Apeiron: unlimited, indefinite

1. The arché or source constituting the beginning or principle of all things was, according to Anaximander, the apeiron, the unlimited. The term is capable of various constructions, depending upon how one understands the limit. 2. More generally, indetermination, i.e., without internal limits, and so without beginning or end. 3. An undergraduate journal of philosophy and religion for students of all majors at Washington College.
People often say about their lives that, “Everything happens for a reason.” The Greeks thought so too, as did the medieval philosopher-theologians and the Enlightenment philosophers. The anxious search by the Greeks for the ultimate determinants of human and natural events laid the bulwark for Western philosophical and scientific inquiry. Philosophy bestowed on the world the deep and often pre-conscious conviction that the universe is fundamentally orderly and intelligible, apart from whether we ever can know its reasons. Where does order originate? Are all events governed by it? Where do human choices fit? Where is the line of individual responsibility drawn? Asking why things happen as they do yields innumerable approaches, but usually few pat answers. Aristotle strained to rid his countrymen of the belief that life is ruled by blind Fate and Lady Fortune. Twenty-five centuries later we still lament or rejoice in our luck, and in our ruminative moments we wonder if God is watching or if our fate is one with the stars. The contributors to this third annual issue of Apeiron have taken questions of fate and fortune, cause and destiny, well in hand. Year after year our contributors show that many of the truly important questions in this world do not die at the hands of new discoveries or events, or slip beneath the churning waves of intellectual fashion.

Veteran co-editors Misty Christensen and Jennifer Sutphin upstage the exceptional quality of their last issue. They achieve this with the help of a strong group of contributors. Thanks to our authors and editors, this third annual issue of Apeiron finds the journal flourishing. Thank you and enjoy.

Peter Weigel
Introduction

We are very pleased to note that the contributions to our third annual issue of APEIRON inquire into the big questions by going well beyond the usual limits of everyday thinking. This year, we offer two sets of comparative essays on teleology, or purposiveness, in natural events, as well as essays on Jungian spirituality and personal identity. Jennifer Sutphin and William Spencer debate the existence of God in essays on William Paley’s famous Argument from Design. Daniel Garro and Misty Christensen delve into the realm of luck and chance in Aristotle. David Hosey offers a study on Carl Jung and the Spiritual Journey. Finally, Timothy Huston examines John Locke and Thomas Reid in an attempt to synthesize a new theory of personal identity. In this issue we invite you to step back and see things in a new light.

The editors would like to thank Professor Peter Weigel for generously donating his time while on a sabbatical leave this semester.

The Editors

Co-editors: Misty Christensen and Jennifer Sutphin
Faculty Advisor: Peter Weigel
Cover Design: Misty Christensen
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design of Analogy</td>
<td>6</td>
</tr>
<tr>
<td>by Jennifer Sutphin</td>
<td></td>
</tr>
<tr>
<td>Paley’s Teleological Argument and Its Significance</td>
<td>12</td>
</tr>
<tr>
<td>by William Spencer</td>
<td></td>
</tr>
<tr>
<td>Aristotle on Chance and Luck</td>
<td>18</td>
</tr>
<tr>
<td>by Daniel Garro</td>
<td></td>
</tr>
<tr>
<td>Chance and Luck: Causes or Mere Phenomena?</td>
<td>23</td>
</tr>
<tr>
<td>by Misty Christensen</td>
<td></td>
</tr>
<tr>
<td>Jung, Campbell, and the Spiritual Journey</td>
<td>26</td>
</tr>
<tr>
<td>by David Hosey</td>
<td></td>
</tr>
<tr>
<td>Continuity of Consciousness: Locke on the Self</td>
<td>38</td>
</tr>
<tr>
<td>by Timothy Huston</td>
<td></td>
</tr>
</tbody>
</table>
In 1838, William Paley presented an Argument from the Design of the Universe in his Natural Theology that argues for the existence of an intelligent cause for all other things in existence. The argument centers on a single analogy comparing the universe to a watch and God to a watchmaker. It is vital to examine this analogy, for if it fails so does the argument. Here I will show that Paley’s argument from analogy is a strong one, perhaps far more so than his critics realize. This can be seen by first studying the structure of a generic argument from analogy, giving special attention to the criteria used to determine the strength of the argument, and then applying these standards to Paley’s specific argument from analogy.

