

Chapter 8

LECTIO XII

250 [1]. Once the Philosopher has given his explanation of nature in terms of all of the causes, he proceeds to explain what is involved. First, that nature acts for ends, and second that where the necessity of a thing is not due to prior causes, i.e. matter and moving causes, it is due to posterior causes, which are form and end.

And here he does two things. First, he explains his meaning, and second, he continues with his argument, beginning where he says “But there is a difficulty...”, (198b17) etc.

He therefore states first that it is necessary to make clear that nature is among those causes which act for some end. And this has to do with the question of providence. Those things which do not understand ends, will not tend to those ends unless they are directed by some conscious agent, as the arrow is directed by the archer. Therefore, if nature acts according to ends, it must be because it is ordered in this way by something intelligent; this is the work of providence.

Next, it is necessary to state in what manner there is necessity in natural things; for instance, whether the necessity of natural things is always of the matter, or whether it sometimes proceeds from the matter and moving cause, or sometimes from the formal and final causes.

And the reason we are inquiring about this is as follows: because all of the ancient natural philosophers reduced natural effects to this [material] cause, making it the ultimate explanation, i.e. saying that it is necessary that these things occur according to their matter; just as heat comes to be in order to be as it is and to have certain effects, and similarly cold, and other similar things, it is necessary that those things by which they are caused either occur or exist. And if any of the ancient natural philosophers had encountered any other cause than material necessity, it was nevertheless of little use to them. The causes which they posited, such as the intellect (posited by Anaxagoras) and love and strife (posited by Empedocles) were only used in speaking generally, such as when discussing the constitution of the world. In discussing particular effects, however, they ignored these causes.

251 [2]. [Aristotle] continues his discussion beginning where he says “There is nevertheless a difficulty...” (198b17) Here he first inquires whether nature acts for some end. Secondly, he inquires how that which is necessary is involved in natural things, beginning where he says, “That which is from necessity...” (199b35).

[1] Postquam philosophus ostendit quod naturalis demonstrat ex omnibus causis, hic manifestat quaedam quae supposuerat, scilicet quod natura agat propter finem, et quod in quibusdam necessarium non sit ex causis prioribus in esse, quae sunt movens et materia, sed ex causis posterioribus, quae sunt forma et finis. Et circa hoc duo facit: primo proponit quod intendit; secundo prosequitur propositum, ibi: habet autem oppositionem et cetera. Dicit ergo primo, quod dicendum est primo quod natura est de numero illarum causarum quae propter aliquid agunt. Et hoc valet ad quaestionem de providentia. Ea enim quae non cognoscunt finem, non tendunt in finem nisi ut directa ab aliquo cognoscente, sicut sagitta a sagittante: unde si natura operetur propter finem, necesse est quod ab aliquo intelligente ordinetur; quod est providentiae opus. Post hoc autem dicendum est quomodo se habet necessarium in rebus naturalibus: utrum scilicet necessitas rerum naturalium semper sit ex materia, vel aliquando etiam ex materia et movente, vel aliquando ex forma et fine. Et necessitas quaerendi haec est ista: quia omnes antiqui naturales reducunt effectus naturales in hanc causam, assignando rationem de eis, scilicet quod necesse est ea sic evenire propter materiam; utpote quia calidum natum est esse tale et facere talem effectum, et similiter frigidum, et omnia similia, necesse est fieri vel esse ea quae ex eis causantur. Et si aliqui antiquorum naturalium aliquam aliam causam tetigerint quam necessitatem materiae, non tamen habent unde gaudeant gloriantes; quia causis positae ab eis, scilicet intellectu, quem posuit Anaxagoras, et amicitia et lite, quas posuit Empedocles, non sunt usi nisi in generalibus quibusdam, sicut in constitutione mundi; in particularibus autem effectibus huiusmodi causas praetermiserunt.

[2] Deinde cum dicit: habet autem oppositionem etc., exequitur propositum. Et primo inquit utrum natura agat propter aliquid; secundo quomodo necessarium in rebus naturalibus inveniatur, ibi: quod autem est et cetera. Circa primum duo facit: primo ponit opinionem ponentium naturam non agere propter aliquid, et rationem eorum; secundo improbat eam, ibi: sed impossibile est ista et cetera.

In regards to the first issue, he proceeds as follows. First, he states the positions of those who claim that nature does not act for ends, and gives their reasoning. Secondly, he refutes their arguments, beginning where he states “But it is impossible that this should be the case” (198b33).

252 [3]. In order to understand the reasoning of those who deny that nature acts for ends, he emphasizes that they depend on eliminating those cases where nature especially appears to be acting for an end. For this is what most demonstrates that nature acts for some end: operations of nature always result in that which is the best or most suitable possible, as for instance the foot is so made by nature as to be good for walking. The farther away we move from natural disposition, we see that the foot is not apt for the uses put to it, and similarly in other cases.

