

## **V. Outline of Chapters**

The dissertation is divided into several chapters. Chapter 2 argues that at least the organic parts of nature are intrinsically normative. Chapter 3 argues that since humans are natural organisms, human nature is normative. Chapter 4 argues that human virtues of rational practice and practical reasoning are the natural excellences of human nature. Chapter 5 argues that practical reasoning is, in fact, a natural process for organisms like us by which we aim to identify and pursue human flourishing and the means thereto, including food, companionship, virtue, and wisdom. Chapter 6 argues that this process is naturalistically respectable.

## Chapter 2

### Natural Norms: Organic Life Forms and Functions

Biology cannot, or at least in practice does not, eliminate functions and purposes.

---

—Mark Perlman, “The Modern Resurrection of Teleology in Biology”<sup>6</sup>.

#### I. Introduction

This chapter argues that there are such things as natural norms; at least *some* normativity is discoverable in natural life forms and functions themselves, and is not projected or invented in human evaluators. These natural formal and teleological facts are just as real as other familiar, scientific facts.

The major alternatives to naturalistic normative realism are normative anti-realism or reductionism. Although I shall here exclude non-naturalistic normative realism *ex hypothesi*, both normative non-naturalism and normative anti-realism are motivated by *the is-ought gap*. The is-ought gap begins with the belief that nature consists only of descriptive facts.<sup>1</sup> It follows that normative facts must either be real (but non-natural) or else not

---

1. The a picture of nature as a manifold of purely descriptive and non-normative

real at all. If putative natural norms are not real, anti-realists argue they are either reducible to non-normative facts or else simply projected onto nature by humans – be they scientists or philosophers or regular folk. The controversy over normativity is an old one and is not likely to be settled here. My goal, instead, is to present a plausible case that is both intelligible to normative anti-realists and normative non-naturalists and that is persuasive to the undecided.

There are three sections in this chapter that build to my conclusion that there are real, natural, irreducible norms. The first section distinguishes the two kinds of is-ought gap that philosophers have taken to render ethical naturalism impossible. It explains how some notion of natural normativity makes ethical naturalism at least possible. The second section begins with a summary of Philippa Foot and Michael Thomspon's case for natural norms of two types: formal and functional norms. This section also includes a novel case for what I call "organic normativity", on the basis of generic propositions, that organisms have a real life form and a natural teleological process. The third section considers and rebuts anti-realist or reductionist interpretations of these natural phenomena. Admittedly, these phenomena can be acknowledged by both the realist and anti-realist. The anti-realist would want to offer a roundabout explanation of them, while the realist accepts the straightforward explanation.

The upshot of these considerations is this: if there are some natural norms governing organisms, then there might be natural *human* norms governing humans. The neo-Aristotelian might be able to explain ethical norms as extensions of, or tokens of, natural facts, entities, properties, and laws is what McDowell calls "bald nature". A better term would be "Laplacian nature," since the notion that the cosmos is coldly factual, bald of values, and disenchanted from any supernatural esoterica, aligns more closely with Pierre-Simon Laplace's mathematical picture of nature. Laplace pictured nature as a set of cold, abstract, and necessary relations. Realism about natural normativity is incompatible with the Laplacian picture. But his picture is, I would dare to say, unscientific. At the very least, it is not *the only* scientific picture. Regardless, Laplacian nature emphatically does not include natural norms.

norms, which are both binding on human beings as practical rational animals and not merely invented by human individuals or human cultures. These norms would be natural without being crassly biological; they would be both biological and practical. Or so I shall argue.

## II. The Is-Ought Gap Challenge

Rosalind Hursthouse says that ethical evaluations of humans and non-ethical evaluations of plants and animals “both depend upon our identifying what is characteristic of the species in question.”<sup>2</sup> In other words, the normative evaluation depends on the descriptive facts of the species: its activities, its life form, and so on. Evaluating things on the basis of what they are is central to the kind of neo-Aristotelian naturalism.

For example, consider a few pretty uncontroversial normative propositions: ‘*you ought to be wise*’ or ‘*It is good to be tolerant of people with different views*’ or ‘*It is bad to bring a gun to school and start shooting people*’. Supposing these are true, *why* are they true? The non-naturalist has a good explanation (they pick out fundamental, non-natural, moral facts) and the naturalist anti-realist also has a good explanation (express the speaker’s individual and cultural norms). The ethical naturalist’s explanation is a bit trickier. He or she must show how such statements relate to the *natural* facts. The most straightforward path would be to argue that “you ought to be wise” is a normative truth derivable from some other fact that is natural. In general, ethical naturalism states that some ethical facts are grounded in natural facts or are identifiable with natural facts.

Insofar as neo-Aristotelians like Hursthouse and Foot proffer a form of ethical naturalism, a challenge must be stated. Philosophers have challenged to the very possibility of such ethical naturalism in this form:

---

2. Rosalind Hursthouse, *On Virtue Ethics* (Oxford University Press, 1998), chap. 10, abstract.

1. If ethical naturalism is possibly true, then descriptive statements can serve as premises in arguments with normative conclusions.
2. But descriptive statements cannot serve as premises in arguments with normative conclusions.
3. Therefore, ethical naturalism is not possibly true.

If this challenge cannot be met, then ethical naturalism is futile. And it is difficult to imagine how the challenge could be met. Consider, for example, a candidate natural fact, such as the apparent goodness of pleasure. Perhaps, if pleasure *is* universally pursued, pleasure *ought* to be pursued. Hume is often credited with (or blamed for) insisting that an ‘ought’ can never be derived from an ‘is.’<sup>3</sup> He says:

In every system of morality, which I have hitherto met with, I have always remarked, that the author proceeds for some time in the ordinary ways of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when all of a sudden I am surprised to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not. This change is imperceptible; but is however, of the last consequence.<sup>4</sup>

The point is that when it comes to human evaluations, ‘is’ statements may be interesting but they seem useless for practical purposes. A few simple examples: Just because “most men wear tuxedos to the Oscars” does not necessitate that, undecided men automatically know they ought to wear a tux to the Oscars – (not without a prior normative premise that “One ought to do whatever most others do.”) Just because all cultures have farmers or hunters does not mean that any one person ought to become a farmer or hunt. Likewise, even if all human beings and cultures exemplify a range of common facts or express range of common evaluative attitudes, the result would not necessarily be a normative ethics as much

---

3. Arnhart and MacIntyre argue that Hume himself allows for a kind of inference from “is” to “ought” in other places. (Cf. Larry Arnhart, “The New Darwinian Naturalism in Political Theory,” *American Political Science Review* 89, no. 02 (1995): 389–400; Alasdair MacIntyre, “Hume on Is and Ought,” *The Philosophical Review*, 1959, 451–68) I think Moore is the one to blame (or to give the credit).

4. *A Treatise of Human Nature* book III, part I, section I.

as a “descriptive ethics.” (Descriptive ethics builds on and adds to evolutionary biology, psychology, sociology, human ethology, and anthropology by empirically studying what such-and-such a person or culture deems worthwhile or worthless and compares it to other persons or cultures or to other generations of the same culture.) The results of descriptive ethics might be a detailed and scientific description of human behaviors in their consistency and variation. It would not be a plan for how to live one’s life. At least, it would not be a plan *without supplementary interpretation from normative ethics* prescribing that one should comply with the norms one’s own culture, or prescribing that one should criticize the norms of one’s culture, or prescribing some other response.

We should not overestimate the cultural variance. Even though habits and attitudes toward drinking alcohol vary dramatically from culture to culture and generation to generation, there seems to be a cross-cultural disapprobation for continual drunkenness, in even cultures (like the Bolivian Camba) that drink regularly and drink heavily. Thus, anthropologist Dwight Heath says: “It is important to realize that drinking problems are virtually unknown in most of the world’s cultures, including many where drinking is commonplace and occasional drunkenness is accepted.”<sup>5</sup> Insights about universal norms might be quite interesting. Nevertheless, their practical significance is not given; they can be put to use in more than one way.

So the first premise of the is-ought challenge sets out a criterion for ethical naturalism: the normative propositions that features as conclusions of ethical arguments must be derived from descriptive premises. The second premise seems to render hopeless the thought that we can evaluate things on the basis of what they are. Is neo-Aristotelian ethical naturalism a non-starter?

The is-ought gap is fatal to *some* forms of ethical naturalism. Namely, those that

---

5. Dwight B Heath, “Sociocultural Variants in Alcoholism,” *Encyclopedic Handbook of Alcoholism*, 1982, 426–40.

assume the bald picture of nature as purely descriptive. There is, however a second path.

The is-ought gap can be undercut in a different way by neo-Aristotelians. We can deny the assumption that nature is purely descriptive. (I shall consider the assumption in more detail in a later chapter.) For example, it might be that some normative propositions such as “you ought to be wise” are brutally normative *natural* facts. This might sound rather odd. The point is that to understand how one might undercut the is-ought gap: start with basic, scientifically respectable natural norms. From these, derive further ethical norms. If these were possible, the result would be both ethical and naturalistic.

In order to explicate this option, begin with Philippa Foot’s notion of “natural normativity”. Some features of nature are properties, she says, are instances of ‘natural goodness’ or ‘natural defect.’ About such qualities, she says:

...we might equally have been thinking in terms of, say, strength and weakness or health and disease, or again about an individual plant or animal being or not being as it should be, or ought to be, in this respect or that. Let us call the conceptual patterns found there, patterns of natural normativity.<sup>6</sup>

Natural normativity is an indeterminate concept. It might include a variety of different kinds of normativity that are not obviously moral normativity, such as the proper, the healthy, the advantageous, the adaptive, the mature, and so on. This indeterminacy is a strength rather than a weakness. When Foot uses the term ‘natural normativity’ she means that normativity exists wherever organic life is found. Wherever evaluative properties like health and disease appear, there are real instances of natural goodness and natural defect, then some evaluative properties are *primary qualities of nature* just like weight, color, size, relations of time and space, and so on.

There is another sense in which ‘natural normativity’ is used by neo-Aristotelians like John McDowell. The neo-Aristotelians are of two minds about which sense is a more

---

6. Philippa Foot, *Natural Goodness* (Oxford University Press, 2001), 38.

promising foundation for ethics. Where they agree, though, is in thinking that natural norms overcome or rather undercut the is-ought gap. Call this the **Bald Nature Challenge**:

1. If ethical naturalism is possibly true, then some natural facts are genuinely both normative and natural – there are natural norms.
2. But there are no facts that are genuinely both normative and natural – there are no natural norms.
3. Therefore, ethical naturalism is not possibly true.

This argument like the first one sets out a criterion that ethical naturalism must satisfy. Namely, ethical naturalism must offer an account of some natural norms that are both real and brutally natural, not derived from other (descriptive) facts. The second premise says that all norms are non-natural and all nature is non-normative. So it seems to be impossible to be an ethical naturalist.

Everything depends on whether or not nature consists of merely non-normative facts. I will grant that nature consists of merely *natural* facts. That nature consists of no non-natural facts is, of course, a tautology. I grant the tautology. I do not grant, without argument, that all such facts are descriptive and not normative; that would be to allow my opponent to beg the question. My opponent might likewise complain that if he or she allows me to stipulate that there *are* natural norms, this stipulation would beg the question in my favor. The only thing for it is for me to *argue* from agreed upon premises that there are such things as natural norms. Having done so, it is fair of me to request an argument to the contrary. If the critic merely insists on reaffirming that all nature is non-normative, that would be mere question-begging.

So our first task is to supply an adequate defense of the existence of natural norms. Even if such a notion can be defended philosophically and scientifically, we should remember that all that logically follows is that ethical naturalism is possibly true. What we need, beyond mere possibility, is to defend in general natural normativity and then to apply patterns of natural normativity and how these form binding ethical normative structures.



### III. The Case for Natural, Organic Norms

The burden of proof is on the neo-Aristotelian to furnish examples of natural norms that would undercut the is-ought gap. As it turns out, there are several plausible ones. The two candidates for natural normative facts I shall defend are life forms or natural kinds, and teleological facts or natural function. Although these two kinds of facts are related, it is helpful to distinguish between formal and teleological normativity, between morphology and physiology, between structures and their functions – between what things *are* and what they *do*.

Nature is full of kinds; sunflowers are not oxygen; stars are not organisms; lead is not gold; water is not soil; and so on. Kind concepts allow us to both distinguish x from y and to gather together all the x's. Zebras and horses are both Equidae; lead and gold are both elements; ice and the sea and steam are all water. Thinking in kind categories is intuitive and natural.<sup>7</sup> Thinking in categories is probably a constitutive feature of thought.

Nature is also full of end-directed activity. Each thing does its own thing: sunflowers grow toward the sun, wolves hunt deer and deer flee wolves; hearts pump blood and eyes see; the sun warms the planet; phytoplankton oxygenates the atmosphere. Such processes are non-intentional end-directed processes. Non-intentional processes are sometimes called 'teleonomic.'<sup>8</sup> Teleonomic phenomena do not have a *director* but they do have a *direction*.

Kinds and their ends can be conceptually distinguished but not very far. Forms and functions, structures and activities, are two aspects of one thing. Is the hip bone shape adaptive for a purpose or is the purpose conducive to the development of such-and-such shape?

---

7. Susan A Gelman and Lawrence A Hirschfeld, "How Biological Is Essentialism," *Folkbiology* 9 (1999): 403–46; Stefan Linquist et al., "Exploring the Folkbiological Conception of Human Nature," *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 366, no. 1563 (2011): 444–53.

8. Ernst Mayr, "The Idea of Teleology," *Journal of the History of Ideas* 53, no. 1 (1992): pp. 117–35.

It is better to allow that the structure and function of natural organisms and at least some of their parts are an inseparable whole. Indeed, Lewens summarizes the folk biological conception of a “kind” by mashing together the concept of a life form or “essence” with the concept of a function or “telos”: a kind is a “teleo-essence”, a thing with an end.

My initial hypothesis, which will be explicated further, is that formal facts (natural kinds and their natural properties) and teleological facts (natural functions) are both instances of natural norms. We have not yet said anything about human ethical norms, which is our ultimate aim. Human ethical norms, if they can be said to be natural, will turn out to be formal and teleological facts about our life form identifiable as instances of a broader pattern of natural normativity. But the argument must proceed in stages; the goal for now is simply to defend natural normativity.

What are we to make of kinds and their teleonomic behaviors? The explanations may be either realist, reductionist, or anti-realist. Realist explanations argue that kinds and their ends are what they seem to be: fundamental facts of nature. Reductionist or anti-realist explanations argue that kinds and their ends are not what they seem. The nihilist argues that kinds don’t exist, there is only one thing; ends don’t exist, there is only one mechanical kind of process. The reductionist argues that *some* kinds exist, but they do not correspond to our initial scientific categorization; and *some* end-directed teleonomic processes are real but it is reducible to non-end-directed processes. Before discussing these options in full, let’s explore the neo-Aristotelian treatment of natural normativity in more detail.

