1-1-2019

Against Vogel: A Defence of Aristotle's Account of Nature

Mitchell Witteveen
University of Windsor

Against Vogel: A Defence of Aristotle's Account of Nature

By

Mitchell Witteveen

A Thesis

Submitted to the Faculty of Graduate Studies
through the Department of Philosophy
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts
at the University of Windsor

Windsor, Ontario, Canada

2019

Against Vogel: A Defence of Aristotle's Account of Nature

By

Mitchell Witteveen

APPROVED BY:

_____

P. Fagan
Department of Languages, Literatures and Cultures

_____

C. Tindale
Department of Philosophy

_____

P. Rose, Advisor
Department of Philosophy

November 22, 2019

DECLARATION OF ORIGINALITY

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

I certify that, to the best of my knowledge, my thesis does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in my thesis, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that I have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Canada Copyright Act, I certify that I have obtained a written permission from the copyright owner(s) to include such material(s) in my thesis and have included copies of such copyright clearances to my appendix.

I declare that this is a true copy of my thesis, including any final revisions, as approved by my thesis committee and the Graduate Studies office, and that this thesis has not been submitted for a higher degree to any other University or Institution.

ABSTRACT

Steven Vogel argues that nature ought not be thought of as a category independent of humans, and instead much be understood as something built by human action. His point is fundamentally ontological: Vogel denies that there is a difference in kind between the natural and artificial. To establish this, Vogel argues against two separate conceptions of nature which are popular in environmental discourse in order to show that both are problematic. The first definition "Nature(1)" is the notion of nature as the parts of the world not touched by humans; the second definition is "Nature(2)" which holds as natural anything which is physical. The former turns out to exclude all the things which humans know or encounter. The latter captures too much to be useful in distinguishing the natural and non-natural. If nature just refers to the physical laws of the universe, nothing human beings do in the world can possibly threaten the natural. After refuting these two views, he concludes that nature must be understood not as a self-subsisting thing but as something socially constructed.

I argue that Vogel overlooks a third definition of nature which can be derived from Aristotle's notion of *phusis* and its subsequent development by the Aristotelian tradition, especially by St. Thomas Aquinas. I wish to clarify why Aristotle's notion of nature is distinct from those attacked by Vogel. Specifically, I believe that Aristotle's account is able to justify the ontological commitments it makes in contrast to either of the views Vogel criticizes. I will defend its relevance to contemporary environmental philosophy especially against the charge of ideology which Vogel makes against other conceptions of nature.

DEDICATION

Nisi Dominus aedificaverit domum, in vanum laboraverunt qui aedificant eam. Psalm CXXVI.1 First, and foremost I give thanks to God that I have made it this far in my studies. I give thanks also to the Mother of God, Mary the Seat of Wisdom, and St. Thomas Aquinas for the aid of their intercession. It is to the greater glory of God that I dedicate anything good in this thesis.

Second, I wish to dedicate this work to the University of Windsor Philosophy Department which has educated me for many years. I would especially like to dedicate this work to Dr. Philip Rose and Dr. Christopher Tindale who have agreed to be on my committee, as well as Dr. Patricia Fagan who has also agreed to be on my committee. I also am thankful always of the support I have received from my friends and family both here in Windsor and in Niagara.

TABLE OF CONTENTS

CHAPTER I: THE PROBLEM OF NATURE INTRODUCED

Steven Vogel does not believe that the concept of nature as it is used in contemporary environmental discourse is useful as a category. He holds the concept is ambiguous and known to be ambiguous, and further posits that "perhaps it is the time to admit that the concept is *too* ambiguous, too confusing, too likely to issue in antinomies, perhaps even too intellectually seductive to be helpful in discussions of how human beings ought best to live in the world".[1] Vogel continues "the *concept* [of nature] is hard to find as well, meaning that the definition of the term turns out to be so slippery that all attempts to pin it down seem equally doomed to failure".[2] In other words, there is *no* satisfactory definition of nature.

In order to demonstrate this, Vogel will define and criticize two notions of nature; which he refers to as "nature" and "Nature" (a distinction I will explicate in the next chapter). For the sake of convenience, I have opted for the terms "Nature(1)" and "Nature(2)". Nature(1) is fundamentally an emphasis on nature as "independent" in the broadest sense. Nature(2) is a description of nature as the "physical", that is anything in the world governed by what one may call the "laws of nature". Putting aside briefly the specific problems Vogel has with these two definitions, it is important now only to note that he rejects both.

Thus on account of the various problems Vogel raises, the two definitions are found to be useless for an environmental ethic (ie. they do not allow for a description of *good* action in respect to the natural environment). While Vogel concedes there have been other attempts to define nature, nevertheless in each case Vogel shows these other views to be reducible to or dependent upon Nature(1) or Nature(2).

---

[1] Steven Vogel, *Thinking Like a Mall*, (Cambridge MA, MIT Press, 2015), 9.
[2] *Ibid.*

Consequently, Vogel concludes the traditional notion of nature needs to be abandoned.

What Vogel believes he can accomplish by forsaking the notion of nature is the resolution of a particular, allegedly ontological, dichotomy which haunts contemporary environmental discussions. Vogel explains: “The distinction between the natural and the artificial is ontologically meaningless: this is the central point I am trying to make".[3] That is, the difference between what is commonly called “natural” and what is commonly called “artificial” is not a qualitative difference. Vogel acknowledges that human action can affect the “‘not-made-by-human’-ness” of objects (such as when one shapes flint into an arrow-head) but he denies that this transformation has an ontological depth.[4] That is, Vogel holds that rather than there being two separate categories (natural, artificial), the two are interwoven in such a way that there is *no deep ontological divide* such that an object might fall out of the set of natural things and into the set of artificial things, but rather every object is to some degree in both.

To make this point, Vogel wants to highlight both the “artifactuality of nature” and the “nature of artifacts".[5] That is to say, not only is the world of nature permeated with the traits of artifacts, or *builtness*, but also that the world of human-constructed artifacts never fully escapes omnipresent naturalness. To the former point, Vogel argues “the world is perfectly real and material, just as real and material as our activities are… it is the product of our work, of what we *do*”.[6] Put

[3] Vogel, *Thinking Like a Mall*, 169.
[4] *Ibid.*
[5] Vogel, *Thinking Like a Mall*, 168.
[6] Vogel, *Thinking Like a Mall*, 167.

simply, the world including nature cannot be separated from human action since it is the product of human action.

However, Vogel's world-constituting constructivism does not exclude *something* besides human intention and activity contributing to the facticity of the environment, or more specifically the built environment. If the world-constituting material activities of human beings explain Vogel's notion of the "artifactuality of nature", it is the non-intentional aspect and potentiality for failure in technology that explain the "nature of artifacts". Vogel writes: "Artifacts are *things,* they're *real*, they have properties that their designers never intended or expected them to have… " [7] Vogel then will not be satisfied with any nature/artifact distinction which rests solely on mental states. It is the reality of artifacts (i.e. the fact that they are material things in the world) that imbues them with naturalness since they will exhibit and be subject to forces that were not contained in the intention to build them.

Even the intentional aspects of the artifacts humans construct are themselves not purely intentional. As Vogel writes, "the properties [the] designers never did intend came to be possessed by the artifact through the operation of forces the designers could never fully grasp".[8] In other words, the designer crafts the artifact from forces in the world which are independent of her intentional actions and (probably) not fully understood.

The dichotomy of nature and artifact is overcome, or perhaps the dialectic reaches its synthesis, through the attribution of independence to artifacts and of builtness to the whole material world. In the case of the former, Vogel denies that independence is a defining feature of nature since it is also true that artifacts are

[7] Vogel, *Thinking Like a Mall*, 168.
[8] *Ibid.*

independent. To this end, Vogel writes, “But the artifacts… remain physical through and through, and in that sense, they are ‘independent’ of humans".[9] In a sense then, the “nature of artifacts” is Vogel’s answer to Nature(1).

The “artificiality of nature” then should be Vogel’s answer to Nature(2). Nature(2), or the belief that nature is the totality of physical laws of the universe rests on an assumption that when one speaks of such laws one is appealing to a non-constructed sense of the natural. Yet if Vogel is correct, it is only through *material* human activity that the world is constructed; the world is built through humans and thus not independent of them. While Vogel cannot and does not deny that human intentions and beliefs are not omnipotent or infallible in what they attempt to bring into the world, he nevertheless believes that all humans encounter in the world is still constructed through human activity.

The structure then of Vogel’s argument appears to be such: nature can be defined either as independent, or as the physical. The former attempt would seem to apply readily to the built environment, and the latter seems only to describe nature in so far as it is built by human activity. Thus no ontologically deep division can be drawn between what is constructed or artificial and what is natural, and the previously held categorical distinctions need to be discarded.

Vogel holds that this realization is important for the good of human beings as it allows for a more intelligent account of proper action in contemporary society, and provides a challenge to the ideological function of other conceptions of nature. If Vogel is right to argue that nature is socially constructed, and this is generally not recognized, then Vogel has grounds for his charge that contemporary conceptions of

[9] Vogel, *Thinking Like a Mall*, 142.

nature are *alienating* in a Marxist sense. Vogel explains that the view of nature as something ontologically separate from human beings makes it out to be "an externally given reality [people] cannot change but must simply accept" rather than a thing people had a role in constructing.[10]

It is on account of this allegedly feigned permanence and independence that Vogel raises his charge of ideology against the contemporary attempts to define and locate nature. If nature is held to be completely separate from humanity, then where humanity is, nature is not. Consequently, "the built environment is already fallen" and we need not work to preserve it, whereas "by protecting wilderness, we can excuse ourselves from responsibility for the environmental consequences of our own actions within the human, nonwild, world".[11] In other words, the alienation experienced by hypostatizing nature as human-free stuff blinds environmentalists and people more generally from recognizing the true concerns of the built environment they themselves inhabit.

This is ideological in the sense that this view, though mistaken, expresses some deep truths about modern society.[12] That is to say, the alienation of the built environment as *independent nature* is in one sense the consequence of a false belief (the belief that nature is not constructed) but also expresses something true about the world people live in (i.e. nature is really treated as something outside of their control).

Vogel then is making two separate cases. One is ontological. That is, Vogel holds that prior attempts to draw an ontological divide between nature and artifact

[10] Vogel, *Thinking Like a Mall*, 89.
[11] Ibid, 7.
[12] Ibid, 67, 93.

have failed. He suggests alternatively the dichotomy be abandoned and the two categories be viewed as interwoven.

Vogel's second case is that prior attempts to define nature were not only wrong, but also ideological. They result from a sense of alienation and serve an ideological function. Consequently, to offer a contrary position to Vogel one will have to address both of these cases. One must provide an account of nature which does have ontological depth but also in some way answers Vogel's charge of ideology.

I take such a contrary position. I believe Vogel's argument is a result of the initial supposition that Nature(1) and Nature(2) adequately describe the plethora of alternatives offered to his position. Without this central dichotomy, his inference from a denial of the two definitions to the conclusion that there is no other satisfactory definition of nature is invalid. I propose that one may derive a distinct definition of nature from Aristotle's account of *φύσις* in the *Physics* which is not reducible to either Nature(1) or Nature(2). I believe that this third notion of nature Nature(3) can both avoid the problems Vogel raises in objection to Nature(1) and Nature(2) while also avoiding his charge of ideology.

To develop more fully the idea of Nature(3) I will turn to the texts of Aristotle and St. Thomas Aquinas. I will also draw heavily on the continuing Thomistic tradition and defend the Aristotelian notion of *φύσις* in light of objections from modern science. I will end my discussion with an account of what some of the potential implications of adopting Nature(3) would be for determining what actions are good in relation to the environment.

CHAPTER II: EXPLODING NATURE(1) AND NATURE(2)

Before Vogel develops an account of what environmental philosophy can look like without a category of "natural", he first highlights why past attempts to give an account of the essence of nature have failed. Vogel begins by highlighting a particular use of the term nature and its problems. This is Nature(1) or the concept of nature as something separate from humans, and hence, non-human in some important sense. Vogel then notes a second sense of nature, Nature(2), which encompasses all of material existence. This definition as well carries certain difficulties that make it unhelpful for discussions in environmental philosophy.

Vogel first entertains the idea that the problems with Nature(1) and Nature(2) might be resolved by some alternative definition of nature. He finds after analysis that every alternative he mentions is reducible to or dependent upon either Nature(1) or Nature(2). This conclusion lends itself readily to his overall thesis that the concept of nature needs to be abandoned by environmental philosophy.

I will not contest that Vogel's objections are cogent refutations of Nature(1) and Nature(2) nor do I believe he is unfair to identify the various notions of nature he addresses as derivatives of them. Rather, I want to accept and catalogue the objections Vogel brings against Nature(1) and Nature(2). By doing this, I hope to provide a picture of what an alternative conception of nature must require.

Section I: Vogel on Nature(1) and Nature(2)

Vogel first examines a definition of nature which is taken from Bill McKibben's *The End of Nature*: nature as something independent of humans. This view I shall refer to as Nature(1). McKibben believes that nature as such has been completely lost to human society since there remains no part of the world separate

from human society entirely.[13] That is to say, Nature(1) takes whatever is in some sense independent of humanity to be the natural, and this independence seems to be one of *causal* origins. Something then is natural in so far as it is *not* influenced by humans.

Vogel, however, makes note that this definition is entirely negative and that the central thesis of *The End of Nature* can be phrased as a double negative: "*a world not produced by human action no longer exists"*.[14] Consequently, McKibben's definition of nature leaves no room for any kind of human activity which preserves nature. This creates two problems.

The first problem with Nature(1) is the paralyzing effect it has for environmentalism of any sort. Vogel cites (approvingly) Callicot, who writes: "If we conceived of wilderness as a static benchmark of pristine nature in reference to which all human modifications may be judged to be more or less degradations," then it is possible to avoid the difficult questions about how to live in the "four-dimensional, inherently dynamic landscapes" which humanity shares with other species.[15] Consequently even to speak of "what sort of human activity might be best for a landscape" Vogel writes, "is irrelevant or even meaningless".[16] Therefore, Nature(1) excludes there ever being any coherent environmentally conservative action. Thus, it would seem Nature(1) is not useful for environmental philosophy because it lacks any indication of what one ought to do about the environment.

The second problem with Nature(1) is the entailed requirement that nature be chronologically prior to human contact. If nature is necessarily independent of

---

[13] Vogel, *Thinking Like a Mall*, 2.
[14] *Ibid,* 10.
[15] Qtd in Vogel, *Thinking Like a Mall*, 6.
[16] *Ibid,* 6.

human activity then not only environmental conservation efforts, but also *restorative* efforts are incoherent. If humans plant trees, their actions are no less human than if they were to cut them down. Thus, Katz argues that environmental restorations are impossible: “For once humans have transformed an area its naturalness is gone forever".[17] In other words, the natural is prior to contact with the human chronologically, and that from the time of contact forward the naturalness is forever lost.

Yet if this is the case, then it must be that all areas of the world are in one of two categories: untouched nature, or transformed non-nature. Granting for the sake of argument that there was at least at some point some things in the former category, it also clear on their account that much has been moved to the second. However, as shown by Socrates in the *Phaedo*, movements between poles cannot be a unidirectional infinite when the things being moved are themselves finite. That is to say, if what is natural can become non-natural but the non-natural can never return to nature, then given a finite amount of nature, it will only be a finite amount of time before there is *no* nature. Eventually non-nature will *consume* the whole of nature.

Thus Nature(1), if it *ever* existed, would have to exist within a temporal range, and it is not clear that the twenty-first century (or any part of it) falls within that range. In fact, there are good reasons to think that we do not inhabit such a range. Following McKibben, Vogel claims “nature itself had literally been destroyed” for, in the time after the large-scale burning of fossil fuels and destruction of the ozone layer, “not one square inch of Earth” can still be considered unaffected by human activity.[18] In consequence then, Nature(1) appears not only to be unable to offer any

[17] *Ibid,* 3.
[18] *Ibid,* 2.

guidance on what actions one should take, but also appears to be an empty category. Nature(1) would then be to environmental philosophy both useless and vacuous.

However beyond these problems, Nature(1) seems to rest on a contradiction. Vogel notes that McKibben's view seems to entail that human beings themselves are not natural since they have a unique ability to bring things out of nature.[19] It appears to rely on a *dualism* between the human and the natural. Yet this does not appear to be the case. At least since Darwin it has been commonly held that the human species belongs with the others as a natural part of the biosphere.[20] If human beings are natural, our contact with "nature" should not endanger it any more than the contact of other species does. Human buildings should be no more unnatural than a beaver's constructing a dam, yet "the dam will never be described as unnatural".[21]

However, this apparent contradiction can be resolved once one recognizes the equivocation at work. Appealing to John Stuart Mill, Vogel draws out the necessary distinction between two uses of the word "nature" in order to allow McKibben's thesis to remain intelligible if still not entirely persuasive. The two definitions of nature are the result of contrasting the term "natural" with one of two antonyms. The "natural" can be set up in contrast to the "artificial" (i.e. that which has been crafted by people) as McKibben uses the term (i.e. Nature(1)), or it can mean "natural" in contrast to the "supernatural" such that the totality of naturally occurring processes in the universe is "Nature" (herein referred to as Nature(2)).[22] Human beings and their actions are definitely still natural in the second sense, but whereas humans

[19] *Ibid,* 11.
[20] *Ibid.*
[21] *Ibid,* 23.
[22] *Ibid,* 12.

generally are not described as “artificial”, they may act in a way productive of artifacts.