By definition an argument from analogy is an inductive argument in which the similarity of characteristics among all the cases provides justification for the conclusion. Basically the argument says that if object X has some characteristics A, B, and C, and object Y has characteristics A and B, then object Y must also have characteristic C as well. This can be further explained by looking at the following example. The last ten Halsman paintings sold at Big Bob’s Auctions all sold for at least five hundred dollars. Since the next painting up for auction at Big Bob’s is a Halsman, it will probably sell for at least five hundred dollars. In this example, the previously sold paintings represent object(s) X, the new painting represents object Y. The auction house, painter, and price represent characteristics A, B, and C. This type of argument has three main parts: the objects being compared, the analogy, and the characteristics in question. In the example, the objects being compared are the ten Halsman paintings that sold in the past and the next Halsman painting to be auctioned. The analogy is the statement of comparison; in this case the old paintings are compared to the new in terms of auction house, and painter, and price. Lastly, the characteristic in question is the price the next painting will sell for. A strong argument from analogy meets the following criteria: a) the cases are relevant to the conclusion, b) the cases are substantial in number, c) there are
few disanalogies, d) there is variety in the past sample, and e) the scope of the conclusion fits the scope of the analogies. The sample argument is a good argument from analogy because it meets all five of these criteria. The past cases are all relevant to the conclusion because they all involve paintings by a specific artist being sold at a specific location which is mentioned in the conclusion. The fact that there is more than one past case strengthens the argument. There are few disanalogies in the argument, which is to say that the things being compared are relatively similar in the way they should be if the conclusion is to be persuasive. For example, all of the paintings in this question are similar in size, age, construction, and content. While the variety in this argument may be somewhat limited, it is sufficient for the given conclusion. The final criterion to examine is the scope of the conclusion. In a good argument from analogy the scope of the conclusion should not surpass the scope of the analogy. In this case, this means that the expected price is close to the prices quoted for other paintings of the same type. The conclusion would surpass the scope of the analogy if the expected price was much higher than the previous prices. Since the expected price is reasonable in relation to previous prices for this type of art work, the conclusion does not surpass the scope of the analogy.

A false, or weak, analogy is not strong enough to support the conclusions drawn. This means the analogies made contain comparisons irrelevant to the conclusion in question. The following example is a weak argument from analogy. The last black dog I had used to bite, and the last black dog my friend Sam had also used to bite, so all black dogs must be extremely vicious. This argument is weak because it does not support the conclusions drawn; it fails in all five criteria for a strong argument from analogy. The trait of color does not necessarily connect with the trait of aggression in dogs. Other factors such as genetics, environment, and previous training all combine to shape a dog’s temperament. Moreover, there are not enough past examples; two dogs cannot substantiate a claim about the whole species. There are not enough similarities between case The argument would be stronger if the dogs being compared were similar in more ways, say in breed or age. This sample

1 Wik, James
2 Pal, John
3 Pal, John
lacks variety because of its small numbers; variety does not exist in a population of two. Finally the scope of the conclusion does not match the scope of the argument. The there is not enough information provided in the comparison to make a generalization about all dogs. Now that we have distinguished the difference between a strong argument from analogy and a weak argument from analogy, we can move into Paley’s specific argument.

In *Natural Theology* Paley is attempting to prove that God, traditionally thought of as some sort of intelligent creator, exists because there is order and purpose to the universe. This argument hinges on a single analogy which can be stated in the following way. Imagine that you are walking in a field and you happen to notice a watch lying in your path. You see, “that its several parts are framed and put together for a purpose.”¹ This is to say that the parts of the watch seem to be adjusted in a way that allows it to produce a motion which can track the flow of hours in a day. You see that if the parts were in a different arrangement, if even one part was the wrong size, the watch would cease functioning. For Paley, this harmonious function of integral parts in which each seems to have a purpose is the essence of design. If the watch has a design, then Paley argues it must have had a designer: “the watch must have had a maker; that there must have existed, at some place or other, an artificer, or artificers who formed it for the purpose which we find it to actually answer; who comprehended its construction, and designed its use.”² Paley then goes on to say “every manifestation of design, which existed in the watch, exists in the works of nature.”³ An example of this design in nature would be the human eye. The human eye is made up of complex parts which work together to serve a purpose, namely to give sight to humans. As with the watch, any slight change in the parts of the eye can damage its function. Since nature possesses design then it must have a designer, and since the

---

² Paley, 94.
³ Paley, 96.
design is much greater than that of a watch, it follows that nature must have a greater designer. For Paley, this designer is God.

