mutatum esse, est in indivisibili temporis, ut supra ostensum est. Si autem generatio accipiatur ipsa inceptio essendi cum toto motu praecedente cuius est terminus, sic non est in instanti, sed in tempore: ita quod in toto tempore praecedenti est non ens illud quod generatur, et in ultimo instanti est ens. Et similiter dicendum est de corruptione.

[10] Deinde cum dicit: quoniam igitur in tempore etc., probat principale propositum tali ratione. Omne quod mutatum est, in tempore mutabatur, ut probatum est: omne autem tempus est divisibile: quod autem in aliquo tempore mutatur, in qualibet parte illius temporis mutatur: ergo oportet dicere, quod illud quod mutatum est in toto aliquo tempore, mutabatur prius in medietate temporis, et iterum in medietate medietatis: et sic semper procedetur, propter hoc quod tempus est in infinitum divisibile. Ergo sequitur quod omne quod mutatum est, prius mutabatur: et ita ante omne mutatum esse praecedit mutari.

[11] Deinde cum dicit: amplius autem in magnitudine etc., ostendit idem, ratione accepta ex parte eius secundum quod mutatur. Et primo quantum ad motus qui sunt in quantitate; secundo quantum ad alias mutationes, ibi: eadem enim demonstratio est et cetera. Dicit ergo primo, quod hoc quod dictum est ex parte temporis, communiter ad omnem mutationem, manifestius potest accipi ex parte magnitudinis: quia magnitudo manifestior est quam tempus, et magnitudo continua est sicut et tempus, et in ea aliquid mutatur, scilicet illud quod movetur secundum locum, vel quod movetur secundum augmentum et decrementum. Sit ergo aliquid mutatum ex c in d. Non autem potest dici quod totum quod est cd sit indivisibile; quia oportet quod cd sit pars alicuius magnitudinis, sicut motus qui est ex c in d est pars totius motus: similiter enim dividitur magnitudo et motus, ut supra ostensum est. Si autem aliquod indivisibile sit pars magnitudinis, sequitur quod duo impartibilia erunt immediate coniuncta; quod est

his argument on the part of the being according to which it is changed. And he begins with motion in quantity, and later discusses other changes, where he says “For this has also been shown...” (237b1). Thus he states first that that which is said of a part of time, which is in common to all change, must obviously be taken to hold of [the corresponding] part of magnitude. This is because magnitude is more manifest than time, and magnitude is continuous just as time is, and in each one, something is being changed, i.e. that which is moved according to place, or that which is moved according to increase or decrease [of size]. There must thus be something that has changed from C to D. But it cannot be said that all CD is indivisible, because it is necessary that CD be part of some magnitude, just as the motion which is from C to D is part of the total motion, for magnitude and motion divide similarly, as was shown above.

But if something indivisible were part of a magnitude, it would follow that two indivisible things were immediately contiguous [*coniuncta*], which is impossible, as was shown above. But it cannot therefore be said that the entirety of CD is indivisible. Therefore it is necessary that that which is between C and D be some magnitude, and consequently that it be infinitely divisible. But it is always the case that changing in a part of the magnitude be prior to having been changed over the entire magnitude. Therefore it is necessary that all that has been changed, first be changing, just as it is necessary that prior to any complete magnitude, there be a part of it.

[12] Next, where he says, “For this has also been shown...” (237b1), he shows that the same must be the case in those changes which do not involve continuous things. For instance, in the case of alteration, which is between contrary qualities, and in the case of coming to be and passing away, which are between opposite contradictories. For although in these things it is not possible to demonstrate this based on a part of the thing which is being moved, nevertheless it is possible with [*accipietur*] the time in which this type of changes occur, and [Aristotle] proceeds in this same manner. Thus in three changes, i.e. alteration, coming to be and passing away, only his first reasoning is valid; in the other three, i.e. increase and decrease [of size] and change of place, the other reasoning is valid.

