

Without Nature?

A NEW CONDITION FOR THEOLOGY

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Without Nature?

David Albertson

One must have the strength—and from time to time make use of it—to shatter and to unravel a past, in order to be able to live. . . . Yet if we condemn our mistakes and consider ourselves freed of them, still the fact remains that we are descended from them. In the best case, we come into conflict with our inherited Nature, indeed to the point of a struggle for a new, austere discipline against things long accustomed and even innate. We cultivate a new domestication, we implant a new instinct, a second Nature, so that the first dries up. As if it were an attempt to give oneself a new past *a posteriori*, out of which one would prefer to have sprung, in contradiction to that from which one did. Always a dangerous attempt, because it is difficult to find limits in denying the past, and because second Natures are often weaker than the first. . . . But now and then the victory is won, and for those who struggle on there is even . . . a remarkable consolation: namely, to know that the first Nature at some time was a second Nature, and that each victorious second Nature will become a first.¹

FRIEDRICH NIETZSCHE, *On the Uses and Disadvantages
of History for Life* (1874)

In 1989, the naturalist Bill McKibben observed the “end of nature,” the dissolution of the widely held perception that nature stands substantively independent of human action.² One used to consider nature to be the permanent, static backdrop to the drama of human affairs: weather patterns, topographical contours, animal populations, genetic composition. Increasingly we now reckon with the malleability of these “natural” phenomena, which previously formed a limiting network bounding human agency from without. Whereas nature may have once denoted the edge of human intervention, it is decreasingly distinct from other products of industry.

Take mountains, for instance. Geographical formations would appear an indubitable instance of pure nature: the ultimately solid, the intransigently and wholly wild, the ground beneath our feet. Yet in the last century, coal-mining engineers developed “mountaintop removal mining.” The technique, a common practice in the western United States, explodes

all land above the seam and then digs out the coal with giant mechanical shovels. A routine mountaintop removal uses so much explosive—fifteen times that used in the Oklahoma City bombing—that foreign governments have mistaken them for secret nuclear weapons tests.³ When the accessible coal seams are exhausted, the original soil can be replaced, but it is often deposited elsewhere to create a wholly new topographical feature. The mountaintop is simply relocated. Reshaping the natural landscape on this scale has more than aesthetic consequences and can significantly change patterns of erosion and water runoff, multiplying rainfalls into small floods.⁴ Soil harvested while removing mountaintops contains toxic heavy metals such as lead, arsenic, and selenium, often carried by runoff into local aquifers. One can easily marvel (or cringe) at the modern capacity to reshape nature according to our needs. Moving mountains, once the measure of faith, is now an everyday practice.

But such power over nature and the decline of its pristine state are not distinctively modern. Three thousand years ago, the Incan population of present-day Peru and Bolivia began irrigating the Lake Titicaca basin. The landscape was hostile to farming: a desert in dry summer months, frosted over through the winter, a veritable swamp in the spring. Population growth among the Incas compelled the invention of an expansive network of canals and raised fields that channeled mountain runoff but also altered the local ecology. Archaeologist Clark L. Erickson documents the radical effects of Incan raised-field technology: redirection of rivers, changes in erosion patterns, and significant microclimate shifts. He calls the result “a totally human-created landscape” spanning more than 120,000 hectares (roughly half the size of Rhode Island).⁵ It was only recently that we discovered that these impressive plateaus were not works of nature but rather, as anthropologist Michael Moseley notes, “the largest man-made structures ever constructed.”⁶ Whether raising up new plateaus or removing the tops of mountains, human technologies have created the “natural” givens of geography for centuries.

Shifts in biological nature can seem more dramatic. In 2003, it was documented that in one area of the North Pacific there are now six pounds of plastic waste for every one pound of zooplankton. The largest patch of garbage flotsam is approximately the size of Texas.⁷ Such changes in the natural environment are soon reflected, of course, in human nature. In May 2006, physicians from the University of Massachusetts presented new evidence of the danger of “endocrine disruption” in children from environmental contaminants—namely, unregulated estrogen and testosterone additives found in some cosmetics and shampoos. The results of endocrine

disruption include the onset of puberty in preschool-age children, breast enlargement in young boys, dramatically early menstruation in young girls; comparable results have been documented in alligators in Florida in the 1980s and fish in England in the 1990s.⁸

Are we now “without nature” in a way we were not before? As many environmental thinkers now recognize, recent transformations of “nature” as environment and “nature” as human nature are parallel and to some degree linked. While the spheres of human and nonhuman “nature” are often addressed distinctly in bioethical and ecological ethics, in this volume we consider them in tandem. Is it possible that ecological collapse and genetic manipulation are symptomatic of conceptually broader and more globally operative cultural shifts—a changing understanding and valuation of “nature” itself? By joining these questions together, we seek to stimulate second-order and cross-disciplinary reflection on how alterations of “nature” impact theological categories.

This situation raises a series of challenging questions. In asking about nature’s destabilization, we are also asking about the sustainability and ecology of Western Christian religious discourse itself, given its historic reliance upon concepts of “nature” and “human nature.” Western Christian theological traditions have invested heavily in some version of “nature” to express the meaning of grace. Yet in the last century, both Protestant and Catholic theologians have challenged the viability of a “pure” concept of nature, and in the human sciences, concepts of nature are viewed with suspicion. Would the loss of such an ecological or biological constant place new conditions on Christian theology in the present? Would the end of nature render grace less comprehensible? Without its customary notions of nature, how would Christian theological ethics begin to address the “end of nature” in bioethics and environmental ethics? What does the Christian notion of the “supernatural,” or the idea of transforming human nature (through grace), have to do with the technological quest to transcend human limits?

The ambiguity of this volume’s title reflects its two guiding questions. First, we contemplate the situation theology would face in the present, given the hypothesis of the loss of nature. Would the decline of nature lead to a diagnosis of ill health for Christian theology, a “new condition”? Second, we consider different ways forward for theology. Would the end of nature entail new limitations placed on Christian theological ethics, a new boundary “condition” that cannot be escaped? Thus we do not assume the end of nature as a fact nor address it independently as something to be demonstrated. The logical form of our question is conditional: If

nature were no longer to be what it was, what consequences would follow for Christian reflection—especially its reflection upon environmental and biological phenomena?

In some ways the question of nature's disappearance or dissolution looks not that new after all. In the *Laws*, Plato already expresses anxiety about fashionable new philosophers misleading the young by suggesting that the gods exist not by nature (*physis*) but by craft (*technē*), that is, by cultural and legal convention (*nomos*), such that justice, he says, varies as a function of geography. The wise man rather “ought to support *nomos* and also *technē*, but acknowledge that both alike exist precisely by nature, . . . so far as either is the creation of the mind in accordance with right reason.” Plato's desire to conserve the regularity of nature in order to ward off cultural relativism sounds familiar to twenty-first-century ears. Without nature, the young would think that “what justice is, is dictated by the victory of the violent” and that “living according to nature” really means “living in dominion over others.”⁹

Aristotle distinguishes nature (*physis*) both from custom (*hexis*) and from craft (*technē*). And even in his milieu he has to confront the deflationary account of Empedocles, who suggests in the context of organic elements (in tones reminiscent of those whom Stuart Newman calls “biological postmodernists”) that “of nothing that exists is there nature, but only the mixture and separation of component parts; nature is only a name we give to these.”¹⁰ On the contrary, says Aristotle, nature is the immanent principle and source of the self-movement that animates living things (*archē kinēseos*).¹¹ Following Aristotle, it is Boethius, at the turn of the sixth century, who is the first Latin author to contrast something done “naturally” versus “artificially” (*naturaliter*, *artificialiter*).¹² He does so in order to explain, a few sentences later, the incoherence of some of his contemporaries' theological positions.

Cicero is the first to use “another nature” (*quasi altera natura*).¹³ But the first clear contrast of first nature and second nature arrives within a theological judgment of Augustine. For Augustine, the powerful human drive to sin has the force of a natural principle: “Our habitual evil . . . is also by the learned customarily called ‘second Nature.’”¹⁴ Hence Augustine distinguishes the “first nature of humankind,” created perfect by God, and human nature after the Fall, “so to speak a second nature” (*quasi secunda natura*), a nature that the advent of grace then restores.¹⁵ Grace is the divine answer to the fatal doubling of human nature.