And because this is what Aristotle’s opponents especially depend on refuting, here he states that it is possible to refute the position that nothing prevents nature from not acting according to some end, nor from always doing what is best. We see this whenever something useful proceeds from an operation of nature, but nevertheless is not the object of that natural operation, but merely happens to occur thusly. For instance, we say that “Jupiter sent rain” (i.e. God or universal nature) not in order to irrigate the wheat, but rather the rain happens due to natural necessity. For it is necessary that the surface of the earth be heated by the proximity of the sun, causing vapor to be emitted by the water, and when these vapors ascend because of the heat, and arrive at those levels where heat is lacking, according to the distance from the location where the sun’s rays make their impact, it is necessary that the ascending vapors condense in that same place, and once this condensation has taken place, the vapors return to being water again, and once this water has been generated, it must fall downwards according to gravity. It is not the case that the water falls in order to make the wheat grow, since in other places the wheat is destroyed by the rain, such as when it has been harvested and collected into piles. Nor does it rain in order to destroy the wheat, but this case does occur, when the rain falls. And in this way, it is apparent that in other cases that the wheat grows, but in an accidental manner, when the rain falls.

Thus it is also apparent that nothing prevents this from being the case in the parts of animals, which appear to be disposed according to some purpose. And thus some say that it occurs of necessity that certain teeth, namely the incisors, are sharp and apt for cutting food, whereas the molars are flat and useful for chewing. But nevertheless it is not for these purposes that nature made teeth in this way or that, but rather because, given teeth that function this way—formed naturally according to the necessity of the matter—it happens that as a result of such a form, that by this existing form certain uses follow. And similarly, this can be said of all other parts, which seem to have some determinate form due to some purpose.

[3] Circa primum sciendum quod ponentes naturam non agere propter aliquid, hoc confirmare nitebantur removens id ex quo natura praecipue videtur propter aliquid operari. Hoc autem est quod maxime demonstrat naturam propter aliquid operari, quod ex operatione naturae semper invenitur aliquid fieri quanto melius et commodius esse potest, sicut pes hoc modo est factus a natura, secundum quod est aptus ad gradiendum; unde si recedat a naturali dispositione, non est aptus ad hunc usum; et simile est in ceteris. Et quia contra hoc praecipue opponere nitebantur, ideo dicit quod potest opponi quod nihil prohibet naturam non facere propter aliquid, neque facere semper quod melius est. Invenimus enim quandoque quod ex aliqua operatione naturae provenit aliqua utilitas, quae tamen non est finis illius naturalis operationis, sed contingit sic evenire; sicut si dicamus quod Iupiter pluit, idest Deus vel natura universalis, non propter hunc finem, ut frumentum augmentet, sed pluvia provenit ex necessitate materiae. Oportet enim, inferioribus partibus ex propinquitate solis calefactis, resolvi vapores ex aquis; quibus sursum ascendentibus propter calorem, cum pervenerint ad locum ubi deficit calor propter distantiam a loco ubi reverberantur radii solis, necesse est quod aqua vaporabiliter ascendens congeletur ibidem, et congelatione facta, vapores vertantur in aquam; et cum aqua fuerit generata, necesse est quod cadat deorsum propter gravitatem: et cum hoc fit, accidit ut frumentum augeatur. Non tamen propter hoc pluit ut augeatur; quia similiter in aliquo loco frumentum destruitur propter pluviam, ut cum est collectum in area. Non tamen propter hoc pluit, ut destruat frumentum, sed hoc casu accidit, pluvia cadente; et eodem modo videtur casu accidere quod frumentum crescat per accidens, pluvia cadente. Unde videtur quod nihil prohibeat sic etiam esse in partibus animalium, quae videntur esse sic dispositae propter aliquem finem: utpote quod aliquis dicat quod ex necessitate materiae contingit quod quidam dentes, anteriores scilicet, sint acuti et apti ad dividendum cibum, et maxillares sint lati et utiles ad conterendum cibum. Non tamen ita quod propter istas utilitates natura fecerit dentes tales vel tales: sed quia dentibus sic factis a natura propter necessitatem materiae sic decurrentis, accidit ut talem formam consequerentur, qua forma existente sequitur talis utilitas. Et similiter potest dici de omnibus aliis partibus, quae videntur habere aliquam determinatam formam propter aliquem finem.