### **Foot’s Case for Natural Normativity**

Philippa Foot argues that human virtues are instances of a broader class of natural properties: ‘natural goodness.’<sup>9</sup> Foot is well aware that her offering is likely to offend the ears of

---

9. Foot, *Natural Goodness*; cf. Sanford S Levy, “Philippa Foot’s Theory of Natural Goodness,” in *Forum Philosophicum*, vol. 14, 1, 2009, 1–15.

some listeners. Her defense is the thought (drawn from Wittgenstein) that crude beginnings are often a necessary first step on the way to something refined. To earn an audience for her argument, her first chapter (which she call a “fresh start”) clears away some shaky assumptions inherited from Hume and Moore. Many modern ethicists treat human valuations as unprecedented, almost miraculous, new appearance in the cosmos. Instead, we should expand the scope of our inquiry to examine the status of humans as natural entities.

Moore assumed that, in philosophical ethics, ‘good’ is the ultimate predicate under review. This is one of the “shaky assumptions” Foot wishes to clear. She argues that statements like “pleasure is good” are not good paradigms for philosophical reflection. Evaluation of human creatures and evaluation of plants and animals follow *the same logical pattern*. In such evaluations, good is good *for*. Contrast ‘good’ with other predicates like ‘red’ or ‘beautiful.’ In a statement such as ‘the house is beautiful’, the predicate ‘beautiful’ doesn’t need a complement. The house is *beautiful* – full stop. But ‘good’ has a different logical function. ‘Good’ is more like ‘useful.’ The phrase ‘The house is useful’ *does* need a complement. When we say ‘the house is useful’ we must specify what it is useful for – *for a mom of six, or useful for an artist*, or what have you. Likewise, ‘good’ always means *good for someone or for something*. ‘Good’ always needs a complement. If this crude beginning is anywhere near to correct, we can distance ourselves from Moore’s starting point and build on another starting point: the life-form of human beings.

In this Foot agrees with Thompson’s groundbreaking work.<sup>10</sup> Thompson argues that the concept of “life” is not, as it may seem to some, a property of some beings where *being* is the fundamental concept; rather “life” is a fundamental concept.<sup>11</sup> He says, “Vital description of individual organisms is itself the primitive expression of a conception of

---

10. Michael Thompson, “The Representation of Life,” in *Virtues and Reasons*, ed. Lawrence Hursthouse Rosalind and Warren Quinn (Oxford: Clarendon Press, 1995), 247–96. Thompson works out the arguments of this article more fully in his 2008 monograph.

11. Thompson, *Life and Action*, chapter 1.

things in terms of ‘life-form’ or ‘species’, and if we want to understand these categories in philosophy we must bring them back to that form of description.”<sup>12</sup> When we observe and examine living things we rightly employ some shared categories and our conclusions rightly share a logical structure.

What is that common structure? Thompson reviews and refutes a variety of crude definitions of life such as that anything that is alive reproduces, grows, metabolizes, etc. Such properties may be co-extensive with the property of being alive, but they are wildly insufficient for the task of *defining* life because such properties depend on a prior understanding of life. Thompson’s alternative is that life is a fundamental concept. We recognize things as alive before we learn about their shared traits; indeed, we can only ascribe a set of traits *living things* share if we are already in possession (absent that set of traits) of a concept of living things under which we gather a sample.

On these considerations, it is most reasonable to hypothesize that life is a fundamental concept, along with ‘being’, ‘quantity’ and others. Once we accept that intuitive conclusion, then the argument gets interesting. For every individual living being is a member of a species or life-form. And living beings are not just *acted upon*; they *act*. Species have characteristic actions. Thompson says “action in this sense is a specific form of *life process*.”<sup>13</sup> Since each particular species engages in its own characteristic activities: beavers build dams, and robins build nests. There are, then, life-form specific *successes* and *failures* to act. Each life-form is subject to its own normative appraisals: something would be wrong with beaver that built a tiny nest or a robin that tried to build a massive dam.

By introducing the term ‘natural normativity’, Foot is insisting on a point that is both interesting and controversial. If evaluative properties like health and disease are really instances of natural goodness and natural defect, then some evaluative properties are

---

12. Ibid., 57.

13. Ibid., 27.

*primary qualities of nature.*

McDowell and others will object to this characterization of natural normativity. They think it “queer” that nature should exhibit such properties, and they find it easier to judge that human beings are the only evaluators. It might be that terms like ‘good’ and ‘bad’ are sui generis evaluative terms, and that evaluative properties are “in people’s heads” as it were. But Foot’s analysis of language about plants and animals indicates that such a conclusion is not the natural presumption.

A much more natural starting point is that to assume that such terms are used relative to natural kinds – and especially life-forms and their activities or functions. The natural goodness under discussion is not just a human ascription but seems to be something humans *recognize* in all living things. Certainly, some properties are human ascriptions only. Other properties are in the world and only show up in human ascriptions insofar as we accurately reflect the facts. Foot’s point is that *some* instances of natural goodness seem much more plausibly instances of this latter kind. Despite For, there is “no change in the meaning of ‘good’ between the word as it appears in ‘good roots’ and as it appears in ‘good dispositions of the human will.’”<sup>14</sup> The identification of what is *good for* a non-human organism is sometimes identical to the identification of what is *good for* a human being. Foot’s theory explains this in the simplest way. Foot concludes that this point holds about “goodness and badness, and therefore about evaluation in its most general form.”

By contrast, McDowell and those who would draw a sharp contrast between “moral” and “non-moral” uses of the term must give long and sophisticated explanations for why it makes sense to describe a healthy plant and a moral person both as “doing well.” The plant is not just doing well *for my garden* but doing well as itself. It is doing what such plants are supposed to live. The human being is not just living well *for a westerner* or *for a Californian* but doing well as what human beings are supposed to live. Rosalind Hursthouse

---

14. Foot, *Natural Goodness*, 39.

articulates Foot's insight in this way:

The starting point is an idea that she has never lost sight of, and which figures in her early attack on Hare. It is the idea that 'good', like 'small', is an attributive adjective. What that entails is that, although you can evaluate and choose things according to almost any criteria you like, you must select the noun or noun phrase you use to describe the thing you are calling good advisedly, for it determines the criteria of goodness that are appropriate. Hare can call a cactus a good one on the grounds that it is diseased and dying, and choose it for that reason, but what he must not do is describe it as a good cactus, for a cactus is a living thing. He can describe it as a good 'decorative object for my windowsill' or 'present to give my detestable mother in law', but not as a good cactus.<sup>15</sup>

There are two qualifications I should make about the scope of my thesis here. First, the 'good' in question here is a good-of-a-kind, the way that typical robins are blue-of-a-kind. The good-of-a-kind analysis works for all organisms and all biological species, which are most plausibly understood as natural kinds, rather than social groups, which are not. Folk ontology does tend to group nationalities and ethnicities as natural kinds along with leopards and bears; but my analysis trades on the concepts used in biology. Secondly, it would be a natural leap to assume that the good-for-us is an instance of the good simpliciter, but this is a different question altogether. Blackman argues that there *is* no good other than goods of kinds.<sup>16</sup> Others would argue that the good-of-a-kind is an instance of the good simpliciter. I wish to remain agnostic on this issue. While my thesis identifies what is good for us as an instance of something *truly good*, it remains agnostic about the broader metaphysical or cosmic significance of the fact. These are both interesting and important questions but they would take us too far afield of the main point.

15. Hursthouse, *On Virtue Ethics*, 195.

16. Reid D. Blackman, "Meta-Ethical Realism with Good of a Kind," *European Journal of Philosophy* 23, no. 2 (2015): 273–92. Blackman also disputes the kind of biological foundation of ethics I am trying to defend here. Nevertheless, his article is a good introduction into the sort of "kindism" being discussed.

## A Novel Case

A defense of natural normativity would render ethical naturalism possible. A defense of natural normativity would have to furnish instances of natural norms from widely agreed upon premises from common sense and science. My case for natural normativity depends on two notions: the first is a minimal scientific realism.<sup>17</sup> The second basic notion is a little-utilized feature of language called “generic propositions,” which I shall explain below. The case in brief is this:

1. If some generic statements describing natural entities are true, then some facts are both genuinely natural and normative – there are “natural norms.”
2. Some generic statements describing natural entities are true.
3. Therefore, some facts are genuinely both natural and normative – there are “natural norms.”

---

17. While scientific realism is not uncontroversial per se, my intended audience are committed scientific realists or sympathetic to realism. By minimal scientific realism, I mean something quite general, such as the belief that most sciences, when successful, describe the world. Thus, Anjan Chakravartty: “Scientific realism is a positive epistemic attitude towards the content of our best theories and models, recommending belief in both observable and unobservable aspects of the world described by the sciences. This epistemic attitude has important metaphysical and semantic dimensions, and these various commitments are contested by a number of rival epistemologies of science, known collectively as forms of scientific antirealism... Metaphysically, realism is committed to the mind-independent existence of the world investigated by the sciences. This idea is best clarified in contrast with positions that deny it. For instance, it is denied by any position that falls under the traditional heading of ‘idealism’... Semantically, realism is committed to a literal interpretation of scientific claims about the world. In common parlance, realists take theoretical statements at “face value”. According to realism, claims about scientific entities, processes, properties, and relations, whether they be observable or unobservable, should be construed literally as having truth values, whether true or false... Epistemologically, realism is committed to the idea that theoretical claims (interpreted literally as describing a mind-independent reality) constitute knowledge of the world.” (Cf. Anjan Chakravartty, “Scientific Realism,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, 2015.) McDowell, as a sort of idealist, will deny this minimal scientific realism in favor of something a bit more idealist, as we shall see.

## The Special Logic of Generics

Michael Thompson is one of the first to work out “the special logic of judgments we make about living things, and then to indicate its application to ethics.” Such judgments have a variety of names in the recent neo-Aristotelian literature: the most common are “Aristotelian categoricals”<sup>18</sup> and “natural-historical judgements,”<sup>19</sup>; less common are “norms,”<sup>20</sup> or “bare plurals.”<sup>21</sup> I prefer the shorter and less adorned term ‘*generic*.’<sup>22</sup>

My postulate is this: **some generics about human beings are true.** If this is true then, I shall suggest, we have good hope of cutting up nature at the joints. When combined with a moderate scientific realism, generic truths from sciences such as biology, physics, and anthropology (and perhaps others) support a modest natural normativity which will be further articulated (in a later chapter) to indicate which traits are virtues or vices for human beings.

---

18. Foot, *Natural Goodness*.

19. Thompson, “The Representation of Life”; Thompson, *Life and Action*.

20. G. E. M. Anscombe, “Modern Moral Philosophy,” *Philosophy* 33, no. 124 (1958): 1–19

21. Greg N Carlson, “A Unified Analysis of the English Bare Plural,” *Linguistics and Philosophy* 1, no. 3 (1977): 413–57. Carlson’s essay is an early attempt to account for a variety of linguistic forms under one concept of reference to kinds

22. Cf. Francis Jeffry Pelletier and Greg N Carlson, *The Generic Book* (University of Chicago Press, 1995); Sarah-Jane Leslie, “Generics: Cognition and Acquisition,” *Philosophical Review* 117, no. 1 (2008): 1–47; Andrew M Bailey, “Animalism,” *Philosophy Compass* 10, no. 12 (2015): 867–83 for a discussion of a specific generic: “we are animals” in metaphysics and philosophical anthropology; Andrei Cimpian, Amanda C Brandone, and Susan A Gelman, “Generic Statements Require Little Evidence for Acceptance but Have Powerful Implications,” *Cognitive Science* 34, no. 8 (2010): 1452–82 for an experiment in cognitive psychology that seeks to quantify the prevalence levels at which subjects tend to agree to generics, i.e., how many birds have to lay eggs before we agree to the assertion that “birds lay eggs”? Manfred Krifka, “Bare NPs: Kind-Referring, Indefinites, Both, or Neither?” in *Semantics and Linguistic Theory*, vol. 13, 2003, 180–203; Ariel Cohen, “On the Generic Use of Indefinite Singulars,” *Journal of Semantics* 18, no. 3 (2001): 183–209.



## Generics are neither universal nor particular

Now, what are generics? “A fine question, but a difficult one,” Andrew Bailey says. His recent paper provides a helpful (and humorous) introduction to the topic of generic statements:

Start with this sentence: ‘Buddhists are way into meditation’. This first sentence is, let us suppose, true. So far so good. But is it equivalent to ‘for every x, if x is a Buddhist, x is way into meditation’? It does not appear to be. For the second sentence might be false (some Buddhists might not be way into meditation) even if the first sentence is, as we have supposed, true. The first sentence could be true, somehow, even if not all Buddhists are way into meditation (similarly, ‘ducks lay eggs’ may be true even if not all ducks lay eggs, ‘mosquitos carry dengue fever’ may be true even if only a very few mosquitos carry that virus, and so on). We are now positioned to observe one curious property of generics: they admit of exceptions.<sup>23</sup>

Thus, generics are statements of the form “S is F” or “S has or does F” where S is not an individual but a class or natural kind. The logical form of “all S’s  $\phi$ ” does not predicate  $\phi$ -ing to all members of the category S without exception, nor does it simply assert that some “S’s  $\phi$ ”, which is true but uninteresting. For example, consider the true statement, “wolves hunt in packs” as opposed to the clearly false statements “every particular wolf that has ever existed has hunted or will hunt in a pack.” Rabid wolves hunt alone, and injured, or very old wolves don’t hunt at all. Furthermore, it is true but trivial that *a large number of wolves hunt in packs*. The generic proposition is a unique logical expression, neither universal nor particular.

A generic is interesting because it is, or we treat it as, a truth about forms, or species. The subject of the statement is not all S’s nor merely some S’s, but the “infima species.”<sup>24</sup> In this way, generics pick out what we might call formal facts, facts about the life form

23. Bailey, “Animalism,” 869.

24. Christopher Toner, “Sorts of Naturalism: Requirements for a Successful Theory,” *Metaphilosophy* 39, no. 2 (2008): 222. “Infima species” is the narrowest cut in a genus-species tree, or the most determinate determinable.

in question. Thus Sarah Leslie: “It is widely accepted that [definite] generics are singular statements which predicate properties directly of kinds. For example, “tigers are extinct” predicates the property of being extinct directly of the kind *Panthera tigris*, and would be true just in case *Panthera tigris* had the property of being extinct.”<sup>25</sup>

Generics are not merely statistical regularities. The members of extinct species do not exhibit any properties at all, yet it is still true in some sense that members of the species exhibit properties.<sup>26</sup> Likewise, all the living members of a species might fail to exemplify its formal attributes. Consider the fact that “California condors can fly for hours without resting.”<sup>27</sup> In 1987 there were only 27 known condors alive. One could easily imagine a scenario in which every living member of such an endangered species were too injured, old, or diseased to exemplify this attribute. It would be strictly false of the individual condors that any of them could fly for hours; nevertheless the generic would still be true that “condors” (as a class) *can* fly for hours.