Making sense of (and even worrying about) “nature” stands among the oldest questions in European traditions of anthropological, scientific, and

theological reflection. But our wager is that something has shifted under our feet in the way we relate to nature—as if a mountain has been picked up and moved. If something fundamental has shifted, if the possibilities of how we ask the old question of nature have been redefined, then ours appears to be a unique time for thinking about nature. But then how do we move forward into what Friedrich Nietzsche calls the “dangerous attempt” of releasing oneself from a past, the past of nature? Nietzsche’s words, cited above, represent a warning to those who might revisit the meaning of nature for ethics and theology today: nature’s past, its present avatars, its questionable future. For contemplating a new condition “without nature” means to deny, to unravel, or to negate a past once taken as secure. Nietzsche’s play with the idea of “second nature” is especially trenchant. We can oppose nature’s past and the older, more stable concepts long familiar. With the advantage of hindsight, we search for pasts of nature that might have been. We carry these meager gleanings with us as we try to take steps forward—without nature but with something new. But can any second nature give back what has been lost? Nietzsche warns of two dangers that threaten the attempt to break with nature’s past. One could end up denying the past without limit, finally severing ineluctable and even productive historical influences—as if to burn one’s map out of frustration with being lost. Or one could concoct an arbitrary, imaginary second nature, an artificial substitute perhaps weaker than the original.

There are a few obvious ways of moving forward into a future Christian theological ethics under the condition of being “without nature.” One could propose an improved concept of nature. One could suggest a solution to nature’s troubles out of the resources of Christian theology itself. One could introduce a methodological distinction that enables theology to ignore new developments in the environment and biotechnology. These alternatives are familiar and attractive, but each effectively circumnavigates the very problems raised by nature’s new inaccessibility. The contributions in this volume attempt instead to linger with these difficulties and thus to resist the impulse to propose a theological answer prematurely. A few principles guide this strategy.

First, in addressing what it means to think theologically “without nature,” there is a constant danger of attempting a resolution of the condition merely at the level of the concept. One might attempt to measure the weak points of past concepts of nature, analyze their problems, and then fabricate a new concept, one that has been expressly designed and produced for our new condition. Along these lines, one might try to find a more dynamic, flexible, reciprocal notion of nature, or one that is holistic,

relational, organic, or one that takes into account the wisdom of many different traditions, hoping that an amalgam of different substrates forms a stronger composite. But down this path, as Nietzsche warns, the denial of the past soon knows no limits, and we may quickly sever any real connection between historical “first” natures and the improved “second” nature that we have thus synthesized. Will this synthetic nature-concept be any stronger? What is the utility of fabricating a better ideal concept, when the real effects have already outstripped us? On closer study, this desire to reconceptualize may turn out to be only an intellectual reflex, a delaying tactic, that can obstruct a critical contemplation of the actual past from whence the problems arose. So the contributors in this volume attempt a broader response to the question of nature beyond simply fabricating a new concept of nature.

A second principle guiding this volume is that theology itself, particularly Western Christian theology, cannot simply exempt itself from the situation of being “without nature.” It too stands under this condition. “Nature” can be defined as the context for human life (ecology and geography) or as the identity of human life (genetics and anthropology). But nature has another important meaning. In a history not unrelated to the fates of these first two senses of nature, Western Christian theology has relied heavily upon nature to express the meaning of “grace.” Augustine’s innovation of a distinct doctrine of *gratia* as special divine intervention was formulated in opposition to the perceived capacities of a corrupted (“second”) human nature. Boethius captures the distinction with typical clarity: we should receive death as a punishment for sin *per meritum naturae*, but God confers salvation *per donum gratiae*.¹⁶ Grace, divine action, the subject matter of theological reflection, becomes intelligible by contrast with “nature”: grace as gift and gratuity (as opposed to normal dues), as excess (as opposed to adequation), as God’s surprising action (as opposed to regular human capacities).

Different Christian traditions relate the pair with different emphases. Catholic traditions tend to interpret grace as a superaddition to nature—nature being anchored in grace, having its natural end in the creature’s movement toward God, but also needing the supplement of further grace to reach that end. Reform traditions tend to view nature as that which is overcome in grace, since God’s presence arrives in perfectly sovereign freedom from the givens of nature. God does not add grace to nature, because nature is precisely what is being overcome in grace. Eastern Christian traditions tend to imagine grace as the fullness, the illumination from within, of nature’s true identity.

Despite these differences, we can say that most Christian theologies require some initial term to identify the distinction of grace and that this term, “nature,” is traditionally imagined in connection both with the physically created world and with human identity and capacities. If we were to be without nature in these latter two senses, would grace become less intelligible? Would theology and theological ethics have trouble articulating themselves? If nature is passing, what would that mean for the theological understanding of creation (the “natural world”)? For the intelligibility of grace as a gift, as something more than what is already given? For the ability to explicate a theological anthropology? For any theologically informed ethics?

Through the first half of the twentieth century, many Protestant and Catholic theologians agreed that more dynamic understandings of grace were required. In his several historical studies, Henri de Lubac stresses the graced, gifted character of nature within Augustinian traditions and thus the relative autonomy of grace from nature. Nature is already a gift of grace; therefore it is a mistake to overemphasize the self-sufficiency of nature “before grace.” There is nothing before grace, nothing before divine action, hence there is no “pure nature.”¹⁷

Louis Dupré contextualizes de Lubac’s point within a longer historical narrative. Dupré describes the divorce of theology from the sciences that took place in the late Middle Ages and early modernity once a new notion of nature gave license to the sciences to seek their own fortune autonomously. Once a theological notion of “pure nature” changed from being a working hypothesis to something real in its own right, theology entered into a fundamentally different relationship with the sciences:

Once the order of grace had become marginal to nature, however much it might claim to remain its ultimate goal, its potential for intrinsically affecting culture vanished. Theology lost thereby much of its original role. Instead of shaping the very substance of culture, as it had done in the past, it became reduced to a science among others with a method and an object exclusively its own. Because of its remoteness other sciences could freely ignore it and, where it continued to retain a modicum of (mostly political) authority, went out of their way to avoid any contact with it. Incapable of remedying a condition inherent in the modern concept of culture yet still controlling the consciences of the majority of its members, theology had little choice but to move forward on its self-made path.¹⁸

In the twentieth century, the question of nature and grace was not so much resolved as suspended until further notice. Hans Urs von Balthasar

explains what was at stake in a 1953 article on the theological concept of nature.¹⁹ “Behind apparently subtle differences far removed from real life,” he writes, “there stand decisions which strike at the nerveword, the very lifeblood, of theology.” In his survey of Karl Barth, Karl Rahner, Henri de Lubac, and other contemporaries, he suggests that if the requisite conceptual differentiations become ever more finely nuanced, and if “solutions to early phases can no longer simply count as finally valid for the present-day state of the problem,” then this only demonstrates the importance of the problem.

Even in its theological use, the course of the twentieth century in Western Christian theology left nature weaker. The historical uniqueness of our moment, then, is the relative simultaneity of three trends: nature is destabilized not only through environmental degradation and genetic technologies but also within the very Christian theologies that intend to address these two challenges. How, then, does one relate Christian theological ethics today to the question of nature?

There are a few customary ways of approaching nature from the province of theology. One can outline a natural theology, extrapolating statements about God on the basis of putative knowledge of nature. One can construct a theology of nature, or ecotheology, taking nature as creation and as a fragile environment for stewardship, preservation, and justice. One can identify ethical questions raised in the domains of nature: bioethics and environmental ethics. It goes without saying that these are valuable contributions. But we can also postpone the moment of theological engagement with nature in order to interrogate what kind of posture and premises it entails. Ecotheology, theologies of creation, and natural theologies all attempt to levy a theological perspective (that is, a particular understanding of grace) to a field: ecology, creation, or nature. But the very ground on which one establishes a stable understanding of grace has been shaken.²⁰

There is a fallacy that we might call the “therapeutic model” of theology’s self-comportment. According to the therapeutic model, theologians hear the dilemmas of the sciences and then answer their perceived deficiency by providing the necessary understanding of God, world, or self that allows the nontheological sphere to overcome its dilemma. But to operate in this way only reifies a particular construal of the nature and grace at the disciplinary level—supplementing natural and social sciences with theologoumena that purportedly complete their (so to speak, “natural”) findings by adducing (so to speak, “supernatural”) doctrines that fulfill their otherwise incomplete intentions or ends. This method, however,

not only underestimates the complexity of any robust theological engagement with other disciplines (an engagement that is inexorable); given our concerns, it only begs the question.