253 [4]. Someone might say that either always or in the majority of the cases this kind of useful function follows, and that which occurs always or usually should be ascribed to nature. Thus, in order to exclude this objection, they say that when the world was first formed, four elements joined together in order to form natural things, and many and various combinations existed of these natural things. And whenever all things happened correctly to produce some utility, just as though the combination had been produced for some purpose, just those things were preserved, which had a disposition of parts such as to promote their conservation, not due to some agent intending some end, but from that which in itself has no purpose, or is haphazard. Whatever things did not have this disposition of parts were destroyed, and continue to be destroyed; Empedocles, for instance, said that in the beginning there were certain creatures that came to be, which in part were oxen, and in another part were human.

254 [5]. These, then, are the reasons which cause some to doubt; if there is another reason, it will be similar.

But it is necessary to consider that in this argument, it is incorrect to accept the example. For rain perhaps has a necessary due to its matter, but nevertheless it is ordered to some end, i.e. to the preservation of things which come to be and pass away. There is mutual coming to be and passing away in these inferior things, so that they may be kept in being. Thus, the irrigating of wheat is not a correct example, since it compares a universal cause with a particular effect.

But it is also necessary to consider this, that it is normally the case that rain aids in the growth and conservation of the things that grow in soil, whereas destruction occurs only infrequently. Thus, while it may be the case that rain is not intended for destruction, it does not follow that it is not intended for conservation and growth.

LECTIO XIII

255 [1]. Having explained the positions that claim that nature does not act according to ends, he disproves these positions here, first by direct argumentation, and second based on reasons taken from those which his opponents depend upon, here: “Even art sometimes fails...” (199b33).

256 [2]. To develop his direct argumentation, he gives five reasons.

[4] Et quia posset aliquis dicere quod semper vel ut in pluribus tales utilitates consequuntur; quod autem est semper vel frequenter, conveniens est esse a natura: ideo ad hanc objectionem excludendam, dicunt quod a principio constitutionis mundi, quatuor elementa convenerunt ad constitutionem rerum naturalium, et factae sunt multae et variae dispositiones rerum naturalium: et in quibuscumque omnia sic acciderunt apta ad aliquam utilitatem, sicut si propter hoc facta essent, illa tantum conservata sunt, eo quod habuerunt dispositionem aptam ad conservationem, non ab aliquo agente intendente finem, sed ab eo quod est per se vanum, idest a casu. Quaecumque vero non habuerunt talem dispositionem sunt destructa, et quotidie destruuntur; sicut Empedocles dixit a principio fuisse quosdam generatos, qui ex una parte erant boves, et ex alia parte erant homines.

[5] Haec est ergo ratio per quam aliquis dubitabit; vel si aliqua alia talis est. Sed considerandum est in ista ratione, quod exemplum inconueniens accipit. Nam pluvia licet habeat necessariam causam ex parte materiae, tamen ordinatur ad finem aliquem, scilicet ad conservationem rerum generabilium et corruptibilium. Propter hoc enim est generatio et corruptio mutua in istis inferioribus, ut conservetur perpetuum esse in eis. Unde augmentum frumenti inconuenienter accipitur in exemplum: comparatur enim causa universalis ad effectum particularem. Sed et hoc etiam considerandum est, quod augmentum et conservatio terrae nascentium accidit ex pluvia ut in pluribus; sed corruptio accidit ut in paucioribus: unde licet pluvia non sit propter perditionem, non tamen sequitur quod non sit propter conservationem et augmentum.

[1] Posita opinione et ratione dicentium naturam non agere propter finem, hic improbat eam: et primo per rationes proprias; secundo per rationes sumptas ab iis ex quibus adversarii contrarium ostendere nitentur, ibi: peccatum autem fit et cetera.

[2] Circa primum ponit quinque rationes. Quarum prima: talis est. Omnia quae fiunt naturaliter, aut fiunt sicut semper, aut sicut frequenter: sed nihil eorum quae fiunt a fortuna vel per se vano, idest a casu, fit semper vel ut frequenter. Non enim dicimus quod a fortuna vel a casu fit, quod multoties pluat in hieme; sed diceremus esse a casu si forte multum plueret sub cane, id est in diebus canicularibus: et similiter non dicimus quod fit a casu quod cauma sit in diebus canicularibus; sed si hoc esset in hieme. Ex his duobus sic argumentatur. Omnia quae fiunt, aut fiunt a casu, aut fiunt propter finem; quae enim accidunt praeter intentionem finis, dicuntur accidere casualiter: sed impossibile est ea quae fiunt semper vel frequenter, accidere a casu: ergo ea quae fiunt semper vel frequenter, fiunt propter aliquid. Sed omnia quae fiunt secundum naturam, fiunt vel semper vel frequenter, sicut etiam

Of these, the first is as follows: Everything which occurs naturally, either occurs this way always, or frequently. None of those things which occur by chance or purposelessly, i.e. haphazardly, occur the same way always or frequently. We therefore do not say that it rains by chance or coincidence, if it rains many times in winter, whereas we do say that it is haphazard if it rains very often in the late summer, that is, during the ‘dog days.’ Similarly we do not say that it is coincidence when it is hot during the dog days, but on the contrary we *do* say it is a chance event if it is hot in winter.