The question for Vogel still remains, can either of these definitions of nature provide a meaningful category of “nature” that can be protected? Vogel believes the answer is a resounding “No”. A definition is only a good definition insofar as it picks out that to which it is meant to refer to the exclusion of what it does not refer. This entails that definition must avoid both deficiency and excess. Nevertheless, if Nature(1) misses the proper mean by being exclusive of too much (to the point of not describing anything), Nature(2) commits the opposite error: it captures too much.

In the case of Nature(2), nothing in the physical world, including pieces of technology, escape being classified as natural. Consequently, nothing one does to the natural environment can make it “unnatural” and conservation efforts are thus “pointless”.[23] Notwithstanding the possibility of divine intervention such that something natural might become supernatural, no human action has this power.

Anything human beings build will not be a transmutation of earthly elements into heavenly ones, but will in fact be the constructing of things within Nature(2). The engines in human-built cars and planes observe the same physical laws pertaining to combustion that wildfires do. Even more to the point, human-caused carbon emissions turn out just as natural as photosynthesis.[24] That is to say since the greenhouse effect is as much a product of the laws of physics as the various operations involved in photosynthesis, then, Nature(2) does not provide criteria for distinguishing the two events, nor valuing one over the other.

Section II: Alleged Alternative Definitions

[23] *Ibid*, 13.
[24] *Ibid*.

Since both of these definitions of nature are inadequate and unhelpful, Vogel concludes there is no reason to maintain any concept of nature. However, it would seem other definitions of nature are at least possible, and that one such definition may be more useful than either of the two given. Ultimately, I hold that this is the case, but Vogel does not seem to agree. Thus, when Vogel does bring up other conceptions of nature, they are always *de facto* reducible to the two already described.

For example, Vogel notes that the claim "nature is life" is *prima facie* distinct from both Nature(1) and Nature(2).[25] However, this definition becomes problematic when one attempts to distinguish between the biological and non-biological functions of living beings.[26] If human beings emit CO_2 both by breathing and driving cars, there would seem no reason to call one biological and the other artificial.[27] If one objects that the car, unlike one's lungs, is a non-natural product of human beings then one simply begs the question. Humans do produce cars, but they also produce other human beings. Yet it is only the latter productive actions which are called "biological" even though it is only as a result of the dexterity and intelligence the human species is *biologically* endowed with that cars can be produced.[28] It seems then that just as emissions from human offspring are not *unnatural* simply because every human being is the product of a long history of sexual reproduction, neither are the emissions of engines produced by a long history of industrial reproduction unnatural.

---

[25] *Ibid,* 16.
[26] *Ibid,* 17.
[27] *Ibid.*
[28] *Ibid.*

To attempt to define nature as life seems to collapse then into Nature(2). If life is the key feature of nature, then all actions of living things are also natural. Yet this encompasses everything human beings produce and anything that might be thought to "threaten" nature. An atomic bomb and a tree turn out both to be natural; the former, only as the product of a living being, but the latter as a product of its ancestors reproduction. Thus on the same grounds that Nature(2) is rejected, so must the definition of nature as life be abandoned.

Additionally, Vogel momentarily addresses the claim that nature is *the* normative. He writes: "I think the answer has to do with yet one more meaning that the word 'nature' frequently has,... Mill mentions... nature as a *normative standard*".[29] Vogel's word choice is interesting. By using the phrase "yet one more" it would seem Vogel is suggesting that nature considered as the normative was distinct from both Nature(1) and Nature(2).[30] Nevertheless, Vogel seems to still have Nature(2) in mind.

Vogel uses Mill to illustrate this point. Mill writes: "In sober truth, nearly all the things for which men are hanged or imprisoned for doing to one another are nature's everyday performance..." and he goes on to catalogue the various ways in which "Nature" kills or otherwise harms people.[31] Vogel concludes that "trying to act more 'naturally' in this sense scarcely seems like a good idea".[32]

Surely, it is very difficult to deny Vogel's conclusion here if one granted that this is really the sense of nature at issue. But this does not seem to be the case.

---

[29] *Ibid,* 26.
[30] In fact, it is, as I will argue, an account of a nature that is significantly different from the previously mentioned definitions that one can derive and articulate a normative account.
[31] Qtd. in Vogel, *Thinking Like a Mall*, 26-27.
[32] *Ibid,* 27.

Whereas initially, Vogel sets up the claim “nature is the normative standard” to be something separable from the earlier definitions, Vogel drops the distinction. Rather, Vogel treats the claim “nature is the normative standard” to mean “the physical laws of the universe are the normative standard”. This is illustrated by the ideas Vogel takes from Mill. Firstly, Nature (capital N) is imparted some form of agency such that one can speak of the “everyday performance” of nature as something which includes “all the things for which men are hanged”, that is the types of things which are morally censurable, especially in terms of serious punishment.[33]

Since the idea of holding Nature accountable to any standard as if it were an agent would seem itself absurd, then, as charity dictates, one should read Mill as using a poetic device to illustrate his point. Nevertheless, the problem still does not clear up. It would not seem that the obvious sense of the claim “nature is the normative standard” is equivalent to “the actions that an imagined agent ‘Nature’ would perform are the normative standard". Ultimately, however, this confusion seems to rest not in the image itself but in the concept of nature Mill is presupposing.

The fact that Mill assumes Nature(2) (ie. the totality of physical laws) is evident from the examples he gives of the actions of the figurative agent Nature. In his catalogue of natural calamities, Mill enumerates “wild beasts”, crushing with stones, freezing by cold, poison, and hurricanes.[34] Yet all of these things can only be linked under the wider conception of nature. As one is sure Mill would agree, there are no fairies or some other particular agent who makes cold to freeze or poison to kill, but rather it is the regularity of nature described by the laws of physics, chemistry, biology etc. that capture these phenomena. Thus when Vogel, using Mill’s

---

[33] *Ibid,* 26.
[34] Qtd. in Vogel, *Thinking Like a Mall*, 25-26.

distinctions, attempts to offer a refutation of the claim “nature is the normative standard” ultimately Vogel is restating his opposition to nature conceived as the totality of physical laws.

Another attempted definition of nature Vogel puts forth is “Nature as Alienation”.[35] Vogel takes a Marxist view (or in his own terms a *Hegelian Marxist* view) of alienation derived from the *1844 Manuscripts*.[36] Karl Marx described alienation in terms of a worker who produces commodities which are then encountered as “*something alien*, as a *power independent* of the producer”; further, Marx claims that alienation imparts to commodities the illusion of self-existence: “The alienation of the worker in his product means not only that his labour becomes an object, an external existence, but that it exists outside him, independently, as something alien to him, and that it becomes a power on its own confronting him".[37] Vogel frames this idea by highlighting its Hegelian parallels. In the Lord-Bondsman relation, the initial and insatiable “desire” of the subject to consume the objects it encounters is negated, not in such a way that negates the object entirely (thus perpetuating the cycle) but in such a way that “the object’s independence from the subject is both cancelled and preserved".[38] That is to say, while initially the subject also destroys objects through consumption, the Bondsman ends this by taking on the role of transforming the objects through work and giving them permanent existence. [39] As Vogel summarizes “the bondsman both changes the world and changes himself… [he] makes himself into something real in the world".[40]

---

[35] *Ibid,* 88.
[36] *Ibid,* 69.
[37] *Ibid,* 29.
[38] *Ibid,* 70.
[39] *Ibid.*
[40] *Ibid.*

Nevertheless, what is produced is *still* consumed; the products of the bondman's labour are consumed by the lord, just as the products of Marx's proletariat are consumed by the bourgeois.[41] In both cases, the objects imparted existence by the bondsman or proletariat are constructed from the very life of the worker, but in both cases that life is taken from the worker for the sake of another.[42] Consequently, Marx argues, the more labour produces, the more power the bourgeois has over the labourer.[43] Therefore, Vogel notes it is through alienation that the various things people produce acquire a "sham self-sufficiency in which they paradoxically become the masters of those who produce them".[44] In other words, alienation promotes a false power dynamic where the things one produces and ought to have power over, are taken as instruments of bondage themselves.

After devoting much time to formulating the above points, Vogel asks his readers "What are the implications of this analysis of Marx's notion of alienation for the question of alienation from nature?"[45] To which his first answer is that there is no obvious application.[46] At least this would be the case, if each definition were to be taken on its own terms. Vogel then notes that while definitionally both senses of nature rule out alienation from nature, it is on account of Nature(1) that we are "alienated from our *environment*" in fact.[47] That is to say, because of the concept of

---

[41] *Ibid.*
[42] Karl Marx, *Economic and Philosophic Manuscripts of 1844*, ed. Matthew Carmody, trans. Martin Milligan and Andy Blunden (Progress Publishers, 1932), www.marxists.org/archive/marx/works/download/pdf/Economic-Philosophic-Manuscripts-1844.pdf , 29.
[43] *Ibid.*
[44] Vogel, *Thinking like a Mall,* 71.
[45] *Ibid,* 79.
[46] *Ibid.*
[47] *Ibid.*

nature as wilderness, humans do not recognize the built-ness of their environments. Vogel explains

> The identification of the 'environment' with 'nature' that is so characteristic of much contemporary environmentalism is itself a symptom of alienation… For the world that actually environs us, the real 'environment' that we inhabit, as I have been arguing, is *not* 'nature' at all - [i.e. it is not nature in the sense of wilderness] - but is rather a world that is indeed always already built.[48]

Nature, then, is a part of the built environment given "sham self-sufficiency" through alienating it as Nature(1).

In effect then, Vogel's claim "nature is alienation" is tied closely to the conception of nature as *untouched* wilderness. Vogel's claim then perhaps could be better expressed in other words as "if someone holds that nature is wilderness and that there is still nature, then she has been alienated from the built environment in which she lives". In this way, the very conceptualization of nature in society serves what amounts to an ideological purpose. This latter point I will address in my next chapter. Sufficient for my current purposes is this claim: The definition of nature as the alienated built environment is a restatement of, not an alternative to Nature(1).

Another attempt to define nature is the view that nature is the noumenal in a Kantian sense. That is, analogous to Immanuel Kant's concept of noumenal world of things-in-themselves "counter-posed" to the phenomenal world shaped by the human knower's concepts, nature is said to be the underlying substratum of the built

[48] *Ibid,* 89.

environment.[49] However, this would result in nature being something one can never "know" or "experience".[50]

There is a clear parallel in this definition of nature with Nature(1). For if the "nature as noumena" and "built environment as phenomena" analogy were to hold, then all that anyone ever encountered would already be the built environment. Since the act of knowing is taken to remove something from the natural—noumenal—realm into the built—phenomenal—environment, all the world as one knows it is unnatural.[51] That is to say, just as human activity has impacted the whole planet such that to speak of an untouched nature is meaningless, to speak of a noumenal nature is not to speak of anything one knows about or experiences. This definition of nature then proves useless for environmental philosophy, since all the crises dealt with by environmental philosophy are always in the phenomenal not the noumenal realm.[52] Nature as the noumenal does not allow one to act towards nature in any way whatsoever, either to preserve or to destroy, and once again proves to be a useless category for environmental philosophy.

Vogel also notes the possible definition of nature as "difference" as the recognition that "our every attempt" to change the world is "infected by failure".[53] In other words, nature is what resists the projects humans try to act out in the world. However, much like Nature(1), this is not a definition of nature at all; it is an apophatic exercise. Nothing is said about nature itself when nature is defined as difference. If nature is only described as the resistance to human projects, then all

[49] *Ibid,* 50.
[50] *Ibid,* 58.
[51] *Ibid.*
[52] *Ibid.*
[53] *Ibid,* 124.

that has been said is beyond or behind those projects. If nature becomes the substratum on which human activity acts, then nothing one encounters is going to be nature, since the very act of conceptualizing *x* has made it a product of human activity and not part of the substratum.

This is the key insight that Vogel takes from Kant: the knower has an active role in constructing the object of knowledge.[54] Just as in the failure to identify nature with the noumenal, the failure to define nature as difference is a result of the inalienable activity involved in engaging with the world. Thus Vogel asks, just as Hegel does of Kant's thing-in-itself, what is the point of a conception of nature either as the noumenal or difference if both amount to something one cannot possibly discuss or say anything about?[55] Therefore, the attempt to define nature as *difference* results in the same problems as other attempts to define nature as untouched (Nature(1)), and is rejected on the same principles.

Section III: The Problem Formulated

As I parse Vogel's account, two things are central to his argument. Firstly, any attempt to define nature as the untouched, or worse the inaccessible, is neither tenable nor is it useful. It is untenable because such a definition will result either in an empty category (such as environments not impacted by human action) or an unknowable category (something entirely separate from the world of one's experiences). Any such attempt will also be useless as it will not allow for any coherent account of what human actions are to be taken for the benefit of nature; thus, it will be more paralyzing than informative. For these reasons, we must abandon Nature(1)

[54] *Ibid,* 45.
[55] *Ibid,* 127.

Secondly, any attempt to define nature as the totality of the physical will be useless. If everything that is physical is natural, then a parking lot is just as natural as a forest or swamp. Since nature is impervious to human activity, no definition falling under Nature(2) is going to be of use to an environmental philosophy which seeks to preserve something called nature.

Consequently, one is faced with a particular disjunction: Either there is no tenable and useful definition of nature for environmental philosophy, or there is some definition of nature which does not fall under Nature(1) or Nature(2). I believe Vogel shows that many possible candidates for the third definition of nature are in fact just reiterations of the problematic definitions of nature found in Nature(1) and Nature(2). I believe, however, that a third definition is possible and can be found in the philosophical tradition of Aristotelian-Thomism. I will articulate and defend this view in a later chapter, while being careful to avoid the Scylla of Nature(1) and the Charybdis of Nature(2).

CHAPTER III: NATURE AND IDEOLOGY

One may be tempted to ask why Vogel takes the misconceptions about nature to be so problematic, and not mere banalities. The reason is that Vogel takes it to be an "alienated and ideological error" when one "fails to see" the natural as built or the built as natural.[56] That is to say, the alienation of nature, which Vogel criticizes, is an "ideological" failure to find the truth. I have already addressed how the concept of nature as the alienated environment is one iteration of Nature(1), but it will be helpful here to be less terse and address Vogel's account of alienation in full.[57] To do this, I will first explain what Vogel means when he refers to the builtness of the environment. Additionally, it will be helpful to further explain what ideology, in general, is in Vogel's account in order to understand what it is about the views Vogel takes to be ideological. Lastly, I wish to formulate some sketch of what it would mean for a concept of nature not to be censored as ideological.

Section I: Vogel, Nature(1), and Ideology

Vogel's notion of ideology can be gathered from his use of the term in *Thinking Like a Mall*. From the relevant passages it can be seen that not all errors are ideological. Rather, there is something much more insidious about ideology, in that it affirms the status quo in a harmful way. Thus, Vogel takes care in addition to showing that Nature(1) is an untenable position, that it in fact is *harmful* in a particular way to human beings.

Vogel distances himself from those who would use the term ideology as a generic and neutral term. He makes clear ideology is not what constitutes the world

[56] Vogel, *Thinking Like a Mall*, 97.
[57] Ibid, 61.

we inhabit.[58] That is, it's not a description for whatever framework one might use to understand the world. Vogel wants to make clear that our world is a product of our "work" in contrast to various non-work elements he lists, including as separate items "our worldview" and "our ideology".[59] Thus ideology must be distinguished both from our actions and our worldview, or at the very least there must be something about one's actions or worldview that makes them ideological beyond their mere being actions or worldviews. This distinction, though ultimately trivial, rules out the identification of all worldviews as ideology, and is indicative that the term carries some normative connotations, since presumably (all things being equal) a non-ideological worldview is one that ought to be preferred to an ideological view.

At other points in his work, Vogel is clearer about what he means by ideology. Explicitly citing the Marxist tradition, Vogel defines ideology as: "a mistaken view that nonetheless expresses a truth about the contemporary world, one that reveals what's wrong with that world..."[60] Further, after again posing the question as to why defining nature as separate is important to us Vogel specifies the sense in which the project is ideological, that is, "it expresses a mistaken view of the world that at the same time reveals something deep about our world, the particular social order that we inhabit".[61] In both cases, Vogel places emphasis on a few crucial elements of ideology.

Firstly, the primary feature of ideological views are that they are mistaken. It may be conceivable that someone else defines ideology broadly enough to encompass both mistaken and true views, but it is clear that Vogel believes mistakeness is an

---

[58] Vogel, *Thinking Like a Mall*, 167.
[59] *Ibid.*
[60] *Ibid,* 67.
[61] *Ibid,* 93.

essential feature of ideology. Consequently, Vogel's charge of ideology is reliant upon and no stronger than his charge that advocates of a natural and built distinction are wrong.

Secondly, beyond merely being wrong, certain criteria need to apply to a view in question that make it ideological. Vogel gives three criteria, as shown above. The first is that ideological views, despite being mistaken, reveal something true about the contemporary world.[62] In other words, to be ideology, a view must relate to the *status quo* of the current state of affairs. Views contrary to this *status quo*, whether or not they are otherwise problematic, are not ideology. Second, such a view must express something significant and consequential about the social order, or as Vogel says it must express something "deep" about the *status quo*.[63] Therefore, superficial mistakes are not ideological. Third, ideological views are not only mistaken, but "wrong" *for* people (*viz*. contrary to their good or true interests).[64] Therefore, if a view is to be charged with being ideological, it must be also found to be harmful.