Now that Paley’s argument has been considered, it is time to pull it apart into its composite pieces and subject it to the criteria for a good argument from analogy. First, I offer a restatement of the argument in line with the earlier examples. A watch has a certain order to it; it is designed in a way that reveals it to have purpose, namely, that it functions as a timepiece. Things which have a purposeful design must have a designer. The universe has an order to it, and the way it is designed is suggestive of purposive design in its ordered and harmonious function. Therefore, the universe must have a designer. This argument relies on one past case, the watch.

There is also one shared characteristic – design, as indicated by harmonious function of integral parts. Finally the characteristic in question is the presence of a designer. Now that the argument has been restated and defined, it can be evaluated.

Relevance is the first criteria for evaluating an argument. As far as I am concerned, Paley’s argument meets the relevance requirement. Granted, a watch and the universe may not always be similar enough to make an analogy, but I do not think that is important in this specific case. Paley is using an established principle, the teleological argument, which says that God’s existence can be proven from a single experience of design. Paley is filling in the blanks of an established argument to prove his point. This makes the comparison and conclusion very relevant even though the objects seem dissimilar at first glance.

As to the number of past cases, Paley only gives one example. However, this does not diminish his case. The nature of the teleological argument is that of one singular experience Paley could have listed every purposeful object and its maker, but instead he supplies a principle that can be independently applied to the objects around us: objects which have a purposeful design have a designer. This is, in my view, enough to fill this requirement.

The disanalogy criterion is where Paley often finds objections, but I tend to disagree. Paley defines purposive
design in terms of integration of parts. For Paley, knowing the end purpose of an object is not necessary to find purposive design; we only need to look for parts organized such that manipulation of one profoundly changes the whole. This means that we do not need to prove the universe has an existential purpose. We only need to admit that manipulation of the parts, no matter how great or small, profoundly affects the whole. In this sense, both the universe and the watch have purposive design for Paley. Once one admits that the universe has a purposive design in the same way that a watch has a purposive design, I find that Paley can account for the difference in complexity. Paley freely acknowledges that the universe is greater than a watch; presumably this is what allows us to see God as the designer, because the designer of the universe would necessarily be greater than any watchmaker. All grandeur aside, the universe is mechanical in nature; it is both predictable, and also affected by the destruction of even one tiny piece of itself. My heart beats one hundred and four times a minute, the metronome of my being. Push it faster and I sweat and pant, slower and I grow pale and weary. It is simple biology. Oxygen atoms bond to hydrogen atoms predictably and all on earth that is thirsty can drink. It is elementary chemistry. Even love is, at its base, ragged breaths, racing hearts, and pheromones released and received unconsciously. Yes, it is all terribly frightening and complex but underneath it is all simple science. Simple design controls the most complex of universes just as it controls the simplest of watches.

The criterion of variety in a past sample can be addressed similarly to the criterion for the number of cases. Paley is working off of an argument that asks for one single experience, but he just as easily could have listed all the purposeful objects he could think of. Since it a teleological argument, variety is not important.

As for the final criteria, scope of the conclusion, I assert that the conclusion fits his argument. That said, there are some additional provisions. First, one has to see the mechanical similarity between a watch and the universe. Second, one has to accept that the universe has a purpose, at least in the sense that Paley understands purpose. While we may be able to
debate the existential purpose of the universe, remember that Paley’s definition of purpose is based in harmonious function. The idea that change or removal of even a small piece can change overall function is evidence enough of purposive design for Paley. Those two things accepted, then it is logical to conclude that what has a design has a designer and that the universe, because of its design, must have a designer. In addition, Paley has several possible replies to objections in his argument. Several of them shed light on some popular objections to the existence of God which strengthens the scope of the conclusion by pointing out some similarities between God and the watchmaker. For example, Paley says that if we could not physically see the watchmaker we would not be able to deny his existence, just as we should not deny God’s existence based on a lack of visual observations alone.