Based on this reasoning, he makes a twofold argument. Everything which occurs, either occurs by coincidence, or else for an end; whatever happens contrary to the intended end, we say happens accidentally. But it is impossible that those things which always or frequently happen, happen by coincidence. Therefore, those things which happen always or frequently, happen for an end.

But all things which occur according to nature, happen always or happen frequently, as Aristotle’s opponents also admit. Therefore, everything which happens by nature, happens for an end.

257 [3]. Aristotle’s second reason is found where he says, “Further, wherever things happen for an end...” (199a8). He says that in all things where there is some end, all initial and following stages are performed because of the end.

Based on this supposition, he argues in the following manner. Whatever behaves in a certain way by nature, acts according to its natural aptitude. In fact, this is what is meant by saying “naturally”, i.e. that something is “apt by its nature”. And this proposition is reversible, so that whatever the natural aptitude of something is, that is how it will act. Provided, of course, that nothing impedes its action.

We therefore accept first, that provided that nothing impedes, that the way something acts naturally proceeds from its natural aptitude. But among those things which happen naturally, they act so as to obtain some end. Therefore, insofar as they are apt to act in a certain way, they are oriented towards an end; this is what we mean when we say that nature desires an end, i.e. that it has a natural aptitude towards that end. Therefore, it is proven that nature acts for ends.

What Aristotle has just said, he now demonstrates by example. For instance, there is a similarity between how later stages develop from earlier ones, both in art and in nature. If artifacts, such as houses, were to develop naturally, they would develop with the same order by which they are constructed artificially: the foundation would first be placed, followed by the walls, with the roof being added last. This is the way in which nature proceeds in those things which are fixed to the ground, such as plants, whose roots first drive down into the ground, then the stalks grow upwards like walls, and finally the leaves sprout from the top, like a roof.

And similarly, if those things which come to be by nature were to be created by art, they would be created in the same way that they come to be by nature. We see this exemplified in

ipsi confitebantur: ergo omnia quae fiunt a natura, fiunt propter aliquid.

[3] Secundam rationem ponit ibi: amplius in quibuscumque etc.; et dicit quod in quibuscumque est aliquis finis, et priora et consequentia omnia aguntur causa finis. Hoc supposito sic argumentatur. Sicut aliquid agitur naturaliter, sic aptum natum est agi: hoc enim significat quod dico naturaliter, scilicet aptum natum. Et haec propositio convertitur, quia sicut aliquid aptum natum est agi, sic agitur: sed oportet apponere hanc conditionem, nisi aliquid impediat. Accipiamus ergo primum, quod non habet instantiam, quod sicut aliquid agitur naturaliter, sic aptum natum est agi. Sed ea quae fiunt naturaliter, sic aguntur quod inducuntur ad finem; ergo sic apta nata sunt agi, ut sint propter finem: et hoc est naturam appetere finem, scilicet habere aptitudinem naturalem ad finem. Unde manifestum est quod natura agit propter finem. Et hoc quod dixerat, manifestat per exemplum. Similiter enim ex prioribus pervenitur ad posteriora in arte et in natura: unde si artificialia, ut domus, fierent a natura, hoc ordine fierent quo nunc fiunt per artem; ut scilicet prius institueretur fundamentum, et postea erigerentur parietes, et ultimo superponeretur tectum. Hoc enim modo natura procedit in iis quae sunt terrae affixa, scilicet in plantis: quarum radices quasi fundamentum terrae infiguntur; stipes vero ad modum parietis elevatur in altum; frondes autem supereminunt ad modum tecti. Et similiter si ea quae fiunt a natura, fierent ab arte, hoc modo fierent sicut apta nata sunt fieri a natura; ut patet in sanitate, quam contingit fieri et ab arte et a natura; sicut enim natura sanat calefaciendo et infrigidando, ita et ars. Unde manifestum est quod in natura est alterum propter alterum, scilicet priora propter posteriora, sicut et in arte.

health, where it happens that things are done the same way by arts as by nature; just as nature maintains health by heating and cooling, the art of maintaining health proceeds the same way.

This example shows that where one thing happens because of another in nature, such as earlier stages in view of later stages, the same occurs in art.

258 [4]. Aristotle's third reason is found in line 175, where he says: "In general, art either imitates..." (199a15). Here he is referring to those things which can be produced by art but not by nature, such as houses and other artifacts. In another type of things, where both art and nature are involved in their coming to be, art imitates nature, as is shown by the example given about health. Thus, if those things which are produced by art, exist for an end, it is obvious that this is also the case with those things which come to be by nature, since there is a similar ordering between stages of development in both types of objects.