As Vogel notes, ideology props up the contemporary state of affairs, so definitionally, any nature versus built distinction which challenges this will be necessarily non-ideological. However, to establish this one must first articulate what aspects of the *status quo* Vogel believes are being supported by the notion of nature as separate. Fortunately, Vogel notes his concerns specifically. He writes: "by protecting wilderness, we excuse ourselves from responsibility for the environmental consequences of our own actions within the human, nonwild, world".[65] This is

[62] *Ibid,* 67.
[63] *Ibid,* 93.
[64] *Ibid,* 63.
[65] *Ibid,* 7.

because “human beings are by definition left out of wilderness".[66] Put in other words, Vogel’s concern is that a sharp nature versus built divide removes the places human beings live from being considered by conservation efforts. By romanticizing the “untouched” wilderness, it is valued beyond the places people actually live. Callicot explains “If we conceived of wilderness as a static benchmark of pristine nature in reference to which all human modifications may be judged to be more or less degradations,” then it is possible to avoid the difficult questions about how to live in the “four-dimensional, inherently dynamic landscapes” which humanity shares with other species.[67] Conservationism which privileges “pristine nature” is then an obstacle to dealing with the complex issues involved in the built environment of modern life because it denies that any project to salvage a relationship between humanity and its environment is logically possible. Consequently even to speak of “what sort of human activity might be best for a landscape” Vogel writes, “is irrelevant or even meaningless".[68]

Furthermore, beyond the merely preventive ideological implications of the view, Vogel believes the standard distinction between the natural and the built positively contributes to the problems of contemporary society. Vogel depends on the Indian historian Ramaehandra Guha to make this point. Guha records how conservation projects, supported both by former elites in India and international NGOs like the World Wildlife Fund, negatively impact the rural populations of the would-be park lands; he writes: “ The designation of tiger reserves was made possible

[66] *Ibid*.
[67] Qtd. in Vogel, *Thinking Like a Mall*, 6.
[68] Vogel, *Thinking Like a Mall*, 6.

only by the physical displacement of existing villages and their inhabitants".[69] Guha further explains that it is the "Deep Ecology" which divorces environmentalism from "human interests" completely which provides the justification of such "inequitable conservation practices" which he states earlier has led to the "direct transfer of resources from the poor to the rich".[70]

In order to show that a nature versus non-nature distinction can be made in an unproblematic way, one will first have to understand in what way the "ideological" notion of nature as separate is taken to be "wrong" beyond simply being mistaken (i.e. the above mentioned harmfulness of the notion of Nature(1)). And in turn, one will have given an alternative conception of nature which avoids such harmfulness, that is, a conception of nature which includes real concern for human interests, especially humans who live in manifestly built environments.

Section II: Application

Vogel's charge of *ideology* must be met by specifically addressing the criteria he gives for what makes a view ideological. Thus, if one wishes to keep in mind Vogel's objections on ideological grounds, there are a few ways one can establish some kind of nature versus built distinction while escaping his charge. Firstly, and perhaps most simply, one may establish that the grounds for making some kind of distinction are more cogent than Vogel's for rejecting them. As stated, Vogel's own criteria for ideology excludes the charge being levied against true views.

While this may be the simplest manner *per se*, this solution will also depend on the arguments used in support of this distinction, and ultimately the disposition

[69] Ramaehandra Guha, "Radical American Environmentalism and Wilderness Preservation: A Third World Critique", *Environmental Ethics* 11 (Spring 1989), 75 DOI: 10.5840/enviroethics198911123
[70] Guha, "Radical American Environmentalism", 71, 75.

and background of the audience. For the latter as much as the former are relevant to the overall cogency of the case for the distinction. Thus the simplest solution *per se* may also be the most difficult *de facto* to establish, in which case it would be better to exclude Vogel's charges on some additional grounds.

There are three possible ways of achieving this. Firstly, the distinction between the natural and the built could be made in such a way that it is contrary to the *status quo*, superficial, or not problematic (in the sense of being contrary to one's true interests). If a view accused of being ideological does not support the *status quo* or even challenges it, then, at least on Vogel's terms, it is not ideology. Alternatively, if a view only touches on that which is superficial or of little consequence then it does not meet Vogel's criteria of revealing something "deep" about society. However, due to the gravity of the nature versus built distinction, it is unlikely that any formulation of this distinction could be superficial. Lastly, one may also argue that a distinction between nature and the built environment may be made that is not contrary to our own interests. It is then in respect to this first and third manner that one may be able to meet Vogel's charges.

It remains to be determined whether a view can be established which is contrary to the *status quo* and in line with humanity's true interests. I will argue that an Aristotelian account meets both these criteria. Firstly, that an Aristotelian account is not in conformity with the contemporary *status quo* would follow naturally enough from the difference between it and the concept of Nature(1) which Vogel takes to be the operating assumption of contemporary environmental policy. More fundamentally, however, I wish to show that an Aristotelian evaluation of what is good in nature would lead to a substantial change in policy if it were to be taken up.

Lastly, an Aristotelian evaluation, by not excluding human nature from the discussion of nature would, in so far as it values the goods of other natures, also value humanity's own interest. To this end, then, is left an articulation of that very Aristotelian position, to which I now turn.

CHAPTER IV: ARISTOTLE ON NATURE

In contradistinction to Vogel's two definitions of nature, I posit that a third can be found in the writings of Aristotle, and the tradition (particularly the Thomistic tradition) which followed him. This third definition of nature I believe is more robust than either of the definitions addressed by Vogel in so far as it is not susceptible to the criticisms he raises. As Vogel's stated purpose is to challenge an *ontological* view I hold that Aristotelian philosophy is perfectly suited to redress his arguments. To illustrate this, it will be first necessary to explain what *nature* is for Aristotelianism. To this end, I will draw both from Aristotle's own work and those later authors who follow from him.[71]

Section I: Nature as an Internal Principle and the Notion of Substance

The relevant word used by Aristotle to describe nature is *φύσις*, which St. Thomas Aquinas treats as functionally equivalent to the Latin *natura*, the ancestor of modern English's word *nature*. Articulating a description of nature is the project of Aristotle's *Physics* but most especially *Physics* II. After addressing some Pre-Socratic concerns about the very notion of natural philosophy and investigating the principles of aforementioned natural philosophy, Aristotle moves on to articulate what *φύσις* is in respect to the objects of natural philosophy.

[71] My primary goal in all of this is to present a single unified view based on *Aristotelian* principles, rather than give any thorough interpretation of Aristotle's work itself. Thus, if the account of an Aristotelian concept of nature goes beyond what the texts of Aristotle in isolation would indicate, I do not see this as antithetical to my goal. Aristotelianism is a living philosophical tradition that at once contains traditional notions and modern innovations. It is much beyond the scope of this project either to give a full account of the development of every Aristotelian idea from Aristotle to their Thomistic or Neo-Aristotelian counter-parts, or to catalogue the historic and contemporary diversity among Aristotelians (especially if one includes Thomists or other schools of Scholastic thought). While I do not wish to imply there is more unity between these schools than there actually is, or that I am giving an account which would be *the* single Aristotelian account, I wish to present an account which is nonetheless *distinctively* Aristotelian, or at least Aristotelian-Thomist.

Aristotle begins his discussion of what nature is by defining its relationship to *natural objects*. As Aristotle writes: "Natural objects include animals and their parts, plants and simple bodies… the obvious difference between all these things and things which are not natural is that each of the natural ones contains within itself a source of change and stability, in respect to either movement or increase and decrease or alteration".[72] Put simply, in a natural object its "source of change and stability" is internal. For this reason, Aristotle claims the natural object is always a *substance* because "to have a principle" involves being the *subject* of that principle.[73] That is to say, the natural object is never the accident of a subject, but always the subject itself. Thus natural objects are substances with internal principles of motion and stability. Consequently, it is necessary that both (i) the term substance and (ii) the phrase internal principles of motion and stability be understood.

Subsection (i) The Notion of Substance

It should be recalled that *substance* is the first of Aristotle's *Categories*. Primarily, the term substance is used to refer to individuals of a kind (e.g. an individual koala or cedar tree).[74] That is, a substance is a *thing* as opposed to an accident of a thing. The koala itself, and not its predicates like greyness, is the substance. The primary sense of substance would seem to describe *subjects*, that is, the individuals of which one can predicate things but cannot themselves be predicated of anything.

---

[72] Aristotle, *Physics* trans R. P. Hardie and R. K. Gaye in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), II.1 192b8-20. Movement (viz. locomotion), increase and decrease, and alternation are the three ways in which something can be moved *per se* according to Aristotle; that is, movement (in the relevant sense) refers to changes in place, quantity or quality. (*Physics* V.1 225b6-9) Thus in this passage Aristotle is referring to all motions properly so called.
[73] *Ibid,* II.1 192b33-35.
[74] Aristotle, *Categories* trans. E. M. Edghill in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), 5 1b11-12.

There are two senses of substance, however. While the individual koala is a substance in this primary sense, there is a secondary sense of substance which is the koala-ness of that individual koala. Aristotle notes of this secondary sense of substance that it is "predicable of a substance, but is not present in a subject".[75] As Aristotle goes on to explain "present in a subject" means to be "incapable of existence apart from said subject".[76] Hence, when Aristotle gives the example of the secondary substance "man" he notes that one can predicate of a particular man that he is a man, but "man" does not exist in that man the same way the "whiteness" (or any other colour) of his body does.[77]

In other words, substance in the secondary sense is not present in the subject but it is not the subject itself. Secondary substance must, then, be something which describes what the primary substance is. For example, to say "Esther was a human" is not to predicate to her some accident which has its existence in Esther, but rather it is to predicate of Esther some universal by which she can be understood. A secondary substance, then, is that kind of which a primary substance is a particular.

It is in the same way that the primary and secondary senses of substance are distinguished that the term *nature* is distinguished from the natural object. As shown from the above-cited passages from the *Physics*, Aristotle holds nature *belongs* to natural objects which are primary substances. That is, nature is something other than the natural object itself.

Aristotle makes a similar point in the *Metaphysics*. When discussing various

[75] *Ibid*, 2 1a20.
[76] *Ibid*, 2 1a23.
[77] *Ibid*, 1 1a21, 27.

uses of the term "nature" in *Metaphysics* V the two last definitions noted are the "essence of natural objects" and "every essence in general".[78] That is to say, the nature of a thing is its essence. St. Thomas Aquinas also identifies the "essence" of a thing with the "*quidditas*" or what-ness of a thing.[79] He equates the quidditas[80] with the Aristotelian notion of *quod quid erat esse*, or *τὸ τί ἦν εἶναι*, or "that through which something is a certain kind of being".[81] That is, to say "the nature is the essence of a particular thing" is to say that a thing's nature is that through which a thing comes to be kind of the thing it is. It is by its nature or essence that a particular panda is an example of the kind of things which are pandas.

It is in this sense that St. Thomas means: "It [*quidditas*] is called *form*, moreover, inasmuch as 'form' signified the certitude of anything".[82] This is not, however, simply the form taken in isolation. As St. Thomas further explains "it is necessary that an essence… be neither the form alone nor the matter alone but both".[83] For this reason, St. Thomas notes that "everything is what it is by its form" but also "the form presupposes determination or commensuration of its principles, whether material or efficient".[84] Thus one cannot speak of the *quidditas* of a thing which is

---

[78] Aristotle, *Metaphysics* trans. W. D. Ross in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), V. 41014b35-1015a15.
[79] Thomas Aquinas, *On Being and Essence* in *Selected Writings of St Thomas Aquinas*, trans. Robert P Goodwin (New York: MacMillan/Library of Liberal Arts, 1965), 34.
[80] *Quidditas* can be contrasted with the later Scotist notion of *haecceitas*. In the latter case, what Scotus was attempting to articulate was the individuality of a particular, the principle or principles by which it was *this* and not *those*. Quidditas, alternatively, is an attempt to figure out not why something is this, but why something is one of these. The what-ness of a thing is always describing it as a member of some category. If one were to stumble into a dark-room and catch a glimpse of a shadow of some unrecognized shape, the question "what is that?" would expect an answer of the sort "it is a piano" or "it is a vacuum." The answer "it is Charbel's piano" or "it is my father's vacuum" would also resolve the uncertainty, but they are not strictly speaking the answers the question expects.
[81] Aquinas, *On Being*, 34.
[82] Aquinas, *On Being*, 35.
[83] *Ibid*, 38.
[84] Thomas Aquinas, *Summa Theologiae*, trans. Fathers of the English Dominican Province Knight, 2nd ed., 1920, http://www.newadvent.org/summa/, I q 5 a 5.

itself composed of both form and matter without referring to both as parts of the *quidditas*. St. Thomas notes the difference in sense when one speaks of the form in the sense of essence, and the form in the sense of the substantial form. For when one speaks of the form "humanity" one is speaking of the essence of being human, and therefore must be speaking of both the material and formal components requisite of being human; the term "soul" (*soul* just being the word for formal cause of any living being) refers only to the form which "makes actual" some parcel of matter as the part of a human being.[85]

Despite this ambiguity of the term, St. Thomas also notes in the above-quoted passage of the *Summa Theologica* that "the form itself is signified by the species; for everything is placed in its species by its form".[86] It would seem that this refers to a wider sense of form since St. Thomas notes that the definition of species entails both the form and matter.[87] That is, *essence* is what determines whether something is of a particular species.[88]

What is meant by the term "species" here is illuminated by the secondary sense of substance as seen in the *Categories*. Aristotle writes: "[I]n a secondary sense those things are called substances within which as species, the primary substances

---

[85] Thomas Aquinas, *Commentary on Aristotle's Metaphysics*, trans. John P. Rowan (Notre Dame, IN: Dumb Ox Books, 1995), 490-491.
[86] *Ibid.*
[87] Aquinas, *On Being*, 39. He is careful, however, to add the qualification that it is only matter *absolutely* that is included in the definition of a species. (Aquinas, *On Being,* 39) For if Paul is distinguished from other humans with the essence of humanity it must be the case that the particular matter of Paul is distinct from the matter of Peter, John, Andrew etc. So Paul's flesh, or Martha's flesh are not included in the essence *humanity* but to have flesh in someway similar to Paul and Martha is part of that essence.
[88] Just because it is only when the composite is considered as a whole under one essence as such, does not mean that the form and matter are *equally* principles of the composite. The form is still primary, especially in light of the relationship of form to act, but that does not mean that matter is not necessary. The necessity of matter for the existence of the essence of natural objects is an important qualification because, as St. Thomas notes, it excludes the possibility of there being any separate Platonic forms. (*Commentary on Aristotle's Metaphysics*, 491)

are included".[89] Aristotle goes on to give the examples of the species “man” and the genus “animal”, as including the primary substance (viz. individual) “a man”.[90] Species then refers to *universals* under which particular substances fall. That is to say, the *kind* of thing which something is is a consequence of its form. Essence then also carries with it the notion of a natural kind.

If essence refers to natural kinds, so then ought the word “nature” since St. Thomas treats the terms as functionally equivalent. Consequently, as St. Thomas notes, the term “nature” signifies essence when it is taken to mean what “can be grasped intellectually in some way”.[91] That is to say, St. Thomas holds the essence to be what the mind grasps when it attempts to make individuals intelligible. To give a full account of the epistemological implications of this idea remains for another chapter, but it is important to note now that this means the nature of a thing is captured by its definition.[92] As St. Thomas notes: “For a thing is only intelligible through its definition and essence". Thus, it would appear that it is the *kind* or universal under which a natural object falls that is said to be its nature. So “nature” refers to “substance” in the secondary sense, but a “natural object” like a koala, a lump of jade, a blue whale, etc. are respectively each an individual primary substance.

As St. Thomas notes, the term essence is closely tied to the notion of definition. Unlike Locke’s idea of substance as “I know not what”, the Aristotelian notion of essence entails the conceptual possibility of definition. This does not entail, nor even imply, that the true definition of a substance is easy to gather, and in so far

[89] Aristotle, *Categories* 5 1b14-15.
[90] *Ibid*, 5 1b16-18.
[91] Aquinas, *On Being*, 35.
[92] All natures are definable, but this does not entail all definitions are natures.

as Aristotelians may have lost sight of the need for rigorous investigations, they perhaps deserve Francis Bacon's criticisms. Nevertheless, since these rightly criticized hasty generalizations are at best corruptions of Aristotelianism rather than, or at worst non-essential methodical errors sometimes associated with Aristotelianism, there is no need to dwell on such criticisms.

The notion of definition at interest here is defined by Aristotle in the *Topics*: "A 'definition' is a phrase signifying a thing's essence".[93] In the previous section, Aristotle raises as an example a definition of humans as the "animal that walks on two feet" which (though ultimately a false definition) gives an example of what Aristotle means when he says that definitions are concerned with "sameness and difference".[94] The sameness in the aforementioned definition is "animal" as humans are animals like other things, but the difference is alleged to be bipedalism.[95] So a definition then is an articulation of the essence of a thing based on what similarities its kind has with other kinds (a genus) and the distinguishing feature of its kind from those other kinds.

So far it is evident that the "nature" of "natural objects" referred to in *Physics* II is, in fact, the secondary substance, or *natural kind*, under which the primary substance, i.e. the natural object itself, belongs, and that nature then refers to the *form* of the natural object when *form* is understood as the whole *essence* including both the formal and material causes. Importantly, even though it does not belong to the species human to have the particular matter of Paul, it does belong to humanity

---

[93] Aristotle, *Topics* trans, by W. A. Pickard-Cambridge in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), I.5 101b37-40.
[94] *Ibid*, I.4-5 101b30-31; 102a8.
[95] There should be no need to dwell on why this is a poor *differentia* for the species "human" since examples of other species with this same trait immediately come to mind.

that every human being have both a body (matter) and a soul[96] (form).