All in all, I would argue that Paley is making a good argument from analogy in *Natural Theology*. The argument meets all the criteria for a good argument of this type and Paley’s attention to other possible arguments strengthens his position on the whole. Stepping away from the analogy, I can certainly see problems with the argument. It is, for example, very hard to prove that the universe has purpose no matter how mechanical it may be. Since this fact is a given in the analogy, we have to say that Paley is right, we may be a lot more complicated than watches, but underneath there is always some plan to make us tick.

---

Paley’s Teleological Argument and Its Significance
William Spencer

Throughout history, humans have marveled at our surroundings and tried to explain the mysteries of the universe. We answer these questions the only way we can, by creating supernatural ideals like God. Over time some of these explanations have become so ingrained in our minds and societies that we now in turn need to explain them. This is where William Paley’s teleological argument comes into play. He famously compares the universe to a watch in an attempt to draw the conclusion that the universe was designed by an intelligent mind, as a watch is. I believe that this argument reveals more about the nature of humanity than that of the universe, as I will argue here.

Paley explains his argument in the following way. If one were to come across a watch in the middle of a field, it would be natural to assume that it had originated in a watchmaker’s shop and been brought to the field. This is because the watch displays design and has a visible purpose, which is to tell time. Paley says that it is absurd to suppose that merely the laws of nature or a series of random accidents could produce a machine which counts off minutes and hours with such efficiency. Even if the watch did not work, the fact that it was clearly meant to serve this purpose indicates that it was designed by an intelligent mind.¹

According to Paley, this argument applies to nature as much as it applies to a watch. The contrivances of nature, however, are far greater than any produced by the hands of man, and therefore the intelligent mind that produced them must be proportionally greater than that which produced the watch. While he may be correct that the contrivances of nature are much greater than those of man, it does not necessarily follow that there must be intelligent design present. In order to see this

we must first examine the ideas of purpose and order, and
decide how these are present in nature.

Order in nature is produced by the different properties
inherent in different types of matter. For example, each type of
atom has a different set of properties, which causes them to fall
into certain arrangements. These different arrangements, called
elements, interact with each other according to the properties
that they possess, and so forth. These properties allow certain
things to happen while making others impossible. This is not
purpose, for I would not say that it is the purpose of hydrogen
to bond with oxygen and form water, or to be explosive in its
gaseous form. These are merely results of its properties.

However, when we get to higher orders of matter, such as
organic life, we start to see what is undeniably purpose. The
structure of the eye, to use Paley’s example, serves the purpose
of providing sight to the brain, allowing it to interpret the world
around it. Thus I must agree that there is purpose in nature.

Modern science indicates that purpose arises from this
mindless order. The properties of matter enabled living
organisms to arise, and it is the nature of this life (reproduction
with some errors, making one organism more adept at survival
than another) that allows such purpose to develop. For if one
creature has a rudimentary eye while another has none, surely
the creature with an eye will be more likely to pass on its
genesis.

One might suggest that order is the way that God
implements design. I would say that this is the perfect occasion
to use Ockham’s razor, which states that one should not explain
something using many entities or concepts where fewer will
suffice. Why do we need God to give the world order when it
would be more prudent to say order is inherent in matter? In
other words, by saying that an eternal God created the basic
laws and materials which allow all other things to come to be,
one is including an entirely unnecessary step. Not only would
be simpler to say that the laws of the universe and basic
building blocks of matter are eternal, but it also leaves less
unexplained. We can unravel the mysteries of matter, energy,
and physics, and there is no indication that our knowledge of
these subjects will stop increasing any time soon. God, on the
other hand, is inherently mysterious and unknowable. I can see why some would be more comfortable accepting the eternal nature of an unknown God over the matter which makes up our very bodies and the laws that allow us to exist. However, I find the notion of an eternal universe easier to accept than the idea that some immaterial and eternal being exists, and is able to call all that we know into existence. This may seem to be a matter of personal preference, but as said earlier, the simpler explanation is more desirable if it can explain things as well as the more complex one.

Many would still say that the fact that life exists at all merits wondering, because the conditions necessary for life to arise are so delicate and exact that the chances of them ever occurring would be unfathomably small. Thus, one might say that some external force is still required in order to set the stage for life. Suppose one were to reply, “But if things had turned out any other way, we would not be here to wonder.” It is unlikely that the opposition would be convinced. Something more is required to explain the world. While these people say that life is highly improbable and merits explanation, I think the opposite. It would be much more remarkable if, in this vast and ever changing universe full of millions of planets, there were not one single instance of life. The same goes for the idea that the conditions on earth are so well suited for life. Chances are, in the eternal history of the universe, that such conditions would arise on a planet at some point. Humans, being one of the more intellectually advanced organisms in existence, are simply in a position to marvel at the odds.