However, it could be said that nothing has been stated here other than what was contained in the premises; these examples simply illustrate and explain the former.

259 [5]. The fourth reason that Aristotle gives is found where he says "It is most clear in animals..." (199a20). Here, he bases his argumentation on those things in nature which are seen most obviously to act for ends.

Thus, he says that nature most obviously acts for ends in animals, which neither act by art, nor by investigating how to do things, nor by deliberation. Nevertheless, it is obvious that in their behavior that they are acting for some end. In this regard, one might wonder whether spiders and ants and other animals of this type act via intellect, or by some other principle.

But it is nevertheless obvious in this case that they do not act based on intellect, but by nature, because they always act in the same way. All swallows build their nests in the same way, and all spiders make identical webs, which would not be the case if they were acting from intellect or art. For not every builder builds his house in the same way, because the artisan must make decisions about the manner in which to build, and can change how he builds.

Next, Aristotle moves from animals to plants, where it is also obvious that some things are done and used for ends, as for instance leaves are useful for covering fruit.

Therefore, if what occurs by nature and not by art, such as birds building nests and spiders webs, and plants producing leaves in order to protect their fruit, and plants sending their roots downward and not upwards, in order to obtain nutrients from the soil, it is clear that final causality is present in those things which happen or exist by nature, for nature acts according to ends.

260 [6]. The fifth reason is given where he says, "Because 'nature' has two meanings..." (199a30),

[4] Tertiam rationem ponit ibi: omnino autem ars etc.; et dicit quod ars quaedam facit, quae natura non potest facere, sicut domum et alia huiusmodi: in iis vero quae contingit fieri et ab arte et a natura, ars imitatur naturam, ut patet in sanitate, ut dictum est: unde si ea quae fiunt secundum artem, sunt propter finem, manifestum est quod etiam ea quae fiunt secundum naturam, propter finem fiunt, cum similiter se habeant priora ad posteriora in utrisque. Potest tamen dici quod haec non est alia ratio a praemissa; sed complementum et explicatio ipsius.

[5] Quartam rationem ponit ibi: maxime autem manifestum etc., et sumitur haec ratio ab iis quae manifestius in natura propter aliquid operari videntur. Unde dicit quod naturam operari propter aliquid maxime est manifestum in animalibus, quae neque operantur per artem, neque per inquisitionem, neque per deliberationem: et tamen manifestum est in operationibus eorum, quod propter aliquid operantur. Propter quod quidam dubitaverunt utrum aranei et formicae et huiusmodi animalia operentur per intellectum, vel per aliquod aliud principium. Sed tamen ex hoc fit manifestum quod non operantur ex intellectu, sed per naturam, quia semper eodem modo operantur; omnis enim hirundo similiter facit nidum, et omnis araneus similiter facit telam, quod non esset si ab intellectu et arte operarentur: non enim omnis aedificator similiter facit domum, quia artifex habet iudicare de forma artificiatum, et potest eam variare. Ulterius autem procedenti de animalibus ad plantas, in eis etiam apparent quaedam esse facta et utilia ad finem, sicut folia sunt utilia propter cooperimentum fructuum. Unde si hoc est a natura et non ab arte, quod hirundo facit nidum et araneus telam, et plantae producant folia gratia fructuum, et radices sunt in plantis non sursum, sed deorsum, ut accipiant nutrimentum a terra; manifestum est quod causa finalis invenitur in iis quae fiunt et sunt a natura, natura scilicet propter aliquid operante.

[6] Quintam rationem ponit ibi: et quoniam natura dupliciter et cetera. Dicit quod cum natura dicatur dupliciter, scilicet de

etc. He notes that ‘nature’ has two meanings, i.e. matter and form, and form is the goal of coming to be, as we have said above. But this is the very content of the idea of ‘end,’ i.e. that other things come to be because of it. Therefore it follows that natural objects exist and come to be because of ends.

LECTIO XIV.

261 [1]. Next, after having demonstrated that nature acts for an end by his own arguments, the Philosopher here intends to demonstrate the same point by eliminating those reasons that move some thinkers to believe otherwise.

His demonstration has three parts, corresponding to three of the reasons that have convinced others to reject purpose in nature. The second part of his demonstration begins where he writes “This entirely negates the whole order of nature...” (199b15). The third begins where he says “It is nevertheless absurd...” (199b26).

262 [2]. The first of these by which someone might be induced to deny that nature acts for ends, was as follows: that sometimes it occurs otherwise, such as occurs with monsters, which are failures of nature. And thus Empedocles stated that at the beginning of the constitution of things, there were some things produced that did not have that form and order which nowadays commonly occur in nature.