Subsection (ii) The Notion of Internal Principles

It might sensibly be asked in what sense the principles of change and rest are "internal" in any given object. As stated above, the nature of a given natural object is not the primary substance, but the secondary substance or natural kind which only exists by virtue of the individuals which exist under its particular form. Thus when Aristotle claims "nature always implies a subject in which it inheres" he should not be taken as referring to the nature as the *accidents* of a substance but rather is excluding primary substances as being nature.[97]

That nature is not to be taken as the accidents existing is proved by Aristotle's subsequent remarks on the motion of fire. Aristotle explicitly says "the property [which is an accident] of fire to be carried upwards" is not a "nature" but rather is an example of the subject acting "by its nature".[98] The relation of the natural properties of an object to its nature is important but will be addressed later. What must be excluded, however, is the identification of nature with properties or any set thereof.

Nature then is *predicable* of natural objects. It can be described as that aforementioned sense of substance which is "predicable of a [primary] substance, but is not present in a subject".[99] Consequently, to say a natural object contains its nature as an internal principle is not to say that it has some part which is its nature, nor that

---

[96] The term soul is being used in translation of Aristotle's *ψυχή* and is not meant to carry any of the particular religious connotations of the contemporary English term. While it is true that Aristotle's concept of ψυχή was of great interest to his medevial Muslim and Christian commentators the additional arguments they used to assimilate Aristotle's ideas to their respective religious doctrines are not of interest to my present purposes. As I will have occasion to explain more fully later in this chapter, the term soul refers to a particular kind of substantial form (i.e. that of living plant or animal), and this use is not necessarily connected with and easily separable from the aforementioned religious concerns of certain Aristotelians.

[97] Aristotle, *Physics* II.1 192b33-34.

[98] *Ibid,* II.1 192b35-39.

[99] Aristotle, *Categories* 2 1a29-1b1.

some bundle of traits constitute its nature, but rather that the fundamental predication of it as a kind is what is at issue when speaking of its nature.

In so far then as a property is a "predicate which does not indicate the essence of a thing, but yet belongs to that thing alone" one sees that the properties are, while truly distinct from the essence, the proper manifestations of an essence.[100] That fire left to its nature will move upwards is *natural* to it, and in so far as what is natural is of value (a contention for later), that upwards movement is that more valuable than its interruption. It remains, however, to be shown why being natural *per se* entails any kind of normative significance.

Section II: Movement in Accordance with Nature

Since properties flow from the essence of a natural object rather than from any other accident, it should be noted that it is not in light of any accident that a thing is said to act by its nature. This would entail that any kind of function or output that resulted from an accidental arrangement would not be a movement "by nature" but only those truly proper to the nature of the given natural object: that is, such functions would not be *per se* movements of a natural substance.

This is explained by Aristotle's use of a contrasting example. If a doctor were to treat himself as a patient, he would be not be healed *in so far* as he is the patient but insofar as he "possesses the art of medicine".[101] That is, it is not himself *qua* patient that the man cures, but rather that the man *qua* doctor cures himself *qua* patient. The principle of change (viz. the power to heal) is then not the result of the

[100] Aristotle, *Topics* I..5 102a17-18.
[101] Aristotle, *Physics* II.1 192b23-26.

man being a patient, but rather a consequence of what Aristotle calls: a “concomitant attribute".[102]

In other words, a disposition *p* is an internal disposition of substance *q* if and only if it is a consequence of *q* qua *q* and not the consequence of something concomitant to *q*. For example, the disposition of rising above water is internal to olive oil, in so far as it is because it is oil that it rises to the surface. If, however, a stone were to be placed in some buoyant mechanism which lifted it from the bottom of a lake, the stone’s rise is not the result of the stone *qua* stone but rather a result of its location within the mechanism.

Aristotle extends this analysis to “all artificial products” which would seem to suggest nature was differentiated by the lack of art in its production.[103] Thus it is as if we have a classical formulation of Nature(1) and have again identified nature with what is not humanly produced. However, this is not the case, as St. Thomas Aquinas explaining this passage notes: “But things which are not from nature, such as bed and clothing and like things, which are spoken of in this way because they are from art, have in themselves no principles of mutation except *per accidens*, insofar as the matter and substance of artificial bodies are natural things”.[104] In other words, the concern with “artificial products” is not their origin but their lack of internal principles of motions *qua* artifacts. It is merely through the principles of the natural things of which they are composed that they have any principles of motion at all. It is not in virtue of the hammer *qua* hammer that it has its firmness, but rather it is a property borrowed from the material from which its head was made.

---

[102] *Ibid*, II.1 192b21-23.
[103] *Ibid*, II.1 192b26-27.
[104] Thomas Aquinas, *Commentary on Aristotle's Physics*, trans. Richard J Blackwell, Richard J Spath, and W E Thirlkel, 2nd ed. (Notre Dame, IN: Dumb Ox, 1995), 75.

With this in mind, one can make sense of Aristotle's description of the senses in which something may lack an internal principle. Aristotle writes of the aforementioned artificial products that "none of them has in itself the source of its own production".[105] Now, at first read, this would seem to apply to everything, since nothing is its own cause (in an existential sense). So there must be a softer reading of "source of its own production".

Thus, St. Thomas notes that there are two principles in natural things: both active and passive.[106] It is in virtue of the active principle that things are inclined to move, and the passive by which things are inclined to be moved. However, lest this be thought to include any motion to which a natural object is subject, it is important to note what distinguishes natural passivity from other forms of a passivity for Aristotle.

As Fr. Weisheilp notes there are three passivities that need to be distinguished: "(i) for compulsory movement: (ii) for artistic formation: and (iii) for natural production".[107] The first of these is simplest. As happens frequently, the dispositions of one thing are overcome by some overwhelming external force. A stone is dispositionally directed towards sinking in water or falling through the air, that disposition can be overwhelmed by a person throwing the rock into the air. That this does not annihilate the intrinsic disposition is evident by the return of the stone to its proper motion once the violence has left it. So the stone neither has a *natural* passivity for those movements, nor does it exchange its internal disposition for the violent movement.

---

[105] *Ibid*, II.1 192b27-28.
[106] Aquinas, *Commentary on Aristotle's Physics*, 76.
[107] James A Weisheipl, *Nature and Motion in the Middle Ages*, ed. William E Carroll, vol. 11 (Washington, DC: Catholic University of America Press, 1985), 14.

The passivity for artistic formation is the potential of one natural object to enter into an accidental unity with other natural objects. The natural object then may be moved in new ways but only from its unity within the artistic formation that it has these new movements. Consequently, it is not the stone *qua* stone that has these new motions but only the stone as a part of the whole. Momentarily, though, the distinction between the movement of a natural object according to its nature or concomittally by virtue of its place in an accidental unity will have to be put aside, since it is needful to first understand what the natural passivity it is being contrasted with means.

The natural passivity of a natural object is that by which it intrinsically tends towards a particular aim. To be consistent with an example, the disposition of the rock towards sinking in a lake, or to drop through the air to the surface of the earth, are intrinsic aims of its nature. In this particular example, the movements are *spontaneous*.[108] A stone being actually a stone is sufficient to ensure that spontaneously it will sink in a body of water; likewise, it is sufficient for oil to be oil to ensure it will rise in a body of water.

It may seem like this excludes the growth of living beings from being natural, but that is not the case. It is true that in addition to the nature of the young antelope various externals are required to ensure that the antelope matures into an adult. However, the assimilation of the food and water into antelope will still act according to its nature rather than that of some other animal. A young antelope will not grow the trunk of an elephant or the shell of an armadillo, but will, as much as its resources allow, manifest its intrinsic disposition to a certain pattern of growth.

[108] Weisheipl, *Nature and Motion in the Middle Ages*, 15.

It is in regards to this lattermost sense of passivity that St. Thomas writes: "this principle in so far as it has a natural potency for such a form and motion makes the motion to be natural".[109] An acorn would be taken to possess in itself a passive principle by which it is oriented towards becoming a mature oak. While this principle is passive and potential such that it needs to still be moved by something already actual (rain, sunlight, dirt, etc) there is truly something natural, that is internal, to the acorn such that its development into a sapling and eventually a full tree is seen as an unfolding of its inner nature.

Not so with the clock or the bicycle. For in both cases the form of the clock or the bicycle is not the unfolding of a natural potency present in the material elements; rather it is an externally imposed arrangement.[110] It is worth noting the emphasis then is on the *externality* of these arrangements, not their origin from human or non-human agents. If one were to discover an alien planet filled with clocks and bicycles made by the dominant species of that planet, they would still be only accidental arrangement of parts.

In fact, the same would be true in a case where no intelligent agent was involved. If a whirlwind passing through a junkyard were, against all odds, to bring together various parts into a functional automobile, the automobile would remain only an accidental arrangement. That the whirlwind could be described as natural is simply irrelevant, because it is still a force external to the parts which it assembles. Furthermore, the parts themselves, even though overcome by the force of the whirlwind, lack any internal tendencies towards the new arrangement, and would not ever find that arrangement without intelligence or great violence.

---

[109] Aquinas, *Commentary on Aristotle's Physics*, 76.
[110] *Ibid.*

So in contrast to natural objects which have their principle of production, at least passively, in themselves, Aristotle defines two ways in which something might lack the principle in question. Firstly, as in the above-discussed examples, something lacks an internal principle of production if it is produced entirely by an external cause.[111]Aristotle's own example is a house, the materials of which lack any natural tendency to come together as a house; however, there is no need to rely on anthropogenic examples. In addition to the above incredibly improbable example of a whirlwind, one might consider a beaver's dam. A beaver dam on the same principle lacks an internal principle of production. Whereas Vogel believed that beaver dams are "presumably" natural, Aristotle would seem to say *qua* dams, they are not.[112]

There is another sense in which something may lack an internal principle; namely, it may be present in the thing by virtue of a part rather than the whole. Thus the object in question can be said to contain a nature *per accidens* or concomittally but not *per se* or primarily. This is illustrated by Aristotle's previous example of a doctor who heals himself, as "the same being happens to be a doctor and to be cured, and he is cured in so far as he is sick" yet it does not happen always that that which is sick (and thus can be cured) is also a doctor.[113] St. Thomas notes the fire is a counterexample to this, as it is natural to fire to move up through the air as "lightness" is not separate from the "body" which is moved, but they are always one and the same.[114] In contrast to the patient who is cured because *per happenstance*, he is also a doctor, the fire is moved upwards because to be fire is *always* to be the thing

[111] Aristotle, *Physics* II.1 192b29-30.
[112] Vogel, *Thinking Like a Mall*, 11.
[113] Aquinas, *Commentary on Aristotle's Physics*, 77.
[114] *Ibid.*

which is lighter than air.[115]

From these discussions, a certain picture of what Aristotle means by nature emerges. As already stated, natural objects are always going to be subjects. That is, they will not be something to be found in another substance as an accident. Nevertheless, nature is going to be manifest in the natural movements of those natural objects. That is, whereas one finds many subjects in the world, and many of these subjects are natural *qua* natural objects, it is only the movements of the natural objects which follow from the dispositions of their natures (i.e. those movements which manifest each natural object's *properties*) which are called natural.

Further, in light of the stipulations for which a principle can be seen to be internal, there must be something *real* in the sense of not built about the nature of natural objects. That is to say, if the natural object's nature is entirely caused and dependent upon human activity or thought then it cannot be seen as internal to the natural object. Nature in itself is not the result of external forces, but has reality in the natural object itself independent of external influence from humans or non-humans

At the same time, however, there is nothing about this reality that entails it must be fragile. Whereas for McKibben, the independence of nature was such that its existence in nature was threatened, and even exterminated, by human interaction, human artifacts for Aristotle do not entirely escape being natural. Indeed, they are

[115] The Aristotelian conception of a natural place for each of the elements (with fire being above air, but below the ether of the heavenly bodies) need not be accepted to grant this point. Rather, it is sufficient to note the *relative* position of substance is a result of their nature. Thus oil will float to the top of water, unless otherwise prevented, and fire will rise in an atmosphere like that of the earth's when not subject to some prevailing force compelling it elsewise.

not natural *qua* artifacts, but there are elements of the nature of the parts of the artificial product still operating under the externally imposed form.

This may seem somewhat obscure, but at its root, the distinction denies that a substance is numerically identical with itself and its accidents. That is to say, substance plus accidents is something more than substance *qua* substance. The former is what Oderberg refers to as an *accidental object*.[116] He uses the example of a fist; a fist cannot be said to be a hand simply, but is a "hand taken with its mode of being clenched".[117] Even though the hand and the fist (at least for the duration of the fist's existence) are spatially and temporally coincident, this does not entail identity. As Oderberg points out, the shape and colour of a sphere are spatially and temporally coincident, but clearly not identical.[118] Granted then what has already been said to distinguish a substance and its accidents, it must follow that the accidental unity is not identical with the substance. The hand considered in itself is independent of its mode of being as a fist, but the hand is still an inseparable part of the fist nonetheless. Thus it is with other accidental objects, they are, *qua* accidental objects, not themselves the substances or natures, but depend on their substances for existence.

To be clear, I do not mean to suggest there is not something important about encountering natural objects as natural objects rather than as components of an unnatural *qua* artifact composite. Nevertheless, the value, and perhaps propriety, of seeing and thinking of nature in terms of natural objects left to their own movements does not exclude the existent natural principles operating in artifacts. Thus, Aristotle

---

[116]David S. Oderberg, *Real Essentialism*. (New York: Routledge, Taylor & Francis Group, 2009), 167.
[117] *Ibid*, 168.
[118] *Ibid*.

would be unlikely to have the same quibbles about natural restoration that McKibben and Katz did.

If nature is not destroyed by composition into artificial products, it would not be destroyed by other less intrusive human actions.[119] For example, if it is natural for a rock to sink in water, being placed on the surface of a lake by a human hand will not make the descent any less a manifestation of its internal principle. Likewise, a home-owner watering her garden and lawn is aiding, but not contradicting, the nature of her vegetation to grow.

Additionally, natural objects *qua* natural objects must be to some extent simple. That is, a natural object will be integrated together such that in its movements it functions as a single whole. If an object is complex *and unintegrated*, then its movements are going to be derived from its parts. For example, a tangle of various plants will not be able to function as a single natural object, because each plant will continue to move according to its own internal principles rather than according to any principle shared by the tangle as such. Thus if the tangle is moved in any direction or altered in any way, it will not be because of the tangle itself but on account of the individually acting parts. It is only in the case of simple things like fire or a homogeneous portion of oil that the motions of the object in question are going to always be the result of the object *per se*.

Section III: The Relative Simplicity of Animals

There is something of a complication to this criterion, however. As Aristotle

[119] A living thing may perish, and its remains may be used for the construction of something else. However, these are distinct things. The corruption of the living substance produces the inanimate substance which may be arranged by external forces. The new inanimate substance, however, is the substance of those compounds into which it enters and not the accidental forms it acquires therein.

notes he includes in his catalogue of what exists "by nature" animals and plants.[120] Yet, animals and plants are themselves generally composed of heterogeneous parts. Nevertheless, it is appropriate to treat an animal as a single subject having a nature because despite the heterogeneity of its parts the animal has a single *ψυχή;* that is an *anima* or soul.

Aristotle notes that the *ψυχή* is the "first grade of actuality of a natural body".[121] It is by virtue of the soul that the body acts as a unity, and thus a body which is ensouled is one which is organized (ie. its organs function together).[122] For this reason, that is the essential unity provided by the soul, one can speak of animals as relatively simple despite their heterogeneous parts. Thus Aristotle also writes that the soul is the "essential whatness" of a living thing.[123] Thus, the composition of the different parts of an animal into a single whole is different, and more stable, than the composition found in artificial products. For this reason, an animal or a plant may be treated as simple, relative to non-natural objects.

However, lest Aristotle be accused of being outdated on this point, it is incumbent upon the Neo-Aristotelian to give an account of why any organism should be held to be a single substance united by a soul. The functional unity of the various parts of an animal would seem inadequate to require such a principle since it is not posited in the case of the complex functional unity of machines. Likewise, in the case of colonial organisms whose parts are interdependent zoöids each with its own DNA code, it would seem that no single unitary principle is necessary.

---

[120] Aristotle, *Physics* II.1 192b5-8
[121] Aristotle, On the Soul trans. J. A. Smith in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), II.1 412a29-30
[122] *Ibid*, II.1 412a30-412b1.
[123] *Ibid*, II.1 412b13.

For example, the Portuguese man o'war would seem a counterexample to Aristotle's view that animals have a single soul joining them as an organism. The Portuguese man o'war can function very much like a single animal of a particular species would, but since it is, in fact, composed of zoöids of distinct species, it would seem not to be a natural species in Aristotle's sense. Since each zoöid is its own organism, it is certain that the Portuguese man o'war does not have a single vital principle even if the mutual dependency of the parts makes independent survival *de facto* highly improbable.

However, the reasons why the Portuguese man o'war seems not to have a single soul are the very reasons why it would seem other animals (and perhaps the individual zoöids of the Portuguese man o'war) must have this single unitary principle. The *conceptual* possibility of the zoöids of the Portuguese man o'war separating and continuing to live as the particular zoöid each is, marks them as different from the parts of other animals. The paws of a racoon or the tail of a lynx cannot be conceived of as alive apart from their place in the single organism to which they are a part.

In summary, a natural object must be subject. It must have a nature which is in it independent of external imposition, but also not so fragile that human interaction *per se* extinguishes it. Lastly, a natural object must be either simple or composed in such a way that it acts as a unity, rather than a complex assembly of individual parts.