Richard Swinburne has an interesting objection to this line of argument. He asks us to imagine a madman who has kidnapped a person and put him in a room with a card shuffling machine.² This machine has ten decks of cards, and it will select one card from each deck at random. In the case that any of the ten cards drawn is not the ace of hearts, the machine will detonate a bomb instantaneously, killing the victim. Imagine the machine produces ten aces of hearts on the first try, sparing the victim. Swinburne claims that the fact that the victim would

not be alive to perceive any other result is insufficient to explain what happened. According to him, the odds that the machine would draw ten aces of hearts are so small that, if it happened, one could not possibly avoid the conclusion that there were forces other than chance involved. He says that the universe is the same way. The laws of the universe, he claims, are so specifically tuned to enable life that some outside force must have had a hand in setting them. However, if these laws are eternal and unchanging, then there is no other way they could be set. The question of likelihood is not applicable to the basic laws of the universe, just as it is not applicable to God. God is said to be intrinsically self-explanatory, but because we have seen that the idea of God is unnecessary and superfluous, we can say that the basic ingredients of the universe are self-explanatory in God’s stead.

The one objection that is left is that some things, such as the brain or digestive tract, seem far too complex to arise from sheer chance. However, this objection fails to take into account two things: how powerful evolution is as a driving force for organic development, and how much time there has been for such complex structures to arise. Because the universe is eternal, all possible forms of life must have arisen at some point and co-existed with each other. Therefore, there is not merely a good chance that a world such as ours should exist; in fact it is inevitable.

The biggest assumption contained in the teleological argument is that order and purpose, what Paley calls design, must arise from intelligence. This is not necessarily so. Scientists have done a great deal to show us how a few basic unalterable laws not only enable the basic building blocks of matter to form more complex materials, but force them to do so when they are placed in a close proximity with each other. Also, as we have already seen, the probability that intelligence such as ours should arise is not as small as one might have thought. Thus, it is just as likely, if not more so, that intelligence arose from mindless order, and not the other way around. Because we arose from this order, it is no surprise that there are striking similarities between our natural surroundings and the working of our creations. Which scenario seems more likely? Is it a
grand intelligence creating all order and other intelligence, or does an inherent order give rise to life and intelligent minds? Some would still be prone to agree with the former, but any unbiased mind will see that the latter is much more reasonable and likely. Furthermore, if intelligence is not required to create purpose or order, and God is understood to be the fundamental driving force of the universe from which purpose comes, then the basic order of the universe and God could be said to be one and the same. For without intelligence, God need not be ascribed the traits of benevolence or omnipotence or love, but can retain all of the non-human characteristics, such as eternal existence, perfection, and omnipresence.

The question is why do we have this tendency to strive for proof of a God’s existence when there are simpler and more reasonable explanations at hand? As mentioned earlier, we have used the idea of a God or gods throughout history to explain away any question that we could not find any other answer for. Now that we have gotten to a point where this explanation is not needed, many are unwilling to let go of the notion of God. This can be explained. Not only does God explain the order and purpose observable in nature, but God also helps make our lives seem more meaningful. If we are the product of a cold and efficient process such as evolution, then we are nothing more than animals that were lucky enough to evolve with a large mental capacity and opposable thumbs. If we are the product of God, then it is not a big step to conclude that a being capable of creating such purpose on a biological level would also want to give us a higher purpose, one on a spiritual level. If my rationality did not prevent me from doing so, I would gladly pick God over evolution.

Also, if one accepts my argument, then it becomes fairly obvious that man was not created in God’s image, but rather the other way around. This would explain why such a perfect and unfathomable being can be described in scripture as having certain human characteristics, such as benevolence and love. If we alone are made in God’s image, then it elevates us above the level of all other creatures, more so than our superior intellect already does. By anthropomorphizing God, and nature as well, we make the world and its cruel realities more
accessible, less threatening and alien. For if an all loving and benevolent God created us, then surely such a being would not allow us to be destroyed, we would surely have an afterlife to look forward to. The universe would not be so kind, however. If we were created by chance and physical laws, these same forces could eradicate us in a number of different ways, without reason or compassion.