McDowell thinks that such exceptions are a “logical weakness” in deriving ethical conclusions from generics about human beings. He cites the example from Anscombe (and Aristotle) that “humans have 32 teeth”, saying “there is a truth we can state in those terms, but from that truth, together with the fact that I am a human being, it does not follow that I have 32 teeth. (In fact it is false).”<sup>28</sup> McDowell accepts that generics are generally true. His objection to their application seems to be that the relation between a normative expectation and reality fails to reach deductive certainty. If this is his objection, it rather misses the point. Aristotelian-categoricals are not half-hearted universal judgments; they are not universes

---

25. Leslie, “Generics,” sec. 1.

26. We might say that at time  $t_1$  the species exhibited properties A and B, while at time  $t_2$  the species exhibits no properties.

27. Jeffrey P. Cohn, “Saving the California Condor,” *BioScience* 49, no. 11 (1999): 864–68.

28. John McDowell, “Two Sorts of Naturalism,” in *Mind, Value, and Reality* (Cambridge: Harvard University Press, 1998), 171–2.

with widely-acknowledge counterexamples. They are judgments of a logically different kind. Far from being a logical weakness, generics are what enable us to capture truths about natural kinds that help explain statistical variation and inconsistency.

Prasada says that, “Much of our conceptual knowledge consists of generic knowledge — knowledge about kinds of things and their properties.”<sup>29</sup> We can approach generics through a “formal, quantificational” semantics or through “principled connections”. Principled connections support formal explanations, normative expectations, and a statistical expectation of prevalence. In other words, we explain that the dog has four legs *because* it is a dog (formal explanation); we expect that Fido should have four legs *unless something is wrong* (normative expectations); and we expect that if we counted up a population of dogs, *most* dogs would in fact turn out to have four legs (statistical expectation).

Generic truths, once discovered, set a normative expectation by which we evaluate individual members on how well or badly they exemplify their life form.<sup>30</sup> The normative expectation cannot, it seems, be reduced to statistical correlations. Rather, statistical correlations can be a sign of (or can be an illusion of) a principled connection.

There is much to be learned about the linguistic features of generics, but none of the unexplored frontiers render generics useless for applications in neo-Aristotelian ethics. A few examples of what needs to be learned include the correlation between statistical prevalence and normative identity; many generic truths describe what is statistically prevalent but not all. What is the difference? Is one reducible to the other? Furthermore, Leslie distinguishes between indefinite generics such as “tigers are striped” which admits of the specification “that tiger over there is striped” and definite generics such as “domestic cats are common” which does not admit of specification, “that domestic cat is common”. What is the difference here? Finally, indefinite generics are trickier: “Ducks lay eggs” is a true

---

29. Sandeep Prasada et al., “Conceptual Distinctions Amongst Generics,” *Cognition* 126, no. 3 (2013): 405.

30. *Ibid.*, 3.

generic while “ducks are female” is false one, even though only female ducks lay eggs. And “mosquitoes carry the West Nile virus” is true even though less than one percent of mosquitoes carry the virus while “books are paperbacks” is false even though more than eighty percent of books are paper backs.<sup>31</sup> How do we sort through these correlations between generic connection and statistical prevalence?

These unexplored frontiers represent fascinating puzzles but do not render generics unsuitable for use in normative and ethical arguments. Nor should the presence of outstanding questions lead one to believe generic propositions are confusing or confused. Rather, their normal acquisition and usage is a very familiar, and perhaps inevitable.

Generic truths are acquired via a normal scientific means of empirical observation, rational reflection, and discussion. To use a silly example, suppose that someone from a warm and landlocked country has never heard of penguins before. This person visits a zoo and sees penguins for the first time. He notices that these astonishing creatures are called ‘penguins’, and appear to be birds (for they have beaks, feathers, lay eggs, emit squawks, etc.). He reflects that most – if not all birds – have many of these macro features. Fascinated, he consults encyclopedias, biology or zoology textbooks, and consult zoologist friends. All these sources confirm the categorization. Although I am not aware of when the first penguin was studied by a modern naturalist, we can easily imagine that it was from observations and reflections such as these that penguins long ago earned an entry in the annals of scientific knowledge. The biological community gave them a scientific name (‘sphenisciformes’) and began to fill in gaps with a detailed description of their evolutionary history, characteristics, genetics, environments, diet, predators, and so on. The scientific conclusion, upon initial observation, bolstered by reflection, underwrites the initial hypothesis: penguins are indeed birds. This familiar scientific process may not be easy or free of dangers, but it is at least a *familiar scientific process*. Scientists are continually correcting

---

31. Leslie, “Generics.”

formerly established generics (the notion that all mammals give live birth was thrown into crisis by the platypus). Scientists also work to distinguish between the (statistically) normal and (statistically) abnormal traits of a species, and within abnormal traits distinguish good from defective traits.

This familiar process is certainly revisable. For example, an ethologist who discovers a wolf hunting alone may have a normative expectation that the wolf is not healthy. But she cannot know certainly in advance that this is so. She must test the hypothesis. A few reasonable interpretations are available: perhaps the lone wolf is unhealthy; perhaps the initial generic that ‘wolves hunt in packs’ was false; or perhaps this wolf is actually a new species of wolf. As it happens, in the case of wolves, no known species of wolf hunts alone so there is very strong reason to conclude that a lone wolf is rabid. But the point more generally is that generics are acquired and modified by a familiar, if complicated, process of scientific reasoning. Michael Thompson points out that: there is a “general and thoroughgoing reciprocal mutual interdependence of vital description of the individual and natural historical judgment about the form or kind.”<sup>32</sup> Put differently, Micah Lott says:

At each stage of an empirical investigation, our observations are mediated by our current understanding of the life form whose members we are observing. At the same time, our observations of those individual members will in turn improve our understanding of the life form itself, which then makes possible even more accurate and extensive future observations.<sup>33</sup>

Again, the fact that generic truths are revisable is not a weakness but a strength of the case I am building. It may be, for all we know, that penguins can fly (in the air), that some species of penguin can fly, or that all penguins are really just defective birds. But the most reasonable belief thus far is the generic truth that penguins don’t fly; that they are

---

32. Michael Thompson, “Apprehending Human Form,” *Royal Institute of Philosophy Supplement* 54 (2004): 52.

33. Micah Lott, “Moral Virtue as Knowledge of Human Form,” *Social Theory and Practice* 38, no. 3 (2012): 414.

excellent swimmers, not defective flyers; and that these truths hold of penguins *as a kind* – a biologist or zoologist who discovered the first flying penguin would become (justifiably) famous because we would all be (justifiably) surprised. The surprise would not originate merely from something out of the ordinary — new and extraordinary creatures, both living and extinct, are discovered every year. The surprise would originate from the upending of a firmly established scientific fact.

### **Generics are teleological**

The first kind of natural normativity I am defending is the mere idea of a life-form. Knowing what a thing is, knowing about its species or life-form, is to know something descriptive and something normative about any member of that species. Knowing what a thing is, furthermore, licenses a range of normative expectations. But we can make the case for natural normativity stronger. There is another, related kind of normativity in the natural teleological features of life-forms. Such natural teleology can also be captured in generic propositions.

To see this second kind of natural normativity, begin with the concept of a function. Eyes perform the function (in an organism) of seeing, hemlock trees perform the function (in an ecosystem) of shading rivers, and so on. Thompson, for example, cites the scientific observation that “flowers have blossoms of such-and-such type in order that such-and-such insects should be attracted and spread their pollen about.”<sup>34</sup>

While some philosophers of science have thought that teleological normativity could be explained in terms of function, I would suggest that the reverse is rather true: the structure of a function is teleological. There are many senses of the term ‘function’, but the kind of biological functions under review are teleological, or least teleonomic, in that it is an arrangement of parts toward a particular purpose or end.

---

34. Thompson, *Life and Action*, 293–94.

A functional process is not necessarily *willfully* undertaken. But it does have a beginning, an end (in time), and an end (telos). Clarifying that functions need not be intentional, we can understand the natural functions of organisms and organic systems as instances of natural teleology. James Barham explains the notion of natural teleology in this way:

By “teleology,” I have in mind such words and concepts as “purpose,” “end,” “goal,” “function,” “control,” and “regulation,” as well as the real-world biological phenomena to which these words and concepts refer. This means that the word “teleology” should always be construed here in its internal or “immanent” sense—purposiveness existing in living beings themselves—and never in its external or “transcendent” sense of an overarching cosmic principle.<sup>35</sup>

Ernst Mayr (following Colin Pittendrigh) calls a process “teleonomic” if it is not a process of intentional purposes.<sup>36</sup> He says, “I have therefore refrained from using anthropomorphic language, Particularly the terms of purpose and intention, when explaining teleonomic phenomena in animals and plants.”<sup>37</sup>

Mayr further distinguishes between teleological (purpose-driven end-directed processes), teleonomical (non-intentional end-directed processes in living things) and “teleomatic” (non-intentional processes in non-living things). A teleomatic process is an “automatic” process governed by natural law:

All objects of the physical world are endowed with the capacity to change their state, and these changes strictly obey natural laws. They are end-directed only in a passive, automatic way, regulated by external forces or conditions... All teleomatic processes come to an end when the potential is used up (as in the cooling of a heated piece of iron) or when the process is stopped by encountering an external impediment (as when a falling object hits the

---

35. James Barham, “Teleological Realism in Biology” (PhD thesis, University of Notre Dame; Web, 2011), 1.

36. Mayr, “The Idea of Teleology.” Cf. Colin S. Pittendrigh, “Adaptation, Natural Selection, and Behavior” in Anne Roe and George Gaylord Simpons (eds.), *Behavior and Evolution* (New Haven, 1958), 390-416.

37. Ibid., 123.

ground). The law of gravity and the second law of thermodynamics are among the natural laws which most frequently govern teleomatic processes.<sup>38</sup>

For my purposes, however, even teleonomic programs would count as instances of natural normativity insofar as the development of an organism at one time is incomplete but will be complete in future. As Waddington puts it, “the end state of the process is determined by its properties at the beginning.”<sup>39</sup> Normative, in my sense, is not the antonym of “descriptive”; normative is the antonym of descriptive *at present*. “The egg is not a chicken” is true at present. But “chickens start their life as eggs” is also generically true. Hence “the egg is a chicken” is a kind of teleological judgment about what it may, under proper conditions, become. As Chris Toner says, “natural-historical judgments readily admit of combination into teleological judgments.”<sup>40</sup>

Taken broadly, then, the first point is to realize that talk about functions and ends is just as scientific as talk about life-forms, species, and natural health or disease. Mayr quickly rebuts many of the common objections (I should rather say prejudices) against teleonomic processes. For instance, teleological statements and explanations, he says, do not “imply the endorsement of unverifiable theological or metaphysical doctrines in science.”<sup>41</sup> Rather,

As Mark Perlman says:

Many objects in the world have functions. Some of the objects with functions are organs or parts of living organisms... Hearts are for pumping blood. Eyes are for seeing. Countless works in biology explain the “Form, Function, and Evolution of ...” everything from bee dances to elephant tusks to pandas’ ‘thumbs’. Many scientific explanations, in areas as diverse as psy-

---

38. Ibid., 125.

39. Conrad Hal Waddington and others, “The Strategy of the Genes. a Discussion of Some Aspects of Theoretical Biology. with an Appendix by H. Kacser.” *The Strategy of the Genes. A Discussion of Some Aspects of Theoretical Biology. With an Appendix by H. Kacser.*, 1957, ix+–x262.

40. Toner, “Sorts of Naturalism,” 222.

41. Mayr, “The Idea of Teleology,” 122.



chology, sociology, economics, medical research, and neuroscience, rest on appeals to the function and/or malfunction of things or systems.<sup>42</sup>

Mayr's highly suggestive alternative to conscious purposes is natural "programs". A program is "coded or prearranged information" that regulates an organism's behavior or development up to a pre-defined end-point.<sup>43</sup> Mayr's examples include the development of bones, organs, and shapes that come with physiological maturity, migration. Programs are "the result of natural selection". However, they contain information: "not only blueprints of the goal but also the instructions of how to use the information of the blue print."<sup>44</sup> The concept of a program, he assures us, is similar to concepts deployed by geneticists and computer programmers. The point is that the telos is not some mysterious spirit hovering above the organism, beckoning it to reach its full potential but coded into the organism from the beginning.

Regardless of the details of Mayr's proposal for explaining teleonomic processes, the mere fact that natural processes occur is indisputable. And (to return to the main point) such behaviors are expressed in generic propositions.

Generic propositions usefully capture the functional or teleological properties of natural organisms. As Chris Toner says, "natural-historical judgments readily admit of combination into teleological judgments."<sup>45</sup> This kind of combination of generic truths is very familiar. No sooner have I learned the formal facts about a penguin (that it is a bird, that it can swim, that it has a countershaded white belly and dark back etc.) do I learn that *penguins are countershaded in order to avoid predators from above and below*.<sup>46</sup> Since an individual penguin may fail to be countershaded in the way that expresses its form, it

---

42. Perlman, "The Modern Philosophical Resurrection of Teleology," 1–4.

43. Mayr, "The Idea of Teleology," 127–8.

44. Ibid., 128.

45. Toner, "Sorts of Naturalism," 222.

46. A shark looking up may miss a penguin, because its white belly blends in with the sunlight surface waters; a shark looking down may miss a penguin, because it blends in with the pitch dark waters of the abyss.

would be defective. This defect is not a judgment made by scientists and “imposed” as it were, from the outside, on the penguin. It is rather a normative fact about the penguin. As Hursthouse says, “Wolves hunt in packs; a ‘free-rider’ wolf that doesn’t join in the hunt fails to act well and is thereby defective.”<sup>47</sup>

We should add that generics express the formal and functional features of natural entities *when they are mature*. It is a normal – indeed universal – fact of organisms that they grow and develop and mature according to the life process of their particular species. Before maturation, we might say, the formal and functional properties in question exist merely potentially. For example, a wolf that cannot hunt might be injured, ill, or simply young. Similarly, eyes that cannot see might be injured, ill, or simply developing.

Nevertheless, it is true that “eyes see”. In discovering and expressing the simple generic truth that “eyes see”, we abstract away from the processes of maturation and development to pick out a fact that is true of all eyes that are normal and have had enough time. This is a descriptive, judgment that is also a normative judgment – without changing our meaning we could say that fully developed eyes are *supposed to see*, *ought to see* – or just that *eyes see*.