[13] Next, where he says, “Therefore it is necessary that...” (237b3), he concludes his main proposition, first in general terms, and then regarding the special case of coming to be and passing away, where he says “It is thus manifest ...” (237b10). He thus first draws the conclusion from his

impossibile, ut supra ostensum est. Non ergo potest dici quod totum cd sit indivisibile. Ergo necesse est quod illud quod est inter c et d, sit quaedam magnitudo, et per consequens quod in infinitum dividi possit. Sed semper prius mutatur in parte magnitudinis, quam sit mutatum per totam magnitudinem. Ergo necesse est omne quod mutatum est, prius mutari; sicut necesse est quod ante quamlibet magnitudinem totam, sit pars eius.

[12] Deinde cum dicit: eadem enim demonstratio etc., ostendit quod idem necesse est esse in illis mutationibus, quae non sunt secundum aliqua continua; sicut de alteratione, quae est inter contrarias qualitates, et de generatione et corruptione, quae sunt inter contradictorie opposita. Licet enim in his non possit hoc demonstrari ex parte rei secundum quam est motus, accipietur tamen tempus in quo sunt huiusmodi mutationes, et eodem modo procedetur. Sic igitur in tribus mutationibus, scilicet alteratione et corruptione et generatione, habet locum sola prima ratio: in aliis autem tribus, scilicet augmento et decremento et loci mutatione, habet locum utraque.

[13] Deinde cum dicit: quare necesse etc., concludit principale propositum: et primo in communi; secundo specialiter quantum ad generationem et corruptionem, ibi: manifestum igitur et cetera. Concludit ergo primo ex praemissis, quod necesse est omne mutatum prius mutari, et omne quod mutatur prius esse mutatum. Et sic verum est dicere quod hoc ipso quod est mutari, prius est mutatum esse: et iterum, hoc ipso quod est mutatum esse, est prius mutari. Et ita manifestum fit quod nullo modo comprehenditur aliquid primum. Et huius causa est, quia in motu non coniungitur impartibile impartibili, ita quod totus motus componatur ex impartibilibus: quia si hoc esset, esset accipere aliquod primum. Hoc autem non est verum: quia motus est divisibilis in infinitum, sicut etiam et lineae, quae in infinitum diminuuntur per divisionem, et in infinitum augmentantur per additionem oppositam diminutioni; dum scilicet quod subtrahitur ab uno, alteri additur, ut in tertio est ostensum. Manifestum est enim in linea, quod ante quamlibet partem lineae est accipere punctum in medio illius partis; et ante illud punctum medium est accipere aliquam partem lineae; et sic in infinitum. Non tamen linea est infinita; quia ante primum punctum lineae non est aliqua pars lineae. Et similiter considerandum est in motu: quia cum quaelibet pars motus sit divisibilis, ante quamlibet partem motus est accipere indivisibile aliquid in medio illius partis, quod est mutatum esse; et ante illud indivisibile est accipere partem motus; et sic in infinitum. Non tamen sequitur quod motus sit infinitus: quia ante primum indivisibile motus, non est aliqua pars motus. Illud tamen primum indivisibile non dicitur mutatum esse, sicut nec primum punctum lineae dicitur divisio.

premises, that it is necessary that everything that has changed first be changing, and that everything which is changing first be changed. And thus it is true to say that the same thing which is changing, first be changed. And further, that that which has changed, first be changing. And thus he shows that in no way can either one be understood as first. The cause of this is that in motion indivisibles are not conjoined with indivisibles, such that all motion would be composed from indivisibles. For if things were this way, something would have to be taken as first. But this is not true, because motion is divisible infinitely, just as are lines, which can be infinitely reduced by division, and infinitely increased by addition opposite to the reduction; i.e. while subtracting from one, the other is added to, as was shown in [3]. For it is clear in lines, because before any part of the line, there can be taken a midpoint of this part, and before that midpoint there can be taken some other part of the line, and so on ad infinitum. Nevertheless, a line is not infinite, because before the first point in the line, there is not another part of the line.