263 [3]. In order to refute this reasoning, [Aristotle] adduces four arguments. The first of these shows that while art acts according to ends, nevertheless in those things produced by art, there can be failure. This happens whenever a writer writes incorrectly, or a doctor mixes a medication improperly.

Therefore it is obvious that failure can also occur in those things which occur by nature, although nature operates for an end. In art, indeed, among those things which are produced for some purpose, some are produced correctly according to that art, whereas others are produced as a result of some failure of the artisan, who does not act correctly according to his art. In these latter, the art is acting for some end, despite the occurrence of a failure. For if the art were not acting according to a determinate end, whatsoever the art was doing, it would not be ‘failure,’ because the operation of the art would be equally oriented to all things. Indeed, the very fact that a failure

materia et forma, et forma est finis generationis, ut supra dictum est; hoc autem est de ratione finis, ut propter ipsum fiant alia; sequitur quod esse et fieri propter aliquid, inveniatur in rebus naturalibus.

[1] Postquam ostendit philosophus per proprias rationes, quod natura agit propter aliquid, hic intendit hoc manifestare removendo ea per quae aliqui contrarium existimabant. Et dividitur in tres partes, secundum tria ex quibus aliqui moveri videbantur ad hoc negandum. Secundum incipit ibi: omnino autem destruit etc.; tertium ibi: inconveniens autem et cetera.

[2] Primum autem ex quo aliqui moveri videbantur ad negandum naturam agere propter finem, ex hoc erat; quia videbant aliquando aliter accidere, sicut accidit in monstris, quae sunt peccata naturae. Unde etiam Empedocles posuit quod a principio constitutionis rerum, fuerunt producta quaedam, non habentia hanc formam et hunc ordinem qui nunc in natura communiter inveniuntur.

[3] Ad hoc ergo excludendum inducit quatuor rationes. Circa quarum primam ostendit quod licet ars agat propter aliquid, tamen in iis quae fiunt secundum artem, contingit fieri peccatum; quia aliquando grammaticus non recte scribit, et medicus quandoque potat aliquem medicinali potione non recte. Unde manifestum est quod contingit peccatum esse etiam in iis quae sunt secundum naturam, quamvis natura propter aliquid operetur. In arte autem, eorum quae propter aliquid fiunt, quaedam fiunt secundum artem, et recte fiunt; quaedam autem sunt, in quibus artifex fallitur, non secundum artem agens: et in his contingit peccatum, arte propter aliquid agente. Si enim ars non ageret ad determinatum finem, qualitercumque ars operaretur, non esset peccatum; quia operatio artis aequaliter se haberet ad omnia. Hoc ipsum igitur quod in arte contingit esse peccatum, est signum quod ars propter aliquid operetur. Ita etiam contingit in naturalibus rebus; in quibus monstra sunt quasi peccata naturae propter aliquid agentis, in quantum deficit recta operatio naturae. Et hoc ipsum quod in naturalibus contingit esse peccatum, est signum quod natura propter aliquid agat. Unde in substantiis quas in principio mundi Empedocles dixit esse constitutas bovigenas, id est ex media parte boves et ex media homines, si non poterant pervenire ad aliquem finem et terminum naturae, ut scilicet conservarentur in esse; non hoc fuit quia natura non hoc intendat, sed quia haec non possibilia salvari, generata sunt non secundum naturam, sed corrupto aliquo naturali principio; sicut nunc etiam accidit aliquos monstruosos partus generari propter corruptionem seminis.

occurs in the art, is a sign that the art is acting according to some end. And this also happens with natural things, among which there are some that are like failures of nature as it acts for some end, insofar as they lack correct natural operation. And this same thing which, when it occurs in natural things, is a failure, is a sign that nature is operating for some end.

Thus in those substances which in the beginning of the world Empedocles said were constituted as ox-men, i.e. half ox and half men, if they could not attain some purpose or end of nature, so that they could conserve themselves in existence, this was not because nature did not intend this, but because these were not possible to be saved. They were produced not according to nature, but due to some corrupted natural principle, such as today also happens with certain monstrous births, which happen due to corruption of the seed.

264 [4]. The second reason that Aristotle gives is found where he writes “Also, it is necessary that the seed come first” (199b8), and proceeds as follows.

Wherever there exists a determinate set of principles and a determinate order of proceeding, it is necessary that there be determinate ends for which other things come to be. But in the generation of animals, there is a determinate order of proceeding, because it is necessary that first the seed come to be, and the animal does not exist immediately in the beginning. In addition, this seed does not harden at once, but at first is soft, and proceeds towards its perfection in a particular order. Thus, in the coming to be of animals, there exists a determinate end. It does not follow, therefore, that because there occur monsters and failures of nature among animals, that nature does not act for an end.