This therapeutic model of theologizing interprets ethical dilemmas as conceptual problems that can be solved by supplying an appropriate theological judgment. Yet this assumes that theology stands apart as an unaffected whole, isolated from the crisis it purports to resolve. But theology is never so isolated in fact. The withdrawal of nature is not a local condition affecting only biotechnology and ecology. Intratheological judgments regarding nature and grace, despite the evident variance of terms, are indissociable from the concrete state of “nature”—nature on the ground, so to speak. If one chooses to abstract the theological treatment of nature and grace from the meaning of nature for the sciences, that denial of engagement itself reflects a theological judgment about nature. Hence there is an irreducible connection between what “nature” means for the articulation of grace and what it means (if anything) as an ecological, biological, geographical, or anthropological given.

If we cannot address the condition of being “without nature” either by inventing a new nature-concept, or by withdrawing Christian theology from every liaison with nature altogether, what alternative is left? Historical memory and theological principle alike point one toward a renewed engagement with the contemporary natural and social sciences. Our wager in this volume is that a dialogue with the sciences—in their plurality, in their cultural embeddedness, and in their own struggles to think what “nature” means today—holds the first step for Christian theology’s own resolution of the problem of nature.

It was precisely the revival of discourse about “nature” in the Latin West around 1100 that accelerated the emergence of differentiated disciplines of knowledge and their separation from ecclesiastical theology. The main thread by which we receive the problem of nature in dialogue with the human and natural sciences—the translation of Aristotle from Arabic sources and their troubled integration into the curriculum of the thirteenth-century University of Paris—begins in fact in the twelfth century.²¹ The twelfth century was the age of the “discovery of nature,” in the words of medieval historian Marie-Dominique Chenu, and the construction of a new kind of knowledge, *scientia naturalis*.²² Among circles of scholars at Chartres and Paris, progressive theologians and natural philosophers generated an ideal of autonomous *natura* that whetted the appetite for the wave of Aristotelian translations in the thirteenth century.

Older Christian thought viewed nature as a “book” written by God, a kind of second volume after the book of Scripture, which can be interpreted through reading other books.²³ But in the twelfth century, influenced by methods of Islamic natural science, something changed in Western Europe:

In place of this symbolic understanding of nature, there emerged an original interest in the structure, constitution, and laws proper to physical reality. Reason begins increasingly to seek to acquire knowledge of these things through scientific methods. . . . The increasing knowledge of the natural world thus parallels the effort to found a *scientia naturalis*. . . . “Discovered nature” thus becomes the subject of a *scientia naturalis*. At the same time, nature is nothing but that which *scientia naturalis* discovers.²⁴

Thierry of Chartres, for example, ventures a new reading of Genesis “according to natural science” (*secundum phisicam*).²⁵ His philosophical writings theorize nature as a realm of relative autonomy that God ruled but preserved intact, such that human minds could know the physical world of nature without divine illumination or intervention. William of Conches writes that “nature is a certain power immanent in things that produces like from like”²⁶ and that “nature, fleeing imperfection, struggles by a formative power to bring to completion each particular thing in its own kind.”²⁷ Bernard Silvester and Alain de Lille pen new myths personifying *Natura* as a lesser deity carrying out God’s plans.²⁸

The new autonomy of nature—and soon natural science—from theology did not occur without controversy. Thierry of Chartres was accused of being a sorcerer; William of Conches was threatened with censure. In Adelard of Bath’s *Quaestiones naturales*, one of the first works of natural science in the Latin Middle Ages,²⁹ Adelard’s nephew challenges his argument. The nephew protests that “your whole line of reasoning is weakened, and the execution of all things should rather be referred to God.” Adelard replies:

I am not slighting God’s role. For whatever exists is from him and through him. Nevertheless, that dependence on God is not to be taken in blanket fashion, without distinction. One should attend to this distinction, as far as human knowledge can go; but in the case where human knowledge completely fails, the matter should be referred to God. Thus, since we do not yet grow pale with lack of knowledge, let us return to reason.³⁰

Later theologians interested in the new natural sciences were fond of citing the judgment of Albertus Magnus, teacher of Thomas Aquinas: “It is not our concern to deal with God’s miracles when we are discussing natural things in natural terms [*de naturalibus naturaliter*].”³¹

The initial twelfth-century interest in *natura* motivated the efforts of translation to introduce Arabic and Greek sources, including Aristotle, in the thirteenth century. The newly received natural philosophy of Aristotle dramatically expanded the sphere of legitimately natural knowledge. The new space of nature made room for scientific disciplines to emerge and diverge, liberated from their theological monitors in the arts faculty. The famous condemnations of radical Aristotelians in the Parisian arts faculty in 1270 and 1277 are evidence of this struggle for discursive autonomy under way in thirteenth-century schools. Carlos Steel notes that

the confrontation and tension between theology and philosophy ultimately led to a situation in which the natural philosophers could do their research in great intellectual freedom. This eventually favorable attitude in Latin Christian Europe toward natural philosophy and the pursuit of scientific knowledge is of great historical importance as a condition for the modern scientific revolution.³²

Once scholars at Oxford and Paris began applying mathematical analysis to physics in the fourteenth century, the foundations of the natural sciences as we know them today had been laid.

The lesson of this historical context is clear: the development of a concept of “nature” independent of its theological use was intimately wrapped up with the emergence of multiple scientific disciplines. Therefore, to question the status of “nature” for contemporary theology and ethics is also to meditate upon the present conditions of interdisciplinary collaboration. We do not need only to ask where we stand with regard to the history of the theological use of “nature,” but at the same time to ask how theology’s present relationship to other scientific disciplines is conditioned by that history. “Nature” is not only the common ground upon which the sciences gather, but their autonomous territory freed from the dominion of theology. If that ground is no longer stable, if the perimeter of that territory has become less secure, then a new *détente* between theology and science becomes possible. The interdisciplinarity of this volume, therefore, is not elective, arbitrary, or merely fashionable. Rather, the project is therefore essentially collaborative: it interrogates the viability of “nature” as a point of intersection for dialogue across disciplines, whether it is “human nature” studied by the human and social sciences or the “natural” environment studied by the physical sciences.

For this reason we have chosen to address the question of nature across four disciplines. “Ecology and Nature” addresses nature as context in terms of the natural sciences, and “Geography and Nature” addresses nature as context in terms of the social sciences. Likewise, “Genetics and

Nature” addresses nature as identity in terms of the natural sciences, while “Anthropology and Nature” addresses nature as identity in terms of the social sciences. By addressing both senses of nature in both disciplinary fields, we have brought theologians into dialogue with each of the four areas; we have also reserved a distinct fifth area for cross-disciplinary reflections by theologians and ethicists under the title “Theology without Nature?” These five areas in the five parts of this volume, then, arise out of three senses of nature at play: nature as context, nature as identity, and nature in its more elusive theological use. Each of the fields of inquiry brings its own questions to the table concerning the possibility of a new “natural” condition.

“Ecology and Nature” begins by considering our relation to the natural environment in a time when what might be designated as “natural” remains unclear. It may not make sense, for example, to discuss the preservation or conservation of unspoiled nature if the entire globe is now impacted by pollution and changing weather patterns. Even those areas most unequivocally named “wilderness” are marked out precisely by the limits of human activity, and being thus demarcated are in some measure tamed. Is there still a “natural” world beyond the limits of human construction? What is the consequence of an increasingly malleable environment—either for its destruction or for its beneficent manipulation? What happens when we lose the external other that stands against human artifice? What constraints for theories of nature are imposed by the escalation of environmental abuse? With or without “nature,” what responsibility do moral agents retain for their material environment?

“Genetics and Nature” regards the fixedness or stability of the essence of things, specifically concerning human identity. Biotechnological advances enable us now to redefine the genetic structure of organic material and alter the previously unalterable. We can now intervene in our own biological futures and introduce a radical discontinuity with our own biological pasts. Additionally, the chemicals introduced into the environment by industry, agriculture, and medicine are having dramatic effects on both plant and human life. What happens to our sense of the “nature” of things when responsibility for their biological identity is subject to human activity? The questions here are somewhat analogous to those in the first area, as they relate specifically to the definition of the human and our responsibility thereto. To what extent do novel biotechnologies pose equally novel questions about the link between human finitude and transcendence?