The best consequence of our reluctance to deny God is morality. I feel that many humans are capable of acting in a constructive and socialized manner without the guidance of God, as well as the threat of eternal punishment. However, there are many who would choose to act selfishly if they were not worried about eternal damnation, and faith in God is the one thing that keeps these people in line. While morality and peace of mind are attainable without the aid of an immaterial force, faith in God nevertheless makes these things much easier to acquire.

One may ask, what are we left with in the absence of God? We become a chance occurrence in an eternity of mindless physical interactions. We come out looking like a bewildered species; one with brains advanced enough to comprehend the order of the universe and egos big enough to refuse to accept our tiny place in it. While this may seem to be true given my arguments, one can take a different lesson from this knowledge. The lesson is that we should cherish every opportunity to enjoy our lives and the world around us, and spend precious time paying homage to some immaterial relics left over from the days of dragons and witches. Without God, we are free to find our own purpose, and make our own order in life. In the end, is that not more rewarding than letting someone else do so for you?
In his *Physics*, Aristotle attempts to explain reality by reference to different types of causes. It should be noted that translating Aristotle’s ‘*aition*’ as ‘cause’ can be misleading. Current English usage of the word refers only to one type of cause that Aristotle gives, the efficient cause. A better term is explanation, that which accounts for a thing’s existence or basic character. We will retain the word cause, but be mindful of its broader meaning in Aristotelian thought.

Aristotle investigates current beliefs about explanations for things to determine whether or not they are justified. Some current beliefs of his time claim that chance and luck are the causes of many things: “Other people make chance the cause of our heaven and of all worlds” (196a25). Beliefs of this sort lead Aristotle to consider whether chance and luck can be considered as causes in their own right. Towards the end of his inquiry into chance and luck, Aristotle writes:

> Chance and luck are causes of events <of the sort> that mind or nature might have caused, in cases where <particular> events <of this sort> have some coincidental cause. Now nothing coincidental is prior to anything that is in its own right; hence clearly no coincidental cause is prior to something that is a cause in its own right. Chance and luck are therefore posterior to mind and nature (198a).

Aristotle claims that chance and luck are posterior to mind and nature. Here I will offer an explanation of Aristotle’s statement about chance and luck. First, I will try to show the type of events that mind or nature might cause and this will allow me to show how chance and luck are related to mental and natural phenomena. Second, I will offer an account of Aristotle’s

---

1 Parenthetical references are to the Bekker numbers standard for Aristotle’s works. All quotations from the *Physics* are from *Selections*, trans. Terence Irwin and Gail Fine (Indianapolis: Hackett Publishing, 1995).
distinction between a cause in its own right and a coincidental cause. Finally, I will present an interpretation of the above statement made by Aristotle, in light of these relevant distinctions. This will ultimately explain how chance and luck are posterior to mind and nature.

We begin with an account of events caused by the mind. Events caused by the mind have a purpose or end; that is, they fall into the larger category of events that are for something: “Events that are for something include both the actions that result from thought and also the results of nature” (196b20). When one makes a decision to do something, one is acting towards bringing about a particular goal. This is evident if one thinks back on any previous decisions one has made, for every decision is made with some sort of purpose or end in mind. One’s deciding to do something is conditioned by a) the intended outcome of the action and, also, b) whether or not the action will affect the intended goal. We estimate, from our past experience, what an action always or usually brings about. For instance, in the morning I may have the options of sleeping in or getting up and making breakfast. After thinking the decision through, I decide to get up and make breakfast so I can start the day energized and awake. I am able to make the decision, because waking up and eating breakfast always or usually lead to my being more energized and awake. Thus my decision to get up initiated the action of making breakfast, with the intended goal of starting the day energized and awake.

In Aristotle’s view, just as some events are caused by the mind, so are others caused by nature. Just as with events caused by the mind, events caused by nature have a purpose or end. For Aristotle, the form produced by an activity constitutes the end, and everything else is working towards that end (199a30). For example, a tree’s leaves collect energy in order to produce simple sugars through the process of photosynthesis, allowing the tree to grow and to produce seeds. Therefore, the leaves’ ability is a result of nature and is for a definite goal - to allow the tree to reach its end form, a mature tree. Similar to the actions resulting from thought, Aristotle believes that nature tends toward what is, always or usually the case (198b35).
leaves are always or usually able to photosynthesize, and thus their being able to do this is a result of nature.