There is one objection that is easy to forestall. Someone might point out that genetic drift results in species evolving every which way, including the emergence of adaptive, maladaptive, and adaptation-neutral traits. This is true, so far as it goes, but not really an objection. Two replies are, I think, sufficient. First, it is an inextricable part of the scientific process to reason out which traits are instances of natural goodness and which are not. Just because one hundred percent of organisms eventually die doesn’t mean that death is naturally good for them. Just because a high statistical number of organisms have a particular feature – a stripe or a scale or whathave you – doesn’t necessarily mean that the feature is a formal one of the species. Rather, one must keep an eye open to larger

---

47. Hursthouse, *On Virtue Ethics*, 201.

samples, possible counterexamples, and one must keep one's generics tentative until they are very well grounded. Similarly, part of the scientific process is reasoning out which traits are *adaptive*. Even the way the objection is phrased assumes that some traits are adaptive – that is adaptive *survival and reproduction*. Allowing even this minimal sense of normativity concedes my point that the normativity is discovered by the scientist rather than purely ascribed by him or her. A second response is that the generics under discussion are not about species-qua-fluid-across-millenia but about species-qua-fixed or apparently fixed within a given period. The fluidity of species over time, like a slow-motion film with thousands of frames, requires countless generations. For all we can observe of most species in the course of a human lifetime (say) or even since the birth of modern science in the 16th century, the species-at-present are fixed enough.

In my overall argument, generic truths are intended to serve as a counterexample to premise 2 of the **Bald Nature Challenge** above. That challenge asserted that no facts are genuinely both natural and normative. Generics are both genuinely natural and normative: natural, in that a large percentage of scientific knowledge consists of scientists predicating generic truths of natural kinds; normative, in that the life-form in question is one which an individual may or may not “live up” to, and in that *some* generics pick out natural functional or teleological facts about life forms (that penguins are counter-shaded *to avoid* predators, that hearts are *for* pumping blood, etc.). On my view, accepting the straightforward, generic truths delivered by such sciences about forms and functions is quite simply the respectable thing to do.

## IV. Three Paths Forward

I have made a case for normative realism that identifies some normative properties (such as formal and teleological properties of organisms) as respectable natural properties. I call this

normativity ‘organic normativity’ and the resulting naturalism ‘organic naturalism’. This label distinguishes my view from an “enchanted” view of nature wherein even rocks, chemicals, and stars instantiate normative properties.

While my case is disputable, the natural phenomena in question are indisputable: first, that organisms *very strongly appear* to exist in natural kinds (birds are not bacteria and crystals are not organisms at all); secondly that organisms exhibit “teleonomic” or *apparently teleological* phenomena such as striving to reproduce.

My point has been that realism about kinds and teleological phenomena is the simplest explanation of these phenomena. There are three paths forward. The first, and most plausible, path is that we can simply accept normative realism.

## Reject

The second, and least plausible, path is that we could embrace full-scale normative anti-realism and deny the objective reality of any such norms in nature (and indeed, even in human beings). This path requires us to explain away not only natural kind, teleonomic phenomena in nature, but the apparently teleological actions of human beings.

For example, we would have to deny that animals, plants, insects, all living things (and even ecosystems) exhibit end-directed or teleonomic behavior: eyes see, hemlock trees offer shade to fish, stomachs digest, deer leap to avoid predators. This denial is almost incredible. If all generics are false (or only conventionally true) then it is in some important sense false that ‘wolves hunt in packs’ and false even that ‘penguins are birds’. It is false not only that “eyes see” but even that “humans are primates”. Such denials are, I think, absurdities.[<sup>25</sup>] Even when Kant denies natural teleology – the biological theory that the form of an organism causes the parts to grow and relate to each other in a particular way – he admits we *cannot help thinking so*.<sup>48</sup> To categorically reject *all truths* about natural kinds

---

48. Huneman, “Naturalising Purpose..

and natural functions, I contend, is untenable. And some generics are, it seems, necessarily normative propositions.

If we accept the truth of at least some generics, then Perlman's surprise is well founded: "It is surprising that analytic philosophers, with their strong focus on science, would reject a notion that is so central to some areas of science, most notably, biology and engineering sciences... Biology cannot, or at least in practice does not, eliminate functions and purposes."<sup>49</sup> One might suppose that Perlman's qualification "or at least in practice does not" leaves open space for the normative anti-realist. I welcome the critic who would try to show that biology *can* eliminate functions; what I have tried to suggest, and what Barham argues in great detail, is that the attempt has been made and has failed. A few failed attempts at reduction does not prove that reduction is impossible. But it does make the more plausible view, teleological realism, a better candidate for the default view.

Despite my inability to see the plausibility of global normative anti-realism, I must acknowledge that it has impressive defenders who deserve a fuller response than I can give here. Since anti-realism is not likely to appeal to the scientific naturalists in my intended audience, I must let these comments suffice.

## Reduce

The third path, and the most plausible rival to realism, is to develop a reductionistic account of apparently natural norms. This path accepts the appearance of such things as natural kinds, natural teleology, natural functions, etc., but *reduces* these phenomena to less spooky (read: more mechanistic) phenomena consistent with a conception of bald nature. For this section, I ignore natural kinds and focus simply on teleological normativity. So we can call reductionism of such natural norms "teleological reductionism" or "teleoreduction",

---

49. Perlman, "The Modern Philosophical Resurrection of Teleology. 6.

following James Barham.<sup>50</sup> Arguing for or against teleoreductionism has become a cottage industry.<sup>51</sup>

I do not think that teleological reductionism is as plausible as teleological realism; I do not think it is very plausible in its own right. Nevertheless, the arguments for teleoreductionism are sophisticated ones and some of its proponents hold out hope for even better arguments to come. More to the point, some of its proponents affirm reductionism because of operating background belief that, globally, reductive physicalism is a victorious view, despite ongoing local skirmishes. My objections to teleological reductionism amount to the accusation of a non-sequitor. But I do not think these objections are likely to overturn someone's background beliefs. Since I agree pretty well with Barham's analysis, I will summarize his view of the dialectic:

If someone were comfortable with a purely physicalist worldview that had no place in it anywhere for teleology in any form, then nothing I will say here would do much to discomfort that individual. All I claim is that, if one is already convinced of the rationality of taking at face value at least some of the teleological concepts that we employ both in everyday life and in biological discourse, then one is not required to relinquish that conviction on the basis of the notion that molecular biology and the theory of natural selection, either severally or jointly, have already settled the matter by providing us with a successful means of eliminating such concepts from biology.<sup>52</sup>

This seems right to me. I am content to defend the claim that naturalistic teleological realism (and more broadly normative realism) is a live option even for the non-reductive scientific naturalist. Hence, the remainder of this chapter will examine some reasons for preferring realism to reductionism when considering normative realism in isolation, even if these reasons are not enough to overcome someone's background commitment to the contrary.

---

50. Barham, "Teleological Realism in Biology," 2011 chapter 3. My discussion will closely follow this chapter; however, Barham's discussion is far too rich to be summarized.

51. Cf. Perlman, "The Modern Philosophical Resurrection of Teleology," section III; and Barham, "Teleological Realism in Biology," 2011, chapter 3.

52. James Barham, "Teleological Realism in Biology" (PhD thesis, University of Notre Dame; Web, 2011) 110.

First, what does it mean to “reduce” teleology? Barham’s definition of teleoreduction, which I find adequate to my purpose, is this:

To reduce a putative teleological phenomenon is to give an account of the phenomenon that is both empirically and theoretically adequate and that neither employs any teleological concepts nor presupposes any other teleological phenomena.<sup>53</sup>

The two primary candidates for teleoreduction are causal-role reductions and natural selection reductions. Causal-role or causal-contribution explanations (endorsed by Donald Davidson, Robert Cummins and others) reduce teleological relations such as “in order to” and “for” and “to the end of” to bare cause-effect relations. For example, the function of the heart is defined in reference to its role in the oxygenation of a vertebrate’s blood. Slightly differently, natural selection stories (endorsed by Ruth Millikan and others) provide a causal-history explanation of a present day teleonomic function. Similarly, purely mechanistic natural selection pressures may result in the construction of a genetic “program” or action that has some adaptive or useful outcome without consisting of teleological process.

Both of these reductionistic efforts are subject to worries that, to my mind, render them less plausible than simply accepting the appearances. While philosophers may be able to patch up these accounts or offer fresh reductionistic alternatives in the future, for now, it seems that we should side with the most overall plausible explanation of natural phenomena of teleological normativity.

## Causal-Role Reduction

Barham summarizes the causal-role positions in the recent literature on teleological and natural functions:

---

53. Ibid., 109.

The first position, stemming from a seminal article by Cummins (1975), views being a function fundamentally as making a causal contribution (in the efficient-causal sense) to the maintenance of a larger system of which the function in question is a component part.<sup>54</sup>

In that seminal article, Cummins attacks the assumptions that “(A) The point of functional characterization in science is to explain the presence of the item (organ, mechanism, process or whatever) that is functionally characterized” and “(B) For something to perform its function is for it to have certain effects on a containing system, which effects contribute to the performance of some activity of, or the maintenance of some condition in, that containing system.”<sup>55</sup> Essentially, this path explains a natural function as a relation between parts and wholes.

The natural function is not reducible to just any relation, nor even to any *causal* relation, for there are many part-whole relations that are obviously not functions. For example, the heart is not just the heart pumping part of the human body; it may also be correctly described as the “thumping sound” part of the human body. Obviously, making thumping sounds is not the function of the heart (it is at best a side-effect of its performing its function). Yet “heartsounds” and circulation are both effects of the heart’s beat. So the question is how one can determine *before identifying the function* exactly which part-whole relation is the functional one?

It does no good to assert that part A has a causal role within organism B *after one has already presupposed an irreducibly functional analysis*. The teleoreductionist is obliged rather to show how one can distinguish teleological and non-teleological part-whole relations in absence of or prior to such presuppositions. The teleological realist also affirms that hearts, say, play a causal role in the vertebrate’s body. The teleological realist’s point is that the heart is a part of the body with an irreducibly functional part – it pumps *in order*

---

54. *ibid.*, 111.

55. Robert Cummins, “Functional Analysis,” *The Journal of Philosophy* 72, no. 20 (1975): 741–65 741.



to circulate blood. It is *the blood pump* of the body. The teleological realist is free to identify the function of a particular body part, and then to characterize the part-whole relation in irreducibly functional terms; the teleological reductionist cannot do likewise. Relatedly, we should note that the notion of a “role” seems to be teleological. The proposition that ‘the heart plays a role within the organism’s circulatory system’ seems, on the face, synonymous with the proposition that ‘the heart *has a function* within the circulatory system.’

## Natural Selection Reduction

One alternative (or perhaps supplement) to the causal-role answer is by appealing to the historical genesis of the organ in question.

One strategy is to show how natural selection itself is a teleonomic or quasi-teleological process that can produce organisms with functional properties. So, to put the picture simply: define survival and reproduction as the goal-state of organisms (however this came to be); then, distinguish effects that tend toward the organism’s survival and reproduction from those that do not or those that are irrelevant to that end. Circulation contributes to survival and hence is a more plausible candidate for the heart’s function than making heartsounds. Simply put, we can describe the present state of the heart (including its causal-role in bodies) by referring to its historical genesis: the heart evolved *because* it tended to the survival of certain kinds of organisms.

The question is whether natural selection is even the right kind of explanation for, say, the pumping of the heart. Natural selection is not really a *selection* at all in the sense that *no one* is doing the selecting. Instead, natural selection is a scientific description of the process by which present day populations were preserved while others died out. So much is clear in outline, but the details matter. Specifically, natural selection explains heritable traits that (i) varied in the past and which (ii) played a role in the reproductive rates of the

population.<sup>56</sup> It does not (and is not even supposed to) explain the bare existence of an initial organism or population of organisms. Rather, the initial organism or population is taken for granted, along with its complete set of reproductive and other traits. Natural selection comes in to show how the organism varies, passes on heritable traits, and gives rise to new phenotypes. Thus Barham says:

...the functionally coordinated organism must already exist before it can be selected. On this view, we assume that the functional coordination of the organism is *prima facie* evidence of teleological determination, and since that functional coordination is presupposed by the theory of natural selection, the theory is in no position to reduce the apparent teleology in biology to mechanism.<sup>57</sup>

The worry is that the process natural selection is not the *right kind* of explanation to serve as a candidate for the reduction of apparently teleological activity within individual organisms.

When we are wondering how or why it is that the heart seems to have a definite function (to circulate blood) that is discernable from other side-effects (to make heartsounds), the question is about organismic behavior in general. Chemicals and compounds do not grow and develop and perform characteristic activities in the structured way that organisms do. My answer is that such normativity is a fundamental natural feature of organic life, a kind of brute natural law discovered a posteriori by the scientific method. The natural selection reductionist's answer that the teleonomic function of hearts emerged out of a long history of phenotypic variation. My question is: so what? Mechanistic forces that are taking place between a population and its environment (droughts, famines) or within

---

56. Thus Godfrey-Smith's summary: Evolution by natural selection is change in a population due to: (i) variation in the characteristics of members of the population, (ii) which causes different rates of reproduction, and (iii) which is inherited. (Peter Godfrey-Smith, "Conditions for Evolution by Natural Selection," *The Journal of Philosophy* 104, no. 10 (2007): 489–516 515). This is only one of Godfrey-Smith's two descriptions: the more general description excludes particular real organisms in exchange for a useful degree of generality.

57. Barham, "Teleological Realism in Biology," 2011 125.

a population's genetics (genetic drift, normal reproduction) are compatible with a parallel teleological forces. Indeed, Barham suggests that the burgeoning field of evolutionary developmental biology might be able to supply some of the connections between these two kinds of process. He calls "phenotypic accommodation" the distinct process of "inherent compensatory or adaptive capacity of organisms" – or simply homeostasis.<sup>58</sup> The scientific hypothesis some are investigating<sup>59</sup> seems to be that these two processes are separately necessary but only jointly sufficient causes to explain the presence of a trait (like pumping hearts) in a population.

Another proponent of natural selection reduction strategies is Ruth Millikan.<sup>60</sup> This strategy:

takes a present trait's being a function to be equivalent to its having been naturally selected due to the fitness advantage conferred on an organism by the physical effects of the ancestral trait of the same type from which the present trait-token is descended.<sup>61</sup>

The idea here is that ancestral organisms had such-and-such phenotypes which, after many generations of reproduction, conferred hearts upon present-day vertebrates. A consequence of Millikan's view is that an organism's "proper function" simply cannot be read off its present capacities; we can't just observe that hearts *seem to be for circulating blood* and infer from this observation that they are, indeed, for circulating blood. Rather, the proper function of a (present-day) heart can only be identified by its empirical history.

Two implausible corollaries are that if we discovered two heart-like organisms (suppose one is extraterrestrial) with distinct evolutionary parentages, then they would have to be classified as having different functions despite both circulating blood. More hypotheti-

---

58. *ibid.*, 131.

59. James A Shapiro, "Revisiting the Central Dogma in the 21st Century," *Annals of the New York Academy of Sciences* 1178, no. 1 (2009): 6–28.

60. Ruth Garrett Millikan, "In Defense of Proper Functions," *Philosophy of Science*, 1989, 288–302.

61. Barham, "Teleological Realism in Biology," 2011 9.

cally, “Swampman” arguments press a similar point. Suppose an exact material replica of Donald Davidson spontaneously emerged from a swamp; on Millikan’s theory, even though the Swampman is equipped with a heart and lungs and legs and eyelids, none of these has *any* “proper function”. Millikan bites the bullet on both of these implausible corollaries.