“Geography and Nature” concerns the social dimension of our lived experience in nature taken as context for human life. How do human communities construct and maintain—spatially, ritually, ethically, discursively—the regions of habitations in which they dwell? What are the everyday beliefs and practices that inform the construction of the common social environment we take as a given? What factors construct place and space, and which ones destructure them? The question can also be put theologically in terms of the doctrine of creation: How do we place ourselves in creation in social relationships? Is creation malleable and subject to human expression? Is it a fixed arena imposing limits? What do we learn of God from the space of creation? What do we learn from the dimensions of the natural world about the bodily dimensions of being human?

“Anthropology and Nature” attends again to the human, construed not in terms of biological malleability but in terms of the social construction of human identity. What constitutes a human being? If human identities arise out of traditions of self-formation, what happens when traditions fragment and hybridize in global networks of cultural exchange? What is the status of the generic term “human identity” in this situation? How will complex technological structures alter human identity in the twenty-first century? Would a renewed “humanism” promote or diminish universal human flourishing? What happens to anthropology without a definitely delimited *anthropos*? What theoretical resources, if any, are available to reconstruct a stable notion of human nature? What would be its utility, if any? And what would now be the conditions for meaningful consensus on the question?

Part V, “Theology without Nature?”, covers the area that is the most difficult to define, as it invites us to consider each of the other areas in concert. Here we hope to pose the methodological questions raised at the junctures of the more content-driven areas. Are we able to consider all four areas together in the construction of a theologically informed sense of self and world? What happens to grace after the end of nature? In what sense can one speak, at least from within the Christian tradition, of passing beyond nature? Which elements of religious or philosophical traditions can inform the present moment by their diverse readings of human perfectibility, identity, finitude, and transcendence?

That the papers in this volume are the products of an actual dialogue among representatives of these five areas is demonstrated by their remarkable cohesion. In the first stage of dialogue, natural and social scientists presented state-of-the-art reports from their field on the meaning of “nature” or nature’s decline in the present. The theologians and ethicists discussed these papers with the scientists in seminars and developed their

own conceptual trajectories in reaction to them. As a result, the topics chosen respond thematically (and often explicitly) to the conceptual concerns of the field-leading scientists. We invite readers to engage all five areas of reflection upon “nature” alongside our contributors with the boldness appropriate to what Nietzsche calls a “dangerous attempt.”

The World in Order

Lorraine Daston

Nature without Us

In a 1986 poem the Polish poet Wislawa Szymborska imagines not just the indifference of nature (as Turgenev and Hardy had already imagined it in the nineteenth century) but still more its utter meaninglessness:

The lake's floor exists floorlessly,
And its shore exists shorelessly.
Its water feels itself neither wet nor dry
and its waves to themselves are neither singular nor plural.
They splash deaf to their own noise
on pebbles neither large nor small.

And all this beneath a sky by nature skyless
in which the sun sets without setting at all
and hides without hiding behind an unminding cloud.
The wind ruffles it, its only reason being
that it blows. . . .

Time has passed like a courier with urgent news.

But that's just our simile.

The character is invented, his haste is make-believe,
His news inhuman.¹

This is a nature that is adamantly inhuman (the last, emphatic word of the poem), refusing us not just mercy but even sense, even the simplest ontology of nouns: “a sky by nature skyless.” This is an unsparing vision not so much of us “without nature” as of nature without us.

Considering the themes of this volume, this vision of nature without us might come as something of a relief, despite the poet’s bleak intentions. Environmentalists dream of a pristine nature untouched by human hands, of reclaiming the wilderness lost to urban sprawl and toxic waste dumps. Ethicists are haunted by nightmares of genetic engineering: species boundaries dissolved and human nature changed beyond recognition. Together the environmentalists and the ethicists, along with many other thoughtful observers, might well wonder: Wouldn’t nature be better off without us, or at least, with a great deal less of us? Whereas previous ages conceived of nature as a parent, “Mother Nature,” sometimes benevolent, sometimes violent, the current generation is perhaps the first to regard nature as a child in need of protection from our abuses.

And yet we are hardly the first human generation to modify nature, and to modify it profoundly. Indeed, it might be argued that whatever it means to be human is bound up with the manipulation and transformation of nature. Modes of human life now regarded as particularly close to nature, such as farming and fishing, are simply the oldest of these human modifications of nature and differ in degree but not in kind from the modifications introduced by urbanization. A farm is in principle as artificial as a city. The same might be said, *mutatis mutandis*, for the continuity from the artificial selection practiced over millennia in the domestication of plants and animals to the genetic modification of organisms. Long before the advent of automobiles and highways, human beings had radically altered the landscape through agriculture and deforestation; long before the appearance of genetically modified strains of rice and corn, farmers and gardeners had bred new varieties of tulips and pears, pigeons and horses that differed strikingly from their wild ancestors.

Human nature is itself a kind of garden, not a wilderness. As Aristotle observes in the *Nicomachean Ethics*, it is quintessentially human to convert first nature into second nature, to instill habits in children that will either enhance their natural gifts or counter their natural infirmities.² Uncultivated human nature, nature without culture, ceases to be human at all. Advances in science and technology have certainly expanded the scope and accelerated the pace of the human modification of nature and perhaps thereby converted quantitative into qualitative change. But the general pattern is all too familiar—and it is human, all too human.

Still more eerily familiar, at least to the historian of *longue durée* Western attitudes toward nature, are the emotional responses to the most recent human modifications of environments and genomes. Reactions are, of course, individually and culturally variable, but fear and horror feature prominently and widely. The fear in question is not just the prudential fear that environmental degradation could have catastrophic consequences for the lives and property of millions of people, as in the case of the melting of the polar ice caps due to global warming. It is also fear tinged with guilt, a fear of nature punishing human hubris, a version of *nemesis divina*. The two kinds of fear, prudential and guilty, are often intertwined. For example, when in recent years the number and severity of storms in Germany dramatically increased, the media pointed an accusing finger at deforestation—both as physical cause *and* as provocation for what more than one newspaper called “nature’s revenge.”³ A delicate environmental balance had been disturbed (the physical cause), and the disruption of that balance transgressed a norm (the moral cause).

If fear is the emotion evoked by human destruction of the environment, horror is the characteristic response to manipulation of the natures of organic species, most especially human nature. The emblematic case is the human monster that seems to straddle species boundaries.⁴ It is the tampering with specific natures, not necessarily the outlandishness or ugliness of the hybrid, that triggers horror, as it did for the many medieval and early modern European writers who condemned the practice of grafting fruit trees as monstrous meddling with nature, however pleasing the product.⁵ We no longer recoil at nectarines and carnations (those “streaked gillyvors” reviled as “nature’s bastards” in Shakespeare’s play *The Winter’s Tale*), but new reproductive technologies often evoke the same shudder today.⁶ As in the case of guilty fear over environmental damage, the element of human hubris is key to these reactions. We do not regard nature’s clones (otherwise known as identical twins) as abominations nor admonish parents for the good fortune of having a healthy, handsome baby. Yet laboratory clones and designer babies are intuitively assigned to a different and dangerous category, that of the “unnatural.” If the supernatural inspires awe and the preternatural prompts wonder, it is horror that signals the unnatural.⁷

In the spirit of Szyborska’s poem, we might dismiss all these responses as a foolish mixture of superstition and sentiment, the legacy of centuries of futile attempts to make nature mean anything at all in human terms. It is true that the long Western history of extracting norms from nature—nature as the will of God, nature as the art of God, nature as

God's minister and judge—have been largely discredited by scientists, philosophers, and theologians alike. Yet the category of the unnatural remains morally electrified. Even if no one seriously suggests that natural history be taken as a primer for human ethics in the manner of the medieval bestiary (consider, for example, the mating behavior of the praying mantis or the child-care arrangements of the cuckoo), the charge “unnatural mother” has not lost its sting. If the issue of homosexual marriage can ignite a ferocious debate that eclipses far graver political issues facing the nation, it is in large part because the emotions stirred are so powerful. Since Augustine, homosexuality has been the paradigmatic example of a crime *contra naturam* in Christian theology,⁸ and in many quarters, crimes against nature still provoke the distinctive response of horror. Horror is not simply an intensification of fear or even terror. Nor is it simply a magnification of disapproval, indignation raised to the *n*th power, as it were. Horror registers a highly specific transgression: human violations of the perceived order of nature, including human nature.