CHAPTER V: NATURE(3) AND CAUSALITY

After discussing nature *per se*, Aristotle moves on to look at nature in respect to the various causes. Namely, nature as it is to be understood through the material, formal, and final causes[124] of things. That is not, however, to say that nature is described by the four causes as a particular object might be (e.g. nature is not composed of a material cause like a statue is composed of bronze). Rather it is in light of the four categories of causes that one can speak of the nature of a thing.

Section I: Nature as Material Cause

Aristotle moves on in his investigation of the question of nature, as is his custom, by looking to his predecessors for what has already been said on the topic. First, following Antiphon and others Aristotle notes that some have said that the nature of a thing is "that immediate constituent of it which taken by itself is without arrangement, e.g. wood is the nature of 'bed'".[125] That is, nature is taken to be the material cause of a thing. The bed's nature is its constitutive elements, e.g. "wood" for its boards, perhaps "metal" for the nails holding it together, or any other underlying elements. For planks are only referred to as "planks" when wood has been shaped a certain way (specifically by some *extrinsic* force) so the term plank never describes something without arrangement (in the relevant sense).

---

[124] It may be noted that I have avoided for the purpose of this chapter any discussion of efficient causality. This is intentional. As the difference between a natural object and an artifact is not *primarily* one of origins, the relation of efficient causality to whether or not something is natural is itself secondary. It is true that some of the most obvious examples of natural objects are the result of particular forms of efficient causation (e.g. sexual reproduction, mitiosis), and that generally what we take to be artifacts take as their efficient cause an intelligent agent, it is primarily because those natural objects are substances and those artifacts are mere accidental unities that the two categories differ. For this reason, a bird's nest is not a natural object regardless of the absence of human agency, and a lab grown hedgehog is a natural object regardless of the presence of human agency.

[125] Aristotle, *Physics* II.1 193a12-14

However, this does not settle the issue if the constitutive elements at one level are themselves composed of constitutive elements. That is, at what point are the parts unities which can be called substances, rather than the arrangement of more fundamental parts. Thus, for some, wood would not be taken to be substance by Aristotle's contemporaries because they believed it was composed of some admixture of the four elements: earth, fire, water, and air.[126] In which case then, wood itself would seem not to be without arrangement, but rather the result of an arrangement of more basic elements.

This raises the question of composition, for it is not obvious that the arrangement of the elements which form wood is the same kind of arrangement involved in constructing a bed. It will, however, suffice for the present purposes to note that whether or not the bed's nature terminates in the wood of its planks or the elements composing the wood, there is a termination in the analysis of the material cause.

It should be noted, however, that while the traditional list of elements has been thoroughly discredited, the difficulty at issue is not solved by a more thorough list of elements. Whether wood is composed of earth and other elements, or carbon and other atomic elements, the issue still remains whether or not the wood can be treated as "nature" *qua* wood, or whether it must be nature *qua* carbon.

In summary, Aristotle offers the following sense of nature to be derived from the above discussion of material causes: "This then is one account of 'nature', namely that it is the immediate material substratum of things which have in themselves a principle of motion or change".[127] Whether nature *qua* material cause is found at the

[126] *Ibid*, II.1 193a18-20.
[127] *Ibid*, II.1 193a27-29

level of elements, or at some level of composition is still an open question. The only indication of where the answer will be is the phrase “principle of motion or change”, that is, if composition changes what the principles of motion are for a given thing, then it follows that that level of composition is the relevant point to which the natural *qua* material cause refers. For example, if it is from wood *qua* wood that a chair derives its “principle of motion or change” then it is to wood that the nature of the chair *qua* material cause is referring. Properly, the chair itself is not a natural object and does not have a nature *as such*; however, it does have as its material cause natural objects (e.g. wood) which do have natures. What is meant is that the wood which does have a nature stands in relation to the chair as if it were a material cause. Likewise, if it is determined that the wood does not impart the principles of motion, but rather it is the elements in the wood, then it will be those elements which are the nature of the chair in the relevant sense.

Section II: Nature as Formal Cause

Aristotle notes that one might alternatively find nature in the formal cause. Particularly, Aristotle is concerned with the form “which is specified in the definition of the thing".[128] That is to say, not just any shape or form, but the primary one by which the natural object is referred. For example, a dog may be large, black, hairy, and many other things, but when it is referred to it is referred to by its primary form: dog. It is only black as a black dog, and it is only tall or hairy as a tall or hairy dog. It is very *odd* to say “it is a black that is dog”, and thus the priority of the form from which the definition of a thing is derived is made clear. Thus the relevant formal

[128] Aristotle, *Physics* II.1 193a30-31.

cause is the substantial form by which something is a natural kind, i.e. the secondary sense of substance.

As Aristotle notes it is inappropriate, except in a secondary sense, to refer to things which are in potency in regards to something as in fact being that thing. Rather, it is more appropriate to refer to something as *x* when it is *x* in actuality. Thus, he writes: "what is potentially flesh or bone has not yet its own 'nature', and does not exist 'by nature', until it receives the form specified in the definition...".[129] Put another way, any given thing is only *actually* natural in so far as it has actually received the form of a species of a kind of natural object. As St. Thomas notes, it is in respect to form that a thing is in act, but it is in respect to matter that a thing is in potency.[130] That is because matter receives form, but does not exist without it.[131] In other words, matter determines the possibility of what forms are to be received, thus grounding the potency of the hylemorphic substance, whereas the form determines what the hylemorphic substance is actually in the moment. Thus, Aristotle concludes something is more properly called natural in virtue of its formal rather than material cause.

This contrasts with and helps explain the previous example of nature as the material cause. In the case of the bed, the bed did not contain within itself its own principles of production, and thus the level of nature was lower in the composition than the accidental form which was the bed. However, in the examples Aristotle gives in describing nature as a formal principle, the lower elements do not in fact have individual principles of motion. Whether or not nature is to be found in the whole or

---

[129] *Ibid*, II.1 193a35-36.
[130] Aquinas, *Commentary on Aristotle's Physics*, 81.
[131] The first Thomistic thesis reads "Potency and Act divide being in such a way that whatever is, is either pure act, or of necessity it is composed of potency and act as primary and intrinsic principles".

the parts is then hemmed in on both sides, but that opens the question as to why.

As mentioned above this pertains to a somewhat difficult question of composition. If Aristotle is right to distinguish between artificial products (e.g. beds, cloaks) and natural objects, there must be some sense in which they *qua* artificial products do not integrate their parts together as things held to be substances. To investigate this issue fully, a discursus will need to be made into the concept of *prime matter* in the thought of Aristotle and St. Thomas.

S*ection III: Prime Matter*

Prime matter is materiality with no formality whatsoever. As stated above, the formal cause is for Aristotle and St. Thomas the source of a being's *act*. Thus in so far as prime matter is matter utterly deprived of form, it is also utterly deprived of act. Yet, prime matter cannot be taken to be pure non-being, since it would be senseless to attempt to grasp at the essence of non-being. Rather, the prime matter must only be a non-being in a qualified sense, to borrow a distinction from *On Generation and Corruption*.[132] That is, prime matter is not *non-being per se* but being entirely *in potency*.

This difference is not irrelevant. It is important to note though, that St. Thomas does not hold prime matter to be something one encounters in the world in the same way one encounters form-matter composites. He argues that potency is absolutely posterior to act: "For although in any single thing that passes from potentiality to actuality, the potentiality is prior in time to the actuality; nevertheless, absolutely speaking, actuality is prior to potentiality; for whatever is in potentiality

[132] Aristotle, *On Generation and Corruption* trans.Arthur Platt in *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001), I.3 316b4.

can be reduced into actuality only by some being in actuality".[133] That is to say, if potency was prior[134] to actuality absolutely, then there would never be anything reduced from potency to act, and consequently there would be no act. There are things in act, consequently there must have been act prior to potency.[135] Thus it is never the case that one finds potency in isolation of act, potency is always the potency of something in act.

If prime matter is not a thing encountered in the world, one must wonder to what the name even refers. St. Thomas explains the notion in his work *The Principles of Nature* where he distinguishes two notions of potency: potency to exist substantially and potency to exist accidentally.[136] He goes on to note that the potency to exist substantially is really the potency to receive a substantial form, and it belongs to matter when matter is considered as prime matter.[137] Alternatively, the potency to receive an accident (that is potency to exist accidentally) belongs to matter *qua* subject implying something already in act. In both cases what is being received is a form, and thus form stands in relation to matter as act does to potency. For this reason, St. Thomas concludes that the form is the act of everything, and something is actually a thing in so far as it has a form.[138] So prime matter then is the potency of things to be things *at all*, in contrast to matter in a secondary sense which is the

---

[133] Aquinas, *Summa Theologiae*, I q 3 a 1.
[134] This is not necessarily a chronological priority. As Aristotle believed the world to be eternal, this sense of priority must be logical. There is only potency *if* there is actuality, for potency cannot produce act without something in act.
[135] I leave unaddressed here (as they are irrelevant to the point I am making) St. Thomas' further argument that the priority of act entails that God considered as Pure Act must exist to explain the world we experience. While the arguments are quite profound and worthy of serious philosophical consideration, they involve a distinct application of the principles I am using and are independent of the points I am now making.
[136] Aquinas, *The Principles of Nature* in *Selected Writings of St Thomas Aquinas*. Translated by Robert P Goodwin. New York: MacMillan/Library of Liberal Arts, 1965, 7.
[137] *Ibid.*
[138] One may then understand Joe Sach's translation of *form* in Aristotle's *Metaphysics* as *thinghood* as being congruent with the thought of the Latin Scholastics whose vocabulary he despises.

potency of things in act to change in some way.

Following Eleanor Stump, it will be important that we look also to St. Thomas' notion of an *element* to help make sense of the notion of prime matter he is using. When one speaks of the material cause of a given object, it is always relative to the object itself. As Stump reads St. Thomas the argument runs: "What counts as matter for a macro-level object may itself be organized or configured in a certain way".[139] For example, the material cause of a bike is the material which underlies it *qua* bike (e.g. the gears, seat, wheels, etc.) and not properly speaking the material causes of those parts (or the material causes of their respective material causes etc). However, the wheel by being affixed to the gears of a bike, does not cease to be a wheel. It is arranged in some functional unity with the other parts, but there is nothing of what made it a wheel before its entering into the assemblage that is lost or suppressed. Thus the material causes of the bike are themselves objects which are already *in act* to a significant extent, and cannot be taken as prime matter.

In the case of elements, this is not the case. As Stump notes: "the lowest-level material component which counts as matter organized in a certain way is an element".[140] That is, the material composition of an element must itself not have any lower material causes. Bicycles then are certainly not elemental. The element then is nothing but form and prime matter.[141]

---

[139] Eleanor Stump, "Substance and Artifact in Aquinas's Metaphysics" in *Knowledge and Reality:Essays in Honor of Alvin Plantinga*. Edited by Thomas M Crisp, Matthew Davidson and David Vander Laan. Dordrecht: Springer, 2006, 64.

[140] *Ibid.*

[141] It is important to note that prime matter, by virtue of its lack of any act (at least *qua* prime matter) does not exist as something one can encounter in the world. It can only be known through thought. That is not to say, however, it is some kind of *noumenal* force behind the hylemorphic phenomena that one encounters. Rather, it is something which enters truly into the objects of experience in an intelligible way, even if in itself it cannot be found apart from them. Everything one encounters, after all, must *be* in some actual sense in order to be encountered.

Thus, a natural object is one whose underlying components are not themselves *in act* as other natural objects. One may say then that a single natural object is a substantial form joined to prime matter. The specification of the "substantial" form rather than accidental forms is on two accounts. Firstly, as Aristotle noted, it is the primary form by which something is designated, and this is the form by which it is a natural object. Secondly, accidents are accidents of a substance, ergo it is only in light of a substantial form that accidental forms can be.

Section IV: Unity of Substantial Forms

Now this raises the question about substantial change occurring in substances already in being. If a log is turned into ash, or hydrogen and oxygen are combined into water, the components (the carbon in the ash, the atoms of the water) were already in another state of *act*. However, it would seem counterintuitive to refer to ash or water as non-substances because it seems they are not assembled from things already in act in the same way a bed is.

One might be tempted then to speak of a plurality of substantial forms. Rather than the hydrogen and oxygen losing their substantial forms as what they are, they merely gain a new form (water) when they enter into a particular configuration. In which case, a substantial form would be *informing* a set of parts already in act much like the parts of a bike were before assemblage.

This is problematic, however, from what has already been said. Aristotle denies the term natural object to the parts of substances and the heterogeneous compositions they enter into. For in Aristotle's example of a bed, the substance is the wood which was shaped into the frame. The bed and the wood are not both substances, but only the more fundamental wood. Likewise, the wood would not be a

substance if its parts were themselves substances (i.e. had their own principles of motion and rest). Substance then is neither constitutive of other substances nor reducible to them.

Another concern is the logical difficulties which result from attempting to posit multiple existing substantial forms in a single object. Feser gives the example of substance *A* which has parts *B* and *C*. If *B* and *C* are substances, then *A* would be as an accidental form to them.[142] That is, since a substantial form is the form which grants actuality to be at all, rather than to be in such and such a manner, something governing over parts which already have substantial forms cannot itself be a substantial form. *A* would not be causing *B* or *C* to exist *per se* but could be causing them to exist in some particular way.

However, this would entail a logical contradiction. It follows that *A* if it has parts which are substances that it only causes to exist in some particular way, it must be an accidental form. But since *A* cannot be at the same time and in the same respect both a substance and an accident, *A* then could not also be a substantial form. Thus, it must be affirmed that every natural object has a *single* substantial form, regardless of how many and diverse its accidental forms are.

It may be objected that even if *A* is an accidental form in respect to *B* and *C*, this does not entail it is in the same respect a substantial form. Thus there can be multiple substantial forms in a single natural object because the substantiality and accidentiality of any particular form will be in different respects. Thus, the principle of noncontradiction will be preserved.

---

[142] Edward Feser. *Aristotle's Revenge: the Metaphysical Foundations of Physical and Biological Science.* (Neunkirchen-Seelscheid, Editiones Scholasticae, 2019) 26.

Nevertheless, this apparent solution is not satisfying. For *A* to be a substantial form, it has to be a substantial form of something. For in the case of hylemorphic composites, substantial forms do not exist without matter.[143] So if *A* is not the substantial form of its parts, it is not clear of what *A* can be said to be a substantial form. In which case, the options are either the contradiction entailed by positing *B* and *C* to which *A* is both a substance and accident, or the negation of *A*'s substantiveness since it cannot be a substantial form of nothing.

So if *B* and *C* cannot exist as substances under *A*, it seems difficult to understand how two substances (e.g. two atoms) can join to form a new substance (e.g. a molecule). A useful tool for this quandary can be found in the traditional distinction between existing *actually* or in an unqualified sense, and existing *virtually*. This the same distinction which Aristotle uses to overcome Zeno's paradox of parts; it is not that the infinity of infinitesimal parts of a whole are present *in act* (that is, as if an infinite series of individual things) in the whole, but the parts are virtually present in the whole.[144] That is to say, while the whole *could* be divided repeatedly, in the moments in which it is a whole those parts do not exist as independent things. This is why it is possible to cross a finite distance in a finite amount of time, because while the distance is virtually divisible *ad infinitum* it is only *in act* a finite distance.

If the previous substances remained *in act* rather than virtually in any new substance formed through substantial change, one would expect their principles of motion and rest to be exhibited by the new substance. This is not the case. If

[143] Notwithstanding the cases of a separated human soul or an angelic substantial form, both of which are outside the realm of the objects of physics and without relationship to my current purposes.
[144] Feser, *Aristotle's Revenge*, 27.

hydrogen and oxygen atoms are brought together to form H_2O molecules, one will notice that the new molecules do not exhibit all the causal properties of their atomic components (e.g. H_2O is liquid under conditions at which hydrogen and oxygen would be gas).

In summary, everything which is a natural object is a subject with a singular substantial form and has consequent irreducible principles of rest and motion. These principles of motion are irreducible in so far as they are the principles of motion of the thing *per se* such that when it moves according to them it is moving as itself rather than moving concommitally. In the latter case are the movements of machines, since machines *qua* machines do not have irreducible principles of motion. Instead the parts of machines have their own substantial forms or can be further broken down into parts which do and in consequence their own principles of motion which are sufficient to explain the motions of the whole.

Section V: Substantial Forms and Final Causes

The Aristotelian tradition also highlights how nature pertains to the final cause. The final cause is whatever a thing is directed to as its perfection in light of the type of thing it is. Consequently, it is from the nature of a natural object that its final cause is derived.

This is because the formal cause entails also the proper dispositions and accidents of a natural substance. In so far then as a natural object has one nature in light of its one substantial form, it follows then that it has only one set of proper accidents. For example, since fire is substantially *fire* and only fire then it is only the accidents proper to fire which can be considered its natural properties. Insofar as

these properties include dispositions (rising upwards, heating the surrounding area etc.) the fire manifesting these properties can be said to be acting naturally.

As Fr. Weisheipl notes "Nature is a source not only of activity but also of rest. This should be understood not as the mere absence of activity but as the positive possession of fulfillment".[145] That is to say, that in so far as nature includes immanent principles of motion *and rest*, it has normative value in that it is by its nature that a natural object has its principle of self-fulfillment.

In the case of inanimate things, this self-fulfillment may be simply a relative position of stability, that is the Aristotle sense of a "natural place". Now, firstly, it is obviously false today that there is any *absolute* sense to the phrase "natural place" as in the geocentric system, where each of the five elements corresponds to a certain portion of the cosmos. Nevertheless, it is just as evident today as it was for Aristotle that there are configurations of natural objects which are stable and those which are not. Fire will move upwards, oil will rise above water, and rocks will sink. Countervailing circumstances can always prevent these ends from being realized, but they are dispositions of natural objects.