The point of these examples is not to challenge the details of empirical origin stories but to separate the *concept* of having a (present day) functional capacity from the *concept* of having an empirical, evolutionary history. These concepts come apart in several ways: Useless vestigial organs have an empirical history but no present day functional capacity; spandrels have a present-day functional capacity with no direct, primary selection history; the language capacities in say, the right hemisphere of the brain *can* be taken over by the left hemisphere in the case of injury or lobotomy, presumably because the brain is (present-day) adaptable and not because the brain function redundancy was selected for in every individual case. These counterexamples demonstrate *at least* function and history conceptually can come apart.

What is the alternative? In Barham’s view, functions are “essentially modal, not historical, concepts”<sup>62</sup>. He quotes Fodor’s vivid statement that: “my heart’s function has less to do with its evolutionary origins than with the current truth of such counterfactuals as that if it were to stop pumping my blood, I’d be dead.”<sup>63</sup> If we made contact with extraterrestrials whose blood-like liquid was circulated by a pump-like organ, how could we discern whether it was a heart? We could query about the historical genesis of the organ on that planet, but we would first rightly query: *what would happen if that organ stopped pumping?* If the Alpha Centaurians, too, would die without the beating of that organ, we would justifiably call the organ a ‘heart’ even though it had a very different history.

62. Barham, “Teleological Realism in Biology,” 2011 139.

63. Jerry A Fodor, *The Mind Doesn’t Work That Way: The Scope and Limits of Computational Psychology* (MIT press, 2001) 86-7; cited in Barham, “Teleological Realism in Biology,” 2011 138.

Barham cautions against, “imagining that ‘selection history’ could confer normative value on a biological function in the same way that pedigree confers value on a horse, or provenance on a painting.”<sup>64</sup> “History” is not a special power but is simply the set of physical interactions over time. The question about which set of physical interactions over time that produced X might be (and I think is) intimately related to questions about the function of X; the point is that they are two different questions. Michael Thompson, too, insists that judgments about natural teleology are made true from the form of life under question, not from “hypotheses about the past.”<sup>65</sup> This seems right to me. It does not matter for present purposes *how* the function came to be, just whether or not it really *is* at present.] Barham is right to point out that the problem with Aristotle’s views of biology (say, believing that the seat of perception was not in the brain) was not that he lacked knowledge of evolution, but that he lacked an adequate knowledge of physiology.

I can only conclude from this brief discussion that these reductionistic strategies are not very promising. ‘Not very promising’ is a far cry from ‘hopeless’. There may one day be a successful reduction of teleonomic phenomena “that is both empirically and theoretically adequate and that neither employs any teleological concepts nor presupposes any other teleological phenomena.” But today is not that day. The scientific perspective of empirical biology conforms most closely to the commonsense perspective that hearts are for pumping blood.

### Coming to terms with teleology

The three paths I mentioned above are to accept, reduce, or reject natural normativity. I cited reasons to think rejecting and reducing are not promising paths. In closing, I would

---

64. *ibid.*, 140.

65. Cf. Thompson, “The Representation of Life. 293. Christopher Toner adds that judgments about natural teleological facts are made true regardless of the origin of the facts, “whether about creation or natural selection.” (Toner, “Sorts of Naturalism. 223.)

like to offer some reassurance to those who might be anxious about the prospect of accepting normative realism whole cloth. My reassurance boils down to the belief that appeal to natural normativity is a live *scientific* belief. While natural teleological realism is still controversial, it is not a controversy between science and philosophy but a controversy *within science*.

Thomas Nagel took a lot of heat for his recent philosophical defense of scientific, Darwinian, natural teleology.<sup>66</sup> However, Michael Chorost does not accuse Nagel of obscurantism but chastises him for *failing to cite the science*. He says:

Natural teleology is unorthodox, but it has a long and honorable history. For example, in 1953 the evolutionary biologist Julian Huxley argued that it's in the nature of nature to get more advanced over time. "If we take a snapshot view, improvement eludes us," he wrote. "But as soon as we introduce time, we see trends of improvement."...<sup>67</sup>

Teleological realism in biology fell into disfavor with Francis Bacon's superstitious belief that the search for final causes corrupted science.<sup>68</sup> The proper reply to Bacon is that the teleological nihilism hypothesis has been tried and found wanting.

Modern science is no less teleological than it was in the 16th century; perhaps even more so. Arnhart persuasively argues that teleology is irreplaceably assumed in medicine.<sup>69</sup> Zammito clarifies its ongoing relevance in biology, since organisms seem to be intrinsi-

---

66. Nagel, *Mind and Cosmos*.

67. Michael Chorost, "Where Thomas Nagel Went Wrong," *Chronicle of Higher Education*, 2013.

68. Cf. Bacon, *New Organon*, Book I. XLVIII "Although the most general principles in nature ought to be held merely positive, as they are discovered, and cannot with truth be referred to a cause, nevertheless the human understanding being unable to rest still seeks something prior in the order of nature. And then it is that in struggling toward that which is further off it falls back upon that which is nearer at hand, namely, on final causes, which have relation clearly to the nature of man rather than to the nature of the universe; and from this source have strangely defiled philosophy."

69. Arnhart, "Aristotle's Biopolitics."

cally purposeful.<sup>70</sup> Fitzpatrick says that, “While neo-Darwinian evolutionary theory does soundly reject any appeal to teleology in the process of evolution itself, there is a large literature in contemporary philosophy of biology defending the legitimacy of employing teleological concepts in connection with adaptations.”<sup>71</sup> Darwin himself might have been a teleologist.<sup>72</sup> Whether Darwin’s theory of natural selection *undermines* and debunks or *underwrites* and justifies the teleological view at least debatable.

## V. Conclusion

While I conceded that the **Is-Ought Gap** could not be overcome, I suggested that it could be undercut. The goal of this chapter has been to meet the **Bald Nature Challenge** by proposing examples of scientifically respectable natural norms. The conclusion we have drawn is that indeed *some* facts – especially facts about living things – are both natural and (it is rationally defensible) irreducibly normative.

The natural formal and functional facts about organic beings and their parts and operations are expressed in perfectly respectable scientific judgments we have called “generics” but may also be called “Aristotelian categoricals”, “natural-historical judgements”, “norms”, “bare plurals”, etc. Generics like these render it at least *possible* to conclude the the scientific picture of nature includes normativity in the form of natural teleology. If true generics could be stated about human beings, then it is conceivable we can use them as a basis for ethical theory.

---

70. John Zammito, “Teleology Then and Now: The Question of Kant’s Relevance for Contemporary Controversies over Function in Biology,” *Studies in History and Philosophy of Science Part 37*, no. 4 (2006): 748–70.

71. William FitzPatrick, “Morality and Evolutionary Biology,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Spring 2016 (<http://plato.stanford.edu/archives/spr2016/entries/morality-biology/>, 2016).

72. James G Lennox, “Darwin Was a Teleologist,” *Biology and Philosophy* 8, no. 4 (1993): 409–21; James G Lennox, “Teleology,” *Keywords in Evolutionary Biology*, 1992, 324–33.

J. L. Mackie exploits the apparent silliness of the notion that “to-be-pursuedness” is built into things. We should not confuse ourselves with loaded rhetoric. We should not think of natural norms in explicitly contradictory or paradoxical terms. Instead, we should think of other perfectly ordinary natural relations such as causation. A natural norm is not a one-place predicate things but a relation between things. For example, one type of natural norm might be a relation between a living thing and another object, such as food, shade, or a predator. Given the kind of thing snakes are, and the kind of thing mice are, a mouse is to be eaten by the snake and the snake is to be fled by the mouse.

Of course, I have not yet tried to show *which* true generics about humans can serve as the basis for ethical theory. All I have tried to show is that *some* of these generics are true. By denying the consequent, we are not necessarily affirming the antecedent. That affirmation requires another step, namely, to apply the above argument to human beings.





# Chapter 3

## Practical Primates

Human nature is normative, such that to be morally good is to fulfill one's nature.

---

—Christopher Toner, “Sorts of Naturalism”, 221.

### I. Introduction

The last chapter defended the very possibility of an ethical naturalism, this chapter must go further and defend its plausibility. In order to show how moral norms are instances of natural norms, we had to defend the notion of natural normativity in general. This chapter extends the discussion of natural normativity to include “human norms”.

The strategy is fairly simple. We must first uncover certain generic propositions about human beings are both scientifically true *and* normatively or ethically significant. First and foremost, what is a human being? All else depends on the life form of our species. Also, what kinds of activities does “the human” being do? What kind of life does it live? What is its natural end, if it has one – or what are they? The Aristotelian Categoricals or generics that answer these questions would be human norms. Human norms would provide

prima facie normative bindingness; if I am a human being by nature, it would be initially binding upon me to *do what humans do* and *become what humans become*. These human norms, I will suggest, give us insight into the concepts of virtue, excellence, wisdom, and flourishing.

The main thesis of this chapter is that to be human is to be a practical rational primate. Section 2 builds to this conclusion by developing the intuitive observation that human beings are natural organisms. That is, we are *animals* enjoying the properties common to the entire tree of life but also enjoying other, more peculiar, properties relating to our speaking, innovating, deliberating, and so on. All of the natural norms of animal organisms, such as the value of life and survival and reproduction, obtain in human beings as well.

Section 3 supplements the notion of being a primate with the notion of being ‘practically rational’. What cluster of concepts is meant by the activity of ‘practical reasoning’? I argue that there are at least four: a practical primate is one who engages in speaking, rational practicing, social living, and innovating. Hence, the human being is a primate (animal) who engages in such practices: a practical primate. This conception of human nature that is seamlessly both normative and descriptive. Human beings find themselves in a nexus of normativity that is both “natural” (i.e., automatic, default, not created by us) and normative (i.e., binding, non-optional). I point out that observing human behaviors both from “within” and “without” the human point of view allows us to see what is unique about human beings, their capacities, and ends. If, even with these differences, humans fit the larger pattern of natural normativity defended in chapter 2. By comparison to the human life form, evaluations of individual human beings is possible.

Section 4 responds to a few critical objections. I attempt to sympathetically articulate and provide a response to a series of worries philosophers have about the neo-Aristotelian project of grounding ethical evaluations in some normatively loaded conception of human nature. For example, some think that there are no such things as the sort of “na-

tures” as I have described; others think that there are natures but that there is no human nature; others think that human nature comes with no built in teleological boundaries; others think that human nature comes with a few built in teleological boundaries are the ends of reproduction and survival. Each of these receives an initial rebuttal, though a few of them will require further comment in a later chapter. I concede that human norms are only a beginning, however. Because humans are in control of their actions, the generic truths about “the human” seems to be variable. Perhaps human norms are irrelevant to how you or I or any individual *ought* to live. If so, more work is needed to justify even putatively universal natural human norms.

Section 5 begins to apply the foregoing account of human nature and natural human norms to ethics. Specifically, I shall argue that as practical, rational animals, a basic human norm is that one *is to become a fully mature human being*. Practical primates have prima facie normative obligation to be what they are (to respect the conditions and criteria of their life form) and a prima facie obligation to become fully mature practical primates.

## II. Animals of a Peculiar Sort

The previous chapter drew substantially from Philippa Foot to argue that *any* animal exists within a nexus of natural normativity. Since humans are animals, it would seem to follow that humans are subject to natural norms. Foot is well aware that the derivation of normativity from brute nature is likely to seem absurd, especially when it comes to human beings. She says:

The idea that any features and operations of humans could be evaluated in the same way as those of plants and animals may provoke instant opposition. For to say that this is possible is to imply that some at least of our judgements of goodness and badness in human beings are given truth or falsity by the conditions of human life. And even if it is allowed that certain evaluations of this kind are possible—those vaguely thought of perhaps as

‘merely biological’—there is bound to be skepticism about the possibility that ‘moral evaluation’ could be like this.<sup>1</sup>

Despite such legitimate worries, we have followed Foot in trying to earn a hearing for this notion by arguing that the “meaning of ‘good’ in so-called ‘moral contexts’ ” does not have a special logic of its own. Rather, ‘good’ and ‘defective’ pick out natural properties of living things. The goodness of a cactus is relative to its cactus nature; likewise, we should expect that the goodness of human beings is relative to their human nature.

Are human beings natural organisms? On its face, calling human beings organisms or animals or primates appears to be an innocent truism. *Of course* humans share properties in common with every other organism: they enjoy a particular evolutionary history; they move about the earth engaging in activities such as reproducing, sleeping, feeding, dying, and so on. But some of objected to the suggestion that human beings are *mere* animals. We are different from other animals, and the significance of this difference is a matter of some controversy. Certainly, humans exhibit a range of actions such as language and complex social systems that other animals do not. As Hursthouse summarizes:

When we moved from the evaluations of other social animals to ethical evaluations of ourselves, there was an obvious addition to the list of aspects which are evaluated. The other animals act [as opposed to chemicals which are only acted upon.]. So do we occasionally, but mostly we act from reason, as they do not, and it is primarily in virtue of our actions from reason that we are ethically good or bad human beings. So that is one difference that our being rational makes.<sup>2</sup>

In light of the difference of being rational, the task in discovering true generics about human beings is capturing what is common, and what is unique, about humans.

My view is that human beings are animals of a peculiar sort where the peculiarities do not erase the commonalities. The traditional formula that humans are “rational animals”

---

1. Foot, *Natural Goodness* 38.

2. Hursthouse, *On Virtue Ethics* 217.

is close to correct. As such, both the *animal* part of that formula is essential and the *rational* part. To see why, let's first consider in a bit more detail what it means to be an animal, and why it matters. Then we will look at what it means to be the peculiar sort of animal we are.

To be an animal is to belong to the "tree of life" — and to have a location in the broader story of life on earth.<sup>3</sup> That story begins 3.5 billion years ago with the first living organisms, and our own part begins about 200,000 years ago with the emergence of anatomically modern humans. In contemporary classificatory scheme, we can locate humans within the phylum chordata, the class mammalia, the order of primates, the suborder haplorhini, the family hominidae, the genus homo, the species homo sapiens.

Does this matter ethically? I think it can be demonstrated that the common history of living organisms (including humans) is not ethically irrelevant. At the very least, the bundle of properties intrinsic to our animality serves as a condition of our ethical life. At the most, our animality is (sometimes) a *criterion* of our ethical life.

One example that will suffice to illustrate the point is mortality. As a matter of plain scientific fact, we are finite and mortal like every other living organism or species. All life on earth undergoes a process from a humble beginnings in a single cell through infancy, maturation, and adulthood, at which point it may reproduce itself before dying. All of these phases we notice in human animals as well. The human life cycle is characterized by various phases, including growth, language acquisition, puberty, physical maturity and characteristic activities, aging, and death.