I would like to reopen the question of norms from nature. My argument is both historical and philosophical. Historically, I try here to show how various conceptions of natural order not only have sustained specific norms, both moral and aesthetic, but have moreover served as the model for what a norm, *any* norm, can be. Philosophically, I argue that the appeals to nature, though often and (in my opinion) rightly criticized, nonetheless do capture something profound about values *in general*, regardless of their specific content. This argument hinges on the connection between normativity and order. I conclude that we cannot do without nature, even if we divest nature of all divine authority whatsoever. The human impulse to make nature meaningful, the object of Szyborska's icy skepticism, is not a psychological failing; it is an epistemological and ethical necessity.

Norms from Nature: Nature as Justice and Nature as the Will of God

The attempts of Western intellectuals to extract norms from nature stretch back to Greek and Roman antiquity and are ongoing (e.g., in current versions of evolutionary ethics). Over the millennia, the authority of nature has been enlisted in many causes: to justify and to condemn slavery, to praise breast-feeding and to blame masturbation, to elevate the aesthetic of the sublime over the beautiful and to undergird human rights. Nature has sometimes signed up on the side of reformers and revolutionaries (as in the Enlightenment) and at other times on that of conservatives

and reactionaries (for much of the nineteenth and twentieth centuries). It would take many volumes (yet to be written) to do justice to this long and motley history of invoking nature to buttress human values of the Good, the True, and the Beautiful.⁹ Here I describe only two episodes, which I have chosen because of their broad and durable influence and also because the argument of one is philosophical and the other, theological. Although nature's normative authority has often been grounded in divine dictates, particularly in the Latin Christian tradition, not all appeals to nature's way are religious. The two examples I sketch are "Nature as Justice" (drawing primarily on the arguments of Plato and Aristotle) and "Nature as the Will of God" (relying on Augustine and Thomas Aquinas).

NATURE AS JUSTICE

Like any truly interesting and important word, "nature" is a mille-feuille of layered meanings. In order to understand how nature yielded a norm of justice in political philosophy, we must recall that the first, most venerable conception of nature is literally specific: that which makes something the kind (or species) of thing it is, its ontological identity card, if you will. This is the primary meaning not only of the English word "nature" and its cognates in many other modern European languages, but also of its Latin root *natura*, as well as of the ancient Greek word *physis*. In the order derived from specific natures, perfection consists in becoming the best of one's kind, not in changing kind: the rose does not aspire to become a squirrel, nor the squirrel an eagle, nor the eagle a human being. Although the species may be arranged in a hierarchy ascending from the lowliest rock to the gods, it is at once futile and wrong to climb the ladder: there is no social mobility in the Great Chain of Being. It is the idea of fixed natural kinds rather than the considerably later notion of natural laws that informs the ancient and still potent vision of nature as justice.

Closely related to the ideal of justice based on specific natures is that of functional specialization and organic integration. The most familiar example is the human body: among the heart, lungs, kidneys, and other organs, each has its specialized function; all are integrated in the individual organism when it is alive and healthy. The word "organ" derives from the Greek *organon*, or "tool," the most artificial of artifacts, and Aristotle used the term indifferently to refer to man-made instruments (including mental instruments like logic) and to the functional parts of living beings. Organic nature and art exemplify the same kind of order. The same standards of workmanship, of fitting tool to task, apply equally to human and natural

productions; as Aristotle writes in the *Physics*, if nature made boats, it would be by the same methods as the shipwright.¹⁰ Moreover, the highest standards require that each tool be fitted to only one purpose, and in this respect Aristotle at least judges nature's handiwork superior: "for nature makes nothing as the cutlers make the Delphic knife, on the cheap, but one thing for one purpose; so that each tool will be turned out in the finest perfection, if it serves not many uses but one."¹¹

This ideal of an organic order based on extreme specialization echoes Plato's utopian polis, founded on the principle that each citizen plies only the trade or function for which he is fitted by nature (*kata physin*). Injustice is defined as the violation of specialization, either when citizens "interchange their tools and their honors or when the same man undertakes all these functions at once."¹² Although this organic order may follow nature, as in the case of Plato's *Republic*, it is hardly immutable. On the contrary, it is quite fragile, vulnerable to social subversions of all kinds. So pliable is nature on this view that the Guardians (the ruling class in Plato's utopia) must be forbidden from indulging in acting, lest playing a part out of character warp the qualities that suit them for their job: "Or have you not observed that imitations, if continued from youth far into life, settle down into habits and (second) nature in the body, the speech, and the thought?"¹³ Just as a knife's edge may be dulled by using it as a screwdriver, so the Guardians may be denatured by imitating the habitus of a different class.

I use Plato's *Republic* to illustrate an organic order because it is among the most detailed and influential examples, not because it is unique. The history of political theory abounds with other cases, many of them intertwined with analogies drawn from natural history (e.g., the division of labor in the beehive) or human anatomy and physiology (e.g., the mapping of the three estates of feudal society onto the parts of the body). All are based on an ontology of specific natures, combined with the principle of optimal specialization and division of labor. These natures do not carry necessity; on the contrary, they can all too easily be corrupted by usage. And although these orders are usually hierarchical, they do not aim at any single vision of the noble or the good. Because they are essentially interdependent, each part must be good of its kind in order for the whole to flourish. The medieval body politic would disintegrate if it had two hearts and no arms and legs (representing the aristocracy and the commoners, respectively); the artisans in Plato's *Republic* may be less noble than the Guardians, but they are no less necessary. Each component is

ideally what it is and only what it is; because the fit of tool to task and part to whole is optimal, change can only mean decay.

Such orders do not derive so much their legitimacy as their plausibility from natural analogies: Do such natures exist as are needed to fill the functions? Can they be joined neatly together with other, equally vital natures to form a viable whole? Will that whole be stable? When, for example, Plato argues that the seemingly contradictory traits of gentleness and ferocity can be united in the Guardians, he cites the well-trained watchdog as proof that such combinations are possible, not “contrary to nature [*para physin*].” Similarly, when fifteenth-century French theorists of the state tried to stave off civil war, they argued that just as a body with more than one head would be an unviable monster, a state with multiple contending monarchs would be disastrous for all.¹⁴ The force of these analogies was as much illustrative as justificatory.

But it is surely not accidental that the illustrations are so often drawn from the realm of organic nature, at least before the mid-seventeenth century. Aristotle provides a clue as to why nature’s handiwork might be preferred to that of human artisans as the most arresting illustration of functional parts integrated into a whole. Even though nature and art work by the same methods, natural products are distinguished from artificial ones in two crucial respects, according to Aristotle. First, natural objects contain the principle of motion within themselves, where motion means not simply locomotion but also any kind of change—especially change conceived as development toward a well-defined final state, the *telos* of the thing in question. Put another way, the ontological identity of natural products is indelible; artificial products may be classified, but only nature can create genuine natural kinds. Second, the proof that these ontological identities are indeed inherent rather than imposed is that in nature, like reproduces like. Beds, ships, houses, boxes, and any number of other artifacts may be made from the wood of trees, but trees remain trees. And whereas beds will never bring forth baby beds, the trees from which the beds are made generate other trees.¹⁵ Only nature is capable of impressing genuine specific natures onto formless matter, and only genuine specific natures will perpetuate their own kind more or less faithfully.