Thus, there is a sense in which one can speak of certain positions as being the cause of the motion of inanimate things, but not as efficient causes, as Roger Bacon suggested, but rather as the "intended" end of the "formal and active principle" of a thing's nature.[146] Thus, since in light of its active principle it is proper to a stone to sink in a lake, its relative natural place at the bottom of the lake is the final end of its motion.[147]

---

[145] Weisheipl, *Nature and Motion in the Middle Ages*, 22.
[146] *Ibid*, 106.
[147] Naturally the terminus of the motion will be whatever obstacle the rock cannot pass through, whether this be the bottom of the lake or some mound of stones which it contacts. It could also be

In the case of living things that go through a natural process of growth, the sense of final causality is more interesting. St. Thomas explains: “Everything is said to be good in so far as it is perfect… a thing is said to be perfect if it lacks nothing according to the mode of its perfection”.[148] Which is to say, something is perfect according to the particular mode of perfection proper to it. Thus, it is not a deficiency in a hummingbird that it lacks the powerful legs of an ostrich, nor is it an imperfection for an ostrich that it cannot fly. It is only because for a hummingbird to be a *perfect* hummingbird that it must fly

Therefore, the development of a hummingbird from a nestling to an adult who instantiates the various properties which allows the hummingbird to flourish is then a process of perfecting. This process of course can be terminated by death, or impeded by violence, but in so far as the nestling becomes that mature hummingbird that nestling has been *perfected*. Thus, Philippa Foot argues it is useful to note the properties which when properly manifest are important to a species’ life-cycle.

Thus Philippa Foot argues that one can derive an account of “Natural Goodness” from what she refers to as “Aristotelian categoricals".[149] For a particular property *p* to be an Aristotelian categorical, it must be the case that *p* is a property generally[150] shared by members of a species *s* and *p* contributes to the ability of *s* to maintain its life cycle.[151] For example, the hard-shell and ability to curl into a ball of

---

some hypothetically super dense liquid substance at the bottom of the lake through which it does not sink, but in each case the “natural place” is understood only in terms of the system of substance in which the stone is interacting, rather than some cosmic order.

[148] Aquinas, *Summa Theologiae*, I q 5 a 5.

[149] Philippa Foot, *Natural Goodness* (Oxford, Oxford UP, 2001), 33.

[150] Generally does not imply universally. It is important for a tiger to have four legs as that is how it can stalk prey and quickly pounce upon them. However, any given tiger may lose a leg to violence or a malformative, but that does not make quadrapedalism any less proper to tigers. In each case when one encounters a tiger with a missing limb, however, there will be some sufficient explanation for why this tiger differs from other tigers.

[151] Foot, *Natural Goodness*, 33-34. Two things should be kept in mind when reading Foot on this point. Firstly, *moral* goodness is only related to voluntary action. It is not morally wrong if a squirrel is

the Brazilian three-banded armadillo are two properties that the species possesses for its survival, and in consequence, it is "good" when a particular armadillo can manifest these properties.

Since it has already been said that every natural object has a single substantial form, it will always be the case that a single set of properties will constitute the Aristotelian categoricals of a given natural object. That set then is normative as to what an optimal example of particular species is. Thus, there is an intelligible (if difficult to discover) good for any given natural object, which results not from the extrinsic influence of human beings but is a result of its *immanent* principles of motion and rest. On these grounds, Nature(3) offers some account of both why one can speak intelligibly of nature, and why one *ought* to be concerned about that nature.

Section VI: Application

If then we approach the environment as an area where various species may manifest their unique forms of goodness then the idea of nature (viz. Nature(3)) provides something of a norm. One ought to value that various species of living things manifest their unique *φύσις* by developing their forms of goodness. A living thing which manifests its unique *φύσις* will be a living thing which best exemplifies those traits which are naturally good for it as a member of a species. Thus, the good which such a living being would manifest would be the good of being a good particular of *x* species. Since human nature itself has a *φύσις*, it is also *natural* and

---

unable to climb a tree to escape predators, but it is still not good. Secondly, in the sense of humans, what is most vital to our life is, as as Foot following Geach notes, virtues. (Foot 34) That is to say, it does not follow that because a human being deviates from peak physical or mental health that she is somehow failing an Aristotelian categorical. As social animals, humans can accommodate such differences; however, the ability to integrate into society with a *virtuous character* is a moral imperative.

acceptable to include in our concerns over nature and the environment that the conditions for fulfilling human potential be included.

Thus one might say there is some *presumptive* good[152] to the good of living things other than humans. That is, there is some *non-instrumental* good in allowing for the flourishing of non-human natural objects to obtain. In fact, there may be some presumptive good even in the case of inanimate objects which tend towards some position of rest. However, human beings are natural too, and Vogel is quite right to reject any dualism which holds that humans *per se* are not natural. Thus there is weight to our *own* good as well.

Therefore, just as it does not happen that the good of one animal is always in line with the good of another, there are going to be occasions when human flourishing requires, or at least justifies, the disruption of the goods of natural objects. One may need to kill animals for food or clothing, or disrupt the elements and their relative positions to build some useful human artifact. Nevertheless, in these cases, it is incumbent upon humans to consider the natural goodness of the things being acted upon. One may not be required to spare an animal's life at all costs, but the presumptive value that its manifestation of its species' unique perfection would seem a weighty enough concern to rule out all frivolous and aimless

[152] Granting that the good of each species is not equal (e.g. there is more weight to the flourishing of a giraffe than that a stone in its relative position of rest), it needs to be asked if the presumptive weight of the good of each member of a species is equal. For example, does a maimed lion which cannot pounce impose on us as much as a paradigmatic example of a lion in its prime. The answer, I believe, is yes. For what is really given value is the process by which a thing flourishes. Thus a new born lion is not valued less (in the relevant sense) because it is not yet the paradigmatic example of its species. Rather, it is precisely because those processes by which it obtains to its natural perfection are occuring in the cub, even though they have not brought it about to the perfect degree, that imposes upon us some value. Likewise, even if the development of the cub were indefinitely delayed because of some injury or ailment, the fact that in so far as the cub is alive and thus obtaining to its perfection as much as is possible in those circumstances that we allot to the cub the same value we do other members of the species.

attempts to destroy it.

Section VII: Nature(3) v. Nature(1)

Therefore, we have strong grounds to insist that Nature(3) is not captured by the notions of Nature(1) or Nature(2) and consistently does not automatically fall to the criticisms leveled against them.

As noted already, Nature(3) is not a fragile sense of nature. While Nature(3) is not inextinguishable, it is also not something to which the slightest interference of human beings is a threat. A person may go into the wood and feed the deer without said deer becoming *unnatural*. The fact that the food was provided to the deer will not change the fact that the incorporation of that food into the deer's body will occur according to the particular metabolism of a deer which will allow it to move towards its own perfection, which is the perfection of the particular natural kind it is.

Some human action *does* result in violent as opposed to natural movement in natural objects. For example, a human may, as opposed to feeding a deer, shoot and kill it. In which case, not only did the human act contrary to the deer's own tendency towards self-perfection, but acted so violently that the deer was destroyed. However, since this is only a subset of human actions, it does not follow that Nature(3) excludes *per se* human action, and in this respect it cannot be identified with Nature(1).

In a sense the possibility for human cooperation with nature is the counterpoint of the ability of natural processes to produce things which are not themselves natural. For example, "a heap of stones" formed by a rockslide or "a group of liana vines which by chance has grown into a hammock-like arrangement" would not be human artifacts, yet their peculiar formations are accidents rather than

derived from their internal motive principles.[153] The stones which compose the heap certainly are natural objects, but as they have no internal principle by which they form a heap, the heap itself is not natural. If then not everything produced by non-human processes is "natural" as Nature(1) would seem to suggest, it need not follow either that all human actions, even technical human actions, produce things which are not natural.

Section VIII: Nature (3) v. Nature(2)

Additionally, Nature(3) is distinct from Nature(2). Since Nature(3)'s contrary is the "accidental", many things (heaps, hammocks, coats, beds) fall out of nature without becoming "supernatural" or violating the laws of physics. Yet this raises another question. If a bed is only able to exhibit the properties it does because those properties are natural to its parts, it would seem to follow the *bedness* of the "bed" was merely a construction of pragmatic value but not something with its own existence.

In response, I believe two reasons can be given for affirming that the attribute of bedness truly does exist in the bed. Firstly, if one wishes to deny that accidental unities (such as those found in artifacts) are *real*, one will have to deny any accident being a true predicate of any subject. Just because bedness does not exist in the same way that a primary substance or secondary substance exists does not mean it does not exist at all. It only exists in a substance, but that is a distinct mode of being rather than an absence of existing.

Secondly, the bed, or any other accidental form of its type, coordinates to a significant (but not irreducible) degree the motions of the substances under it. If the

[153] Feser, "Between Aristotle and William Paley: Aquinas's Fifth Way," *Nova Et Vetera* 11, no. 3 (2013): 11.

liana vines are tangled together as a hammock, or tied together by some agent, it is only on account of this structure that the individual liana vines can support a body. While it is true that the weight-bearing properties and elasticity of the hammock are derived from the individual vines, it is nonetheless the case that cumulative effect comes from the accidental attribute of the hammock. It will be helpful to borrow the language of Nancy Cartwright; the hammock is what she might call a "nomological machine"[154] that is "a fixed (enough) arrangement of components, or factors, with stable (enough)" which in "stable (enough) environments" will exhibit a causal regularity.[155] Such machines "produce the causal relations they do because of the way the exercising of the various causal powers involved combine in the context of the machine to produce" the effects that they do.[156] That is to say, the nomological machine arranges the causal powers of its parts in a way that regularly produces a set of effects. These effects can, in fact, be new, as the parts of a toilet cistern produce an effect different from all its parts.[157] It remains the case, however, that the cistern is a composite in a way fire or an acorn is not. The cistern cannot be ignored since its reality is necessary to understand the causal regularities of the system; however, the various components of the cistern did not come together because of inherent

[154] Cartwright suggests that some arrangements that I would argue are examples of Nature(3) can also be described as "nomological machines". (Cartwright and Pemberton 2,9) However, this is not fatal to my point. If not all "nomological machines" are accidental forms, it is only because the terms do not refer to the same things under the same respect. The essence of an accidental form is to arise from external causal principles, whereas a nomological machine is a system with causal regularities. Nevertheless, that some accidental forms can be classified as nomological machines is sufficient to demonstrate that accidental forms are not alienable from consideration of complex manifestations of causal powers in the world. The term accidental has a wide definition (capturing nine out of ten categories) which is also indicative of the necessity of an account of accidentals to understand the world.

[155] Nancy Cartwright, *The Dappled World: A Study of the Boundaries of Science*, version Google Books (Cambridge UP, 1999), 50.

[156] Nancy Cartwright and John Pemberton, "Aristotelian Powers: Without Them, What Would Modern Science Do?," November 2011, http://personal.lse.ac.uk/PEMBERTO/AP v10.0.pdf, 2.

[157] *Ibid.*

principles of each, nor is there something irreducible about the movements of the cistern.

Section IX: The Charge of Ideology

What remains then to be answered is Vogel's charge of ideology. As was established in chapter III, Vogel's accusation of ideology towards any particular view requires that the view in question be false, but also pertain to some deep facet of the status quo, and have problematic implications. I have already attempted to show that Nature(3) is not ruled out by any of Vogel's arguments, and thus has some plausibility; however, rather than address the issue of the truth of Nature(3) any further, I believe Vogel's charge of ideology can be answered in its other criteria.

Firstly, one must exclude any defence of Nature(3) which relies on it not pertaining to some deep feature of the world. Nature(3) cannot be a mere marginal note or gloss on something else. Nature(3), if it is true, is the framework by which the wide category of nature is to be understood. Likewise, if it is false, it would disorient its adherents in a very serious way. Since Nature(3) is meant to convey normative significance, it can never be excused from a charge of ideology by a defence of superficiality.

Rather, to defend Nature(3) from such a charge it must be established that Nature(3) either does not support the *status quo* or does not go against people's true interests. I believe that there is a strong case to be made in both respects. Consequently, Nature(3) is not ideology.

Nature(3) does not support the *status quo* as can be seen by drawing out what the normative implications of Nature(3) are. The relevant portion of the *status quo* that Vogel was critical of in respect to his critique of the concept of nature was that

human beings were treated as something outside of nature.[158] This, however, is not a conclusion which can be derived from Nature(3).

Nature(3) holds that human beings in so far as "human" is a natural kind are themselves natural. Furthermore, as stated above, since what is natural to any given thing is some motion to which it is disposed, if a human being co-operates with these natural motions a human being can even *aid* nature. The false dichotomy between humans and nature which Callicot laments as preventing meaningful environmental action in the "four-dimensional, inherently dynamic landscapes" where we find ourselves in the 21st century, is absent from Nature(3).[159] And insofar as this is precisely what Vogel takes to be the *status quo* worth criticizing, Nature(3) is delivered from any criticisms of being ideological.

Furthermore, Nature(3) does not fall on Vogel's other sword. That is Nature(3) does not direct one away from true human natures. Since Nature(3) is concerned about things generally reaching their states of self-completion, Nature(3) can provide a basis for criticism when a society fails to take into account the things necessary for people (and where possible other things) to obtain their states of perfection. Thus incumbent upon a society which understands the world in light of an Aristotelian notion of nature is the obligation to seek the flourishing of all of its members.[160] Therefore, Nature(3) is not a forsaking of true human interests.

---

[158] Vogel, *Thinking Like a Mall*, 7.
[159] Qtd. in Vogel, *Thinking Like a Mall*, 6.
[160] One may object that Aristotle himself did not apply his ideas in such a way. Quite famously, Aristotle was known to have supported slavery, and his philosophy has been used to justify the institution of slavery in the past. Nevertheless, while there is no denying that this is true of the past, Aristotle's system is not limited to Aristotle's own works. In fact, the expansive nature of Aristotelianism itself, the attempts of Aristotle to incorporate empirical observation, and the centuries of Aristotelian traditions invite the contemporary reader of Aristotle to depart from his text to look at new applications of the principles. Whereas Aristotle may have held to prejudicial views about the slaves of his time, in the light of the integration of the descendants of slaves into contemporary society, we, on the other hand, can with confidence assert that those who would have been slaves in

Conclusion

Nature, then, is always predicated of a substance. A substance is always composed of matter, not otherwise *in act*. That is, the parts of the substance are not themselves actually independent things at the same time they are in the substance. For this reason, the material cause of every substance is prime matter.

Secondly, every substance has a *single* substantial form by virtue of which it is at all. This substantial form is that by which the particular substance is a member of a species, and thus is *substance* in the secondary sense as discussed in the last chapter. Following from the particular species of a thing are certain proper accidents and principles of movement and rest. These properties and principles carry with them normative value because they allow one to judge whether *x* is a good example of species *S*. It is in respect to these that one can speak of the natural final cause of a natural object. Its final cause is to manifest the properties and movements which are derived from the essence of the type of thing it is.

Therefore, there is presumptive weight to allowing *x* to exhibit the properties and principles proper to it as an *S*. The notion of nature then is highly relevant to environmental philosophy and policy. Moreover, since Nature(3) does not exclude human beings from the considerations of what is natural, it does not fall to Vogel's ideological criticism.

---

former eras share with us the same conditions of flourishing and in that respect are entitled by justice to the same societal benefits.

CHAPTER VI: ARISTOTLE AND VOGEL ON FINAL CAUSES AND ARTIFACTS

The Aristotelian conception of nature is closely tied to a particular view of teleology, in light of which certain implications or evaluations of nature follow which would serve to aid discussions in environmental philosophy and policy. However, it is sometimes held that modern science has rendered superfluous the teleological conception of nature promoted from Aristotle to the medieval period. Whereas Aristotle held that teleology was necessary to explain the harmonious functionality of the heterogeneous parts of animals, it has been suggested that since Darwin such a hypothesis is unnecessary. Darwinian evolution at least seems to explain the apparent design of animals without reference to teleology. Therefore, it would seem that the blind operations of natural selection provide as good of an account of the natural world as Aristotle's teleology; that is, unless they provide a better account.

Section I: Vogel and Darwin

In light of these conceptions, it may be understandable why Vogel does not directly address the Aristotelian conception of nature. Commenting on Katz's attribution of teleology to artifacts but not natural objects, Vogel praises Katz's position as "staunchly (and admirably) Darwinian".[161] That Vogel assumes the truth of Darwinianism to the exclusion of alternative views is also evident in his dismissal of McKibben's dichotomy of human versus non-human as "Pre-Darwinian".[162] However, *Vogelian Darwinianism* is itself not without problems.

From the scattered references to Darwin in *Thinking Like a Mall*, one can gather that Vogel sees Darwin as exorcising teleology (*of a sort*) from nature by showing apparent design is produced by chance and expunging dualism from

[161] Vogel, *Thinking Like a Mall*, 102.
[162] Ibid, 11.

anthropology by showing that human beings are not qualitatively distinct from other species, but rather ascended to their place in the biosphere through many small quantitative adaptations.[163]

It should, however, be noted that Vogel is using the term "teleology" in a precise sense. He wants to distinguish between two sense of teleology: external and internal.[164] The former refers to teleology considered as the purpose for which something was created: e.g. a knife is built with the end of cutting in mind.[165] In contrast, internal teleology is just what purposes a thing has in virtue of its internal structure; e.g. sensitivity of a prey's senses have the purpose of allowing it to escape predators often enough to survive as a species.[166] Vogel does believe that this second type of teleology can be spoken of intelligibly even by Darwinians, but it is rather the former kind of teleology that is ruled out. Since Darwinian theory holds that biodiversity is not the result of the intentional actions of an agent but rather the result of an unintelligent natural selection, there is no more room for teleology which is externally imposed by a designer with a particular end in mind.