Now, all that is good in life depends on the prior state of being alive at all. Although death is "normal" at the end of the life cycle, it is a very basic normative fact that being alive is a good. This is a plausible candidate to explain, in part, what is so morally horrendous about murder. Where theft robs one of this or that particular good, murder robs one of life which is the condition of all other goods. In this way, mortality is a condition of ethical life;

prima facie, one ought not behave in such a way as to make others die (or to put others at risk of dying) before their life cycle is complete.

My point is not that the status of mortality is uncontroversial. Whether mortality is condition or criterion of ethical life is a live controversy in bioethics: should we attempt (if possible) to overcome mortality?<sup>4</sup> Would doing so be a morally innocent intervention like body-building or a morally loaded intervention like genetically modifying embryos? My point is that being mortal creatures whose very life is a fragile homeostasis is *at least* a condition that must be taken into account when living life or constructing an ethical theory.

What other conditions of animality are possible criteria of ethics? The whole range of facts that characterize a human being and a human pattern of life. When I say “pattern of life” I do not just mean the crudely biological features of life; I mean the whole range of biological and neurophysiological facts by which a human being undergoes the process of living from birth to death.

We cannot, except via abstraction, describe the human species adequately without describing biology, ethology, psychology, and sociology. For example, it might seem a purely descriptive biological trivium that humans have 23 chromosomes in each somatic cell. But genetic defects in a person have enormous effects on that person’s quality of life and on the community in which he or she lives. Apparently innocent “descriptions” of human animals are inseparable from ethological and anthropological descriptions, which are both descriptive *and* normative.

Furthermore, a scientific account of humanity cannot leave out that humans have large brains relative to other primates, with a neocortex and prefrontal cortex that correlate with abstract thinking, problem solving, society, and culture. A scientific account cannot leave out that humans don’t just suffer physiological responses like fear and excitement or

---

4. Nick Bostrom, “Transhumanist Values,” *Journal of Philosophical Research* 30 (2005): 3–14; Nick Bostrom, “In Defense of Posthuman Dignity,” *Bioethics* 19, no. 3 (2005): 202–14.

arousal, they wilfully seek out such emotions for themselves through art and entertainment and wilfully cause them in others. Presumably, even an alien anthropologist who knew nothing of human language or “what it is like to be a human” would be able to notice, upon examination, that a human’s laugh or cry is different from a hyena’s laugh or a crocodile’s tears.

Part of the alien anthropologist’s examination would be to examine the body, brain, and hands of human beings. One of the first things we can imagine they would notice is that humans live in cultures and societies. They are not merely “social animals” like apes; they are language-users, communicating in signs and symbols. Their language is an extremely complex, open-ended system which is both recursive (able to nest propositions within propositions) and productive (able to create sentences by potentially limitless combinations of words). In virtue of language and their opposable thumbs, they are creative; they don’t just live on the ground or under ground, but build houses and shelters, sometimes in new places, such as caves, trees, hills, mountains, etc. Also, they are self-reflective. They establish social relations upon biological grounds (some children growing up with natural parents) and upon normative grounds (some orphans growing up in orphanages created by philanthropists).

Even before introducing the “human” point of view, we can describe “the human” form of life in some detail. My hope is that these generics are plausibly knowable from an “objective” or third-person point of view of scientific exploration, data gathering, inductive generalization. They seem to have at least *potential* ethical significance; even so, the most ethically significant fact about us is the peculiar differentiam of our species: practical rationality.



## Peculiarities

This section attempts to explain what it means to ascribe ‘practical rationality’ of an organism.<sup>5</sup> Practical reason occupies a place of importance in the theories of many virtue ethicists. For example, Foot, McDowell, and MacIntyre have each treated the theme.<sup>6</sup> In a later chapter, I shall say explore the neo-Aristotelian accounts of practical reasoning in some detail. For now, I shall only offer an initial exploration. Jay Wallace gives an adequate general definition of practical reason: “Practical reason is the general human capacity for resolving, through reflection, the question of what one is to do.”<sup>7</sup>

When we take a wide view and observe human behavior in context of other animal behavior, observing ourselves both “from inside” and “from outside” the human perspective, we notice a range of properties not shared by other mammals: grammar and language, fire-making, cooking, sexual union for pleasure, abstract reasoning, science, philosophy, religion, mythology, agriculture. Is there any way to collect these idiosyncracies into one or a few generic categories? All of them depend, in one way or another, on activities we call “rational”.

Predicating rationality is not just based, as Russell flippantly suggests, on the fact that “some people can do sums”<sup>8</sup> Rather, we predicate rationality on the basis of observing a range of activities such as: to observe, reflect, and perceive; to remember, predict, and

---

5. I shall use ‘practical rationality’ and ‘practical reason’ as synonymous. Warren Quinn uses ‘practical reason’ to mean the faculty and ‘practical rationality’ to mean the excellence use of the faculty. In a later chapter, I will contrast the faculty with ‘practical wisdom’, which is the excellence thereof. Cf. Warren Quinn, “Rationality and the Human Good,” *Social Philosophy and Policy* 9, no. 02 (1992): 81–95.

6. Cf. Foot, *Natural Goodness*, chapter 4; McDowell, “Virtue and Reason”; Alasdair MacIntyre, *Whose Justice? Which Rationality?* (University of Notre Dame Press, 1988).

7. R. Jay Wallace, “Practical Reason,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, 2014.

8. Bertrand Russell, *The Basic Writings of Bertrand Russell, 1903-1959* (Psychology Press, 1992), 73.

categorize; to decide, determine, and pursue; to abstract, explain, and infer; to criticize, blame, and praise; to admonish, prohibit, and command; and so on. Abstracting to what all these disparate activities have in common gives us a sense of what the generic activity of practical reasoning is.

Practical reasoning is the process of self-determining, of taking our actions “into our own hands” so to speak. Some of the above rational activities are intrinsically aimed at action, while others are not. But even the theoretical activities (like reflection) can be and are put to use in practice. Hence, on my view, practical reason is constituted by at least four capacities that in turn constitute human nature: the capacity to speak, to live in society, to engage in rational practices, and to create or innovate. Let’s consider each of these four properties in turn.

First, take speech. Aristotle observed that, “Man alone of the animals possesses speech.”<sup>9</sup> Nothing in modern science has superseded or contradicted the observation (obvious to anyone) that human speech is different from other animal noises. Other animals have speech and communication. The difference between non-human and human speech is not obvious to infant humans, who learn words by imitation just as well as they learn tweets, barks, and growls. Upon reflection, researchers have observed that animals communicate with non-grammatical closed systems with a small, finite set of symbols. Communication systems used by other animals such as bees or apes are closed systems that consist of a finite, usually very limited, number of possible ideas that can be expressed. In contrast, human language is open-ended and productive, meaning that it allows humans to produce a vast range of utterances from a finite set of elements, and to create new words and sentences. Our language is unique: it is grammatical, open-ended, recursive, and productive. We are animals who use signs and symbols to communicate self-reflective and abstract thought.<sup>10</sup>

---

9. *Politics*, 1.1253a. Obviously, Aristotle and the the translator use ‘man’ in the gender inclusive sense.

10. Terrence W Deacon, *The Symbolic Species: The Co-Evolution of Language and*

Speech is inseparable from self-reflectivity and sociality. Through our animal senses comes a sensitivity to our surroundings, the ability to see the world, ourselves, the sun and stars, to hear our fellow creatures, and to take the whole cosmos into consciousness. But through speech comes a whole second cosmos of culture. Through speech comes intentionality in all its forms. Through speech comes communication (“pass the salt”), distinct languages and cultures (about 5,000 distinct languages), self-consciousness (“who am I?”), abstraction (“all grass is green”), science, philosophy, religion, mythology, technology and more. Perhaps even art and music arise from the rational capacity to direct our actions to create not only what instinct demands but whatever the imagination can invent.<sup>11</sup>

The second constitutive feature of practical reason is sociality. When Aristotle asserted that “Humans are political animals,” he did not mean the facile point that human beings prefer to reside in groups or enjoy “getting involved in politics”. We ought to interpret this assertion as a generic truth. Human beings are formally constituted by being animals in political or communal settings. This truth is best viewed in light of our animality and speech: for to be a human being is to be a creature produced by the sexual union of two other human gametes, and to be able to speak is to be enculturated in a particular natural language in a time in human history and a place on the globe. We shall return to the importance of sociality in our discussion of traditions in a later chapter.

The third feature of practical reason is the ability to engage in rational practices. All organisms initiate *action* in the most general sense that they move about and do things. And all higher mammals engage in complex (and often social) practices, such as communal hunting, grooming, and building. Humans exhibit unique behaviors: We do not act merely, but act *on reasons*. We are the only creatures that set goals, on purpose, far in advance

---

*the Brain* (WW Norton & Company, 1998).

11. Gordon H. Orians, “Nature & Human Nature,” *Daedalus* 137, no. 2 (2008): 39–48. Orians says that “Americans spend more money on music than on sex or prescription drugs.”

of their fulfilment. We are the only creatures who undertake long, complicated sets of actions in order to achieve those goals. Micah Lott says: “Human form is characterized by practical reason. This is the capacity to act in light of an awareness of the ground of our actions, to recognize and respond to practical reasons.”<sup>12</sup> Goal-setting and recognizing practical reasons are inextricably tied. Practical reasons include our assessments of what is worthwhile. We also reflect on past actions and evaluate them to decide whether it is advisable to do the same thing again or try something else. Practical reasoning includes not just deliberating about what to do but weighing the apparent reasons for and against a particular course of action. Hence, as I shall explain more later, it is under the category of ‘rational practice’ that I will include everything unique about humans having to do with morality.

The fourth feature is rational creation or innovation. The concept of ‘creativity’ is not metaphysically distinct from rational practice, but since it is conceptually distinct, it deserves some mention. Our speech and grammatical systems allow us to create new words, propositions, phrases, and to tell stories or write philosophy papers. Our social identity within a social order allows us to create living spaces, utensils, farming implements, and so on as well as to create new social orders themselves. And one of the forms practical reasoning takes is that we *innovate* — we create and design and plan actions, new behaviors, new games, new languages, new activities, and so on.

The human differentiam of ‘practical rationality’ entails not only abstract reasoning but speech, sociality, rational practice, and creation. Such norms are not *only* accessible to us, but would be accessible to an “alien anthropologist” observing humanity from the “outside”. The alien anthropologist, if indeed it had enough of its own rationality to be able to have anthropological science, could observe these actions and infer the existence of the property of rationality.

---

12. Lott, “Moral Virtue as Knowledge of Human Form.”

### III. Objections

I must now clear up a few possible misunderstandings and address a few objections. The first misunderstanding that we should avoid is a misunderstanding about the concept of a nature. Chris Toner's epigraph states that *human nature is normative*. I don't insist on the term 'nature', as some object to it on aesthetic grounds; we could equally say that genetically modern homo sapiens sapiens are potentially a practical, rational primates. The important thing is not the term 'nature' or 'human nature' but the concept of a nature. What do I mean by a nature or life form?

In the old classificatory schemes, philosophers provided a genus and a differentiam to pick out the unique "nature" of any life form or natural kind. Not every kind-concept corresponds to a real nature: *the set of medium sized objects immediately to my left* is not a natural kind, nor is *All human beings born in Ireland*. The kind-concepts under review are not just any generalizations but scientific and biological kinds that arise from inquiry and on which inquiry depends. We start out knowing nothing about an organism (say, some species of beetle) and come to discover not only that they exist but a whole set of properties: their genetic traits, their evolutionary history, their natural habitats, diet, predators, lifespans, and so on. In this way, a nature is a species, or a homeostatic set of properties, or a natural kind.

When such a kind-concept corresponds to a real natural kind or "nature", that nature is potentially discernible both by contrasting it with other kinds of things and by comparing it with instances of the same kind. Hans Fink explains:

The nature of x is both what is special about this x and what makes this x one of the x's as opposed to the y's. When x is defined per genus et differentiam both the genus and the differentiating characteristic and their combination could be taken to express what is the nature of x.... Human nature is what differentiates us from the animals and the plants. By nature we are rational beings. Our human nature, however, is also that in virtue of which we belong to the animal kingdom and to the living organisms. By nature we are

mammals. We may thus use the concept of nature to differentiate rather than include, but also to include rather than differentiate. And we may use the concept of nature to express that differentiation and inclusion should not be seen as incompatible.<sup>13</sup>

As Fink points out, the concept of a nature gathers and divides. It gathers up all the members or putative members of a kind and divides the kind from other kinds. With this definition in view, we can see what the point of the old formula was, that man was a rational animal, or a featherless biped. There are many animals, but few (if any) other rational ones. There may even be other rational creatures who are not animals (artificial intelligences, gods, intelligent Alpha Centurions, or what have you), but so far as we know, we are the only rational animals in the cosmos.

Hence, I think this formula, slightly modified, is still the best way of reflecting on ourselves as members of the organic kingdom, as organisms within the evolutionary tree of life, and as physical objects in the cosmos: a human being is (potentially) a practical, rational primate. This simple, generic proposition is astonishingly rich. It captures the facts of our life form and can be demonstrated to be true from within the human point of view, and from outside it; an alien anthropologist studying human beings from its own non-human point of view could discover that humans are practical, rational primates.

A second misunderstanding has to do with the predication of ‘rationality.’ Some unwittingly interpret “rationality” to mean only speculative reasoning – i.e., mathematical, logical, or otherwise abstract thinking. This kind of abstract thinking Aristotle would call *theoria* or contemplative science. I do not think the best way to understand the old formula of “rational animals” is to take “rational” to mean “abstract thought” because a nature should capture *all* non-dysfunctional members of a species and only a relatively small minority of humans engage in that kind of abstract reflection that characterizes science, theology, math-

---

13. Hans Fink, “Three Sorts of Naturalism,” *European Journal of Philosophy* 14, no. 2 (August 2006): 207.

ematics, metaphysics, ethics, and so on. Practical reasoning is a better candidate because all normal, functioning adult humans, regardless of cultures, intelligence quotients, or walk of life, engage in practical reasoning and deliberation. I want to make it indelibly clear that I am not supposing human nature to be rationality per se but practical rationality. It is not merely *thought* but *thoughtful action* that I would like to emphasize. (That practical reasoning is indeed a form of reasoning, and the difference, if any, between theoretical and speculative reasoning, is a theme of chapter 5.) That said, the capacity for abstract or “theoretical reason” is certainly an important feature of human nature and stands out from the capacities of other organisms. While other members of the animal kingdom “think” in one sense of that term, as far as we know, no other animal constructs theories about, say, the cognitive capacities of the animal kingdom. My only point is to challenge the unwitting interpretation of “rationality” to mean abstract reasoning to the exclusion of any other capacity.

A third possible misunderstanding has to do with exceptions to the truth that human beings are practical rational primates. Certainly, not every human being is ‘rational’. Bertrand Russell quipped that “Man is a rational animal — so at least I have been told. Throughout a long life I have been looked diligently for evidence in favour of this statement, but so far I have not had the good fortune to come across it.”<sup>14</sup> The joke is funny because it turns on an ambiguity in the predication of ‘rationality’. If by ‘rational’ we mean *successfully thinking* – the ability to think well, and to do so *reliably*, avoiding all ruinous fallacies, then the possession of rationality would be rare indeed. Children, the uneducated, the foolish, and many philosophers are not rational by this high standard. If, however, by ‘rational’ we simply mean the *potential* to become successfully rational, then every normal human has it.