265 [5]. He gives the third reason where he states “And also in plants...” (199b14); his argument proceeds as follows.

While nature in plants may act according to some end, as it does in animals, nevertheless plants are less divided into distinct parts. The operations of plants are therefore harder to distinguish.

If therefore failures and monsters occur in animals, it should happen more frequently in plants. And indeed, as among animals there occur births from oxen that have human faces, among plants will we find plants that come to be from grape vines, but are part olive? For it appears to be incorrect to say that such creatures should come to be, but nevertheless it must be so, if among animals it occurs for this reason, that nature is not operating for an end. But it is not the case that this happens among animals due to nature not acting for an end.

266 [6]. He gives his fourth argument beginning where he writes “Moreover it ought to be a matter of chance...” (199b14). The argument is as follows.

Just as animals come to be by nature, so does the seed of animals. If therefore something

[4] Secundam rationem ponit ibi: amplius necesse est etc.; quae talis est. Ubi cumque sunt determinata principia et determinatus ordo procedendi, ibi oportet esse determinatum finem propter quem alia fiant: sed in generatione animalium est determinatus ordo procedendi; quia oportet primum fieri semen, et non statim a principio est animal; et ipsum semen non statim est induratum, sed a principio est molle, et quodam ordine ad perfectionem tendit: ergo in generatione animalium est determinatus finis. Non ergo propter hoc accidunt monstra et peccata in animalibus, quia natura non agit propter aliquid.

[5] Tertiam rationem ponit ibi: amplius et in plantis inest etc.; quae talis est. Licet natura in plantis agat propter aliquid sicut in animalibus, tamen minus est dearticulatum, id est distinctum, in plantis; vel minus ex operationibus eorum colligi potest. Si ergo propter hoc accidunt peccata et monstra in animalibus, quia natura non agit propter aliquid, magis deberet accidere in plantis. Utrum igitur sicut fiunt in animalibus bovigena viriprora, ita fiant in plantis vitigena oleoprora, id est ex media parte olivae et media parte vites, vel non? Dicere enim quod fiant, videtur inconveniens: sed tamen oportet ita esse, si in animalibus contingit hac de causa, quia natura non agit propter aliquid. Non ergo ista de causa in animalibus contingit quia natura propter aliquid non agit.

[6] Quartam rationem ponit ibi: adhuc oportuit etc.; quae talis est. Sicuti animalia generantur a natura, ita et semina animalium; si igitur accidit aliquid in generatione animalium qualitercumque contingit, et non quasi natura agente ad determinatum finem, sequetur etiam idem in seminibus; scilicet ut a quodcumque semen produceretur. Et hoc patet esse falsum: unde et primum falsum est.

occurs in the process of coming to be of animals, and is not a case of nature acting for a determinate end, it will occur also with their seed. That is, it would occur due to whatever process that is involved in producing seed. But this is obviously false. Therefore the antecedent is false also.

267 [7]. Beginning where he states “In general, this theory does away with...” (199b15), he excludes the second reason by which some are moved to assert that nature does not act for an end. For it seemed to some that those things that happened naturally, appeared to proceed from the prior principles, which are the agent and the material, and not from the intention to attain an end.

But this is self-refuting, because whoever states that, for instance, nature does not act for an end, destroys nature and those things which are according to nature. Those things are said to be “according to nature” whenever they are moved continuously by some intrinsic principle, until they attain to some end. This does not happen with all things, nor as a result of any principle in moving towards any end, but from a determinate principle towards a determinate end. For nature always proceeds from the same principle to the same end, provided that nothing impedes it. But it happens that some things which act as a result of a cause sometimes do things by chance, when they are not acting according to this cause. For instance, if a guest of the family comes and then leaves our house having bathed, we say that this is by chance, because he bathed himself as though he had come in order to bathe, despite the fact that he did not in fact come for that purpose. Thus it is accidental that he bathed himself (for chance is among the accidental causes, as we have stated above [*Lectio VIII*, n. 8]). But if this were to occur frequently or always, we would not say that it was by chance. And too in natural things, it is not by accident that they are always thus, in the absence of impediments; thus, it is clear that it is a determinate end that is followed in nature, and not by chance, but by the intention of nature. And this also shows that it is against reason to claim that nature does not act for an end.

268 [8]. Next, where he states “But it is absurd to suppose...” (199b27), Aristotle excludes the third of the reasons for which someone might think that nature does not act for some end. It seemed to some that nature does not operate for some end, because nature does not deliberate.