The same must be the case in motion, because since any part of a motion will be divisible, prior to any part of a motion there can be taken some indivisible at the middle of that part, which is the ‘has changed’; before that indivisible there can be taken a part of the motion, and so on ad infinitum. It does not, nevertheless, follow that the motion is infinite, because prior to the first indivisible of the motion, there is not other part of the motion. Nevertheless, that first indivisible is not called a ‘has changed,’ just as the first point on a line is not called a ‘division.’

[14] Next, where he says, “Therefore it is manifest ...” (237b10), he applies the same conclusion to the special case of coming to be and passing away. And this is the case, because ‘has changed’ is related differently to ‘changing’ in coming to be and passing away, than in the case of other changes. For in other changes, ‘has changed’ and ‘changing’ are said according to the same thing, as ‘to be altered’ and ‘being altered’ are said of being white. For altering is changing according to whiteness, and to have altered is according to whiteness, and the same is the case with locomotion, increase and decrease [of size]. But in coming to be, ‘has changed’ is said according to one thing, and ‘changing’ according to another. For ‘has changed’ is according to form, but ‘changing’ is not according to the negation of the form, which is not taken to be more or less in virtue of itself. ‘Changing,’ however, is taken according to something close to negation, which is taken as more or less, and which is a quality. And thus coming to be is the term of that which is altering, and passing away is similar.

Because motion is called a terminus ad quem, as was stated in [5], the altering itself, which has two terms, i.e. substantial form and quality, is said in two ways, because it can be said either as altering, becoming or passing away. And in this sense Aristotle takes this becoming and passing away in the place of the alteration itself, insofar as it terminates in being or non-being. Based on this, he says that that which is coming to be, must first have come to be, and that which has come to be, have first have been coming to be, whatever the divisibles and continuous things in question may be. This is certainly a reason, as Averroes says, for excluding those things which come to be indivisibly from continuous motion, such as thinking and sensing. These are not said to be motion

[14] Deinde cum dicit: manifestum igitur etc., concludit idem specialiter in generatione et corruptione. Et hoc ideo, quia aliter se habet mutatum esse ad mutari in generatione et corruptione, et aliter in aliis. In aliis enim mutatum esse et mutari est secundum idem, sicut alteratum esse et alterari est secundum album. Nam alterari est mutari secundum albedinem, alteratum autem esse est mutatum esse secundum albedinem: et idem dicendum est in motu locali, et augmento et decremento. Sed in generatione secundum aliud est mutatum esse, et secundum aliud mutari. Nam mutatum esse est secundum formam: mutari vero non est secundum negationem formae, quae non suscipit magis et minus secundum se; sed mutari est secundum aliquid adiunctum negationi, quod suscipit magis et minus, quod est qualitas. Et ideo generatum esse est terminus eius quod est alterari, et similiter corruptum esse. Et quia motus denominatur a termino ad quem, ut in principio quinti dictum est, ipsum alterari, quia habet duos terminos, scilicet formam substantialem et qualitatem, dupliciter nominatur; quia potest dici et alterari, et fieri et corrumpi. Et hoc modo accipit hic fieri et corrumpi pro ipso alterari, secundum quod terminatur ad esse vel non esse. Unde dicit quod illud quod factum est, necesse est prius fieri, et illud quod fit, necesse est factum esse, quaecumque tamen sunt divisibilia et continua. Quod quidem ponitur, ut Commentator dicit, ad excludendum quaedam quae indivisibiliter fiunt absque motu continuo, sicut intelligere et sentire: quae etiam non dicuntur motus nisi aequivoce, ut in tertio de anima dicitur. Vel potest dici aliter, quod hoc philosophus addidit ut accipiatur generatio cum toto motu continuo praecedente.

except in an equivocal fashion, as is stated in the third book of the *De anima*. Or it might also be said in another way, as this philosopher adds, that coming to be can be taken with all the continuous preceding motion.