A second misunderstanding, more dangerous than the first, is to think that someone

---

14. Russell, *The Basic Writings of Bertrand Russell, 1903-1959*, 72.

who cannot successfully think rationally is not even human. What about anencephalic babies, the genetically defective, the comatose, the mentally ill? Are they not really human? An uncharitable critic might accuse me of insinuating so. I deny the charge. In fact, it is a strength of my argument that I can make sense of exceptions.

Generics describe a life form well only when the sample includes exemplary instances of the species — not the young, immature, ill, injured, genetically defective, radiation poisoned, comatose, mentally ill, and so on. However, such are still recognizably members of the species. Anencephalic babies will never exemplify their natural potential for practical reasoning, for they lack the subvenient brain structure necessary for rational consciousness. They are recognizably *human* (they are not opossums), just defectively so. Similarly, we may call humans “bipedal” by nature but recognize that a war veteran is still human even after he or she is no longer bipedal.<sup>15</sup>

A final possible misunderstanding needs a response here. Someone might observe that terms such as “exemplary” or “normal” or “mature” are normative terms and hence charge that I am “smuggling” evaluations in to a process of objective, scientific description. I welcome the observation, but deny the charge. The discernment between ordinary, unusual (but not defective), and abnormal (and defective) is certainly an evaluative discernment. My point has been that such evaluative discernment is part and parcel of the objective, scientific generic predication.

---

15. In describing what gives human beings special dignity, Robert George articulates a similar point. He asks what is the line to draw between humans and other animals: “sentience, consciousness, self-awareness, rationality, or being a moral agent (the last two come to the same thing). We will argue that the criterion is: having a rational nature, that is, having the natural capacity to reason and make free choices, a capacity it ordinarily takes months, or even years, to actualize, and which various impediments might prevent from being brought to full actualization, at least in this life. Thus, every human being has full moral worth or dignity, for every human being possesses such a rational nature.” Adam Schulman, *Human Dignity and Bioethics: Essays Commissioned by the President’s Council on Bioethics* (Government Printing Office, 2008) chapter 16, “The Nature and Basis of Human Dignity”.



Researchers do not judge the characteristics of a newly discovered species of beetle by examining its young. They might, at first, mistake the initial specimen for a fully mature adult; but the correction would come from a further application of scientific methods. The capture of a larger beetle that appears to be *of the same kind* would suggest that the initial specimen was either a child or a runt. After collecting a sufficient sample of specimens (say, a dozen or preferably more) the researchers would be in the position to make justifiable fundamentally normative judgments about *which of these individual beetles is exemplary of the species*.

We can draw the same conclusion with a hypothetical situation in which humans are the newly discovered species. Suppose an alien anthropologist were to stumble across earth and study humans. Suppose that the initial specimen was a 12-year-old boy or girl. If that was the anthropologist's *only* sample, the alien race would come to all sorts of incorrect conclusions about humanity in general. If, instead, they studied mature, healthy, human beings of both sexes, in the "prime" of life, they would be closer to identifying "the human". My contention is that they would be best served not by examining foolish humans but practically wise ones.

I conclude that the ascription of practical reason to human beings is indeed true generically of the human life form, species, or nature. The rarity of successful realization of a capacity for practical reasoning does not tell against the truth of the generic, and neither does the existence of persons who may never actualize the capacity. Such exceptions rather support the thesis, for how else could we judge that a *genetic defect* except by reference to the genetic norm?

### **No Organic Natures**

There are a few other objections a reader might have at this juncture. The first objection is simply that we cannot identify "human nature" with any scientific accuracy because there

is no human nature. This objection has three iterations.

The first sort of critic might deny that there is any such thing as a human life form because there are no life forms at all. This is an objection to the very concept of a nature. Perhaps, instead of real life forms and natural kinds, we should be nominalist about divisions between various branches of the tree of life.

One iteration of this criticism is an alleged tension between the flexibility of species (as represented in evolutionary biology) and a fixed notion of human nature. In a seminal paper on natural teleology, Ernst Mayr says:

The concepts of unchanging essences and of complete discontinuities between every *eidos* (type) and all others make genuine evolutionary thinking impossible. I agree with those who claim that the essentialist philosophies of Aristotle and Plato are incompatible with evolutionary thinking.<sup>16</sup>

Arthur Ward is a recent critic who agrees with Mayr on this point. Ward argues that “naturalists should reject the idea of ‘human nature,’ and indeed should reject that any organism or its parts or operations has a nature, purpose, proper function, or the like.”<sup>17</sup> I have already pointed out that rejecting all organic natures and purposes is not necessarily the only rational, scientific option; indeed, such a rejection seems to me to be motivated by philosophical materialism far more than it is motivated by any respect for actual biological science.

Nevertheless, I cannot insist that accepting organic natures and purposes is the *only* rational, scientific option. Rather, to the idea that there are no natural kinds, I can only give a general and unsatisfactory response. This dissertation cannot chase down the (justifiably important) dispute about the status of natural kinds. However, the arguments of the previous chapter, built on the assumption of a minimal scientific realism, is enough to secure a fairly solid grounding for the notion of natural kinds.

---

16. Ernst Mayr, *Populations, Species, and Evolution: An Abridgment of Animal Species and Evolution* (Harvard University Press, 1970), 4.

17. Ward, “Against Natural Teleology and Its Application in Ethical Theory,” 1.

## No Natural Teleology

A second sort of critic accepts natural kinds but denies that these kinds have teleological features. For example, Bernard Williams: “The first and hardest lesson of Darwinism, that there is no such teleology at all, and that there is no orchestral score provided from anywhere according to which human beings have a special part to play, still has to find its way into ethical thought.”<sup>18</sup>

He says elsewhere:

The idea of a naturalistic ethics was born of a deeply teleological outlook, and its best expression, in many ways, is still to be found in Aristotle’s philosophy, a philosophy according to which there is inherent in each natural kind of thing an appropriate way for things of that kind to behave.<sup>19</sup>

This sort of critic thinks that there are natures or natural kinds and stable species with objective properties, but is underwhelmed by the arguments of the previous chapter to the effect that functional or teleological properties feature in purely biological descriptions of organisms.

My response is this: Williams voices a common opinion when he alleges an incompatibility between Darwinism and teleological realism. The response of Hursthouse, Foot, Brown, etc., is that natural teleology is indeed compatible with Darwinism and does indeed provide a “an appropriate way to behave” (or we might add, *ways*) that is “inherent in each natural kind of thing.” Such a view is not incompatible with evolutionary theory.

Strictly speaking, evolutionary theory is a set of theses explaining the current multiplicity and shape of terrestrial life. It says absolutely nothing about teleological causes

---

18. Bernard Williams, *Ethics and the Limits of Philosophy* (Taylor & Francis, 2011), 44.

19. Cf. Bernard Williams, in *Making Sense of Humanity: And Other Philosophical Papers 1982-1993* (Cambridge University Press, 1995), 109.

or properties.<sup>20</sup> There is room, in other words, within evolutionary theory for discussions about the evidence for or against non-mechanical teleological causation. Thomas Nagel is one who recently presented such a naturalistic theory of Darwinian natural selection combined with teleological causation.<sup>21</sup> I do not wish here to defend Nagel's view so much as to point out that teleological realism is compatible with evolutionary theory. Asserting that teleological realism about biology is incompatible with Darwinism does not make it so. Naturalistic teleological realism is certainly incompatible with a teleological nihilism distinctive of (certain brands) of metaphysical reductionism. If our knowledge of natural teleology is well-grounded enough then so much the worse for metaphysical reductionism.]

There is another point to make. Williams despairs of finding human nature, including human telos because he thinks such despair is demanded by biological science. Rosalind Hursthouse correctly points out that Williams' worry is not actually rooted in the progress of modern science. Williams himself admits that "many of course have come to that conclusion before... that human beings are to some degree a mess... for whom no form of life is likely to prove entirely satisfactory, either individually or socially."<sup>22</sup> If many have come to that (philosophical) conclusion before, without the benefit of modern science, why cite modern science as evidence for the philosophical conclusion? Hursthouse points out that

---

20. The biological claims include the following: The earth, which is very old, has given rise to simple life forms which have become over slow and gradual changes given rise to myriad life forms, some of which are very complex. The driving mechanism of this process is natural selecting acting on the genetic mutations of a given population. All of life originated from one original place and species. A philosophical claim, often appended to the biological ones, is that the process of natural selection is *unguided by any causes but material-efficient mechanical ones*. But this claim is a philosophical belief, not a biological one. Polemicists will sometimes cite the popularity of the philosophical belief among biologists as proof that it is a "biological" claim. But we do not determine truth by vote. If belief in God was popular among biologists of a certain era, it does not follow that theological claims are strictly biological claims.

21. Nagel, *Mind and Cosmos*. Briefly, he suggests that while physical laws work impersonally on entities at a given time, teleological laws might work impersonally on the same entities over time.

22. Hursthouse, *On Virtue Ethics*, 261, quoting from Williams.

we should interpret Williams' worry as an expression of moral nihilism and despair. It may be a rational despair, but the rationality or irrationality cannot simply be read off the biological facts. It is a non sequitur to amass scientific evidence for p and then to assert that q.

Williams believes that human nature is a complete mess because he believes no form of life is satisfactory. We might reverse the point and suggest that some human beings have exemplary lives and so human nature is not a complete mess. I do not wish to deny that human society is a repository of what Bertrand Russell calls "cruelty, persecution, and superstition."<sup>23</sup> I do not wish to deny that all human beings eventually die. I only wish to point out that part of my task is to distinguish between general tendencies from genuine normative facts. My thesis in this section is that there are some genuine normative facts, some universal characteristics of human nature that can be hypothesized and confirmed. Below I shall make the case that specific ethical conclusions can be derived from natural facts about human beings. Here I only wish to make room for the possibility that our data set of such facts cannot with integrity include all light and sweetness nor all dank and dark cynicism.

## Only Biological Nature

A third iteration of the "no human nature" objection is that if there is such thing as "human nature", it is nothing more or less than our biological and physiological makeup. Tim Lewens argues that "the only biologically respectable notion of human nature that remains is an extremely permissive one that names the reliable dispositions of the human species as a whole. This conception offers no ethical guidance..."<sup>24</sup>

---

23. Russell, *The Basic Writings of Bertrand Russell, 1903-1959*, 72.

24. Tim Lewens, "Human Nature: The Very Idea," *Philosophy & Technology* 25, no. 4 (2012): 459-74.

On Lewens' view, the only talk about our "nature" that would be scientific would be an indeterminate series of complicated stories about our genetics, evolutionary history, and neurophysiology, perhaps even including cultural, geographical, and ecological settings. The problem, as we have seen, is that an empirical "scientific" conception of human nature has nothing to do with *ethics*. All of the complicated stories we could tell – if they are genuinely scientific – would be purely *descriptive*.<sup>25</sup>

Bernard Williams expresses a similar point. He says that nature has bestowed upon us an "ill-sorted bricolage of powers and instincts":

[the problem] lies not in the particular ways in which human beings may have evolved, but simply in the fact that they have evolved, and by natural selection... On that [evolutionary] view it must be the deepest desire — need? — purpose? — satisfaction? — of human beings to live in the way that is in this objective sense appropriate to them (the fact that modern words break up into these alternatives expresses the modern break-up of Aristotle's view).

Williams objects that norms bestowed by the process of evolution would be those that lead us to survive and reproduce. Along similar lines, Fitzpatrick articulates a worry that evolution has bestowed upon is a very specific, ordered power but it is not the power to flourish but the power to reproduce. He says:

If, however, natural functions and ends in living things are structured by special relations established through the process of evolution through natural selection, i.e., non-incidental relations between traits and a special subset of their effects that figured into the selection process, then natural teleology will not ultimately or generally be about the welfare or flourishing of organisms.<sup>26</sup>

On Fitzpatrick's worry, the fact that there might exist natural human norms to reproduce is irrelevant to whether or not wilfully conforming to such norms would contribute to our

25. Cf. Hursthouse, *On Virtue Ethics*, chap. 10; Brown, *Moral Virtue and Nature*, chap. 5; Ward, "Against Natural Teleology and Its Application in Ethical Theory."

26. FitzPatrick, "Morality and Evolutionary Biology." Cf. William Joseph FitzPatrick, *Teleology and the Norms of Nature* (Taylor & Francis, 2000).

welfare.

A third proponent of this worry is Stephen R. Brown. Brown's defense of virtue ethics is ambivalent. He seems to *wish* he could make the account genuinely normative but concedes that it is, in the end, merely descriptive discipline.<sup>27</sup> Even virtue ethics, after being appropriately "naturalized", does not *commend* the virtues so much as *detail* the traits which happen to be adaptive for creatures like us to survive and propagate our genotype.<sup>28</sup> Brown thinks that human beings do have a characteristic form of life involving highly rarefied neurological and cognitive processes we do not observe in other animals; but, nevertheless, he thinks that biology reveals that species are the only natural kind, and species aim to survive and reproduce.

This objection is certainly relevant. Despite the varying details, what Lewens, Fitzpatrick, and Brown agree upon is that if such a thing as human nature or the human life form exists, and if such a thing as a natural teleological norm for humanity exists, then it is the norm to reproduce and propagate one's genotype.

My response is that human norms arise from our nature as practical, rational primates not just from our nature as primates. All three objectors commit a subtle fallacy by presuming that the norms that apply to all organisms apply to humans *and nothing else*. I can agree that, *prima facie*, human beings as a species are endowed by evolution with a natural norm binding them to reproduce. But I deny that *that is all*. The only way they can sneak in the view that *that is all* is by begging the question. My view, by contrast, is based on empirical observations.

I have been at pains to articulate the way in which we are animals – but animals of a peculiar sort: That is, practical, rational primates. If this generic about our life form is correct, it suggests a teleological combination like the ones expressed in chapter 2: an

---

27. Brown, *Moral Virtue and Nature*.

28. Stephen Brown, "Really Naturalizing Virtue," *Ethica* 4 (2005): 7–22.

embryonic mammal *is to become* a fully grown mammal. A practical primate *is to become* a fully mature practical primate. In other words, one of the “norms” of practical rationality, we can venture, is that we *ought to be successfully practically rational*.

Above, I asked the innocuous question: ‘Are human beings natural organisms?’ One sort of reader believes that human beings are *merely* natural; under the guise of merely asserting an innocent truism, this reader would insist that humans are machines made of meat, or “heaps of glorified clockwork”<sup>29</sup> in the same sense that all of Laplacian nature is a heap of glorified clockwork and all its myriad variegated objects are just parts of the heap. This first sort of reader can acknowledge that the human brain exhibits rarefied neurocognitive processes we do not observe anywhere else but would deny that human beings are different in kind.