This is why analogies to organic nature proved so magnetic for political and social theorists concerned to establish human orders of comparable coherence and stability. The ontology of natural kinds, which Aristotle articulated but surely did not invent from whole cloth, is also the point of intersection between the temporal and organic orders common to the natural and social realms. Because only natural kinds can be expected to breed

true, they are the models and guarantors of the future. Hence the otherwise puzzling medieval allegorical depictions of Dame Nature as obsessively concerned with any hindrance to the orderly perpetuation of her species:¹⁶ she is the manufacturer and preserver of natural kinds, not simply a synonym for some overarching order of natural laws. Organic orders are in themselves static, at least as compared to human timescales; Plato lays out the organization of his Republic for the most part without any reference to historical processes. Since the division of labor within the polis is posited as optimal, any change must be for the worse. Yet all things mortal must die; the rhythm of generations is ineluctable. It is significant that one of the few passages in the *Republic* that deals with change does so in terms of the reproduction of natural kinds. In the founding myth or “noble lie” that explains how the Republic has come to divide its members into three classes, fashioned of gold, silver, and bronze respectively, Plato relies on the principle that like reproduces like to insure the perpetuation of organic order across generations: golden parents (the Guardians) will usually produce golden offspring; silver parents (the Auxiliaries), silver children; and bronze parents (the Workers), bronze progeny.¹⁷

It need hardly be pointed out that moral orders based upon specific natures are mostly (though not unexceptionably) conservative, hostile to social mobility in any direction and to liberal principles of equality and individual autonomy.¹⁸ Yet they are not conservative in quite the same fashion that post-Enlightenment political and social theories allegedly grounded in nature have been. The moral order of specific natures enjoyed neither the universality nor the inevitability of an order derived from a metaphysics of natural law. There is no escape from the dictates of nature in the doctrines of social Darwinism or, for that matter, in a novel by Turgenev or Zola: natural law is inexorable and relentless. But there is considerable slippage in the order of natural kinds: Plato admits that sometimes silver parents will bear a golden or brazen child; Aristotle concedes that some slaves have the souls of free men and that some women are superior by nature to the husbands to whom they are subordinated. These cases are “contrary to nature [*para physim*],” but whether they are unnatural in the sense of monsters or marvels is left open, and nearly two millennia of literature framed within these categories supply abundant examples for both negative and positive interpretations of individuals who deviate from their natural kind.

Such a moral order of specific natures need be neither theological (nature as God’s minister and proxy) nor anthropomorphic (nature personified), although the Christianized versions imagined by the theologians of

late antiquity and the Middle Ages have made these versions most familiar to us. Aristotle's nature does not deliberate; Plato's ideal of justice as optimal specialization is not propped up by the gods. Insofar as specific natures wield moral authority, they do so as exemplars of order per se, before it became mandatory to distinguish whether the order in question was natural or human. Good consists in each thing striving to be the best of its kind, not the best of all; evil, in aspiring to the prerogatives of another kind—the rose that wants (absurdly and subversively) to become a squirrel.¹⁹ This order lays no claim to universality, much less to uniformity; on the contrary, diversity of types and functions is the cornerstone of its distinctive form of regularity.

NATURE AS THE WILL OF GOD

In contrast, nature conceived as the will of God by Christian theologians makes universality its hallmark. The *locus classicus* for this tradition is the passage in Augustine's *Confessions* in which he condemns sodomy as a crime *contra naturam* and therefore against God, “the author of nature.” Although Augustine agrees, true to Roman tradition, that ordinarily local custom ought to be respected by native and foreigner alike (“when in Rome . . .”), where custom violates divine edict, as incorporated in nature, nature trumps:

For even that society which is betwixt God and us, is then violated, when the same nature of which he is the author, is polluted . . . when God commands anything to be done, either against the customs or constitutions of any people whatsoever, though the like were never done heretofore, yet it is to be done now. . . . For as amongst those powers appointed in human society, the greater authority is set over the lesser, to command obedience; so is God set over all.²⁰

An appeal to nature was not a novelty in Roman law, but to grant nature supreme authority as God's proxy represented a radical break with republican and early imperial jurisprudence. Roman law recognized a category of “natural law,” which governed human relationships insofar as these derived from a state of nature, common to humans and animals alike (particularly with respect to procreation and care of offspring)—a kind of lowest common denominator. Unlike civil law, which extended only to a particular political unit, the jurisdiction of natural law was all of humanity for all time. But this universality by no means granted natural law greater authority than the more restricted civil law; quite the contrary. It was axiomatic

among Roman jurists that slavery, for example, contradicted natural law, which dictated that all human beings are free and equal, but it was equally axiomatic that slavery was licit under civil law and that civil law superseded natural law. Conversely, crimes that would later in Christian ethics be branded as *contra naturam*, such as parricide and incest, were rather condemned as *nefas*, sacrilegious. In early Roman law, nature did not serve as a basis for moral norms, and, *a fortiori*, not as the most fundamental basis for such norms.²¹

The first appearance of the category of crimes *contra naturam* in Roman law dates to the *Novellae* of Justinian in the sixth century CE in relation to homosexuality (echoing Augustine), and only through a slow process of diffusion and amalgamation with Judeo-Christian elements did the moral category of the unnatural take root, applied above all to perceived threats to the family, whether from parricide, incest, or nonprocreative sexuality.²² Christian commentators identified the natural order with God's creation and thus with divine sovereignty; hence to defy nature was to defy God, and by the tenth century CE the older Roman category of *nefandum* had converged with the newer category of crimes *contra naturam* in the arch-transgression of heresy.²³ By this convoluted trajectory, nature (here understood as universal nature, the entirety of creation, but with special emphasis on reproduction) was equated with divine authority, and subversions of natural order, with crimes against God. In this spirit Thomas Aquinas, writing in the thirteenth century, excoriated bestiality as not just wrong but unnatural because in violation of the species boundaries established by "the author of nature," that is, God. It is therefore a far more serious sin than mere fornication.²⁴ Such damaging associations made crimes *contra naturam* the most abominable of all crimes, *nefas* in the root sense of ineffable, unspeakable.

Note the specificity of crimes against nature: even the most heinous murder does not qualify—unless it is one family member doing in another, particularly a parent killing a child or vice versa. The horror characteristically evoked by "unnatural acts" in the Latin Christian tradition is correspondingly specific and has a partial—but only partial—analogue in Greek and Roman literary responses to sacrilege. There is scant evidence that ancient authors found sodomy or homosexuality repugnant (although these practices were sometimes scorned or satirized as lowly).²⁵ But acts of parricide—for example, Medea's murder of her sons in the plays by Euripides and Seneca—did call forth horror because they were interpreted as a descent into brutishness. After Jason discovers how the children died, he curses Medea as a "she-lion, not a woman, with a nature more savage

than Scylla the Tuscan monster.”²⁶ Nowhere in Euripides’s *Medea* nor in Seneca’s Latin reworking of the play (first century CE) is the act of infanticide described as “unnatural,” although a mother’s murder of her own children was later to become the very archetype of an unnatural act. In both plays, abuse is heaped upon Medea for her atrocious deed, but it is condemned as “unholy,” “horrific,” and “savage” in Euripides, and as “abominable,” impious, and a “horror” in Seneca—but not as “against nature.”

This is all the more striking because other passages in both plays invoke the wrath of nature against other human misdeeds: in Euripides, the chorus of Corinthian women expects rivers to run backward from their sources because men like Jason now break their oaths sworn by the gods; in Seneca, the audacious Argonauts are punished for “the sea’s outraged laws.”²⁷ Although deviations from the natural order are cause for morally tinged alarm in both cases (akin to the guilty fear provoked by the recent storms in Germany, mentioned earlier), the unnatural is a sign of or response to grave moral transgressions, not a synonym for them, as it would come to be in Latin Christianity.

The Very Idea of an Order

These two examples of norms derived from nature contrast a positive ideal of justice with a negative specter of horrific malfeasance; a philosophical argument from analogy with a theological argument from divine sovereignty; natural order understood as the harmony of specific natures with natural order as the edicts of God the creator. In neither case is one likely to find the norms compelling; on the contrary, many will find them to be particularly repellent examples of the naturalistic fallacy, of trying to transmute the “is” of nature into the “ought” of ethics. After all, Aristotle used the same argument about organic specialization in nature to legitimate the human institution of slavery; the religious marginalization and even persecution of homosexuals as guilty of unnatural acts is alas still too topical to need belaboring.²⁸ Aren’t these sobering examples of why we should stop seeking norms in nature? The skeptic might press the point: at best, nature’s authority is borrowed (whether overtly from God or covertly from social convention) and therefore redundant; at worst, it is a dangerous weapon in the arsenal of the most repressive and regressive elements of society. Skeptics may very well second John Stuart Mill’s view that invocations of nature are “the most copious sources of false taste, false

philosophy, false morality, and even bad law.”²⁹ Or as journalist Jessica Mitford expressed the same sentiment rather more pithily: “Nature, nature, how I hate yer.”³⁰

How can these unedifying histories support the philosophical claim that nature is and should be a source of values? My argument will depend on a distinction between the content of specific norms and a more general claim to what philosopher Christine Korsgaard has called “normativity”: roughly, the justification that gives any and all norms their force.³¹ It is a notorious fact that specific norms vary dramatically across cultures and over time. This also holds for norms that appeal to nature, which run the gamut from apartheid-style racism to Sierra Club environmentalism. But *normativity* is a far more uniform and durable phenomenon; there is no known human culture, past or present, without norms, however wildly diverse these may be. Moreover, even the most cosmopolitan observers, well versed in the mutability of norms across time or space, find it difficult to brush aside the norms of the society in which they were raised. The most vehement relativist cannot help but honor some norms, flimsy conventions though these may be. There is honor among thieves.