But the Philosopher says that it is absurd to assert this, because it is clear that art does not

[7] Deinde cum dicit: omnino autem destruit etc., excludit secundum ex quo movebantur ad ponendum naturam non agere propter aliquid. Videbatur enim hoc quibusdam, quia ea quae naturaliter accidunt, videntur ex prioribus principiis procedere, quae sunt agens et materia, et non ex intentione finis. Sed ipse contrarium ostendit dicens, quod ille qui sic dicit, naturam scilicet non agere propter aliquid, destruit naturam et ea quae sunt secundum naturam. Haec enim dicuntur esse secundum naturam, quaecumque ab aliquo principio intrinseco moventur continue, quousque perveniant ad aliquem finem; non in quodcumque contingens, neque a quocumque principio in quemcumque finem, sed a determinato principio in determinatum finem: semper enim ab eodem principio proceditur in eundem finem, nisi aliquid impediatur. Contingit autem id cuius causa fit aliquid, aliquando fieri a fortuna, quando non propter hoc agitur: sicut si aliquis extraneus veniat, et recedat balneatus, dicimus hoc esse a fortuna, eo quod ita fecit, se balneando, ac si propter hoc venisset, cum tamen propter hoc non venerit; unde secundum accidens est ipsum balnari (fortuna enim est de numero causarum secundum accidens, ut prius dictum est). Sed si semper aut frequenter ei venienti hoc accidat, non dicitur esse a fortuna. In rebus autem naturalibus, non per accidens sed semper sic est, nisi aliquid impediatur: unde manifestum est quod determinatus finis, qui sequitur in natura, non sequitur a casu, sed ex intentione naturae. Ex quo patet quod contra rationem naturae est, dicere quod natura non agat propter aliquid.

[8] Deinde cum dicit: inconueniens autem est etc., excludit tertium ex quo aliquis opinari potest quod natura non agat propter aliquid. Videbatur enim quibusdam quod natura non agat propter aliquid, quia non deliberat. Sed philosophus dicit quod inconueniens est hoc opinari: quia manifestum est quod ars agit propter aliquid; et tamen manifestum est quod ars non deliberat. Nec artifex deliberat in quantum habet artem, sed in quantum deficit a certitudine artis: unde artes certissimae non deliberant, sicut scriptor non deliberat quomodo debeat formare litteras. Et illi etiam artifices qui deliberant, postquam invenerunt certum principium artis, in exequendo non deliberant: unde citharaedus, si in tangendo quamlibet chordam deliberaret, imperitissimus videretur. Ex quo patet quod non deliberare contingit alicui agenti, non quia non agit propter finem, sed quia habet determinata media per quae agit. Unde et natura, quia habet determinata media per quae agit, propter hoc non deliberat. In nullo enim alio natura ab arte videtur differre, nisi quia natura est principium intrinsecum, et ars est principium extrinsecum. Si enim ars factiva navis esset intrinseca ligno, facta fuisset navis a natura, sicut modo fit ab arte. Et hoc maxime manifestum est in arte quae est in eo quod movetur, licet per accidens, sicut de medico qui medicatur se ipsum: huic arti enim maxime assimilatur natura. Unde patet quod natura nihil est aliud quam ratio cuiusdam artis, scilicet divinae, indita rebus, qua ipsae res moventur ad finem determinatum: sicut si artifex factor navis posset lignis tribuere, quod ex se ipsis moverentur ad navis formam inducendam. Ultimo autem epilogando dicit, manifestum esse quod natura sit causa, et quod agat propter aliquid.

deliberate either. For the artist does not deliberate when he possesses his art, but rather when he lacks skill in the art; thus, those who are expert in their art do not deliberate, as the writer does not deliberate when he writes letters on the paper. And [even] those artists who do deliberate, [once] they discover a reliable principle of art, do not deliberate further. Thus, the zither player, if he were to deliberate about playing each chord, would appear to be completely inept. And thus it is clear that lack of deliberation can be ascribed to any agent, not because he does not act in view of an end, but because he already has determined the means upon which to act. And it is the same with nature, which because it has determinate means by which to act, for that reason does not deliberate.

In nothing do nature and art appear to differ, except insofar as nature is an intrinsic principle, and art is an extrinsic principle. If then the art of making ships were intrinsic to wood, ships would be built by nature, just as they are in fact made by art. And this is especially obvious in that art which is in that which moves, even by accident, as with the doctor who treats himself: for nature is maximally similar to this art.

Thus it is shown that *nature is nothing other than the pattern of that certain art, i.e. the divine art, introduced into things, by which the things themselves are moved towards determinate ends*, just as if the artisan who builds ships were able to give to the wood itself that which would induce it to produce ships by itself.

As an epilogue, Aristotle adds that it is clear that nature is a cause, and that it acts for some end.