A second sort of reader believes that humans are natural organisms and something more; under the guise of asserting an innocent truism, this reader would insist that human beings are organisms of an altogether different kind. A religious philosopher might argue that human beings are endowed with the *Imago Dei* that makes us exceptional. But even non-religious philosophers might argue that human rational activities and pursuits represent a qualitative break in the animal kingdom. This sort of reader can acknowledge that the human body is a material organism like many others but would insist that the mind is something of a different order.

Rather than pick sides on this issue, I recommend a health agnosticism. If human beings were *merely* animals, and subject to *merely animal* natural norms, how would we know that? We would have to exercise our practical rationality (the same practical rationality that distinguishes us from the other animals). If we were animals of a peculiar sort, how would we know *that*? We could only justify such an assertion by appealing to observations

---

29. Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature* (Penguin, 2003).



of our peculiar behaviors. And that appeal is just what I have been making: humans are the only ones who speak, who associate in such complex societies, who plan their actions like this, and who innovate and create. Those observations are enough to render it plain, I think, that our natural telos is not likely to be restricted to only the animal nature we share with the rest of the living world.

If this is correct, then the insights of Lewens and Brown and Williams can be accommodated. For example, reproduction is certainly *one* of our natural ends. “Human beings reproduce” is an instance of a broader natural generic truth we can articulate by saying: “organisms survive and reproduce.” Human reproduction as a generic pattern is compatible with exceptions: The celibate, the pre-pubescent, the single, the infertile couple, the homosexual couple, and others do not themselves reproduce. Nevertheless it may be true that humans reproduce (like every other organism). It seems to me that if, *as a species*, we ceased to reproduce, something would have gone wrong.<sup>30</sup> That any particular individual does not reproduce is not an automatic sign of defect.

## Knowing from Inside

There is one further objection that requires full treatment in a later chapter. I will mention it here. The objection that human nature is *merely* animal and hence the human telos is *merely* survival and propagation of the genotype was supposed to tell against the organic teleology I have been defending. My response is that, in practical rational creatures like us, our biological norms are joined with other norms. In one sense, these critics agree with me,

---

30. The “Voluntary Human Extinction Movement” is an example of a group who find the reasons for reproduction *as a species* to be on balance outweighed by the reasons for ceasing to reproduce. Two comments: first, on first impression, VHEMT strikes most people as satire. It is a laughable movement. It is not necessarily mistaken, but it is certainly laughable. Secondly, VHEMT acknowledges the *prima facie* force of the need to reproduce. They argue that that need is outweighed. So in that they think species-wide reproduction is a default natural norm, we agree.

because they think it is “obvious” that reproduction is not our *only* norm and so the merely “natural” or “biological” norm must be supplemented with the practical point of view – the point of view from within human subjectivity. Their worry is that once we introduce the practical point of view we will leave biological naturalism behind. This is sometimes called “the Irrelevance Objection”. I offer a fuller response to the Irrelevance Objection in chapter 6.

### **Our Nature is Unknown**

A final objection might come from someone who simply urged that human nature is mysterious. For all we can tell without the benefit of divine revelation, humanity is an anomaly. Our origin is shrouded in mystery, our destiny undecided.

I concede the point. My thesis is not that we know everything about humanity that we will ever need to know. My thesis is that observing our nature as practical primates is a minimal starting point of knowledge upon which to build. Knowing that snakes are legless reptiles is not an end to the scientific inquiry, but a beginning. Indeed, one cannot know about snakes unless one knows, roughly, what snakes are. So capturing the genus and differentia of a kind of organism is in fact necessary for creating a conceptual placeholder *on which to attach new knowledge*. Knowing what human beings are, however roughly, gives us a concept-category within which to fill in the depth and breadth of facts and information.

The main thesis of this chapter has been that the following generic is true: “human beings are practical, rational primates.” This generic, I have argued, is defensible both philosophically and scientifically. It is discoverable both by humans examining our species from “within” the human point of view and by alien anthropologists examining our species from “outside” the human point of view (so long as they too were intelligent and rational). This generic picks out a property or set of properties we might describe as ‘human nature.’ If this is anywhere near to correct, then human nature is not a complete mystery. We know

*enough* about it to build a neo-Aristotelian theory of ethics grounded in evaluations of human beings by reference to the human life form.

## IV. Natural Norms, Human Norms

If the argument has been successful thus far, then best evidence suggests that human beings are practical, rational primates. This generic captures a set of truths about the human life form and natural telos in the same manner as other respectable scientific statements, such as ‘the platypus is an egg-laying mammal’ and ‘the baby chick becomes a rooster’. What is the ethical significance of this proposition? The remainder of the chapter fills out the details of the picture.

As natural organisms, humans pursue certain basic goods: food, water, rest, shelter, comfort, survival, reproduction. There is every reason to affirm the truth of generics such as “human beings eat food” or “human beings sleep daily.” We should hypothesize that deviation from these *prima facie* norms would be *prima facie* defective. And that turns out to be the case. Anorexia, starvation, insomnia, and so on are disorders. Importantly, such disorders would plausibly be recognizable by an alien anthropologist. Just as a scientist may evaluate a particular wolf by reference to its life form, an alien anthropologist could evaluate a particular human’s life and actions by reference to its life form. So much applies to both humans and other organisms.

Things get really interesting – and much more tricky – when we consider humans as reasoners. I have used the term ‘practical primate’ to encompass all the ways in which human beings distinguish themselves by being scientists, moral agents, planners, creative writers, deliberators, speakers, political agents, and so on. As mammals, human beings pursue mammalian goods. As practical rational agents, human beings also pursue practical rational goods: wisdom, friendship, world travel, education, entertainment. These seem

categorically different. Are they so different as to ruin the pattern of naturalistic evaluation?

Michael Thompson thinks not:

... will and practical reason are on the face of it just two more faculties or powers a living being may bear, on a level with the powers of sight and hearing and memory. The second crucial thought is that an individual instance of any of the latter powers — sight, hearing, memory — is intuitively to be judged as defective or sound, good or bad, well-working or ill-working, by reference to its bearer's life-form or kind or species.<sup>31</sup>

Naturalistic evaluation of human beings on the basis of practical rational activities follows the same pattern as before. Every animal's nature or life form has genus and differentia. For human beings, our differentia is that we can engage in practical reasoning. Hence, our animality and our rationality both count. Being a primate entails that we are alive and share properties in common with all organic nature. Being a practical reasoning primate includes a set of capacities, including abstract thought but also more: speech, sociality, rational practice, and creativity. I also argued that the generic truth about humanity holds good in the face of important objections to the effect that we have no nature, or that our only nature is biological. I have not yet fully articulated what effect rationality has on our animal nature and rebutted the objection that it renders irrelevant all the *prima facie* natural norms arising from our animal or biological nature. But I have argued that there is good reason to affirm a kind of *prima facie* natural normativity binding on human beings.

The new natural criteria by which to judge the human organism includes reference to its practical life form. For example, consider generics such as these: "The human being acts upon reflection"; "the human being speaks a language"; "the human being lives in society", and so on. These natural human norms are well on the way to being genuinely ethical. Deviations from them represent genuinely *human* defects. Folk morality recognizes something wrong with the jolly fool who willfully acts before deliberating, or the blowhard who

---

31. Thompson, *Life and Action*, 29.

willfully speaks without restraint, or the paranoid hermit who willfully avoids all human society. Naturalistic evaluation explains *what exactly* is wrong. Such persons are not living up to their own human life form.

There is a second ethical upshot. If acorns are (potential) oak trees, then it seems to follow that an acorn *is to become* an oak tree. I won't insist on using the word 'ought' (the acorn *ought to become* an oak) because 'ought' strongly suggests agency, which is absurd. But I will insist on the *natural normativity* of that statement. The individual acorn that fails to become an oak *never* fully realized its nature. Likewise, if human beings are practical rational primates then it follows that human beings *are to become practical rational primates*. This normative generic proposition is rooted in the thought that humans *are* practical rational primates. But it goes further to suggest a teleological end: we are to become fully what we already are.

Furthermore, if our nature is to be practical, rational primates, then we have some vague notion of our natural "function." I shall not go in for the Aristotelian view that the natural work (Greek: *ergon*) of human beings is contemplative science, an activity by reference to which success and failure may be judged. Rather, I shall be more ecumenical: the telos of every life form is, at the very least, to do all the activities that constitute its mature flourishing. So we should predict quite generally that the human telos is to become *fully mature* practical, rational primates. The conceptions of human nature (as practical reasoning animals) must be defined in relation to virtue (the excellences of rational practice and practical reason) and to human nature as it could be, our natural telos (to be excellent and mature practical, rational primates).

Becoming fully or fully actualized practical rational animals requires the actualization not only of our animal nature (through growth, maturity, reproduction) but our rational potential (through intellectual growth and knowledge, and practical wisdom that sublimates all of one's emotions and bodily desires and physical settings into a good life). In other

words: Humans are to become practical, rational animals.

The third ethical upshot has to do with excellence. Suppose that the excellence of species X is a quality that both constitutes being an X and enables an individual to realize X-hood. Having a bill or being able to swim is both constitutive of being a penguin and also enables the young penguin to develop into maturity and realize its nature. Now apply that same pattern of evaluation to a human being. What are the excellences that are both intrinsic goods-of-a-kind for creatures like us and also instrumental to realizing our natural telos? Virtues.

Virtues enable one to be a practical, rational primate, but they are more than instrumentally valuable. Virtues on my account will also turn out to be constitutive of humanity. It may seem to odd to categorize essential properties of humanity as morally praiseworthy traits. But the point is essential to my case. Virtues are not just “morally praiseworthy” qualities; they are *the human* qualities. Virtues are examples of *humanness* in its exemplary form.

I grant that the notion that virtues are “the human” qualities is a reversal on the all-too-common mistake that “human” qualities are neutral with respect to moral praise or blame. The reason for this reversal of, as I tried to argue above, is that all life forms discovered by scientific investigation and articulated in generic propositions are inherently normative. Hence, the concept of human nature cannot and should not be value-neutral. Rather, as Micah Lott points out, the concept of human nature:

...must embody a normatively significant understanding of human life and action. For any conception of human form is a natural-historical account of ‘how the human lives.’ As with ‘the tiger’ or ‘the mayfly,’ a natural-history of ‘the human’ provides an interpretation of the characteristic and non-defective life-cycle of the species.<sup>32</sup>

Virtues on my account will turn out to be qualities that enable one to be fully become a

---

32. Lott, “Moral Virtue as Knowledge of Human Form,” 770–1.

primate (and animal and organism more generally): as mortal creatures and animals, our biological life consists of a process of maturation, nutrition, rest, exercise, homeostatic maturity, reproduction, characteristic activities, aging, and death. Many human goods enable this process, from oxygen, food, sleep, and so on. Virtues may not be material things but are likely to relate to such material and emotional parts of a normal human life.

Human virtues would also be those qualities that enable one to perform characteristically rational activities such as speaking, socializing, thoughtful acting, and creating. By nature, we are inherently self-aware language-users who grow up and live in a language-community with a history and tradition, and who are curious to know what is true about ourselves and our world. We are also extravagantly innovative, creating myriad tools, forms of art, and other products for our use and enjoyment. We are inherently conscious and self-conscious beings who speak, interpret, and create in the context of a linguistic community such as a family, society, and culture. And as *practical* rational animals, we are inherently goal-oriented and self-determining beings who are to some degree able to acquire new traits or lose them, able to achieve our natural ends or fail to achieve them, able to become aware of the “givenness” of our biology and work with or against it, and are able to treat an entire biological life not only as an event but as a project. Although we are pushed about by our biological instincts and by social pressures, we do not *simply* stumble around through life; at times we also act on *reasons*. That is, we deliberate about future actions, and reflect on past actions, and become puzzled about what is called for in the present. The success of our actions is not guaranteed, and the reasonableness of our justifications is not guaranteed. Rather, we muddle through on the best evidence we have.

The criteria of a definition of virtue, then, is that the excellences intrinsic to our life form are those qualities that practical rational animals per se *need* to be what they are and to live life in such a way as to become what they can potentially become.

Just as importantly, *natural badness* would be the property or set of properties that

practical rational animals *need to avoid*. The category of natural evils is expansive: hunger, exposure to predators or extreme temperatures, disease, accidental injury, and premature death. In some sense, each of these frustrates one's development toward the natural end of being a fully mature practical reasoner and hence partly constitute species-specific misery. But the sub-set of natural evils we should call 'vices' would be those acquirable qualities that we inflict upon ourselves and others.

Hursthouse points out that we do not just admire those who survive but who exemplify a *human* form of life: "The human virtues make their possessor good qua human being, one who is as ordinarily well fitted as a human being can be in not merely physical respects to live well, to flourish – in a characteristically human way."<sup>33</sup>

## V. Conclusion

This chapter has argued that human beings are practical, rational animals. I addressed and responded to several objections, and tried to bridge the connection between the descriptive/normative generic that sets the standard for our life form, and also show how specific ethical obligations fall out of that normative foundation: there is a *prima facie* obligation to eat or sleep and keep oneself alive, or to become fully practically rational over time.

And, as I shall argue more fully in the next chapter, I sketched how the specific qualities of excellence for practical rational animals are moral and intellectual virtues, including moderation and immoderation, justice and injustice, practical wisdom and foolishness, and so on.

The hypothesis is that virtues are a specific type of quality belonging to creatures like us. Virtues are the human specific goods-of-a-kind. The virtues constitute a set of normative constraints on what one can/should be and can/should become arising from one's

---

33. Hursthouse, *On Virtue Ethics*, 208.



---

nature as a practical primate. The acquisition, then, of virtues both causes and constitutes the actualization of our life form as practical rational primates. Truly exemplifying our life form constitutes our species-specific flourishing. Virtues are commonly supposed to be “excellences” of human beings. Relative to what is such a quality excellent? The answer can only be that virtues are excellences relative to our nature or life form. They are the traits or qualities that enable us to actualize our life form, to fully express in a life what we are by nature. If what we are by nature is practical, rational primates, then virtues (we can further predict) will be traits pertaining to practical reason and animality.

## Chapter 4

### Virtue and Vice: Rational and Irrational Practice

Men need virtues as bees need stings.

---

—Peter Geach, *The Virtues* .

#### I. Introduction: Virtue as the Human Norm

The thesis of this chapter is that certain qualities are virtues and vices for creatures like us: rational practices and practical reasoning are excellent qualities of practical rational primates – while irrational practices and practical irrationality are natural defects.

I argue that virtues have (at least) eight common properties besides being by definition good for their possessor: namely, virtues are beneficial to all of the species (not just their possessor) and so break down the assumed divide between altruistic or other-regarding virtues and egoistic or self-regarding virtues; virtues constitute excellent human *functioning*; they are especially beneficial in that they are corrective of tempting vices; virtues are not any positive traits such as those given by luck, nor are they necessarily even *acquired* at all – rather, virtues are *acquirable*; some virtues are excellences of “rational practic-