“Normativity” sounds like a word badly translated from the German, one of those bloated abstractions that make the mind go blank and the stomach growl. But the meaning of normativity is quite simple: it is the quality of telling us what *should* be, as opposed to describing how things actually are. There are many houses in the mansion of “should,” including the “shoulds” of how we should act, how we should know, and what we should admire—otherwise known as the Good, the True, and the Beautiful. What all these “shoulds” have in common is a certain wistful, counterfactual mood, a kind of subjunctive yearning: “If only things were the way they should be!” Since David Hume, most modern philosophy has insisted on the counterfactual dimension of norms in morals, epistemology, and aesthetics: a chasm yawns between what should be and what is. We have all been trained to insist upon the distinction between “is” and “ought,” between descriptions of what in fact is the case and prescriptions of what should be the case. To blur this distinction is to commit the naturalistic fallacy, a peculiarly modern kind of category mistake identified by those eager to put the natural and the human asunder.

This modern intellectual reflex is closely related, both historically and conceptually, to another cornerstone of post-seventeenth-century science and philosophy: the anthropomorphism taboo. This is the prohibition, articulated forcefully by leading figures of the scientific revolution such as René Descartes and Robert Boyle, against applying human categories to

nature. Boyle was particularly scathing about the maxims of Scholastic physics, such as “Nature does nothing in vain” or “Nature abhors a vacuum.” It is undeniable that this policy of treating nature as nothing but brute, passive matter has been wildly successful in subsequent physics and also in some parts of biology, but it should be remembered that the price for this ban on anthropomorphism was an overweening anthropocentrism: the universe is divided into two asymmetric parts, humans and everything else. And it is humans who, along with God, have been granted a monopoly on all thought and activity, *res cogitans*, in Descartes’ terms. Without this ban on anthropomorphism in the name of anthropocentrism, Boyle feared that humans might be tempted to worship nature as a goddess, which would be not only idolatry but also an obstacle to the technological exploitation of nature: “the veneration wherewith men are imbued for what they call nature has been a discouraging impediment to the empire of man over the inferior creatures of God.”³²

It is possible to imagine a scientific stance that eschews both anthropomorphism and anthropocentrism (Darwin would be a worthy representative of this program), but it is Boyle’s metaphysics that has remained philosophically dominant.³³ The prohibition of anthropomorphism in the service of anthropocentrism supplied the metaphysics that divided the natural and the human into two immiscible realms and widened the gap between them. By the time Immanuel Kant was writing about the realms of natural necessity and human freedom in the late eighteenth century, he could take the absolute distinction between them for granted. And in terms of philosophical categories, we still largely inhabit the house Kant built—that is, we are still asking his questions, even if we are no longer giving his answers.

I do not wish to call into question the distinction between the natural and the human, but I do intend to query the gap between them. There is at very least an arresting analogy between the two realms, which Kant himself eloquently expressed: “Two things never fail to fill me with awe, the starry heavens above and the moral law within.”³⁴ What awed Kant was the regularity exhibited by both the astronomical laws that governed the movements of the heavenly bodies as well as the moral laws that governed human conscience. The word “law” is used here in two different senses, but the justification for metaphorically (and anthropomorphically) extending the notion of human laws to laws of nature was precisely the stern regularity exhibited by both. The emotion of awe is as specific as horror. It is characteristically evoked by the “cosmic” in both root senses

of that word, that is, all-encompassing order and exquisitely designed ornament. The recognition of an order is key to all kinds of norms. The vaster, the grander, and the firmer the order, the stronger is its claim to that peculiar compound of wonder, fear, and respect known as awe. As Kant acknowledged, awe (*Ehrfurcht*) is a rare response, but both natural and moral orders command it.

There is a temporal as well as a spatial dimension to this analogy between natural and moral orders. Kant's image of the "starry heavens above" conjures up a panorama of the dazzling night sky ablaze with stars. But the laws Kant probably had in mind were those of celestial mechanics, which describe the inexorable regularity of the motions of the stars and planets, stretching backward and forward through all time. Like Kant, the Victorian novelist George Eliot drew moral solace from the "great conception of the universal regular sequence, without partiality and without caprice."³⁵ Although the very determinism of such a universal, regular sequence precluded genuine moral agency in the voluntarist ethical systems to which both Kant and Eliot subscribed, its relentless uniformity could serve at least as a figure for a universal moral order purged of the arbitrary.

One need not, however, wait for Newtonian celestial mechanics to find moral inspiration in the temporal regularities of nature. The seasons run their course; the sun circles the ecliptic; oaths and compacts are honored.³⁶ When the chorus in Euripides' *Medea* expects rivers to run backward now that men break their oaths, or Heraclitus says the Fates will harry the sun should it deviate from its course just as they punish perjurers, one and the same sort of order is being described, although modern metaphysics compels us to read these utterances as metaphorical. There need be no causal relationship posited between natural and social predictability (which would presuppose that the two realms have been clearly distinguished); both simply exemplify what it means to *be* an order. The most salient of these commonalities is predictability, the guarantee that the sun will continue to rise and set and that promises will be kept. Any order worthy of the name, whether social or natural, demands a temporal dimension that extends into the future. It is the order that links the past and the present to the future, the continuity that is the precondition for rationality and morality alike.

This is why social customs are honored, even if it is common knowledge that they are conventions, variable over history and cultures. The ancient Greek historian Herodotus, a cosmopolitan traveler and perceptive ethnographer, was fully aware that different peoples—the Greeks, the Persians, the Egyptians—worshiped different gods, observed different

customs, and embraced different values. But this knowledge did not weaken his belief in the sanctity of custom. He tells a story of an extreme clash of customs:

When Darius was king, he summoned the Greeks who were with him and asked them what price would persuade them to eat their fathers' dead bodies. They answered that there was no price for which they would do it. Then he summoned those Indians who are called Callatae, who eat their parents, and asked them (the Greeks being present and understanding by interpretation what was said) what would make them willing to burn their fathers at death. The Indians cried aloud, that he should not speak of so horrid an act. So firmly rooted are these beliefs; and it is, I think, rightly said in Pindar's poem that custom is king of all.³⁷

"Custom is king": this later became the motto of those who wish to assert the multiplicity and relativity of social norms and moral standards against those who seek absolutes in both domains.

Yet there is scant evidence that either the poet Pindar, who coined the phrase, or Herodotus, who invoked it, meant to endorse relativism and indict custom as morally flimsy; quite the contrary. Rather, Herodotus aimed to emphasize the necessity of custom, regardless of its specific content, to create and sustain a social order. Those who defy local customs, even if they come as conquerors wielding absolute power (as in the case of Darius's ill-fated son Cambyses, whose downfall supplies the context for this anecdote), do so at their peril. Nature without order is chaos; society without order is anarchy. In states of chaos or anarchy, the past is no guide to present and future; there are no regularities, be they human promises or natural cycles, to support justice or knowledge.