[15] It is said differently for different cases that that which is coming to be, has first come to be. For some are simples, which have a simple generation, such as air or fire, and in these things one part does not come to be before another part, but they come to be simultaneously, and the whole is altered along with the parts. And in such things, that which has come to be, was itself first coming to be; and that which is coming to be, had itself first come to be, according to the continuity of preceding alterations. But there are things which are made up of dissimilar parts, of which one part comes to be before another, as in animals the heart first comes to be, and in the house, the foundation. In these things that which is coming to be, has first come to be, not its very self, but something of it.

And this is what underlies [*subdit*], that it is not always the case that that which is coming to be, has first itself come to be, but sometimes something of it has come to be, as in the case of the house's foundation. But because it must happen that for a certain part, that all must come to be simultaneously, it must be the case that in some part of that which is coming to be, it have come to be according to some term taken from the preceding alteration. Just as while the animal is coming to be, the heart has already come to be, and while the heart is coming to be something has already come to be; perhaps not some part of the heart, but some alteration has come to be, ordered to the coming to be of the heart.

Just as was said of coming to be, so passing away must be understood. For immediately in that which is coming to be and passing away, there is some kind of infinite, in the sense of continuum, because coming to be and passing away are themselves continua. And thus it is not coming to be, unless something have come to be before: neither has something come to be, unless before it was coming to be. And the same thing must be said about passing away and having passed away. For 'having passed away' is always prior to the 'passing away' itself, and 'passing away' is prior to 'having passed away.' Thus it is clear that everything which has come to be, first have been coming to be; and everything which is coming to be, must in some way first have come to be. And this is so, because every magnitude and every time are divisible infinitely. And thus in whatever time something is coming to be, this will not be as the beginning, because there will be a prior part that is taken. And this, which is said of coming to be and passing away, must also be understood of illumination, which is the term of the local motion of those bodies which illumine, just as coming to be and passing away are terms of alterations.

[15] Sed id quod fit, prius factum esse, diversimode invenitur in diversis. Quaedam enim sunt simplicia, quae habent simplicem generationem, sicut aer aut ignis: et in istis non generatur pars ante partem, sed simul generatur et alteratur totum et partes. Et in talibus id quod factum est, ipsummet prius fiebat; et quod fit, ipsummet prius factum est, propter continuitatem alterationis praecedentis. Quaedam vero sunt composita ex dissimilibus partibus, quorum pars generatur post partem, sicut in animali prius generatur cor, et in domo fundamentum: et in istis quod fit, prius factum est, non ipsummet, sed aliquid eius. Et hoc est quod subdit, quod non semper id quod fit, prius ipsummet factum est, sed aliquando aliquid eius factum est, sicut fundamentum domus. Sed quia oportet devenire ad aliquam partem quae tota simul fit, oportet quod in aliqua parte id quod fit, factum sit secundum aliquem terminum acceptum in alteratione praecedenti: sicut dum generatur animal iam factum est cor, et dum generatur cor iam factum est aliquid; non quidem aliqua pars cordis, sed aliqua alteratio facta est, ordinata ad generationem cordis. Et sicut dictum est de generatione, ita intelligendum est de corruptione. Statim enim ei quod fit et corrumpitur, inest quoddam infinitum, cum sit continuum; quia ipsum fieri et ipsum corrumpi continuum est. Et ideo non est fieri, nisi aliquid factum sit prius: neque est aliquid factum esse, nisi fiat prius. Et similiter dicendum est de corrumpi et de corruptum esse. Semper enim corruptum esse est prius ipso corrumpi, et corrumpi est prius hoc quod est corruptum esse. Unde manifestum est quod omne quod factum est, necesse est prius fieri; et omne quod fit, necesse est prius factum esse aliquo modo. Et hoc ideo, quia omnis magnitudo et omne tempus sunt in infinitum divisibilia. Et ideo in quocumque tempore fit aliquid, hoc non erit sicut in primo, quia erit accipere partem priorem. Et hoc quod dictum est de generatione et corruptione, intelligendum est etiam de illuminatione, quae est terminus motus localis corporis illuminantis, sicut generatio et corruptio est terminus alterationis.