Vogel would seem then to be attacking *intelligent design theory*, or the view that some grand designer created the things in the world with particular ends in view. For in the case of such a designer nature would truly be said to have an external

---

[163] As I believe the above mentioned references to Darwin in *Thinking like a Mall* show.
[164] Vogel, *Thinking Like a Mall*, 102.
[165] *Ibid*.
[166] *Ibid*. It should be noted, that unlike other Darwinians, Vogel is not using Darwin to attack species realism. In fact, to speak of an internal teleology as consequent upon some kind of internal structure would already entail something of species (in the broader Aristotelian sense) realism. For if it is the case that one can speak of the various senses of a prey animal as having the purpose of preserving that animal's life, there is a sense in which it is because of the structure of that prey animal *as an example of its species* that it can be said to have those purposes. For example, a rabbit has sensitive hearing and can move quickly because of the particular threats which its ancestors faced. But in so far as its hearing and speed are properties of what it is to be a rabbit, since the same traits might not be necessary in the case of different species of prey or non-prey animals, to speak of them as serving a teleological purpose is already to imply that the good to which they are directed is such because it is the particular good of a rabbit.

teleology just as Katz attributes to artifacts. This point is transparent in various arguments used by intelligent design advocates, and can be traced at least to William Paley's famous "Watchmaker argument".

Paley's argument relies on an analogy to be found in the design of a watch, and the apparent design of the universe. That is, since one analogue (the watch) is obviously designed, and thus is known to have a designer, the other analogue with all the apparent features of being designed likewise must have a designer. Paley's description of the watch and its design both begins his argument and provides much insight into his idea of teleology. Paley goes at length to catalogue all the components and notes that they are "framed and put together for a purpose," noting that each is "so formed and adjusted" as to carry out its purpose.[167] Paley is aware that the watch's parts only have a teleology in so far as it is externally imposed by *something* which frames, puts together, forms, and adjusts. This all implies both agency and intelligence.

Lest it be thought that Paley felt teleology was external in only one of his analogues, he explicitly links the externality of the teleology of the watch to the teleology of nature. For he writes: " every indication of contrivance, every manifestation of design, which existed in the watch, exists in the works of nature".[168] Further, he claims that whereas "the contrivances of nature surpass the contrivances of art" nevertheless "[the contrivances of nature] are not less evidently mechanical, not less evidently contrivances".[169] That is, in Paley's view the only teleology, in both

[167]William Paley, *Natural Theology; or Evidences of the Existence and Attributes of the Deity. Collected from the Appearances of Nature*, ed. Van Wyhe John, 12th ed. (London: Faulder, 1809), http://darwin-online.org.uk/, 2.
[168] Paley, *Natural Theology*, 18.
[169] *Ibid.*

artifacts and nature, is the contrivances of some intelligent designer. Thus Paley writes: “CONTRIVANCE [sic], if established, appears to me to prove every thing which we wish to prove. Amongst other things, it proves the personality of the Deity”.[170] That is to say, the apparent design of the universe is only explained by a personal being.

Paley’s identification of teleology exclusively with external teleology entails that there must be some personal mind which imposes the teleological structure of nature onto it. Thus he writes:

> Now that which can contrive, which can design, must be a person. These capacities constitute personality, for they imply consciousness and thought. They require that which can perceive an end or purpose; as well as the power of providing means, and of directing them to their end. They require a centre in which perceptions unite, and from which volitions flow; which is mind.[171]

That is, the teleology of nature is explained, so says Paley, only by a mind which is qualitatively like a human mind, even if quantitatively much, perhaps even immeasurably, greater.

The potentially problematic feature of Paley’s view, however, is that he posits a universe which is utterly devoid of internal teleology. Paley briefly considers that there may be some qualitative difference between the perceiving eye and the unperceiving telescope, but instead concludes that both are indeed “instruments".[172] For something to be used as an instrument, however, implies that the ends in which

---

[170] *Ibid*, 408.
[171] *Ibid.*
[172] *Ibid*, 19.

it is being used are not its own, or at the very least are besides its own. To water an oak sapling is not to make it into an instrument, but to dismember its branches to build a shelter would. In the latter case, the use of the oak's parts (that is, the creation of the shelter) is completely external to the oak considered in itself.

One might think that something can be an instrument and have internal teleology, and this is true in so far as an instrumental use of something with such internal teleology is insufficient grounds to deny that it does, in fact, have such a teleology. For example, if instead of dismembering the oak tree, one might integrate the still living trunk and branches into a constructed shelter. In which case, the oak tree's parts will continue to operate according to the internal powers of the tree, but will also be instrumental in the extrinsic purpose imposed by the builder. Perhaps then, this is what Paley has in mind by referring to the eye as an instrument like the telescope.

I think this reading is unlikely. Firstly, if Paley meant that the eye's internal teleology was integrated into the pursuit of an extrinsic end, the eye would not be an instrument in an unqualified sense. Rather, the eye would be only an instrument in a qualified sense, since properly speaking it is not an instrument but only being used instrumentally. Secondly, Paley's own analogy would be undermined if the eye were taken to be an instrument in a qualified sense since his project is to identify the eye with the telescope. That the telescope is an instrument in an unqualified sense is a point which is taken by Paley to be uncontroversial.[173] Thirdly, Paley explicitly mentions what the difference between the eye and the telescope is: subtlety of design.[174] If Paley took the eye to have some internal teleology, unlike the telescope, surely

[173] This will, however, be contested by Vogel.
[174] Paley, *Natural Theology*, 18.

he would have made that the point of distinction. Consequently, natural objects are for Paley just a set of artifacts made by a personal intellect which is quantitatively greater than any human mind.

That this thesis was rendered obsolete by Darwin is seen in two ways. Firstly, Paley is making an *a posteriori* argument (much like Hume's Cleanthes), and in consequence, gives a probabilistic and inductive argument. Since there was never any necessity in Paley's argument it always was susceptible to any alternative hypothesis that could explain the same facts with as much or more evidence. Darwinism, because of its base in Darwin's and other biologists' observations, would seem comparable to Paley on this front. Secondly, since natural selection does not posit something above the natural world, Paley's thesis of a super-intelligent entity would seem to fall to Ockam's razor.

It is important to note, however, that Vogel is not alone in rejecting the notion of a nature permeated with extrinsic teleology. In fact, Aristotelians and Thomists have been very critical of that very thesis. If one turns to *Physics* VIII, Aristotle notes that "that which is produced or directed by nature can never be anything disorderly; for nature is everywhere the cause of order".[175] That is, it is nature as a genus of motion and not some directing intelligence (like Anaxgoras' *nous*) which is the cause of order. For as has been amply discussed, if nature is taken to signify those dispositions by which something moves or is moved, then one would seem to have an explanation of the apparent order of the world without holding that there is an intelligent cause above it all.[176]

---

[175] Aristotle, *Physics* VIII 252a11-12.

[176]St. Thomas Aquinas does argue that even in the case of internal teleology that the end must be present *somewhere*, but in that case, it would seem an unintelligent agent requires an Intelligence in which its end can virtually exist prior to its realization. This is the Thomistic position, but it is beyond

But as pointed out it is not this *internal account* of teleology which Vogel finds problematic to a Darwinian. Rather, it is the extrinsic teleology of even artifacts. Whereas I have so far emphasized that Aristotle held that nature does not generate things in the same way art does, it should be recalled Aristotle did hold that natural objects have a different kind of teleology than artifacts. Artifacts are those conglomerates which lack a unitary substantial form and are the product of art.

This is where Vogel departs. The view that technology has this extrinsic teleology is what he finds so objectionable. Vogel writes: "the wild is there in *all* our acts, and in all our artifacts" and he continues "we cannot build without the employment of processes whose fundamental character—whose *nature*, I might even be willing to say— is not and cannot be fully known to us".[177] Vogel wants to do away with a naive view of artifacts. Artifacts are not outside of nature, since their movements are a product of their underlying and, according to Vogel, *unknowable* nature, rather than one's intentions.

Now as I've discussed, the view that artifacts move in virtue of the natures of their parts is undoubtedly Aristotelian. Where Vogel goes further than Aristotle is that he seems to be suggesting not simply that the artifact is reducible to these natures, but that it can be treated as *natural* as a whole.

Vogel's position is that the unity of an artifact is not different than the unity of a living animal. In Vogel's only by-name reference to Aristotle, he has this to say

---

the scope of my argument to scrutinize it. Aristotle does not use any such argument for a governing intelligence. (Feser, "Between Aristotle and Paley", 718) Nor does St. Thomas' argument line up with Paley's, since St. Thomas does not reduce the things being moved to mere instruments of an extrinsic cause. For it is truly in the natural object to be directed towards its final cause, so St. Thomas holds, but it is because of the need for a determinate final cause that such a cause does pre-exist virtually in an intelligence. Paley in contrast, thinks that it is in light of contrivance that things function as they do, without any reference to internal principles of teleology.

[177] Vogel, *Thinking Like a Mall*, 112.

"Aristotle, writing before Darwin, can be excused for believing there was something metaphysically unique about living things that nonliving ones (especially artifacts) simply lacked".[178] Elsewise put, Aristotle's alleged ignorance was to treat the unity of living things as qualitatively distinct from the unity of artifacts.

Bizarrely, the thrust of Vogel's Darwinian critique is hyper-focused on the alleged "vitalism" of alternatives. Vogel suggests: "if we are Darwinians (and naturalists), and no longer believe living things to possess some sort of special spark or entelechy that would render them metaphysically unique, it isn't clear what the principle is on the basis of which the desired distinction [between living things and artifacts] could be drawn here".[179] But it is not in virtue of things being living that Aristotelians attribute to them a non-accidental unity. Elements, as already discussed, are not living things, but are still substantial unities. It is sufficient that fire is moved in virtue of being fire that one can distinguish it from a hammer which is only moved accidentally in virtue of its parts. For this reason, Vogel's contestation that, post-Darwin, we must abandon "nature" as having a "metaphysical or vitalist sense" seems to be a false equivalence.

As Gilson notes, vitalism may be safely abandoned without harm to the Aristotelian system. As he notes: "The notion of 'life' is Platonist, not Aristotelian. Assuredly, Aristotle often speaks of *zoe* and of operations of life, but it is for him simply the proper action of living beings".[180] Put even more clearly, Feser writes,

> [N]othing that has been said has anything at all to do with vitalism…

On the contrary, for the Aristotelian, most kinds of living things - plants and

---

[178] Vogel, *Thinking Like a Mall*, 158.
[179] *Ibid*, 158-159.
[180] Étienne Gilson, *From Aristotle to Darwin and Back Again: a Journey in Final Causality, Species, and Evolution*, trans. John Lyon (San Francisco: Ignatius Press, 2009), 129.

> non-human animals[181], for example - are entirely physical or corporeal. To deny that living things are irreducible is not to hold that they are non-physical, but entails merely that there are irreducibly different kinds of physical things. [182]

Vitalism, consequently, must be treated as a separate thesis than the thesis that there is an irreducible unity, and consequent irreducible metaphysical distinction between a living animal and a non-living substance or a non-living artifact.

Section II: Vogel, Machines, and Living Beings

Vogel's interest in all of this, however, is to deny the distinction between living things and artifacts to posit that artifacts have internal teleology just as living things do. In a sense, inverting the error of Paley. The eye and telescope are still the same kind of thing.

While Vogel is ready to accuse the advocates of "biocentric arguments" of asserting without evidence that artifacts lack intrinsic goods, he does not sufficiently establish his thesis. For Vogel wants to say (i) one can intelligibly speak of an internal teleology of artifacts and (ii) that the end of that teleology is not necessarily the interests of the one who built the artifact. Upon analysis, however, (i) seems to be a category mistake, and (ii) depends on (i) to hold true.

What then is Vogel's case for (i)? Vogel believes that unlike certain accidental unities (a pile of sand) a mall can be said to have a purpose since "it's a commercial establishment whose goal is the selling of consumer goods at an operating profit. The

---

[181] The reason why Feser highlights non-human animals is because of the notion that, unlike the vegetative and sensitive souls, the rational soul is irreducible to the structure and function of the body. The grounds for this notion have much to do with Aristotelian-Thomistic anthropology and epistemology, so they are far beyond the scope of the current argument. The point, however, remains: Aristotelianism does not entail a commitment to some immaterial substance "life" present in living things, rather it entails that a living being is irreducible to its constituent parts.

[182] Feser, *Aristotle's Revenge*, 381.

purpose is intrinsic to what a mall is".[183] Now one is tempted to be very skeptical of this as an intrinsic purpose. For, to say something is itself a venue for exchange relationships would seem to entail that its alleged intrinsic good is to be used instrumentally by vendors and consumers.

In which case, Vogel actually re-introduced the extrinsic teleology of artifacts slyly and presented it as internal. Vogel, anticipating this objection, responds to the same point raised by Taylor. Taylor claims that for something to have some good as an intrinsic good, it must be possible to speak of that same good without references to other beings.[184] For example, an animal apparently undergoes its life-cycle for its own flourishing, and thus the process of maturation does not entail a reference to another being. Vogel is quick to retort, this seems to be a specious classification, for it would seem many living things have goods which reference other beings. The plant's flourishing depends on its access to the sun, and the mere fact that a farmer is intentionally feeding an ox to strengthen it for work does not seem to make one question that the good of the oxen is its own.[185] However, both of these alleged counter-examples miss the mark. In the former case, the good of the plant is not in reference to the sun, since it is not the purpose for which it flourishes; rather, the sun is the efficient cause of the plant's good. The second counter-example, on the other hand, mistakes a contingent connection (in this case the farmer benefits from the oxen flourishing) versus a necessary condition (on Vogel's reading, a mall exists for the purpose of exchange, and thus *definitionally* requires consumers in order to realize its "intrinsic" good).

---

[183] Vogel, *Thinking Like a Mall*, 149.
[184] *Ibid*, 150.
[185] *Ibid*.

While Vogel's counter-examples leave something to be desired, it will be useful to articulate more clearly the nature of the teleology of living things. While it is not exclusive to living beings to have internal teleology (even inanimate substances have internal principles of motion) it is unique to living beings to exemplify *immanent causation*. That is, living substances exhibit a type of "self-moving"which "originates within the agent and terminates within it in a way that tends towards the agent's own self-perfection of completion".[186] The example which Feser gives is digestion, which begins with eating and ends with the absorption of nutrients from the food into the animal.[187] This form of causation is uniquely present in living beings, and since it tends towards their perfection one can speak of their intrinsic good.

This is in contrast to *transeunt*[188] *causation*. Unlike immanent causation transeunt causation terminates outside the agent, and is not inherently directed towards its perfection. For example, a boulder dislodged by some earthquake will continue to move downhill until it comes to a place of rest. Its descent, the speed of that descent, and its final termination are determined by the natural disposition of the boulder to move in a particular way. However, the rock's movement cannot be said to terminate inside itself. While it tumbles, the rock imparts its momentum to everything which it comes in contact.

A more complicated case would be the movement of fire. For fire is not alive, but it does consume and grow through consumption. It would seem then that at least this inanimate substance had some immanent causation. However, this would be an

[186] Feser, *Aristotle's Revenge*, 375.
[187] *Ibid.*
[188] Also sometimes known as *transient causation*.

equivocation on the use of consumption. An animal consumes a meal, digests it, and then uses it to grow or reserves the energy for later movements. Growth for a living being is clearly a case of immanent causation because it terminates in the increase of the body of the agent. However, when a fire consumes combustible material the movement always terminates outside the fire. The material being consumed is transformed into some other substance (e.g. wood is turned to ash) while light and heat are expelled. A fire may seem to grow, but in fact, it is just a larger reaction. More of the material may be burning at once, or there may be more oxygen in the air, but the fire is still an example of transeunt causation.

Of course, an animal can tumble or, for that matter, be consumed by another animal. In both cases, the movements terminate outside of themselves. So while transeunt causation is not unique to inanimate things, immanent causation is uniquely the mark of animate substances.

Returning again to Vogel, one may be tempted to ask whether a mall is truly an exception to the rule just stated. Vogel claims malls have intrinsic teleology as living things do. If this is true, then a mall must exhibit intrinsic purposiveness with the distinctively vital (at least *allegedly* distinctively vital) element of immanent causation. Nevertheless, regardless of initial plausibility, Vogel's mall fails to provide an adequate counterexample to the exclusion of inanimate things from exhibiting immanent causation.

By Vogel's own definition, the allegedly intrinsic teleology of the mall is its orientation to the "selling of consumer goods at an operating profit". There are a few ways to parse this description. Firstly, the point of the mall is to provide the consumer goods, whereas the profit is just a condition for its continued ability to do

this. In which case the proper movement of the mall is the transformation of unsold consumer goods into sold consumer goods; what is potentially sold is made actually sold by the mall. In this case, the movement is clearly an example of transeunt teleology because the fundamental purpose of the mall is expulsive rather than self-fulfilling.

Alternatively, one may understand Vogel as saying the intrinsic purpose of a mall is to generate profit, and the selling of consumer goods is just the means by which it does this. In this sense, the consumer goods may be akin to the lure of an angler fish which draws in its prey, except the mall is drawing in customers, or perhaps more specifically their money. This has the initial appearance of immanent causation, as the movement is now towards the growth of the mall's revenue which seems a good candidate for an analogue with an animal's growth.