Concerning events in which the outcome is neither always nor usually the case, Aristotle speaks about fortune. An event happens by luck if the action involves a conscious decision, but where the end result is neither always nor usually the case. For example, Jack decides to go to the store on Sunday to pick up milk. When he makes his purchase he is surprised to find that he is the millionth customer, making him the recipient of a five-hundred dollar shopping spree. Since Jack’s decision to go to the store produced a result that is neither always nor usually the case, namely winning a contest, then it is a lucky event that he happened to be there on that day to win the prize.

Unlike events caused by luck, events caused by chance do not require a decision. Thus, chance extends more widely than luck (197b). Chance events are similar to events which are a result of nature, because chance events do not require a decision nor do they require an agent capable of decision. Aristotle gives an example of a chance event when he writes: “We say, for instance, that the horse came by chance, since it was saved because it came but did not come in order to be saved” (197b15). The horse, being incapable of decision, came by chance because it did not decide that it needed to be saved. However, the horse’s coming resulted in its being saved, and therefore was a chance event. It is neither always nor usually the case that the horse needs saving, and yet the horse came so it was saved. Thus, luck and chance involve something that does not always or usually happen, and so the event is said to happen coincidentally.

Here we move to the second major distinction; however, only the former requires an agent making a decision. Aristotle distinguishes between a cause in its own right and a coincidental cause: “Hence the cause in its own right is determinate, but the coincidental cause is indeterminate” (196b25). Something is said to be a cause is in its own right if the event that follows always or usually follows. This allows us to determine what the cause of the event was, and so the cause is determinate. For instance, my getting up and making breakfast always or usually leads to my being more energized.
and awake. Therefore, my decision to get up is a cause in its own right, because the event that follows always or usually follows my action. I can determine what the cause of the event is, because my decision is conditioned by what always or usually happens. However, a cause is coincidental if the event that follows neither always nor usually follows. In this case we cannot determine the actual cause of the event, and so the cause is indeterminate. We cannot determine why the horse came, because the horse neither always nor usually needs saving. Therefore, the horse’s coming is a coincidental cause. Thus mind and nature are causes in their own right, while luck and chance are coincidental causes.

We are now in a position to understand Aristotle’s original statement as quoted on the first page of this essay. In this statement, Aristotle is replying to some current beliefs of his time, according to which chance was treated as a cause in its own right and attributed to the cosmos. In his reply, Aristotle notes that we are unable to have the idea of a coincidental cause (chance or luck) before we have the idea of a cause in its own right (mind or nature). We need experience and knowledge of what is always or usually the case before we can have experience or knowledge of what is neither always nor usually the case. Chance and luck, being indeterminate causes, cannot be posited as causes until we have the prior notion of determinate causes, mind and nature. Without knowledge of determinate causes all causes would be indeterminate. If all causes were indeterminate, we could have no notion of a cause at all, because all causes would be indistinguishable from one another. Therefore, we must have an understanding of a cause in its own right so we know what always or usually happens. If I didn’t know that waking up and eating breakfast always or usually made me more energized and awake, I would not have been able to make a decision between sleeping in and getting up. It is only after we learn of a cause in its own right that we can have an understanding of coincidental cause. We have to know what always or usually happens first, and then this knowing allows us to determine when something out of the ordinary happens,
Thus, Aristotle is saying that we need to have an understanding of the events that mind or nature might cause before we can determine that a particular event of this sort has a coincidental cause namely, chance or luck. For example, we know that leaves always or usually have the ability to synthesize simple sugars, and we know that these sugars give nourishment to the tree allowing it to grow into a mature tree and to produce seeds. Since we know that this is always or usually the case with leaves, we are able to determine that the tree’s growth and development was caused by the leaves’ ability to synthesize simple sugars. By determining the cause that always or usually leads to the tree’s growth and development, we have an understanding of a cause in its own right. This understanding allows us to know when something out of the ordinary happens, which we consider coincidental, and which for Aristotle involves a manner of speaking about a coincidence of causes not normally occurring together. In order to understand chance and luck we must first come to an understanding of how mind and nature operate as causes.