I do not wish to burden the analogy between natural and human orders with more weight than it can bear. It is an analogy, not an identity. Nor do I have any stake in arguing a chicken-and-egg issue about whether it was the natural order that inspired conceptions about human order or vice versa; the arrows of influence probably always point in both directions. The question does not even make sense unless the natural and human orders are cleanly distinguished. But even when they are, the analogy continues to vibrate sympathetically in the space between them. Neither can do without the other. Even Descartes and Boyle reached for the metaphor of human law to describe the most inexorable natural regularities, despite their antipathy toward anthropomorphism; even Kant could not resist the link awe forged between the realms of necessity and freedom, despite his strict separation of the two realms. We have already seen how Aristotle

and Plato, Augustine and Aquinas gestured toward natural order as the model for the just society and the virtuous family. My point here is not to defend the specifics of any of these analogies. Rather, I wish to draw our attention to the prevalence, even inevitability, of such analogies and the reasons for them. Whatever it means to be a norm, a way things should be, depends on the concept of an order, regardless of the content of particular norms—or the kind of order, human or natural.

We are now in a position to understand the inveterate habit, so perplexing and irritating to modern philosophers, of conflating prescription and description. The way things are is in principle no guide to how things should be. Yet people notoriously respond to anomalies not only with surprise but also with indignation. The word “normal” perfectly captures this confusion: it simultaneously means what does happen most of the time and what is supposed to happen. Someone who deviates from normality in the first sense of being unusual is likely to be branded “abnormal” in the second, disapproving sense. Even natural anomalies—for example, particularly destructive earthquakes or hurricanes—can sometimes elicit an outraged reaction: this is not how things are supposed to be; no reasonable and prudent person could have been prepared for this event. These easy slides from description to prescription drive philosophers to distraction, and they are indeed difficult to defend in their specifics. It is unjust to classify all human variability as deviance; it is futile to rage like King Lear against the wind—or against Hurricane Katrina. But there is a kernel of philosophical sense in this psychological nonsense. Order per se defines the normative, even if we can reasonably argue about the desirability of this or that specific order. The way in which most people come to understand what an order is in the abstract is on hand from the concrete examples, both natural and social, that pattern their daily experience. It is provincial to mistake one’s own familiar order for order tout court, but the intuition that order in general is intrinsically normative hits a deep truth.

Conclusion: Chaos Is Unnatural

I began with Szyborska’s poem about nature without humans. Are we now in a position to reclaim meaning from nature, to render its news human? My answer is a cautious and qualified yes. First the qualifications: the prospects of specific norms inspired by nature are not much improved—or rather, I see no reason to privilege them above norms of more

purely human derivation. One reason is that nature exemplifies so many different kinds of orders: the order of the stars and planets is not that of the weather; the order of specific natures is not that of universal natural laws; the order of local ecologies, with their distinctive and symbiotic flora and fauna, is not that of cosmological uniformities of gravitation. Nature is every bit as fertile in variety as culture is; the hope that norms extracted from nature converge more convincingly than those freely invented by art is illusory. In other words, the strategy of naturalization to combat relativism is doomed. To glorify certain human values as “natural,” whether in the liberal cause of human rights or the conservative one of social Darwinism, does not lend them one iota more of certainty, universality, or permanence. Opponents can always retort, “Which nature?” and counter with examples of another order, equally natural, to support the opposite position.

Yet the very variety of natural orders suggests why we cannot do without nature. Nature is a repository of all imaginable orders. This is why the word “nature” is so embarrassingly rich in definitions. There are specific natures (the nature of maple trees, the nature of salamanders, the nature of salt crystals); there are local natures (the tropics and the tundra, the lush valleys and the bald mountain peaks); there are universal natures (fire burns everywhere, zero degrees Kelvin is absolute zero even in the remotest galaxy). It is, so to speak, in the very nature of the word “nature” to mean many things. Therefore, whatever specific norms are drawn from one sense of nature are more than likely to be in competition with, if not contradiction to, other specific norms drawn from nature. It was just this proliferation of norms from nature that led critics like Mill to throw up their hands in exasperation; nature will never speak with one voice, so why listen?

But the polyphony of nature is precisely the point: it is difficult—perhaps impossible—to imagine an order that is not manifestly, flamboyantly on display in nature. Nature is that delightful paradox, a disorderly *Wunderkammer* of all possible orders. Renaissance *Wunderkammern* dramatized the fecundity and plenitude of nature in their floor-to-ceiling displays, juxtaposing flies in amber and stuffed crocodiles, two-headed cats and striped tulips, magnets and petrified wood in order to overwhelm the spectator with the glorious miscellany of it all. Although the *Wunderkammer* systematically favored the rare and the singular over the commonplace and the ordinary, even everyday nature overflows with variety; the surprises of ethnography (fancy thinking that!) pale beside those of natural history (fancy *being* that!). All human dreams of order, revolutionary or

reactionary, local or global, are ultimately figured, made vivid and alluring, in nature's *Wunderkammer* of possible orders. Nature's teeming bounty, however, diverges from that of the *Wunderkammer* in one crucial respect: even at its most intricate and improbable, nature exhibits some kind of order. The *Wunderkammer* aimed to astonish by defying all expectations; nature is the source of all expectations. And without well-founded expectations, the world of causes and promises falls apart.

Order is not always a smiling word. It sometimes has a stern, steely ring to it, the snap of manacles and the clang of the prison door slamming shut. Politics that make "law and order" their motto are notoriously prone to cruelty and repression. But these dictatorial regimes take the name of order in vain. It is the essence of tyrannies and totalitarian governments to destroy the expectations of their unfortunate citizens. Everyone is kept in a state of fear by the unpredictable exercise of power at the whim of the ruler. Terror is wrought of violence combined with randomness, a very different shade of fear from that provoked by equally dangerous but more calculable risks. The very arbitrariness of dictators is their most loathed and effective weapon: no one knows when or why the Gestapo or the KGB or the Stasi will strike next. Kafka's inscrutable bureaucracies operate with the same deliberate caprice, by rules so complicated and opaque that they negate all regularity. One can never know whether tomorrow will be like today. These are examples not of order but rather of institutionalized anarchy.

Of all nightmares that bedevil the collective human imagination, that of chaos is the most terrifying. Human history is stained with orders that have been bloody, tyrannical, and ruthless, orders that suffocate like an iron vise. And many philosophers, poets, and scientists have judged the order of nature to be heartless, inexorable in its workings and indifferent to human joys and sorrows. Order itself can become a nightmare. But the horrors of excessive order shrink beside those of no order at all. Endless civil war is a greater calamity than the most oppressive dictatorship; a universe formless and lawless is the ground zero of all cosmogonies, be it divinity or natural law that is called upon to create a cosmos worthy of the name. A land in which no promise is kept, in which the sun may or may not rise on the morrow, in which the past is no guide to the future, is a no-man's-land. Nothing human, indeed nothing living, can long survive in an environment wholly at the mercy of chance.

It is chaos, the destruction of all order, that is the true unnatural. The unnatural consists not in violations of the will of God (however construed) but in the pathology of will known as the arbitrary: dictates and edicts

based on nothing more than caprice, willing for the sake of willing alone. It is true that nature also sometimes seems capable of caprice—those freakish concatenations of causes that produce the odd monster or maelstrom or aurora borealis. But nature's caprices are not only by definition rare; they are impersonal. Nature does not will; nature cannot be arbitrary in the root sense of the word. People who have suffered under tyrannies report that one of the most dehumanizing aspects of such regimes is the element of humiliation implicit in being at the mercy of another's caprice—even if the outcome is only confusion rather than violence. The extreme case of being completely subject to the will of another person is slavery, but all arbitrary decisions exercised by authorities injure human dignity. If the authority is personal, insult is added to injury. We become the victims of another's disdain as well as power; we have been denied the bare recognition owed to all fellow humans qua humans. Nature's power to injure is immense—witness the destruction of earthquakes, volcanoes, and tsunamis. But nature can never insult.

Reread in this light, Szymborska's poem now consoles. Nature is inhuman (Szymborska might have added: and also undivine)—so much the better. Nature is not a person nor the minister of a personal god or gods. Nature just is. But for just this reason, we humans cannot do without nature, even if nature (like Eliza Doolittle in *My Fair Lady*) can do jolly well without us—"without your calling it the tide comes in." Our needs go beyond the technologies of food, clothing, and shelter, the air we breathe, and the water we drink. Nature also supplies the raw materials for meaning, even if nature by itself is meaningless. We humans need to use nature to make meaning, because nature is the fount of all order—or rather, orders. It is the prime example and therefore irresistible metaphor of the world in order—or rather, of many possible worlds in many possible orders. And without some concept of order to knit time together, to link memories of the past to hopes for the future, we cannot mean anything to one another.