Unfortunately for Vogel, this is only when one speaks improperly. Malls do not take in profit. True, malls *produce* profit, but they are always producing profit for the various invested parties (e.g. vendors, employees, shareholders etc.). While the headline "West Edmonton Mall increased its annual profits by one billion dollars" could easily be imagined in any major Canadian newspaper, everyone would understand that the mall, *qua* the built-structure which Vogel is so interested in, did not retain any of that. It appears then Vogel's own description of what a mall's intrinsic teleology is meant to be is itself qualitatively different from the distinctive actions of living beings.

Lest it be thought that Vogel merely chose a poor example, it will be useful to digress and show that the immanent/transeunt distinction is a matter of kind and not merely degree. For something to be an example of immanent causation, it must

be the movement of an agent which terminates in itself. While this may involve parts of an agent acting on other parts of the same agent, it is only on account of all active parts being part of the same agent for whose good they are acting that the action itself remains immanent. This is a matter of mere definition.

In contrast, any action which is performed by the agent outside of the agent itself cannot be said to be an example of immanent causation. This is true even if the movement were to set in motion a series which terminated again in the agent. Thus, an agent which acts upon patient for the sake of the patient[189] wherein the agent and patient are not part of some single substance has excluded the possibility of immanent causation already. Therefore, no number of transeunt causes can amount to a single immanent cause.

In consequence, anything which is actually an example of immanent causation must be irreducible to transeunt causes. Hence, anything *apparently* an example of immanent causation which is, in fact, reducible to transeunt causes will not be a counterexample to the principle that only living things exhibit immanent causation. I argue that this is the case with every artifact, because no artifact exists as a single substance.

It will be useful here to visit Oderberg's example of a thermostat. A thermostat appears to be an example of immanent causation in artifacts. The system acts on itself by, first, sensing that the air around is of a different temperature than its setting, and secondly, adjusting the air around itself to clear its sensors. Its

[189] For the sake of the patient does not here imply any kind of will or intention for the patient, but merely means to impart to the patient something which does not enter back into the agent. For this reason digestion is an example of immanent causation not transeunt. As the various parts of an animal's digestive system act upon the food consumed they are working to assimilate the nourishment into the agent. Digestion cannot be thought to be for the pursuit of an external patient, but is done by an agent for itself.

movement of cooling the air is to restore the proper settings for its sensors. However, while this is one description of the actions of the thermostat, everything just mentioned can be described by transeunt causation. As Oderberg explains:

> For instance, we can say truly that a thermostat adjusts the state of its system in response to a change in temperature: this is a kind of self-adjustment. Yet it is wholly explicable in transient terms: the internal thermometer reacts to a change in temperature which causes the mercury switch (in a simple device) to change position which causes contact between wires, which creates a circuit that causes an appliance, such as a heater, to turn on. When the temperature reaches a certain level, the switch changes position again, thus breaking the circuit and thereby turning off the appliance. [190]

That is, even in complicated machines which appear to self-regulate, it is only by means of the transient causation of its parts working on each other that the system can self-regulate. It is precisely because artifacts are not substances that immanent causation is not just a contingent impossibility, but a metaphysical impossibility.

Since the parts of a machine are each a substance *in act* (rather than merely virtually as the atoms of a water molecule) the machine's movements *qua* the machine will always be accidental. Some part of the artifact may move *per se* but the motion of the various parts will be concomitant and consequently only accidental. Consequently, it is impossible for a machine to exhibit immanent causation, because in its very nature its only movements are not moving itself as a whole but only actions taken upon its parts and by its parts.

---

[190] Oderberg, *Real Essentialism*, 196.

Conclusion:

Despite Vogel's attempt, he has not shown satisfactorily that there is a sense in which artifacts possess internal teleology. The close link between a unitary substantial form, internal teleology, and immanent causation entails that living beings will always be *qualitatively* different from artifacts. Further, whereas immanent causation is a sure sign of life, real internal teleology is a consequence of a unitary substantial form. If something lacks the unity characteristic of a substance it cannot be said to have the natural principles and properties of a substance. Whereas there is something ingenious about the skill with which humans, and even non-human animals, can arrange other things into useful arrangements, these arrangements in themselves lack the same principles of internal teleology that even non-living substances have since the parts of an artifact will always be themselves actually distinct substances rather thing a single being with an internal teleology.

CHAPTER VII: A FINAL SURVEY

In summary, Vogel's central thesis is that the concept of nature is so problematic that it should be abandoned. To demonstrate this point, he describes in detail two definitions of nature which he takes to have notable currency in contemporary environmental discourse. The first, Nature(1) is the result of dividing nature from what is human. Nature(1) become pristine wilderness which has never been impacted by anything human; it is nature in its most independent state. The second notion is that of Nature(2) wherein what is natural is identified as what is physical. The relevant contrast then is not between the human and the natural, but between the natural and the supernatural (or at least the preternatural).

Ultimately, Vogel finds both of these views to be fatally flawed. If Nature(1) is appealed to in environmental discourse, it will provide little light on how human beings ought to conduct themselves in relation to the environment. Firstly, because if nature is definitionally non-human, conservation projects carried out by *humans* become contradictions in terms. Any project undertaken in the name of nature conservation will extinguish the naturalness it wishes to protect.

Nature(2) does not fare much better. If everything physical is natural, then all things from trees to freeways are equally natural as they are equally physical. Human beings do not have the power to turn some physical thing into a non-physical thing and thus for human intents and purposes nature is an invincible feature of the world.

Consequently, both Nature(1) and Nature(2) are *useless* as guiding notions for environmental philosophy. However, Vogel sees something even more problematic in contemporary conceptions of nature (particularly Nature(1)) in that these notions run the risk of being ideological. They are ideological in the sense that each

"expresses a mistaken view of the world that at the same time reveals something deep about *our* world, the particular social order that we inhabit".[191] This is because the concerns about nature are not really about conserving some kind of nature, but about distracting society from the true built environment in which it lives. By idealizing the pristine as natural, the urban or even rural environments in which people live are seen as not worth preserving. As Callicot notes "If we conceived of wilderness as a static benchmark of pristine nature in reference to which all human modifications may be judged to be more or less degradations".[192] This buttresses the *status quo* of contemporary society by preventing any efforts to improve the environment in which human beings live. Neither Nature(1) nor Nature(2) can serve as the basis for any social critique which would lead to an improvement in human living conditions.

In contrast, I have brought forth an Aristotelian notion of nature derived primarily from Aristotle's own work and the subsequent tradition. For consistency, I have deemed this "Nature(3)". Nature(3) neither divides the natural and non-natural along the lines of human versus non-human nor physical versus non-physical, but rather between what is substantial and what is accidental. When one's notion of nature is formed along these lines the problems which Vogel brings up against the very idea of a notion of nature are dissolved.

Firstly, the qualms one may have about Nature(1) leading to a paralysis of environmental conservation are put to rest once one realizes that Nature(3) is not so concerned with human interference as to deem every human action inherently unnatural. To feed an animal or to water a plant is rather an aid to the nature of that particular thing rather than a hindrance. There is nothing privileged about the state

[191] Vogel, *Thinking Like a Mall*, 93.
[192] Qtd. in Vogel, *Thinking Like a Mall*, 6.

the animal or plant would have been in without human beings that excludes other states as being equally or even more natural. Thus no contradiction arises per se in humans choosing to put effort into preserving some particular forest or aquatic habitat.

Furthermore, as Nature(3) only applies to those motions which given things are disposed towards, that is those motions which they exhibit spontaneously, it does not follow that absolutely everything in the universe is natural. It may be the case that nothing is entirely apart from some natural object (since ultimately natural objects provide some level of a foundation for composition) but it may be the case that multiple natural objects conglomerate in a non-natural way, e.g., a heap of stones or a tangle of vines. In this category, one may place also the more obvious examples of artifacts (computers, cars, houses etc). This is not, however, because said artifacts are composed by human beings, but rather because they lack the integration of parts that occurs in true natural substances. Nature(3) will readily grant that water produced in a lab is natural, but would not grant the status of nature to a beaver's dam, a heap of stones, or a bookshelf for the same reasons. The water, regardless of its human origin, exhibits the characteristic unity of a natural substance while the other things do not.

If Nature(3) can avoid the objections which Vogel levels against Nature(1) and Nature(2), it remains to be seen if it escapes a charge of being ideology. As Vogel sets out the conditions for being ideology, the first is that the ideological view be false. In this respect, it is at least plausible that Nature(3) not meet this criterion, because as I have argued it is a view not susceptible to the criticisms of other concepts of nature, and it is also not caught in the brief asides Vogel makes elsewhere in his book to

Aristotle. While Nature(3) is an expansion upon the theories of pre-modern ideas about nature as those held by the ancient Greeks and the medievals, it does not follow that that automatically disqualifies it from contemporary discourse. Whereas something like "vitalism" is condemned by contemporary science, this idea has only been associated with Aristotle as a matter of misconception.

Beyond the issue of whether or not Nature(3) is plausible, it would still not be ideological, even if it was false. This is on two accounts. Nature(3) does negate the *status quo*. For much the same reasons that Nature(3) cannot be identified with Nature(1), Nature(3) also does not lead to the same ideological problems that Nature(1) does. Since Nature(3) does not exclude human beings from consideration of the natural, it also does not exclude human environments from considerations of environmental conservation.

Furthermore, as the normative consequences of Nature(3) are derived from privileging the natural motions and self-fulfillment of substances (including the living human substance), there is room for the consideration of true human interests. As it is an essential feature of an ideological view that it be not only deeply entrenched in society but also that it be contrary to the interests of those deceived by it. Whereas, Nature(1) creates a hyper-focus on the interests of a mostly fictional pristine nature rather than the interests of human beings, Nature(3) invites people to consider the *objective* conditions of their own flourishing.

Furthermore, it is even possible to speak of concerns for the goods of other non-human entities conditions as compatible with a general interest in human flourishing. Nature(3) does not lead to the postlapsarian abandonment of environments in which humans live which Callicott feared, but rather allows for

consideration of multiple kinds of interests. It is true, I have only argued for a presumptive weight to be granted to the goods of other beings, at least in so far as it comes to human decision making. Since human beings are the ones making human decisions they must make these decisions in light of true human interests (which relate to true human flourishing). Therefore, where human needs and the interests of something else conflict, human interests must be given priority, but this does not mean the interests of other things are irrelevant. The interests of non-human entities provide a non-arbitrary good which demands respect at least in so far as it ought not to be overridden without *some* justification. The overriding cause must be at least equal to the good which is cancelled.

While this analysis does not exclude the goods of non-living substances, it applies primarily and most especially to living beings. A living organism exhibits certain forms of motion and causation that allow one to say it is self-actualizing its own perfection in a mode unique to living beings. Vogel denies this and attempts a reductio ad absurdum wherein a mall is taken to be just as much an agent of its own good as any living being.

To this end, Vogel defends an account of intrinsic teleology. Intrinsic teleology is itself very Aristotelian, but Aristotle did not believe that artifacts had the kind of teleology which Vogel wishes to attribute to the mall. Mistakenly, Vogel attributes this distinction to “vitalism” which as already mentioned is nothing but a strawperson.

Aristotle’s distinction between the teleology of living organisms and technology is a consequence of the aforementioned distinction between those configurations which occur on account of forces outside of a thing and the

substantive unity derived from a thing's own inner principles. Vogel does not notice this difference and in consequence, overestimates the thoroughness of his own counter-examples. In the end, Vogel's *reductio* in which he suggests a mall has as much a good of its own as a living organism fails on two accounts.

Firstly, even Vogel is not able to account for a good which is intrinsic to the mall. Instead, he defines the good of the malls in a way analyzable as "the good of the mall is to produce goods for some group of people". This is very distinct from the good of say a fawn to grow into a deer, since it is the good of self-perfection which is being realized.

Secondly, Vogel's account fails to consider the qualitative difference in the forms of causality manifested by inanimate and animate things. In the former cause, actions are always extrinsic. An inanimate agent is one that acts in a *transeunt* manner. That is it serves as a cause when it is affecting other things, and does not act upon itself for its own perfection. This is in contrast to animate things which in some of their motions exhibit immanent causality, wherein they act upon themselves to obtain their self-perfection.

When these distinctions are present, Vogel's mall *reductio* does not hold. Since the mall is not a single unitary substance, it must be understood as a configuration of a variety of underlying substances. However, since each of those substances is acting on other substances to produce the kinds of complex events (e.g. revenue generation) which Vogel links to the mall's good, it follows that the good in question is the by-product of rather complicated chains of transeunt causality. Since transeunt causality is qualitatively different from immanent causality, it follows that no amount of transeunt causality, no matter how complex, can ever amount to

immanent causality. Consequently, the mall does not exhibit the essential features of an animate being.

It does not appear then that Vogel has done enough to establish the thesis that artifacts have the internal teleology Vogel suggests they have. Even though life is not a prerequisite for an internal teleology, Vogel's suggestion that a mall had internal teleology would not be saved by an appeal to the type of intrinsic teleology found in inanimate beings. For just as in the case of animate beings, inanimate beings only derive an internal teleology from *what* they are, which is to say their singular substantial form. The mall as a complex configuration of distinct substances cannot exhibit the intrinsic teleology of either an animate or inanimate substance.

Thus, while Vogel does some important work in clearing the grounds for a new conception of nature, he does not adequately rule out the possibility of a coherent Aristotelian account of nature rising to take the place of the problematic conceptions. While one can agree with Vogel that Nature(1) and Nature(2) are both less than useful for contemporary environmental discourse, his criticisms of these notions should not be taken as an end to the very concept of nature but as an invitation towards a renewed understanding. Nature(3) need not be accepted on blind faith, nor seen as the end of the discussion, but as of *Thinking Like a Mall* it seems one of the plausible alternatives left to Vogel's radical constructivism.

BIBLIOGRAPHY

Aquinas, Thomas. *Commentary on Aristotle's Metaphysics*. Translated by John P. Rowan. Notre Dame, IN: Dumb Ox Books, 1995

Aquinas, Thomas. *Commentary on Aristotle's Physics*. Translated by Richard J Blackwell, Richard J Spath, and W E Thirlkel. 2nd ed. Notre Dame, IN: Dumb Ox, 1995.

Aquinas, Thomas. *Selected Writings of St Thomas Aquinas*. Translated by Robert P Goodwin. New York: MacMillan/Library of Liberal Arts, 1965.

Aquinas, Thomas. *Summa Theologiae*. Translated by Fathers of the English Dominican Province Knight. 2nd ed., 1920. http://www.newadvent.org/summa/.

Aristotle. *The Basic Works of Aristotle* ed. Richard McKeon (New York, Random House, 2001)

Cartwright, Nancy. *The Dappled World: A Study of the Boundaries of Science*. Cambridge UP, 1999

Cartwright, Nancy, and John Pemberton. "Aristotelian Powers: Without Them, What Would Modern Science Do?" November 2011. http://personal.lse.ac.uk/PEMBERTO/AP v10.0.pdf.

Feser, Edward. *Aristotle's Revenge: the Metaphysical Foundations of Physical and Biological Science*. Neunkirchen-Seelscheid, Editiones Scholasticae, 2019

Feser, Edward. "Between Aristotle and William Paley: Aquinas's Fifth Way." *Nova Et Vetera* 11, no. 3 (2013): 707–49.Feser, Edward. "Between Aristotle and William Paley: Aquinas's Fifth Way." *Nova Et Vetera* 11, no. 3 (2013): 707–49.

Foot, Philippa. *Natural Goodness*. Oxford, Oxford UP, 2001.

Gilson, Étienne. *From Aristotle to Darwin and Back Again: a Journey in Final Causality, Species, and Evolution*. Translated by John Lyon. San Francisco: Ignatius Press, 2009.

Guha, Ramaehandra. "Radical American Environmentalism and Wilderness Preservation: A Third World Critique", *Environmental Ethics* 11 (Spring 1989), 75 DOI: 10.5840/enviroethics198911123

Marx, Karl. *Economic and Philosophic Manuscripts of 1844*. Edited by Matthew Carmody. Translated by Martin Milligan and Andy Blunden. Progress Publishers, 1932. www.marxists.org/archive/marx/works/download/pdf/Economic-Philosophic-Manuscripts-1844.pdf.

Oderberg, David S. *Real Essentialism*. New York: Routledge, Taylor & Francis Group, 2009.

Paley, William. *Natural Theology; or Evidences of the Existence and Attributes of the Deity. Collected from the Appearances of Nature*. Edited by Van Wyhe John. 12th ed. London: Faulder, 1809. http://darwin-online.org.uk/.

Stump, Eleanor. "Substance and Artifact in Aquinas's Metaphysics" in *Knowledge and Reality: Essays in Honor of Alvin Plantinga*. Edited by Thomas M Crisp, Matthew Davidson and David Vander Laan. Dordrecht: Springer, 2006, 64.

Vogel, Steven. *Thinking Like a Mall*. Cambridge MA, MIT Press, 2015.

Weisheipl, James A. *Nature and Motion in the Middle Ages*. Edited by William E Carroll. Vol. 11. Washington, DC: Catholic University of America Press, 1985.

VITA AUCTORIS

Mitchell Witteveen was born in 1995 in Mississauga, Ontario. He graduated from Sir Winston Churchill Secondary School in St. Catharines, Ontario in 2013. From there he went to the University of Windsor where he graduated with a Bachelor of Arts (honours) with distinction in Classical Civilizations and Philosophy in 2017. In 2019, he will graduate with a Master of Arts in Philosophy.